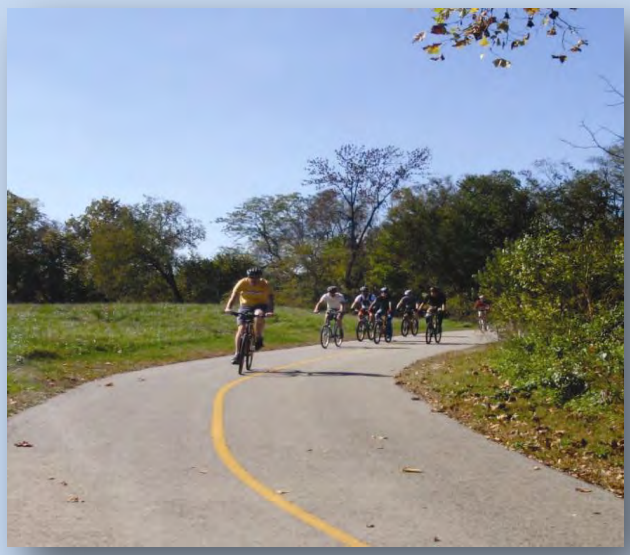
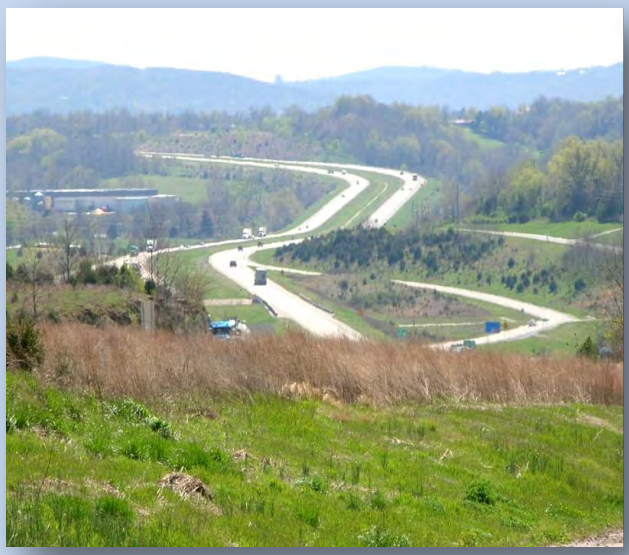
2035 NORTHWEST ARKANSAS REGIONAL TRANSPORTATION PLAN





Prepared by the Northwest Arkansas Regional Planning Commission in cooperation with the Arkansas State Highway and Transportation Department and the United States Department of Transportation

April 7, 2011

April 7, 2011

TO THE READER:

It is our pleasure to invite your examination of the 2035 Northwest Arkansas Regional Transportation Plan. This document provides a comprehensive framework for transportation guidance for the next 25 years.

Since the adoption of the 2030 Northwest Arkansas Regional Transportation Plan in April of 2006, Northwest Arkansas has witnessed many significant milestones, including the beginning of the Razorback Regional Greenway Project; funding of the first phase of the Bella Vista Bypass; completion of a Transit Development Plan; and development of a Travel Demand Model, the best available tool for transportation system analysis.

Through a spirit of cooperation and responsibility, the citizens of Northwest Arkansas have defined the transportation needs of the region, and contributed to the development of the 2035 Northwest Arkansas Regional Transportation Plan to address those needs. While the identified needs are great, funding is limited. As such, difficult transportation system investment decisions must be made.

As we move forward, this Plan will provide the basis for recommendations for a safe, efficient, sustainable, and multi-modal transportation system. And as we strive to address future transportation needs of the region, coordination and cooperation among local jurisdictions will be paramount.

Thank you for your interest and assistance in the 2035 Northwest Arkansas Regional Transportation Plan development process.

Sincerely,

Mayor Sonny Hudson, Chair
RPC/Policy Committee

Patsy Christie, Chair
Technical Advisory Committee

NORTHWEST ARKANSAS REGIONAL TRANSPORTATION STUDY (NARTS)

The people listed on the Committees below were selected by the chief officials of each participating government or agency to represent them in the transportation planning process. Northwest Arkansas Regional Planning Commission (RPC)/**Policy Committee** members include Mayors, County Judges, and Chief Executive Officers. **Technical Advisory Committee (TAC)** members include engineers, planners, street superintendents, and others who work on the technical side of transportation facility development. Advisory members have also been included to provide additional insight in special transportation areas.

PARTICIPANTS

POLICY COMMITTEE	REPRESENTING	TAC
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	AHTD Transit	Steve Alexander
Joe Shipman	AHTD District 4	
	AHTD District 9	Jeff Wheeler
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Elizabeth Bowen	Benton County	Elizabeth Bowen
Mayor Bob McCaslin	Bentonville	Brian Bahr
Shelli Kerr	Bentonville	Mike Churchwell
Amanda Fenton	Bethel Heights	Amanda Fenton
Mayor Larry Smith	Cave Springs	Mayor Larry Smith
Mayor Bill Edwards	Centerton	Mayor Bill Edwards
Rick Hudson	Centerton	Rick Hudson
Mayor Charles Linam	Decatur	Mayor Charles Linam
James Boston	Decatur	James Boston
Mayor Bruce Ledford	Elkins	Mayor Bruce Ledford
Mayor Ben Wall	Elm Springs	Craig Hull
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Jeremy Pate	Fayetteville	Jeremy Pate
Kevin Santos	Fayetteville	Paul Libertini
Matthew Petty	Fayetteville	
Sarah Lewis	Fayetteville	
Mayor Laura Hamilton	Garfield	
Mayor David White	Gateway	
Mayor Kevin Johnston	Gentry	
Mayor Joe Benson	Goshen	
Mayor Byron Warren	Gravette	
Mayor Bill Groom	Greenland	Mayor Bill Groom
Rob Holland	Highfill	Rob Holland
Mayor Lonnie Barron	Johnson	Mayor Lonnie Barron
Mayor Rob Hulse	Lincoln	
Chuck Woods	Lincoln	
Mayor Buddy Blue	Little Flock	Mayor Buddy Blue
Linda Ussery	Little Flock	Linda Ussery
Mayor Eldon Long	Lowell	Mayor Eldon Long
Jackie Crabtree	Pea Ridge	Jackie Crabtree

Sonny Hudson	Prairie Grove	Mayor Sonny Hudson
Mayor Greg Hines	Rogers	Steve Glass
Bob Crafton	Rogers	Derrell Smith
	Rogers	Mike Shupe
	Rogers	Lance Jobe
Mayor David Allen	Siloam Springs	Ben Rhoads
Ben Rhoads	Siloam Springs	
Mayor Doug Sprouse	Springdale	Patsy Christie
Jim Ulmer	Springdale	Sam Goade
Patsy Christie	Springdale	
Mayor Paul Lemke	Springtown	
Mayor Tommy Granata	Tontitown	Mayor Tommy Granata
Judge Marilyn Edwards	Washington County	Dan Short
Dan Short	Washington County	Juliet Richey
Shawn Shrum	Washington County	Shawn Shrum
Butch Bartholomew	West Fork	Butch Bartholomew
	Ozark Transit	Phil Pumphrey
	Razorback Transit	Gary Smith
	Razorback Transit	Mike Seither
	University of Arkansas	Mike Johnson
	NWARPC	Jeff Hawkins

ADVISORY MEMBERS

(Non-Voting)

Brent McCready	ARK/MO Railroad
Scott Vanlaningham	Regional Airport Authority
Mike Malone	Northwest Arkansas Council
Gary Dal Porto	Federal Highway Administration

Voting is based on a 1 vote per 10,000 population up to a maximum of 3 votes per member.

Acronyms and Abbreviations

ADA	Americans with Disabilities Act of 1990
AHTD	Arkansas State Highway and Transportation Department
DOT	U. S. Department of Transportation
EIS	Environmental Impact Statement
ENH	Enhancement
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HPP	High Priority Project
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
MPO	Metropolitan Planning Organization
MSA	Metropolitan Statistical Area
NARTS	Northwest Arkansas Regional Transportation Study
NHS	National Highway System
NWARPC	Northwest Arkansas Regional Planning Commission
PRT	Personal Rapid Transit
ROD	Record of Decision
RTA	Regional Transit Authority
ROW	Rights of Way
STP	Surface Transportation Program
STP-U	Surface Transportation Program – Urban
TAC	Technical Advisory Committee
TEA –21	Transportation Equity Act for the 21st Century of 1998
TIP	Transportation Improvement Program
UAF	University of Arkansas – Fayetteville
UPWP	Unified Planning Work Program
VPD	Vehicles per Day

NARTS MISSION

The mission of the Northwest Arkansas Regional Transportation Study (NARTS) is to "Develop and Maintain a Regional Transportation Plan for the Metropolitan Area".

In January 2003 the TAC recommended that the NARTS area be expanded to include the entire two-county region. The Policy Committee approved the expansion and the Governor signed the request in August 2003. Therefore, the NARTS area is truly a reflection of the region as a whole, which is rapidly urbanizing.

REGIONAL TRANSPORTATION GOAL

"Provide a comprehensive intermodal transportation system which most efficiently serves the human and economic needs of the metropolitan area and Northwest Arkansas region."

LOCAL AUTHORITY

This plan was developed to provide a regional transportation plan for Northwest Arkansas. Part of the plan includes recommendations for transportation improvements and infrastructure. Local development requirements and transportation decisions will be the responsibility of the applicable governing authority.

FEDERAL PARTICIPATION

This document was funded in part through grant(s) from the Federal Highway Administration, the Federal Transit Administration, and/or the United States Department of Transportation. The views and opinions of the NWARPC expressed herein do not necessarily state or reflect those of the United States Department of Transportation.

NORTHWEST ARKANSAS REGIONAL PLANNING COMMISSION NOTICE OF NONDISCRIMINATION

The Northwest Arkansas Regional Planning Commission (NWARPC) complies with all civil rights provisions of federal statues and related authorities that prohibit discrimination in programs and activities receiving federal financial assistance. Therefore, the NWARPC does not discriminate on the basis of race, sex, color, age, national origin, religion or disability, in the admission, access to and treatment in NWARPC's programs and activities, as well as the NWARPC's hiring or employment practices. Complaints of alleged discrimination and inquiries regarding the NWARPC's nondiscrimination policies may be directed to Celia Scott-Silkwood, AICP, Regional Planner – EEO/DBE (ADA/504/TitleVI Coordinator), 1311 Clayton, Springdale, AR 72762, (479) 751-7125, (Voice/TTY 7-1-1 or 1-800-285-1131) or the following email address: cscott-silkwood@nwarpc.org.

This notice is available from the ADA/504/Title VI Coordinator in large print, on audiotape and in Braille.

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CHAPTER I: INTRODUCTION

A. OVERVIEW OF TRANSPORTATION LEGISLATION

The two landmark bills that brought surface transportation into the 21st century, the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the Transportation Equity Act for the 21st Century (TEA-21), shaped the Federal highway and transit programs to meet the Nation's changing transportation needs.

President Clinton signed the Transportation Equity Act for the 21st Century (TEA-21) into law on June 9, 1998. TEA-21 was the primary authoritative direction for the development of previous long-range transportation plans, including the 2030 Northwest Arkansas Regional Transportation Plan. TEA-21 continued and enhanced the Federal programs and priorities established in the previous Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA).

On August 10, 2005 President Bush signed into law the *Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)*. SAFETEA-LU promotes more efficient and effective Federal surface transportation programs by focusing on transportation issues of national significance, while providing state and local transportation decision makers more flexibility for solving transportation problems in their communities. In SAFETEA-LU, the policy for the metropolitan planning process is to promote consistency between transportation improvements and state and local planned growth and economic development patterns. Additionally, other factors are to be considered, such as environmental considerations, multi-modal capacity, bicycle and pedestrian and disabled interests.

SAFETEA-LU requires that urbanized areas develop a transportation plan that addresses these eight factors:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
2. Increase the safety of the transportation system for motorized and non-motorized users;
3. Increase the security of the transportation system for motorized and non-motorized users;
4. Increase the accessibility and mobility of people and freight;
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
6. Enhance the integration and connectivity of the transportation system, across and between modes for people and freight;
7. Promote efficient system management and operation; and
8. Emphasize the preservation of the existing transportation system.

These factors and the manner in which they have been addressed in the Plan are presented as follows:

1. **Support the economic vitality of the United States, the States, metropolitan areas, and non-metropolitan areas, especially by enabling global competitiveness, productivity, and efficiency:**

- Infrastructure that supports a high level of service for mobility
  - Highway 412 bypass – Interstate type facility will alleviate congestion on Highway 71 B in Springdale by providing a limited access principal arterial route for freight to by-pass the business corridors of Springdale
  - Highway 265 widening from Highway 16 E (Fayetteville) to Highway 62 (Rogers). This transportation improvement will provide better north-south movement for freight by adding lanes to an existing Federal highway that connects the industrial parks of Fayetteville, Springdale, and Rogers
  - Airport Access Road will provide more efficient access to the Northwest Arkansas Regional Airport

2. **Increase the safety of the transportation system for motorized and non-motorized users:**
   - Improvements to traffic signalization/pavement markings
   - Use of ITS
   - Apply techniques of access management
   - Bicycle/pedestrian facilities – maintain a regional commitment to bicycle and pedestrian facilities
   - Public Transportation – maintain a regional commitment to public transit service
   - Widening of congested arterial roads, and improving the rural county road network
   - Bridge improvements

3. **Increase the security of the transportation system for motorized and non-motorized users;**
   - Improvements to traffic signalization/pavement markings
   - Use of ITS
   - Apply techniques of access management
   - Bicycle/pedestrian facilities – maintain a regional commitment to bicycle and pedestrian facilities
   - Public Transportation – maintain a regional commitment to public transit service
   - Widening of congested arterial roads, and improving the rural county road network
   - Bridge improvements

4. **Increase the accessibility and mobility for people and freight:**
   - Airport Access Road
   - Establish a regional arterial network
   - Maintain a regional cohesiveness and unity by requesting Federal funding for these specific corridor projects:
     - Highway 412 Northern Bypass
     - Bella Vista Bypass
     - I-540 Improvements
   - Investigate innovative funding mechanisms, including toll roads

5. **Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;**
   - Bicycle/pedestrian trails and sidewalk improvements in the region
   - Public Transportation – maintain a regional commitment to public transit service
   - Improvements in signalizations and road widths will reduce stop and go traffic, and thus, gas consumption
   - Consider Environmental Factors, both natural and cultural, as transportation projects are developed
   - Improve and expand existing transit services
   - Encourage and explore all modes of transit alternatives

6. **Enhance the integration and connectivity of the transportation system, across and between modes throughout the State, for people and freight;**
   - Establish a regional arterial network, including improving east/west connections and new north/south arterials
   - Airport Access Road
   - Bicycle/pedestrian facilities
   - Public Transportation – support public transit integration and connectivity
   - I-540 improvements, including improvements to interchanges, improvements to existing grade separations, and widening the mainline
   - Utilize ITS technologies to maximize infrastructure efficiency

7. **Promote efficient system management and operation;**
   - Signalization improvements
   - Utilize ITS technologies to maximize infrastructure efficiency
   - Improve and expand existing transit services
   - Encourage and explore all modes of transit alternatives

8. **Emphasize the preservation of the existing transportation system.**
   - I-540 improvements, including improvements to interchanges, improvements to existing grade separations, and widening the mainline
   - Strong financial commitment to maintenance of existing roadways
   - Maintain public transit busses and facilities
   - Upgrade and maintain existing bridges
   - Improve the rural county road network

In June 2009, the Environmental Protection Agency (EPA) and Housing and Urban Development (HUD) joined the Department of Transportation (DOT) in the *"Sustainable Communities Partnership"*. The Partnership's goal is to "help American families gain better access to affordable housing, more transportation options and healthier communities. This Partnership will ensure that these housing and transportation goals are achieved while also better protecting the environment, promoting equitable development, and helping to address the challenges of climate change".

The **Six Principles of Livability** that will direct the collective efforts for implementing the Sustainable Communities Partnership are:

1. Provide more transportation choices.
2. Promote equitable, affordable housing.
3. Enhance economic competitiveness.
4. Support existing communities.
5. Coordinate policies and leverage investment.
6. Value communities and neighborhoods.

The 2035 Northwest Arkansas Regional Transportation Plan presents various transportation strategies and choices in an effort to support the above Principles.

B. TRANSPORTATION PLANNING AND THE METROPOLITAN PLANNING ORGANIZATION

A basic planning activity of the Northwest Arkansas Regional Planning Commission (NWARPC) is its function as the Metropolitan Planning Organization (MPO). The MPO is designated by the Governor to conduct the federally mandated 3C (comprehensive, continuing and cooperative) planning process necessary for transportation projects to qualify for Federal transportation funds. Each governmental unit and transportation agency in the NARTS Study Area can participate in transportation planning by executing a letter of agreement to participate. The participants then appoint people to represent their entity in the planning process.

The MPO has two permanent committees, the *Regional Planning Commission*/*Policy Committee* and the *Technical Advisory Committee* (TAC). The RPC/Policy Committee is the chief decision-making body for the MPO and consists of the jurisdictions' chief elected official and/or other appointed representatives. The TAC develops the technical aspects of plans and reports and makes recommendations to the RPC/Policy Committee. TAC members are usually people who are involved in the technical side of transportation.

Five documents are the major NARTS products:

- The Unified Planning Work Program (UPWP)
- The Transportation Improvement Program (TIP)
- The 2035 Northwest Arkansas Regional Transportation Plan
- The Public Participation Plan (PPP)
- The Annual Listing of Obligated Projects (ALOP)

The UPWP outlines the MPO's annual work activities. Each year the TAC and RPC/Policy Committee reviews and approves proposed planning activities to submit to AHTD and FHWA/FTA for approval for Federal planning funds.

The TIP contains all short-term commitments for State and Federal transportation funding in the metro area. Beginning with fiscal year 2010 this document will cover a four-year period. *No Federal expenditures can be made on transportation facilities within the NARTS metro area unless they are listed in the TIP. The TIP is a major tool for shaping the region's transportation infrastructure.*

NARTS prepares the Northwest Arkansas Regional Transportation Plan, with updates every five years. It is a Federal requirement that the Northwest Arkansas Regional Transportation Plan cover at least a period of 20 years into the future. This document is in its fourth update, and is titled the *2035 Northwest Arkansas Regional Transportation Plan*. The Study Area for the Plan consists of Washington and Benton Counties.

In the years since the last regional transportation plan update the Northwest Arkansas region has seen a significant amount of growth and development, including a continuing increase in population. With that growth many challenges have started to face our transportation system, such as improving safety, reducing traffic congestion, improving efficiency in freight movement, increasing intermodal connectivity, improving transit service, and protecting the environment. As growth and development continues, it is clear that the current transportation system will not be sufficient to accommodate future needs. Consequently, a long-range plan is necessary to effectively integrate citizen and business needs and wants and the circulation system that will efficiently carry them through the region on their various trips.

In 1995, the 2020 Regional Transportation Plan was developed to address transportation planning for our region. The 2025 Regional Transportation Plan was adopted in 2000 as an update of the previous Plan. The 2030 Northwest Arkansas Regional Transportation Plan was developed in 2005. Now the 2035 Northwest Arkansas Regional Transportation Plan continues the process of addressing the need for appropriate planning to assist in the region's preparation for continued growth. The Plan functions as a framework for continued regional awareness and cooperation between the region's governments.

It is imperative that the Plan is viewed not as the end of a process, but a continuation of a process that must be on going in its implementation. Now, more than ever, it is important for the governments of Northwest Arkansas to consider transportation issues on a regional basis, and to cooperate in meeting the demands of accelerating growth. The fact that the Plan has been developed and adopted by the RPC/Policy Committee is evidence that area governments are committed to approaching transportation challenges in Northwest Arkansas on a united front.

C. REGIONAL TRANSPORTATION HISTORY

An early road was established through Northwest Arkansas in the 1830s linking Fort Smith to points in southern Missouri and on to St. Louis. By the mid 1800s many roads crossed the growing region including the historic Butterfield Overland Coach Road that linked St. Louis and San Francisco. The Civil War brought troop movements through the area with major battles being fought at Pea Ridge and Prairie Grove. The University of Arkansas was established in 1872, further enhancing the importance of the region and increasing the need for transportation improvements.

The railways came in the later part of the 1800s bringing a new mode of transportation to the region. The railroad through the Boston Mountains was considered an engineering marvel at that time. By World War I, motorized vehicles were appearing in Northwest Arkansas creating new demand for improved roads.

In the 1930s an airport was built at the location of Fayetteville's Drake Field. During WW II, the War Training Service used this airport as a training center for pilot trainings. By the mid 1950s Central Airlines and Skyways were flying regular flights in and out of Northwest Arkansas.

After WW II, entrepreneurial seeds were being sown that would eventually call for an improved transportation infrastructure to Northwest Arkansas. Harvey Jones, J. B. Hunt and Willis Shaw started locally based trucking firms that were destined to be among the nation's leaders. In 1963 Sam Walton established his first 5 and Dime in Bentonville, Arkansas, home now to the Wal-Mart Corporation. Abundant water from Beaver Lake was now available for new populations and industry. Tyson and George's poultry operations had their beginning in the 1950s and have become economic mainstays.

These and many more locally based operations have contributed to abundant employment opportunities in the region. Employment opportunities, when combined with the natural beauty of the area and its friendly people, have brought increased population and thus the need for an ever-improving transportation infrastructure.

Two US Highways are principle links to the rest of the world. I-540 links to the north and south, and US 412 links to the east and west. Rail lines connect the region to St. Louis to the north and Fort Smith to the south. The Northwest Arkansans Regional Airport located in southwestern Benton County provides improved air service to the region.

These facilities have given the region access to increased people, goods and services. The region is an emerging metropolitan area with a rich blend of agriculture, education, recreation, tourism, business and industry. Northwest Arkansas has experienced the greatest population and economic growth of any region in Arkansas during the 1990s and early 2000s. While the population growth has slowed somewhat in the late 2000s, the earlier growth, compounded with continuing growth has put a tremendous load on the region's transportation system. Our system, which now serves almost 430,000 people, is expected to serve approximately 780,000 people by the year 2035 if current growth trends continue. Consequently, the 2035 Northwest Arkansas Regional Transportation Plan must continue to be updated appropriately and used as a long-range tool for managing the area's transportation infrastructure.

D. TRANSPORTATION PROJECT HIGHLIGHTS FROM 2005 TO THE PRESENT

Arkansas Highway and Transportation Department (AHTD):

- Job 040273, Highway 112 (Garland Avenue) in Fayetteville from Maple Street to Highway 112S/Wedington/North Street, widen to 4 lane divided
- Job 040399, Highway 112 (Razorback Road) in Fayetteville from Highway 180/6th Street/MLK Boulevard to Highway 16/15th Street, widen to 4 lane divided
- Job 040423, Highway 16 (Wedington Drive) Fayetteville from Meadowlands Drive to Double Springs Road in, widen to 5 lanes
- Job 040420, Highway 180 (Gregg Street) in Fayetteville from Township Street to Fulbright Expressway, widen to 4 lanes
- Job 040480, Highway 62 in Farmington from Highway 170 to the Illinois River, widen to 5 lanes
- Job 090148, Highway 59 in/near Siloam Springs from Highway 412 to the north, widen to 5 lanes
- Job 090154, Highway 59 in/near Gentry from Highway 12 to the south, widen to 5 lanes
- Job R90072, Highway 71B in Bentonville from I-540 to SW A Street, widen to 5 lanes
- Job 012069, I-540 selected interchanges in Benton and Washington Counties, short term improvements
- Job 090064, Highway 62 in Rogers/Avoca from Highway 94 to Avoca, widen to 5 lanes

- Job 090165, Pinnacle Hills Parkway/Horsebarn Road/New Hope Road in Rogers, widening and interchange improvements
- Job 090180, Perry Road interchange in Rogers, new interchange

Fayetteville:

- Hwy 16 west-Meadowlands to Double Springs Road
- Gregg Avenue – Township to Fulbright Expressway
- Township Street – College Avenue to Gregg Avenue
- Dead Horse Mountain Bridge
- Scull Creek Trail

Johnson:

- Resurfacing of Johnson Main Street – Wilkerson Street west to the Railroad Crossing
- Correct Drainage Problems on Wilkerson Street at Clear Creek
- Bridge at Ball Street over Clear Creek
- Resurfacing of Great House Springs Road – 540 west to Johnson City Limits
- Johnson Clear Creek Trails

Siloam Springs:

- Hwy 59 - Siloam Springs to Gentry
- Country Club Road - Main Street to Cheri Whitlock Drive
- Tahlequah Street (new location)- N. Country Club Road to Hwy 59
- N. Carl Street – Elgin Street to Hwy 43
- Progress Avenue (new location) – Hwy 412 to Cheri Whitlock
- Cheri Whitlock – Hwy 59 to N. Mt. Olive Street
- Dogwood Street (new location) – W. Jefferson to W. Tulsa Street
- Construction of Wisteria and Verbena Lanes (new location) – off Progress Avenue
- Lincoln and Main Street intersection improvements
- Dogwood Springs Walking Trail loop around the John Brown University campus

Springdale:

- Elm Springs Road improvements – I-540 to Oak Grove Road
- Partnership with Springdale School District constructing trails on school site that connect to the Master Trail Plan and the Razorback Regional Greenway
- Don Tyson Parkway and I-540 interchange

Pea Ridge:

- Weston Street – Hwy 72 to Hwy 94 improved to a three lane, curb and gutter with sidewalks on both sides of the street

Regional Non-Motorized Transportation:

- North-South trail route developments throughout the two-county region (see Chapter V, Bicycle and Pedestrian Facilities)

Regional Public Transit:

- Since 2005 Ozark Regional Transit (ORT) has added new fixed routes in Bentonville, Rogers, and Springdale. In 2008, ORT in partnership with NorthWest Arkansas Community College (NWACC) implemented a regional express route from Fayetteville to the NWACC campus.

- With Federal Stimulus program funding, ORT purchased passenger bus shelters, a fleet canopy, a global positioning satellite system, replaced the ORT paratransit fleet and purchased four cutaway replacement vehicles.

- In 2010, ORT put bike racks on the entire fleet, and in conjunction with NWA Regional Planning and Razorback Transit, ORT completed a "Transit Development Plan", or TDP outlining public needs for transit in NW Arkansas.

CHAPTER II: VISION, GOALS, PRINCIPLES, AND OBJECTIVES

In order to create a framework for a 2035 Plan study, a vision statement was drafted by the Vision/Goals Technical Working Group and was presented to the public.

As evident in the following vision statement this region understands the rapid rate of growth and, therefore, the need for intermodal transportation solutions.

A. VISION

A vision was developed for the Plan to guide its development. The vision is as follows:

The Northwest Arkansas Region will develop and maintain a safe and efficient transportation system for the movement of people and goods throughout the area. The system will include a well integrated and connected roadway, transit, freight, pedestrian and bicycle network. The system will enhance and sustain a high level of economic vitality, community livability and quality of life by providing good service, choice, mobility, convenience and energy efficiency.

In order to create a plan to complement the aforementioned vision, four goals and supporting principles and objectives were adopted. The following Goals, Principles and Objectives create the groundwork for future policies to ensure that Northwest Arkansas is able to meet the demands of the transportation network in the most economical manner.

The purpose of creating these Goals, Principles and Objectives is to ensure that this Plan is a "living document". The following not only provides the framework for this Plan study, but also identifies areas, that this region shall focus on future transportation policies. The four main areas addressed by the following Goals include:

- **Mobility and Accessibility,**
- **Transportation Safety,**
- **Environmental Responsibility, and**
- **Protection of the Transportation Systems.**

B. GOALS, PRINCIPLES AND OBJECTIVES

Goal I: Increase transportation mobility and accessibility for both persons and freight, thus promoting the economic vitality in the region.

Principle I.1: Support an integrated system with efficient connections between transportation modes.
Objectives:

1. Minimize travel time.
2. Increase accessibility to employment for all persons in the region.
3. Increase accessibility to other major commercial, industrial, educational, medical, and recreation centers.
4. Provide for access to developing areas in the region.

Principle I.2: Enhance commerce.

Objectives:

1. Promote connections between transportation modes that support efficient movement of goods and freight.
2. Encourage improvements that facilitate the efficient movement of freight and enhance regional and global competitiveness.
3. Encourage cooperative planning with other transportation districts to insure regional goals.

Goal II: Increase transportation safety for all modes of travel.

Principle II.1: Provide for safer travel for all modes of transportation, including walking, bicycling, transit and auto.

Objectives:

1. Encourage improved traffic operations, access management and other measures to minimize the number of traffic accidents.
2. Encourage the use of intelligent transportation systems that improve the emergency response to incidents.
3. Minimize accidents on primary and secondary roadways.
4. Improve safety for pedestrians, bicyclists, and other non-motorized travelers.

Goal III: Provide a transportation system that protects and enhances the environment, promotes energy conservation and improves the quality of life.

Principle III.1: Use appropriate planning and design criteria to avoid or minimize negative impacts on residential neighborhoods.

Objectives:

1. Plan a system of main roadways to minimize non-local traffic cutting through residential neighborhoods.
2. Provide for a transportation system that both serves and complements desired community development standards and land use patterns as included in local master plans.
3. Promote a transportation system that improves connections between communities.
4. Protect community and neighborhood integrity and social cohesiveness by minimizing residential and business re-locations.

Principle III.2: Minimize use of fossil fuels and vehicular operating costs while identifying improvements to the environment.

Objectives:

1. Minimize energy consumption on a system-wide basis by reducing congestion.
2. Minimize air, water, noise and visual pollution.
3. Minimize disturbances of the region's natural aesthetics and wildlife habitat.
4. Provide for needed highway and transit system enhancements.

Goal IV: Protect existing and future transportation systems through ongoing maintenance, preservation, or reconstruction.

Principle IV.1: Encourage land development patterns that promote transportation efficiency.

Objectives:

1. Support in-fill development and the concentration of new commercial and office space activity that enhance the selection of alternative forms of transportation.
2. Identify transit corridors that allow higher density mixed-use areas to be served by public transit.
3. Encourage major facilities to locate along planned public transit lines and implement "transit friendly" strategies.
4. Encourage transit stops/stations within convenient walking distance of major concentrations of employment.

Principle IV.2: Acquire and preserve right-of-way at the least possible cost.

Objectives:

1. Identify and protect corridors needed for future highway, transit, freight, or other transportation system requirements.
2. Support the adoption of local right-of-way corridors. Need maps, policies and ordinances to identify, acquire and protect from encroachment into public right-of-way.
3. When feasible, identify future corridors for advance right-of-way acquisition for highways, local roads, transit, bicycle and pedestrian use.
4. Promote shared right-of-way/easements for multiple purposes and utilities.

Principle IV.3: Develop system performance standards to ensure optimum use and efficiency.

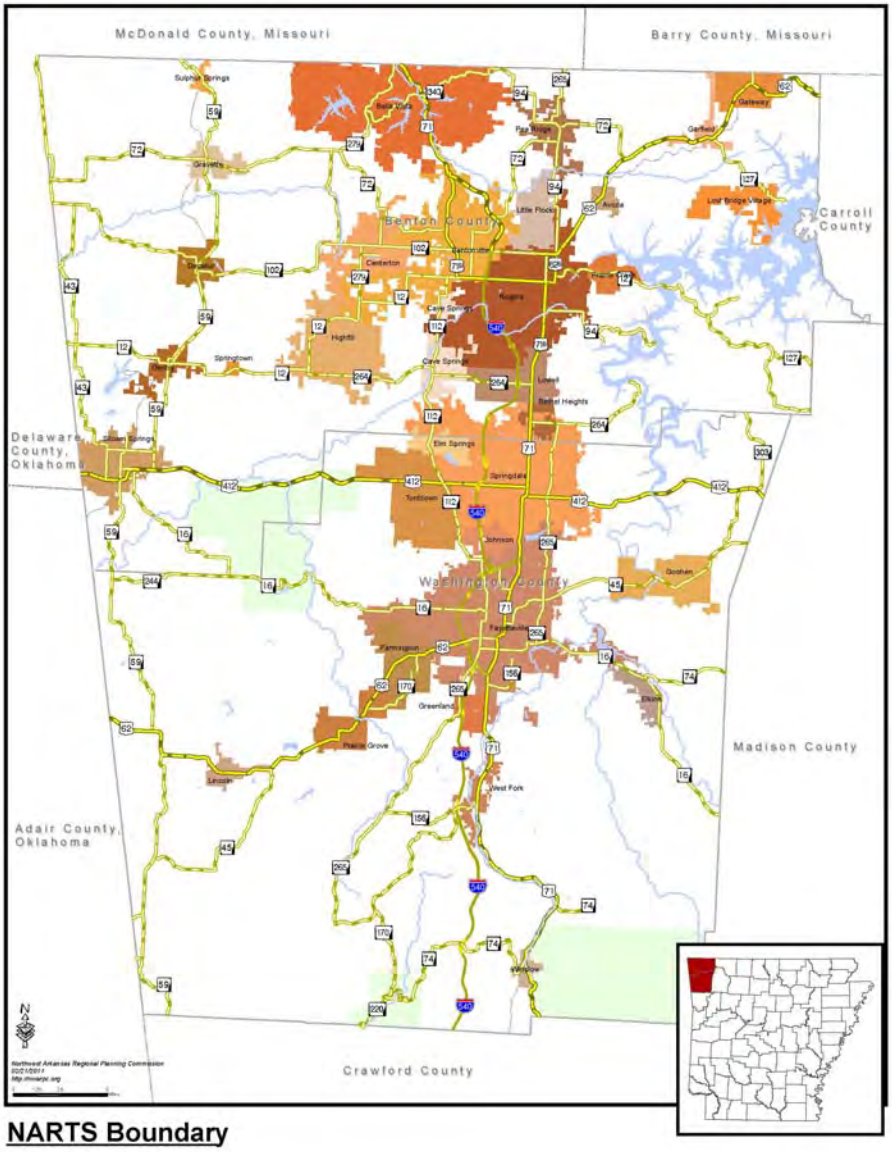
Objectives:

1. Promote policies that maximize the use of existing transportation system (i.e. new technologies, access management, and travel demand management) and explore opportunities connectivity.
2. Encourage coordination and cooperation of roadway access management rules.
3. Maintain and preserve existing highway, transit and other facilities in good condition.
4. Promote access management for arterial and collector streets.
5. Encourage local governments and private entities to implement transportation demand management techniques in order to reduce demand and provide commuter benefits.

CHAPTER III: REGIONAL CONTEXT AND NEED

A. DEMOGRAPHIC FACTORS

1. **Location:** The Northwest Arkansas Planning Commission, as a Metropolitan Planning Organization (MPO), covers Benton and Washington counties. In 2004 the Northwest Arkansas Transportation Study Area (NARTS Area) was expanded from the I-540 corridor area to include the full two-county area. However, the Fayetteville-Springdale-Rogers Metropolitan Statistical Area (MSA) now includes Madison County, Arkansas and McDonald County, Missouri. For the purpose of this document, "Northwest Arkansas" will refer to the two-county transportation study area of Benton and Washington Counties in order to correspond with the Northwest Arkansas Regional Transportation Study (NARTS) area.



NARTS Boundary

2. Population Growth: On Census day April 1, 2000 Northwest Arkansas had a population of 311,121. By April 1, 2010 the two-county population grew to 424,404 as recorded in Census 2010. (Fig.3.A.1). The Northwest Arkansas regional population has grown annually at a 3.15 percent rate from Census 2000 to 2010. This represents, on average, an annual population increase of 11,328.3 in Northwest Arkansas since Census 2000.

NORTHWEST ARKANSAS CITIES AND COUNTIES					
Growth Rate from Census 2000 to Census 2010 Source: U.S. Census					
Community	CENSUS 2000 Population	CENSUS 2010 Population	Population Increase	Percent Change 2000-2010	Annual Growth Rate 2000-2010
Benton Co., Unincorp.	44,009	44,402	393	0.89%	0.09
AVOCA	423	488	65	15.37%	1.44
BELLA VISTA	16,582	26,461	9,879	59.58%	4.78
BENTONVILLE	19,730	35,301	15,571	78.92%	5.99
BETHEL HEIGHTS	714	2,372	1,658	232.21%	12.76
CAVE SPRINGS	1,103	1,729	626	56.75%	4.60
CENTERTON	2,146	9,515	7,369	343.38%	16.06
DECATUR	1,314	1,699	385	29.30%	2.60
ELM SPRINGS - Ben Co.	13	38	25	192.31%	11.32
GARFIELD	490	502	12	2.45%	0.24
GATEWAY	116	405	289	249.14%	13.32
GENTRY	2,165	3,158	993	45.87%	3.85
GRAVETTE	1,810	2,325	515	28.45%	2.54
HIGHFILL	379	583	204	53.83%	4.40
LITTLE FLOCK	2,585	2,585	0	0.00%	0.00
LOWELL	5,013	7,327	2,314	46.16%	3.87
PEA RIDGE	2,346	4,794	2,448	104.35%	7.41
ROGERS	38,829	55,964	17,135	44.13%	3.72
SILOAM SPRINGS	10,843	15,039	4,196	38.70%	3.33
SPRINGDALE - Ben Co.	2,011	6,054	4,043	201.04%	11.65
SPRINGTOWN	114	87	-27	-23.68%	-2.67
SULPHUR SPRINGS	671	511	-160	-23.85%	-2.69
Benton County Total	153,406	221,339	67,933	44.28%	3.73
Washington Co., Unincorp.	38,341	38,142	-199	-0.52%	-0.05
ELKINS	1,251	2,648	1,397	111.67%	7.79
ELM SPRINGS - Wash Co.	1,031	1,497	466	45.20%	3.80
ELM SPRINGS (total)[1.]	1,044	1,535	491	47.03%	3.93
FARMINGTON	3,605	5,974	2,369	65.71%	5.18
FAYETTEVILLE	58,047	73,580	15,533	26.76%	2.40
GOSHEN	752	1,071	319	42.42%	3.60
GREENLAND	907	1,259	352	38.81%	3.33
JOHNSON	2,319	3,354	1,035	44.63%	3.76
LINCOLN	1,752	2,249	497	28.37%	2.53
PRAIRIE GROVE	2,540	4,380	1,840	72.44%	5.60
SPRINGDALE - Wash Co.	43,787	63,743	19,956	45.58%	3.83
SPRINGDALE (total)[1.]	45,798	69,797	23999	52.40%	4.30
TONTITOWN	942	2,460	1,518	161.15%	10.07
WEST FORK	2,042	2,317	275	13.47%	1.27
WINSLOW	399	391	-8	-2.01%	-0.20
Washington County Total	157,715	203,065	45,350	28.75%	2.56
Two-County Total	311,121	424,404	113,283	36.41%	3.15

[1.] Springdale and Elm Springs have total population from two counties

[2.] Annual Rate formula: X = [(XFinal/Xbegin)^1/t]*100 where t is the time period

Figure 3.A.1

The first half of the decade from 2000 to 2005 saw a rapid increase in building permit numbers (Figure 3.A.1) which indicate population growth. However, the second half of the decade saw a rapid decline in building permit activity due to the international "great recession". Although the building decline is substantial it should be noted that, while the chart reflects a decline in the rate of growth, residential building continued to be built. Also, since the population projection takes into consideration averages over time future growth is projected. This assumes that the local and national economies along with homebuilding will continue to recover.

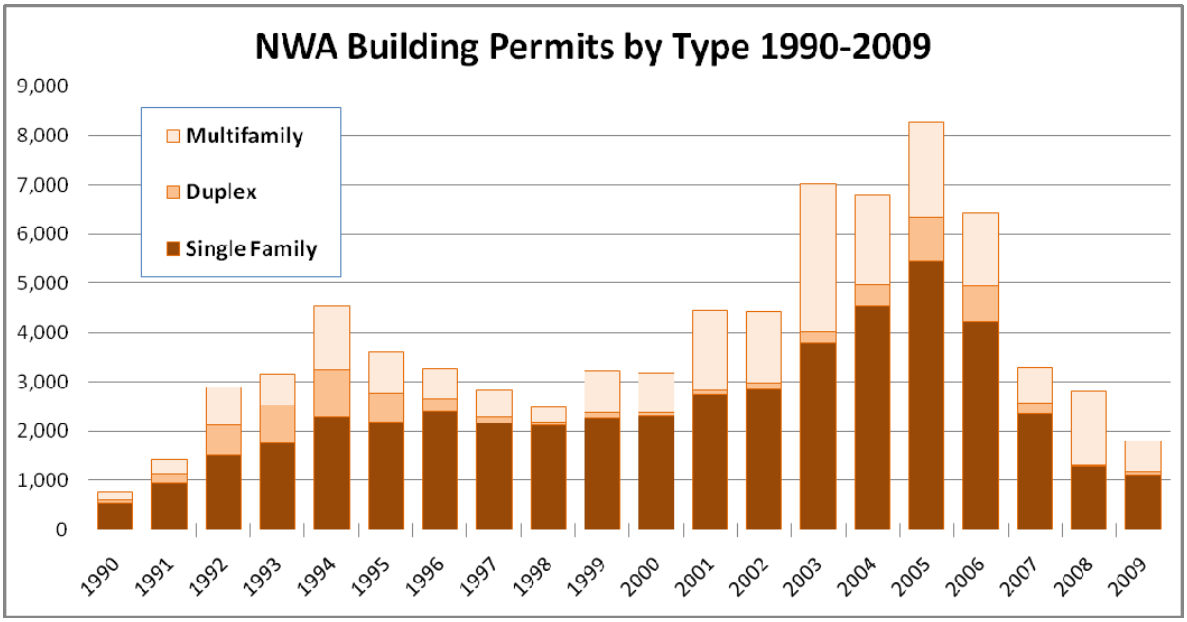


Figure 3.A.2

Population Projections: The Northwest Arkansas Regional Planning Commission, based on the 2000 and 2010 Census data, projects a population of approximately 691,274 for the two-county area at the end of the Long Range Plan twenty-five year timeframe in 2035 (Fig. 3.A.3).

Population Trends and Projections for the Northwest Arkansas Two-County NARTS Region

	Historic Population Trend					Population Projections				
YEAR	1990	1995	2000	2005	2010	2015	2020	2025	2030	2035
Benton County	97,499	125,453	153,406	186,598	221,339	252,299	283,259	314,219	345,179	376,139
Washington Co.	113,409	135,562	157,715	182,782	203,065	225,479	247,893	270,307	292,721	315,135
Two County Area	210,908	261,015	311,121	369,380	424,404	477,778	531,152	584,526	637,900	691,274

Source: Figures from 1990 to 2000 are from the U.S. Census;

Projections based on building permit data, End of 2nd Quarter, 2005; Source: NWARPC

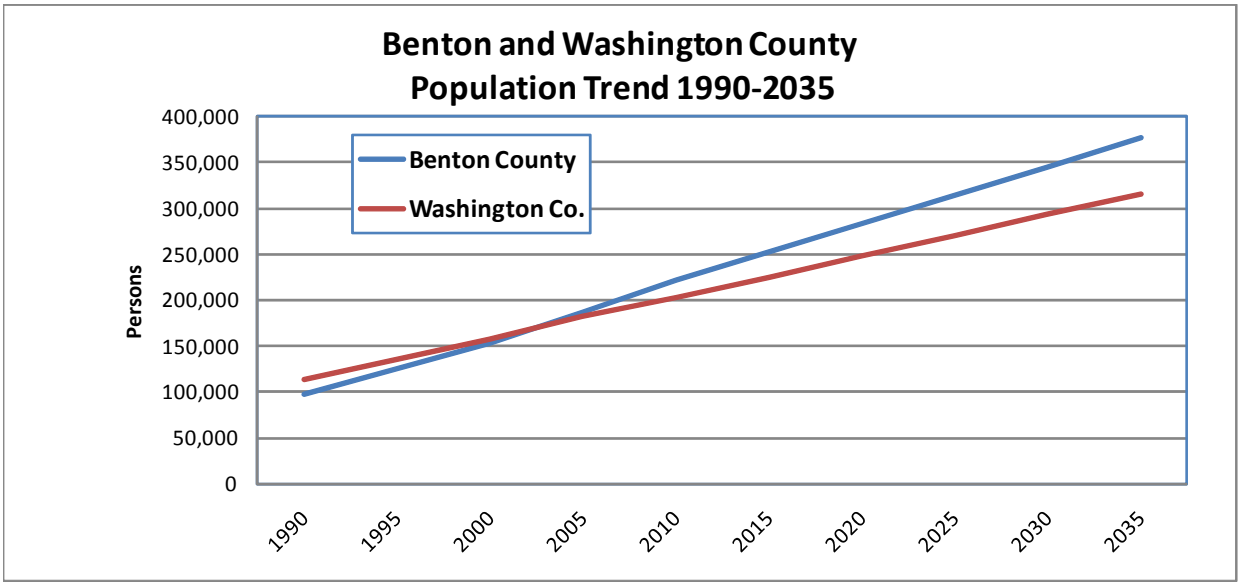
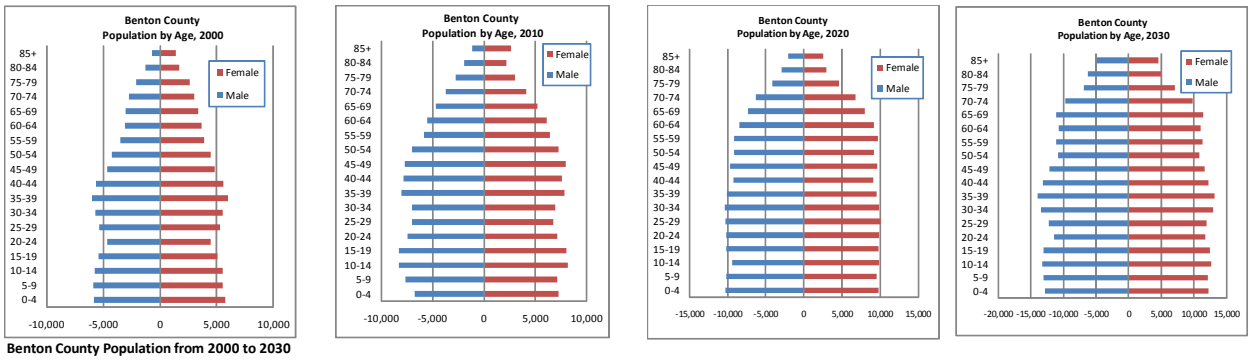


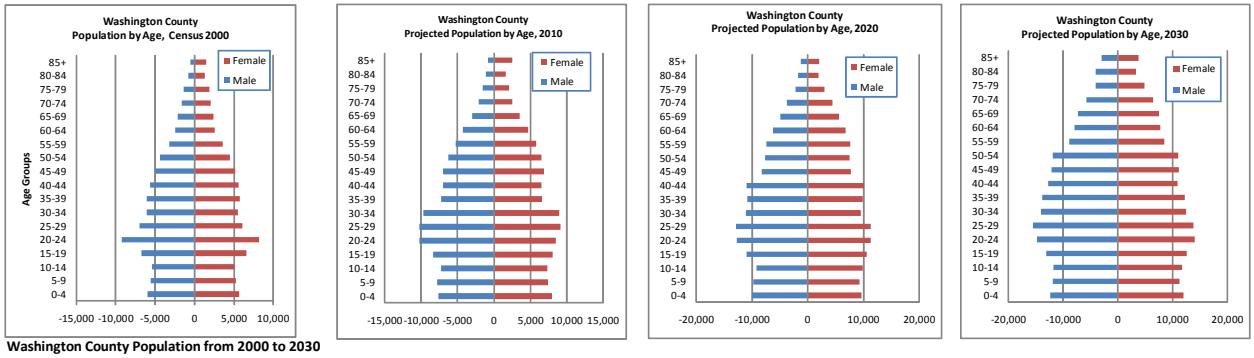
Figure 3.A.3

The University of Arkansas Census State Data Center, which develops detailed demographic data for counties in Arkansas, projects a Northwest Arkansas population by Age and Gender cohort. This method also takes into consideration births and deaths as well as migration.

The projections are presented in the following charts (Figures 3.A.4) for the two counties in Northwest Arkansas.



Benton County Population from 2000 to 2030



Washington County Population from 2000 to 2030

Data Source: UALR Institute for Economic Advancement

Figure 3.A.4

With these charts it is important to notice that the upper age cohorts are growing in size over time. The baby boomer generation that started at the end of World War II in 1946 and continued into the mid to late 1950's is now beginning to retire. This could mean that there will be growing need to provide alternatives to the automobile for a growing elderly population.

3. City Population Projections: The estimated and projected populations out to 2035 is shown in Figure 3.A.5 for all the cities in the two-county region based on building permit trends since 1990. This breakdown of growth projections highlights growth in many jurisdictions such as Springdale, which could grow 71.3 percent to 119,617 by 2035, or Centerton, which could grow 118.5 percent to 20,796. These population projections will be useful to city planning departments as well as for regional planning. These projections will be used for forecasting traffic conditions in the travel demand computer model.

Population Projections of Cities and Counties in the NARTS Area								
CITY/COUNTY	CENSUS 1990 Population	CENSUS 2010 Population	Pop. Increase per year 1990 to 2010	Population Projection 2015	Population Projection 2020	Population Projection 2025	Population Projection 2030	Population Projection 2035
Unincorporated Benton CO.**	33,079	44,402	566.2	47,233	50,064	52,894	55,725	58,556
AVOCA	269	488	11.0	543	598	652	707	762
BELLA VISTA	9,083	26,461	868.9	30,806	35,150	39,495	43,839	48,184
BENTONVILLE	11,257	35,301	1,202.2	41,312	47,323	53,334	59,345	65,356
BETHEL HEIGHTS	281	2,372	104.6	2,895	3,418	3,940	4,463	4,986
CAVE SPRINGS	465	1,729	63.2	2,045	2,361	2,677	2,993	3,309
CENTERTON	491	9,515	451.2	11,771	14,027	16,283	18,539	20,795
DECATUR	918	1,699	39.1	1,894	2,090	2,285	2,480	2,675
ELM SPRINGS - Ben Co	0	38	1.9	48	57	67	76	86
GARFIELD	308	502	9.7	551	599	648	696	745
GATEWAY	65	405	17.0	490	575	660	745	830
GENTRY	1,726	3,158	71.6	3,516	3,874	4,232	4,590	4,948
GRAVETTE	1,412	2,325	45.7	2,553	2,782	3,010	3,238	3,466
HIGHFILL	84	583	25.0	708	833	957	1,082	1,207
LITTLE FLOCK	944	2,585	82.1	2,995	3,406	3,816	4,226	4,636
LOWELL	1,224	7,327	305.2	8,853	10,379	11,904	13,430	14,956
PEA RIDGE	1,620	4,794	158.7	5,588	6,381	7,175	7,968	8,762
ROGERS	24,692	55,964	1,563.6	63,782	71,600	79,418	87,236	95,054
SILOAM SPRINGS	8,151	15,039	344.4	16,761	18,483	20,205	21,927	23,649
SPRINGDALE - Ben Co	907	6,054	257.4	7,341	8,628	9,914	11,201	12,488
SPRINGTOWN	0	87	4.4	109	131	152	174	196
SULPHUR SPRINGS	523	511	-0.6	508	505	502	499	496
BENTON CO. TOTALS	97,499	221,339	6,192.0	252,299	283,259	314,219	345,179	376,139
Unincorporated Washington CO.**	31,794	38,142	317.4	39,729	41,316	42,903	44,490	46,077
ELKINS	692	2,648	97.8	3,137	3,626	4,115	4,604	5,093
ELM SPRINGS - Wash Co.	893	1,497	30.2	1,648	1,799	1,950	2,101	2,252
ELM SPRINGS (Total)	893	1,535	32.1	1,696	1,856	2,017	2,177	2,338
FARMINGTON	1,322	5,974	232.6	7,137	8,300	9,463	10,626	11,789
FAYETTEVILLE	42,099	73,580	1,574.1	81,450	89,321	97,191	105,061	112,931
GOSHEN	589	1,071	24.1	1,192	1,312	1,433	1,553	1,674
GREENLAND	757	1,259	25.1	1,385	1,510	1,636	1,761	1,887
JOHNSON	599	3,354	137.8	4,043	4,732	5,420	6,109	6,798
LINCOLN	1,460	2,249	39.5	2,446	2,644	2,841	3,038	3,235
PRAIRIE GROVE	1,761	4,380	131.0	5,035	5,690	6,344	6,999	7,654
SPRINGDALE - Wash Co	29,034	63,743	1,735.5	72,420	81,098	89,775	98,452	107,129
SPRINGDALE (Total)	29,941	69,797	1,992.8	79,761	89,725	99,689	109,653	119,617
TONTITOWN	460	2,460	100.0	2,960	3,460	3,960	4,460	4,960
WEST FORK	1,607	2,317	35.5	2,495	2,672	2,850	3,027	3,205
WINSLOW	342	391	2.5	403	416	428	440	452
WASHINGTON CO. TOTALS	113,409	203,065	4,482.8	225,479	247,893	270,307	292,721	315,135
TWO-COUNTY TOTAL	210,908	424,404	10,674.8	477,778	531,152	584,526	637,900	691,274
Population Projections are based on Census Data beginning on April 1, 1990 Source of Census Data: U.S. Census								

Figure 3.A.5

4. Employment Trends/Immigration Trends: Given the fact that most jobs require commuting, employment trends are important in helping to predict transportation needs into the future. Employment predictions and commuting patterns are a major part of travel demand modeling. Figure 3.A.6 shows how the region's labor force has grown in the past decade and how the unemployment rate has stayed relatively low until the recession. As can be seen in the chart the annual unemployment rate started at 2.9 percent and didn't reach 4.0 percent until 2008 but ended at 5.9 percent in 2009. This unemployment rate was lower than other Metropolitan Statistical Areas (MSAs) in Arkansas as well as the Arkansas state figure of 7.3 percent and the U.S. figure of 9.7 percent in the same time period. A historically low unemployment rate may have been a major factor in attracting population into Northwest Arkansas and a relatively low rate should continue to attract migration into the area. Figure 3.A.8 presents estimates of projected employment numbers by job categories. The Arkansas Department of Workforce Services predicts that the number of jobs will increase in the Fayetteville-Springdale-Rogers MSA from a 2006 estimate of 275,859 to 372,267 or an increase of 96,408 by the year 2016. Much of the increase will take place in the services providing sector with 75,686 jobs.

Employment Trend in the Fayetteville-Springdale-Rogers MSA

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Civilian Labor Force	176,825	182,500	192,450	196,950	205,475	219,925	225,875	229,050	229,725	227,125
Total Employment	171,675	177,050	186,050	189,550	197,750	212,700	217,850	220,525	220,450	213,725
Unemployment	5,150	5,450	6,400	7,400	7,725	7,225	8,025	8,525	9,275	13,400
Unemployment Rate	2.90%	3.00%	3.30%	3.70%	3.80%	3.30%	3.50%	3.70%	4.00%	5.90%

Source of Data: Arkansas Department of Workforce Services

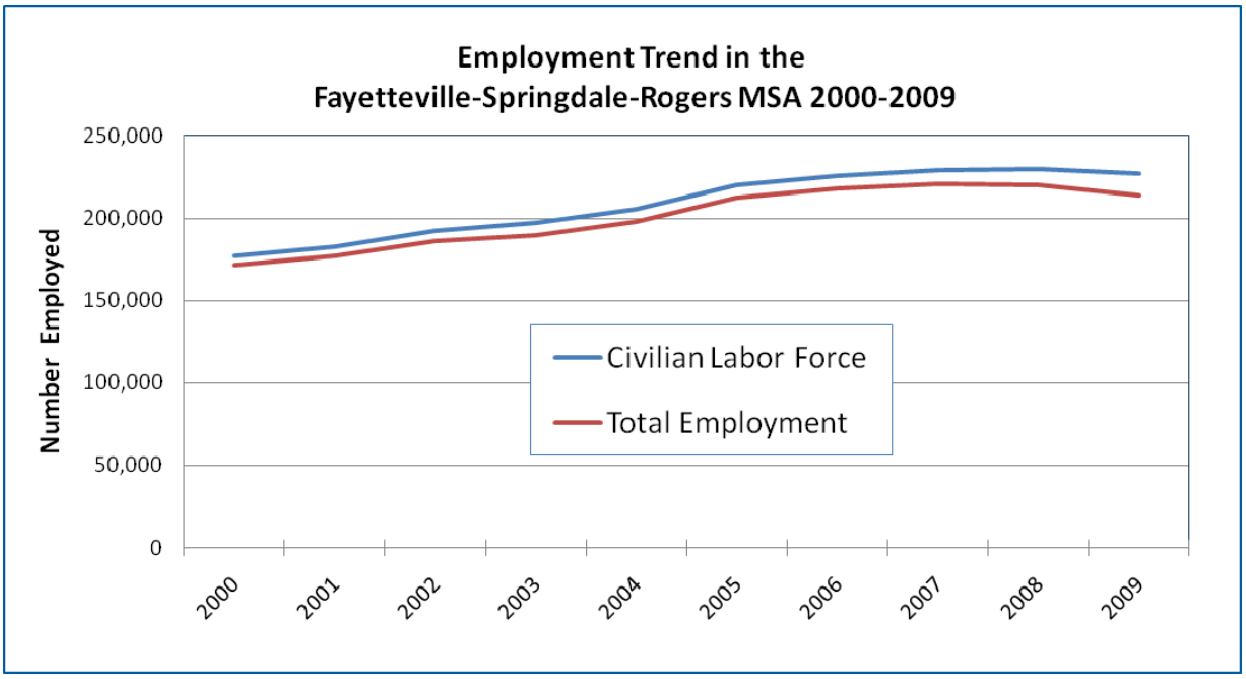


Figure 3.A.6

Employment Trend by Selected Industry in the Fayetteville-Springdale-Rogers MSA Years 2000-2009										
INDUSTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total Nonfarm	162,000	170,300	176,800	181,800	188,300	198,500	205,400	208,200	207,200	199,800
Total Private	140,600	148,300	154,300	158,200	163,700	172,800	178,800	180,400	178,600	171,200
Goods Producing	43,300	42,900	42,600	42,600	43,200	44,700	45,900	43,900	41,800	38,000
Service-Providing	118,600	127,400	134,200	139,200	145,100	153,900	159,500	164,300	165,400	161,900
Natural Resources, Mining & Construction	7,400	7,700	7,900	8,400	9,800	11,200	12,400	11,500	10,200	8,600
Manufacturing	35,900	35,200	34,800	34,300	33,400	33,500	33,500	32,300	31,600	29,300
Trade, Transportation and Utilities	34,400	38,400	42,800	43,700	44,900	47,100	48,400	49,000	47,200	44,000
Wholesale Trade	6,000	6,500	7,100	7,800	8,600	9,300	9,200	9,400	9,300	8,700
Retail Trade	17,200	18,000	18,300	18,600	19,400	20,400	21,600	22,300	22,000	21,100
Transportation, Warehouse, and Utilities	11,200	13,900	17,300	17,400	16,800	17,300	17,600	17,300	15,900	14,200
Information	2,300	2,500	2,400	2,300	2,500	2,500	2,400	2,400	2,300	2,100
Financial Activities	6,000	6,300	6,600	6,800	7,000	7,600	8,200	8,700	8,500	7,800
Professional and Business Services	24,200	26,200	26,500	27,300	28,800	31,200	32,200	33,200	33,200	32,900
Education and Health Services	13,500	14,400	15,200	16,100	16,800	17,600	18,300	18,900	19,800	20,900
Leisure and Hospitality	12,300	13,000	13,600	14,000	14,700	15,800	17,000	17,700	18,600	18,500
Other Services	4,500	4,600	4,800	5,200	5,900	6,300	6,400	6,700	7,200	7,100
Government	21,400	22,000	22,500	23,600	24,600	25,800	26,600	27,800	28,600	28,600
Federal Government	1,900	1,800	1,900	1,900	2,000	2,100	2,200	2,300	2,400	2,600
State Government	7,600	7,700	7,600	8,100	8,500	8,900	8,600	9,000	9,300	9,300
Local Government	11,800	12,400	12,900	13,600	14,100	14,800	15,900	16,500	16,900	16,700

Source of Data: Arkansas Department of Workforce Services

Figure 3.A.7

Projected Employment by Industry in Northwest Arkansas 2009 - 2016					
INDUSTRY	Est Yr-Proj Yr	Estimated Employment	Projected Employment	Numeric Change	Percent Change
Total Employment, All Jobs	2006-2016	275,859	372,267	96,408	34.9
Total Self-Employed and Unpaid Family Workers, Primary Job	2006-2016	34,355	45,783	11,428	33.3
Self-Employed Workers, Primary Job	2006-2016	34,148	45,594	11,446	33.5
Goods-Producing	2006-2016	55,417	64,711	9,294	16.8
Natural Resources and Mining	2006-2016	1,668	1,040	-628	-37.7
Services-Providing	2006-2016	186,087	261,773	75,686	40.7
Trade, Transportation, and Utilities	2006-2016	54,488	75,131	20,643	37.9
Information	2006-2016	3,368	4,009	641	19
Financial Activities	2006-2016	9,706	13,646	3,940	40.6
Professional and Business Services	2006-2016	32,858	52,489	19,631	59.7
Education and Health Services	2006-2016	45,861	61,491	15,630	34.1
Leisure and Hospitality	2006-2016	21,541	30,599	9,058	42.1
Other Services (Except Government)	2006-2016	7,711	10,965	3,254	42.2
Government	2006-2016	10,554	13,443	2,889	27.4
Mining	2006-2016	242	241	-1	-0.4
Manufacturing	2006-2016	40,714	45,282	4,568	11.2
Wholesale Trade	2006-2016	8,264	10,539	2,275	27.5
Retail Trade	2006-2016	26,412	32,848	6,436	24.4
Transportation and Warehousing	2006-2016	18,422	29,255	10,833	58.8
Federal, Excluding Post Office	2006-2016	1,600	1,810	210	13.1
State Government, Excluding Education and Hospitals	2006-2016	1,710	1,966	256	15
Local Government, Excluding Education and Hospitals	2006-2016	6,184	8,373	2,189	35.4

Source of Data: Arkansas Department of Workforce Services

Figure 3.A.8

Immigration Trends: Northwest Arkansas, as can be seen with Figure 3.A.9, has experienced an in-migration of Latino or Hispanic population. Between the year 2000 and 2010 the two-county regions' total population grew by 36.4 percent while the Hispanic population grew from 26,401 to 65,741 or by 149.0 percent. From this it can be seen that the Hispanic population continues to increase at a faster rate than the general population. The Census 2010 Hispanic population figure of 65,741 makes up 15.5 percent of the 424,404 two-county total population. This Hispanic total population ratio is higher in the cities of Northwest Arkansas with an 18.4 percent and 26.7 percent ratio for Washington and Benton County Cities respectively.

Hispanic Population Growth in Northwest Arkansas: 2000 to 2010

Geographic	Total Population Census 2000	Hispanic Population Census 2000	Total Population Census 2010	Hispanic Population Census 2010	Total Pop. Change 2000-2010	Hispanic Pop. Change 2000-2010	Total Population Percent Change 2000-2010	Hispanic Population Percent Change 2000-2010	Percent Hispanic to Total Population in 2010
AVOCA	423	26	488	85	65	59	15.37%	226.92%	17.4%
BELLA VISTA (CDP)	16,582	168	26,461	688	9,879	520	59.58%	309.52%	2.6%
BENTONVILLE	19,730	1198	35,301	3074	15,571	1876	78.92%	156.59%	8.7%
BETHEL HEIGHTS	714	24	2,372	823	1,658	799	232.21%	3329.17%	34.7%
CAVE SPRINGS	1,103	24	1,729	77	626	53	56.75%	220.83%	4.5%
CENTERTON	2,146	87	9,515	1161	7,369	1074	343.38%	1234.48%	12.2%
DECATUR	1,314	217	1,699	483	385	266	29.30%	122.58%	28.4%
ELKINS	1,251	15	2,648	213	1,397	198	111.67%	1320.00%	8.0%
ELM SPRINGS	1,044	45	1,535	131	491	86	47.03%	191.11%	8.5%
FARMINGTON	3,605	79	5,974	352	2,369	273	65.71%	345.57%	5.9%
FAYETTEVILLE	58,047	2821	73,580	4725	15,533	1904	26.76%	67.49%	6.4%
GARFIELD	490	7	502	5	12	-2	2.45%	-28.57%	1.0%
GATEWAY	116	0	405	32	289	32	249.14%	---	7.9%
GENTRY	2,165	121	3,158	379	993	258	45.87%	213.22%	12.0%
GOSHEN	752	6	1,071	10	319	4	42.42%	66.67%	0.9%
GRAVETTE	1,810	53	2,325	94	515	41	28.45%	77.36%	4.0%
GREENLAND	907	20	1,259	41	352	21	38.81%	105.00%	3.3%
HIGHFILL	379	4	583	19	204	15	53.83%	375.00%	3.3%
JOHNSON	2,319	74	3,354	347	1,035	273	44.63%	368.92%	10.3%
LINCOLN	1,752	89	2,249	147	497	58	28.37%	65.17%	6.5%
LITTLE FLOCK	2,585	413	2,585	318	0	-95	0.00%	-23.00%	12.3%
LOWELL	5,013	448	7,327	1808	2,314	1360	46.16%	303.57%	24.7%
PEA RIDGE	2,346	24	4,794	276	2,448	252	104.35%	1050.00%	5.8%
PRAIRIE GROVE	2,540	52	4,380	196	1,840	144	72.44%	276.92%	4.5%
ROGERS	38,829	7490	55,964	17619	17,135	10129	44.13%	135.23%	31.5%
SILOAM SPRINGS	10,843	1518	15,039	3128	4,196	1610	38.70%	106.06%	20.8%
SPRINGDALE	45,798	9005	69,797	24692	23,999	15687	52.40%	174.20%	35.4%
SPRINGTOWN	114	10	87	11	-27	1	-23.68%	10.00%	12.6%
SULPHUR SPRINGS	671	112	511	22	-160	-90	-23.85%	-80.36%	4.3%
TONTITOWN	942	21	2,460	140	1,518	119	161.15%	566.67%	5.7%
WEST FORK	2,042	64	2,317	76	275	12	13.47%	18.75%	3.3%
WINSLOW	399	3	391	8	-8	5	-2.01%	166.67%	2.0%
Benton County (Cities Total)	107,373	11,944	112,547	30,102	5,174	18,158	4.82%	152.03%	26.7%
Washington County (Cities Total)	120,456	12,273	168,555	30,938	48,099	18,665	39.93%	152.08%	18.4%
Benton County Total	153,406	13,469	221,339	34,283	67,933	20,814	44.28%	154.53%	15.5%
Washington County Total	157,715	12,932	203,065	31,458	45,350	18,526	28.75%	143.26%	15.5%
NWA Regional Total	311,121	26,401	424,404	65,741	113,283	39,340	36.41%	149.01%	15.5%
Arkansas	2,673,400	86,866	2,915,918	186,050	242,518	99,184	9.07%	114.18%	6.4%

Source: U.S. Census Bureau, Census 2000. Table prepared by Northwest Arkansas Regional Planning Commission.

Figure 3.A.9

Other minority group populations have also increased in the Northwest Arkansas area. In particular the region's population of Native Hawaiian or Pacific Islanders, which would include Marshallese Island immigrants, grew from 969 in Census 2000 to 4,799. This was a significant 395.25 percent increase in a decade. Figure 3.A.10 below shows that while the diversity of the Northwest Arkansas population is increasing rapidly, the total population in absolute numerical terms is still predominantly white.

Race and Hispanic Change from 2000 to Year 2010 in Northwest Arkansas			
	Census 2000	**Census 2010**	**Percent Change**
Total Population	**311,121**	**424,404**	36.4%
White alone	**278,219**	**345,070**	24.0%
Black or African American alone	**4,142**	**8,820**	112.9%
American Indian and Alaska Native alone	**4,954**	**6,144**	24.0%
Asian alone	**4,102**	**10,735**	161.7%
Native Hawaiian and Other Pacific Islander alone	**949**	**4,799**	405.7%
Some other race alone	**12,808**	**37,231**	190.7%
Two or more races	**5,947**	**11,605**	95.1%
Hispanic or Latino (of any race)	**26,323**	**65,741**	149.7%

U.S. Census Bureau

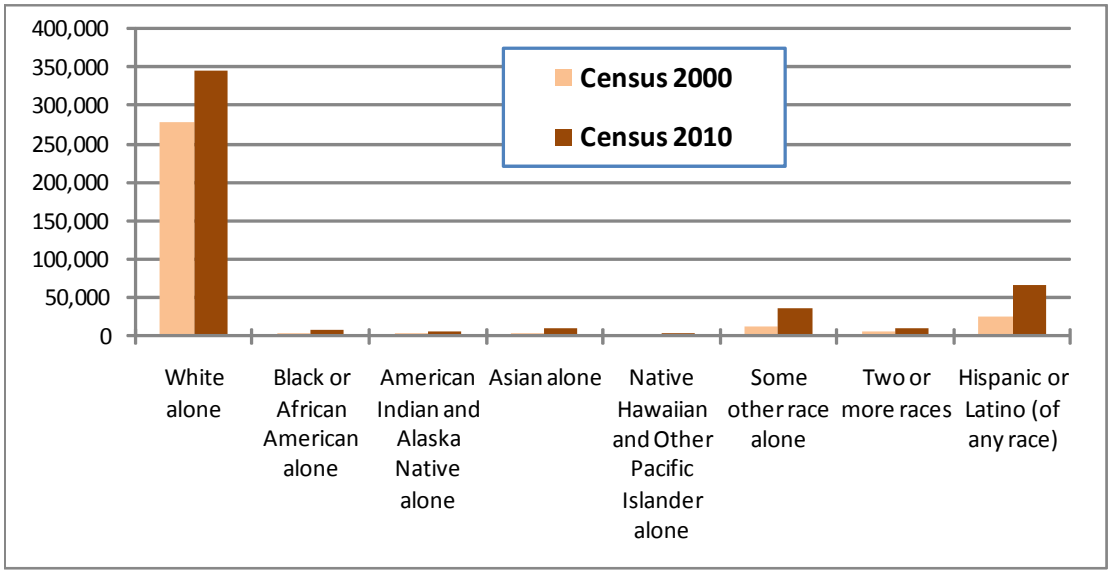


Figure 3.A.10

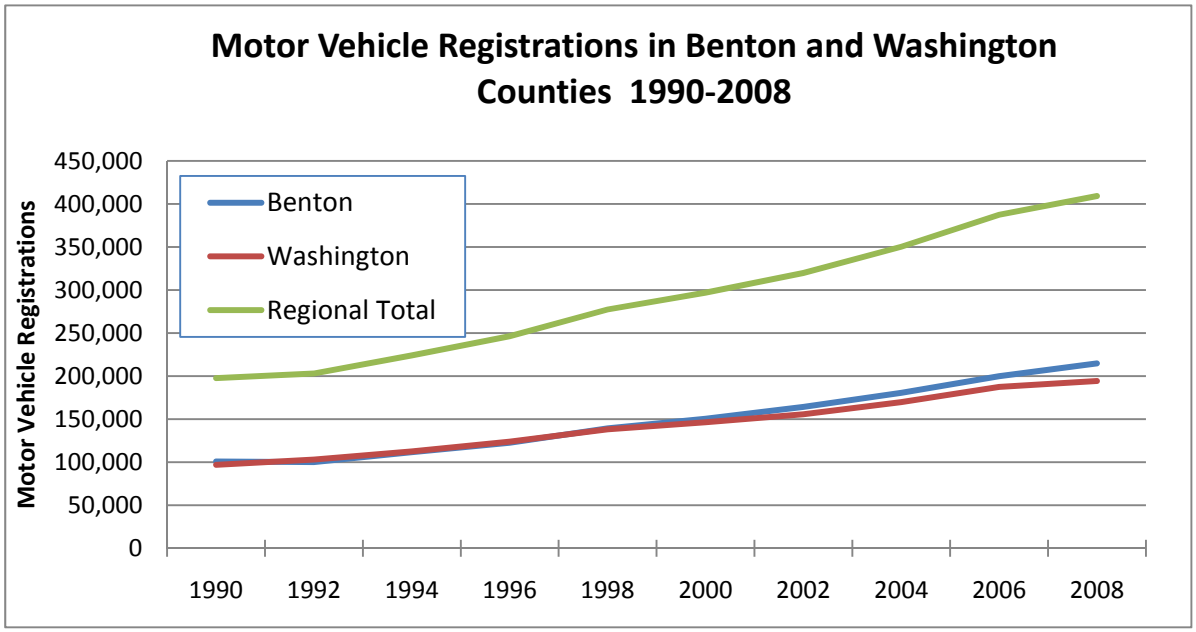
Growing Hispanic and other immigrant groups, such as the Marshallese Island population, must be considered in the development of the area's transportation needs. Interviews and surveys suggest that these immigrant groups are more accustomed to using public transit and might use transit if it were more readily available in Northwest Arkansas.

5. Vehicle Trends in Northwest Arkansas: Figure 3.A.11 shows that in Northwest Arkansas motor vehicle registrations from 1990 to 2008 grew from 296,791 to 350,247. The percentage of automobile registration in Northwest Arkansas as a percentage of the State has steadily increased over the years. Since 1990 this percentage share grew from 10.0 percent to 13.0 percent in 2008.

These vehicle registration tables underscore the fact that this region has had considerable growth and will require more transportation infrastructure to meet growing demand.

Northwest Arkansas Motor Vehicle Registrations by County and Year - 1990-2008

	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008
Arkansas	1,981,323	2,027,576	2,162,185	2,288,145	2,527,984	2,606,852	2,685,388	2,810,529	2,993,975	3,152,716
Benton	100,785	99,980	111,649	122,522	139,221	150,387	164,098	180,557	199,946	214,780
Washington	96,824	103,006	112,454	123,789	138,074	146,404	155,613	169,690	187,383	194,324
Regional Total	197,609	202,986	224,103	246,311	277,295	296,791	319,711	350,247	387,329	409,104
Percent NWA to State	10.0%	10.0%	10.4%	10.8%	11.0%	11.4%	11.9%	12.5%	12.9%	13.0%



Source: Arkansas Census State Data Center

Figure 3.A.11

The following chart (Figure 3.A.12) compares the number of vehicles according to occupied housing units looking at the change from Census 2000 to estimates in the 2009 American Community Survey. The data shows that the number of occupied housing units grew by 32.6 percent in Benton County and 24.0 percent in Washington County. In the chart it can be seen that the number of households with three or more vehicles available grew by 49.9 percent in Benton County and 62.8 percent in Washington County. Interestingly, number of housing units that have no vehicles available grew in Benton and Washington Counties 39.3 and 28.6 percent, respectively. This may mean that there is a growing segment of the population in Northwest Arkansas that either use or may need other means of transportation.

Number of Vehicles Available by Occupied Housing Units								
	Census 2000			ACS Estimate 2009			Percent Increase	
	Benton County, Arkansas	Washington County, Arkansas		Benton County, Arkansas	Washington County, Arkansas		Benton County, Arkansas	Washington County, Arkansas
Occupied Housing Units	58,212	60,151		77,174	74,569		32.6%	24.0%
No vehicle available	2,513	3,423		3,501	4,401		39.3%	28.6%
1 vehicle available	18,026	21,243		23,663	25,598		31.3%	20.5%
2 vehicles available	27,502	25,300		34,761	27,988		26.4%	10.6%
3 or more	10,171	10,185		15,249	16,582		49.9%	62.8%

ACS = American Community Survey

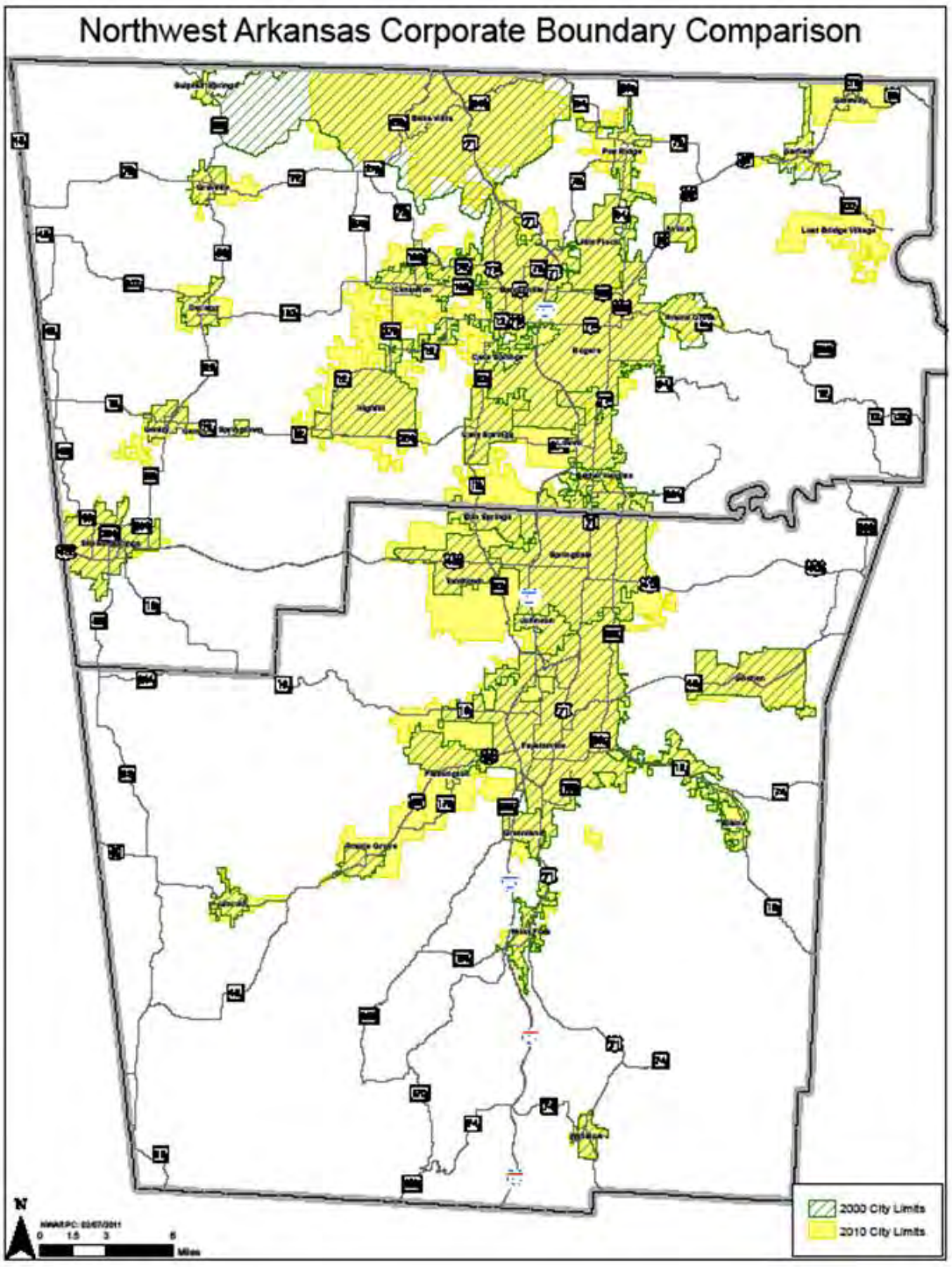
Figure 3.A.12

The chart below (Figure 3.A.13) shows that commuters in Northwest Arkansas mostly use a car, truck or van and that they generally drive alone. The percentage of almost all modes of transportation has remained nearly the same when comparing Census 2000 figures with the 2005-2009 American Community Survey (ACS) composite figures. The only category that changed significantly was "Other Means" which includes bicycling. This figure may reflect the concerted effort to implement bicycle trails and facilities in Northwest Arkansas communities throughout the decade.

Fayetteville-Springdale-Rogers MSA				
COMMUTING TO WORK				
	Census 2000		ACS 2005-2009	
Workers 16 years and over	**147,015**	**147,015**	**206,579**	**206,579**
Car, truck, or van -- drove alone	117,387	79.85%	163,638	79.20%
Car, truck, or van -- carpooled	19,255	13.10%	27,034	13.10%
Public transportation (excluding taxicab)	510	0.35%	548	0.30%
Walked	3,395	2.31%	4,688	2.30%
Other means	979	0.67%	2739	1.30%
Worked at home	5,006	3.41%	7,932	3.80%
Mean travel time to work (minutes)	18.9	(X)	20.8	(X)

Figure 3.A.13

Map of Northwest Arkansas City Boundary Changes: This boundary change map shows the growth of the incorporated areas from 2000 to 2010. It can be seen that a large portion of the two-county area is being incorporated into city boundaries. It also can be seen that a relatively larger portion of Benton County rural area has been annexed over the same time period than in Washington County.


Northwest Arkansas Corporate Boundary Comparison
2000 City Limits
2010 City Limits
N
Miles

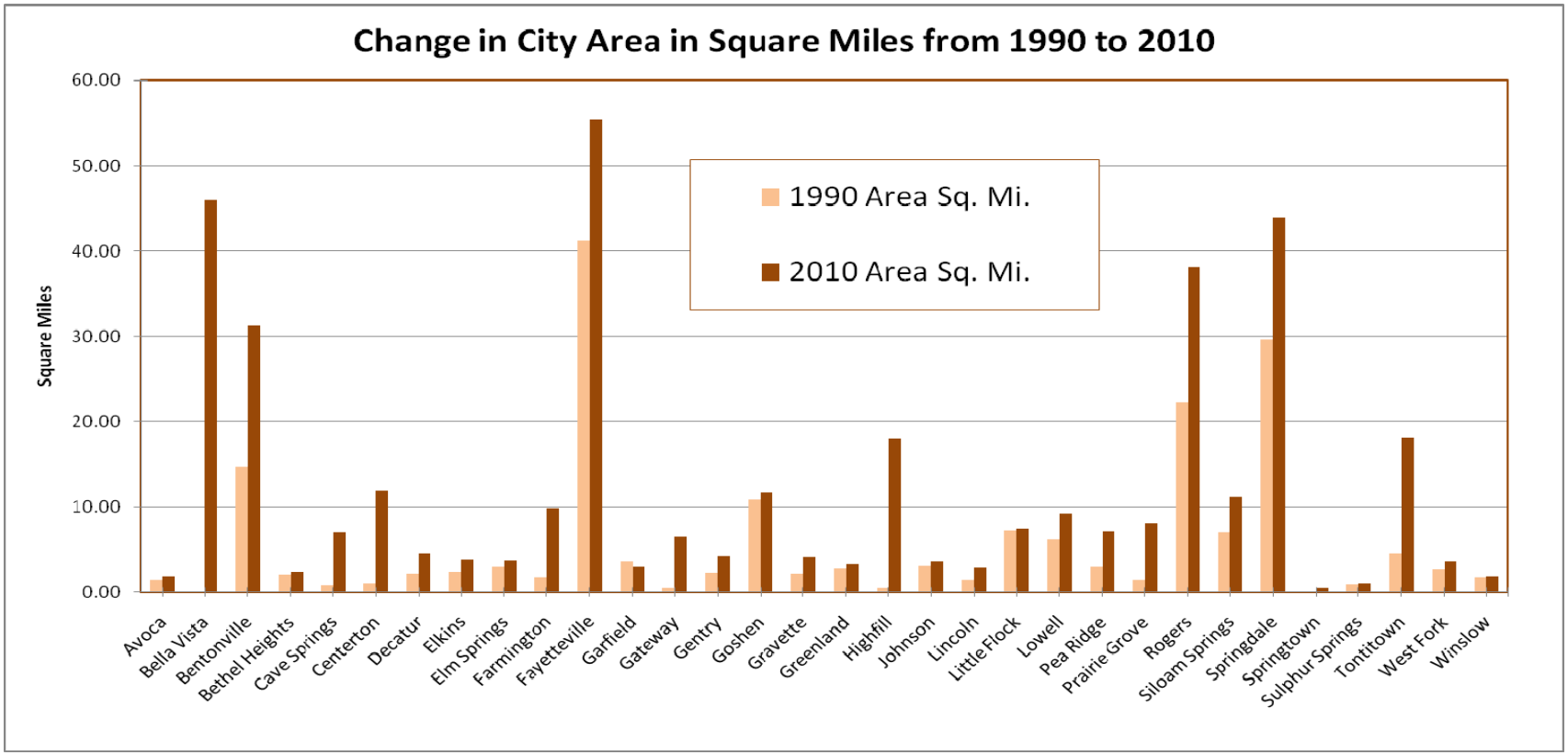

Change in City Area in Square Miles from 1990 to 2010
Square Miles
60.00
50.00
40.00
30.00
20.00
10.00
0.00
1990 Area Sq. Mi.
2010 Area Sq. Mi.
Avoca
Bella Vista
Bentonville
Bethel Heights
Cave Springs
Centerton
Decatur
Elkins
Elm Springs
Farmington
Fayetteville
Garfield
Gateway
Gentry
Goshen
Gravette
Greenland
Highfill
Johnson
Lincoln
Little Flock
Lowell
Pea Ridge
Prairie Grove
Rogers
Siloam Springs
Springdale
Springtown
Sulphur Springs
Tontitown
West Fork
Winslow

Figure 3.A.14

6. Summary of Demographic Factors: The population information and the map presentations demonstrate three major trends. First, the population in Northwest Arkansas continues to increase. For over 30 years the region sustained the highest population growth rate of any two-county region in Arkansas. Population projections through the year 2035 are based upon the region's demonstrated growth from 1990 through 2010. There are a number of factors, such as a move of major employers, which could very possibly prevent a repeat of the exceptional growth that took place in the past. However, regional governments and institutions must be prepared for the possibility of even more growth in the future. Should the rate of growth significantly change, new projections will reflect these changes.

Secondly, the building permit figures translated to a population density map shows that there is a significant western movement in the two-county area. The city boundary change map reveals that cities such as Bentonville, Centerton, Highfill, Springdale, Fayetteville and Tontitown are annexing land to the west. These annexations, along with the development of water and sewer capacity in these areas, suggest that the western movement of population will continue.

This rapid growth of population and the movement of population to the west challenge local finances, infrastructure facilities, and environments. The region will need to meet these challenges by implementing conventional road improvements. In addition, future growth will also require a more convenient and efficient transportation system through the development of alternate modes of transportation, the use of new developments in Intelligent Transportation System technologies (ITS), and by employing a strategy of congestion and travel demand management.

A third factor is the changing demographic makeup of the Northwest Arkansas population. As was seen in the population pyramids there is a trend toward a relatively larger aging population. This population may have a growing need for public transit or other forms of transportation to maintain mobility. Another changing demographic is the growing Hispanic and Marshallese Islander populations. These populations may also have different mobility needs as well as environmental justice concerns.

B. ENVIRONMENTAL FACTORS

1. Natural Environmental Factors

The natural environment has become increasingly important in transportation planning processes. Reviews are often required for transportation projects in order to ensure that impacts on wildlife habitats and natural resources would be mitigated as much as possible. The Northwest Arkansas region faces typical environmental challenges such as soil erosion during road construction. However, due to the area's karst geology and steep terrain in some areas, the region faces additional environmental challenges. There is also a need to protect the habitats of unique species such as the threatened Ozark Cavefish (*Amblyopsis rosae)* and to protect ground-water recharge areas. Important environmental factors to consider for transportation planning purposes include expanding urban land area, the widening and building of new roadways, and the choosing of travel modes.

Expanding urban land area: Cities across the US are expanding in land area, frequently without comparable increases in population. Suburbs tend to be lower density than older core areas, allocating larger parcels to single family housing and other types of development. Meanwhile, core areas are often

ignored for redevelopment initiatives, putting more pressure on pristine lands on the fringe of the community. These trends have several significant effects on the environment.

Environmental Factor	**Impact**
Air quality	Expanding the urban area destroys trees and plants that contribute to clean air; the requisite roadways that come with new development on the fringe of a community create increased vehicular traffic that diminishes air quality. Northwest Arkansas is an air-quality attainment area and, therefore, not currently subject to more stringent regulations. This could change as traffic congestion increases in the region.
Water quality	Expanding the urban area increases non-point source pollution. Stormwater runoff from roads and parking lots into the storm sewer systems also adds to water pollution.
Runoff at construction sites	Construction sites create runoff fields that are exacerbated once pavement for roads, parking lots, and driveways are installed. Downstream flooding and erosion can result. Areas of Northwest Arkansas that have steep slopes are particularly susceptible to runoff and erosion problems.
Wildlife habitats	New development destroys wildlife habitats and running grounds for animals, and disrupts potentially delicate ecosystems. In particular, Northwest Arkansas hosts threatened and endangered species such as the Grey Bat (*Myotis grisescens)*, the Indiana Grey Bat (*Myotis sodali*), the Cave Crayfish *(Cambarus aculabrum and C. zophanastes),* Ozark Cavefish (*Amblyopsis rosae),* and the bald Eagle (*Haliaeetus leucocephalus).*
Natural resource consumption	As seen in the city limits boundary change map, rural areas in Northwest Arkansas are being annexed by incorporated cities. Prime farmland is lost as the urbanized area grows. More traffic from these outlying areas increases consumption of petroleum, which is a non-renewable resource.
Abandoning development in the core of the community	Northwest Arkansas has seen, generally, a western movement of development, especially in the Fayetteville, Bentonville, and Centerton areas. A trend of developing on the urban fringe removes rich soils from production, destroys natural landscapes, and wastes development opportunities that can be found in already-affected core urban lands.
Increasing reliance on automobile	In the past, much of the development In Northwest Arkansas took place along the I-540 corridor. However, in recent years much more growth is taking place further west and away from the downtown centers of Fayetteville, Springdale, Rogers, and Bentonville. Development away from the downtown areas creates greater reliance on personal vehicles because public transit often cannot reach outlying areas. This contributes to increased petroleum consumption and diminished air and water quality from emissions and runoff.

Figure 3.B.1 Environmental impacts of expanding urban land area
Partial Source of table information: Champaign County Regional Planning Commission.

Widening/building new roadways: Approving new development, especially in fringe areas, precipitates the construction of new roadways. Roadway widening can occur in any area, usually as a means to relieve congestion on existing roadways. Both methods of improving the transportation system can have detrimental effects on the natural environment.

Environmental Factor	Impact
Air quality	Studies have shown that adding lanes or adding more roadways to a transportation system can increase the number of vehicles on the roadway, a phenomenon called induced traffic. This increased vehicular traffic directly increases contamination levels in the air from fuel emissions. Although Northwest Arkansas is an air-quality attainment area now, increased traffic congestion could change this status within the twenty-five year planning horizon.
Water quality	In Northwest Arkansas, water quality is a growing concern. According to the EPA, "roads, highways, and bridges are a source of significant contributions of pollutants to our nation's waters. Contaminants from vehicles and activities associated with road and highway construction and maintenance are washed from roads and roadsides when it rains or snow melts. A large amount of this runoff pollution is carried directly to water bodies". (http://www.epa.gov/OWOW/NPS/roads.html)
Runoff	Paving new roadways creates non-porous surfaces that increase runoff and can create drainage issues on adjacent lands. In the past ten-year period Northwest Arkansas has experienced a major conversion of porous to non-porous surfaces due to buildings, roads, and parking lots.
Erosion	Natural erosion usually occurs gradually because vegetation protects the ground. When land is cleared or disturbed to build a road or bridge, however, the rate of erosion increases. The vegetation is removed and the soil is left exposed, to be quickly washed away in the next rain. Erosion around bridge structures, road pavements, and drainage ditches can damage and weaken these structures. (http://www.epa.gov/OWOW/NPS/roads.html)
Wildlife habitats	Constructing new roadways or widening roadways can destroy wildlife habitats; create dangerous crossing points for animals, and separate delicate ecosystems. Transportation projects must consider the environmental consequences of construction. In Northwest Arkansas the environmental impact on transportation projects on cave, stream, wetland and other wildlife habitats should be considered.
Natural resource consumption	The induced traffic phenomena puts more vehicles on the road as we construct more roadways or widen existing roadways; this increases consumption of petroleum, which is a non-renewable resource. Road construction also destroys nutrients and drainage capabilities of soil under and adjacent to new roads.
Visual/Noise Pollution	Roadway construction creates temporary visual and noise pollution during construction, permanent visual pollution due to the removal of natural landscapes, and permanent noise pollution due to traffic on the roads.

Figure 3.B.2 Environmental impacts of widening/building new roadways
Partial Source of table information: Champaign County Regional Planning Commission.

Choosing a travel mode: Different road-based travel modes have different impacts on the environment. The cleanest travel mode would be walking, followed by bicycling, public transit, carpooling, and driving alone. The significance of these environmental impacts due to transportation projects is great; how we counterbalance them through transportation planning processes should be equally as significant.

Environmental Factor	**Impact**
Air quality	Choosing to take public transit, walk, or bicycle instead of driving a car reduces the number of vehicles on the roadway, thus reducing air pollution from emissions. Similarly, choosing to carpool instead of driving alone will improve air quality. Currently, Northwest Arkansas has no government sponsored carpooling programs.
Water quality	Decreasing the number of vehicles on the roadway will decrease the amount of pollutants that can run off into local waterways.
Natural resource consumption	Decreasing the number of vehicles on the roadway will decrease fuel consumption, and create less demand for new roadways, thus diminishing negative effects on soil and other natural resources.
Visual/noise pollution	Choosing to walk or bicycle greatly diminishes visual and noise pollution in the community. Public transit is quieter and less visually disruptive when considering the volume of cars versus the volume of buses on roadways.

Figure 3.B.3 Environmental impacts of choosing a travel mode
Partial Source of table information: Champaign County Regional Planning Commission.

To date, in the Northwest Arkansas Region area, the trend has been toward developing on the fringe, building more new roadways or widening existing ones, and choosing to drive alone rather than elect other travel modes. These actions are working against preserving the environment, and in addition are creating a less-mobile, less accessible transportation system. Unless plans are made to mitigate these negative impacts, the quality of life for future generations will decline.

Possible mitigation measures: Best planning practices suggest numerous ways to mitigate negative environmental impacts.

- *Focus on redeveloping core areas rather than creating new development in fringe areas of the community*. This option increases public transit options, makes best use of existing infrastructure, preserves agricultural and natural areas, reduces service costs to local governments and provides choices in transportation mode rather than necessitating use of the automobile.
    - This is beginning to happen in the downtowns of some cities in the region especially Fayetteville. The Fayetteville Natural Heritage has completed a study on Green Infrastructure that illustrates areas of ecological and cultural heritage value.

- *Study alternative transportation modes for implementation locally*.
  Implementing travel modes such as a high capacity transit system and creating safe environments for commuter bicycle travel are among those options that can reduce environmental pollution.
    - The completed Transit Development Plan calls for an expansion in the region and the NWARPC continues to seek funding for an Alternatives Analysis that would consider modes such as Bus Rapid Transit, Light Rail, and other potential alternatives to the automobile.
- *Increase travel mobility with measures other than road widening and new road construction.* Mobility can be increased through traffic signal coordination, improving intersection geometries, traveling on roads other than the major arterials, decreasing distance between work and home, and taking advantage of other travel modes.
    - All the major cities in Northwest Arkansas utilize signal coordination.
    - Springdale, Fayetteville, and other major cities have been developing apartments and other higher density developments, some close to work destinations.
    - Fayetteville and other cities have developed and continue to improve pedestrian and bicycle trail networks.
- *Create incentives/disincentives for developers.* Currently, it is easier and more profitable to develop in fringe areas than to redevelop in the existing urban core. Changes in local and regional government policy and requirements would help create a more environmentally friendly community that provides numerous transportation choices.
    - Fayetteville and Bentonville enacted development impact fees.
- *Revise local zoning and land use ordinances.* Local zoning and land use ordinances could do more to encourage more compact and transit friendly development patterns. By revising these ordinances, the community can develop in a more sustainable manner.
- *Educate the community about travel options, the environment, and how their decisions affect how the community develops.* The majority of the region's residents choose to drive alone to work and avoid other available transportation modes. These actions are directly affecting the environment and how the community develops. By educating the public and demonstrating advantages of less polluting transportation modes, citizens may help develop a healthier community.
    - Ozark Regional Transit has a public information program.
    - The urbanized area governments have instituted a public education and outreach program through the University of Arkansas Cooperative Extension as part of the EPA Phase II Stormwater Management program.
- *Funding*. Focus more funding on maintaining existing facilities rather than adding to the roadway system. Further, this can bring more balance to funding for various transportation modes rather than focusing almost exclusively on roadway projects for automobiles. The limitation here is twofold: there is never enough funding for the transportation system, and the funding that is available focuses more on roadway projects than any other type of transportation project.
    - Funding dollars for trails and transit have increased significantly in the region over the past five years.
- *Existing plans and ordinances.* As previously mentioned, existing codes and ordinances could be improved to more positively impact the environment in terms of transportation and land use. Allowing higher population densities and more incentives for redevelopment and disincentives

to development on the fringe would encourage development that would improve the environment and the quality of life in the community.

- High-rise development is taking place in downtown areas with the use of Tax Increment Financing and other developer incentives.

- *Resistance to change.* Change begins when residents and decision makers decide to prioritize differently. It is possible to develop more responsibly while maintaining our local infrastructure and community needs. Education initiatives show people what their options are, how things can improve, and what the costs and benefits would involve. The limitation occurs when people accept the status quo for lack of more information or because they fear change.
    - A growing portion of the Northwest Arkansas population has experienced living in other cities in different environments. This population may be more willing to accept development patterns that require less infrastructure or more environmental protection measures.

The 2035 Northwest Arkansas Regional Transportation Plan acts as an outline to the changes that need to be made to our transportation system and our decision making processes; however, it is only a first step. Implementing the goals and objectives contained in the Plan will improve not only the environment, but also the general quality of life here in the Northwest Arkansas region.

2. Cultural and Historic Environmental Factors

Northwest Arkansas, as can be seen in Chapter I, Section B on Regional Transportation History, is rich in both historic and cultural factors. These environmental and cultural factors were highlighted by the Fayetteville Natural Heritage Association when they published a report on Green Infrastructure covering much of Washington County. Transportation plans must take these historic and cultural factors into consideration as roadways are aligned or widened.

Historic and cultural environmental factors of Northwest Arkansas include the Cherokee Trail of Tears, the Civil War trails and the Old Missouri Road/Old Wire Road/Butterfield Coach Trail. Historic buildings, battlefield sites, archeological sites, and cemeteries are additional examples of historic and cultural factors. It is important that these factors be considered when road alignments, the type of roadways, and the scale of roadways are chosen. For example, a limited access boulevard with a greenway median may be more appropriate than a five-lane highway through a historic-scenic area. If appropriate, a scenic byway designation might be considered.

During the process of data gathering for the Western Beltway Feasibility Study, NWARPC acquired a series of environmental GIS information from agencies such as the Arkansas Natural Heritage Commission, Arkansas Historic Preservation Program, The Nature Conservancy – Arkansas, and the Arkansas Highway and Transportation Department, Environmental Division. Part of these datasets includes **Level 1 Environmental Constraints** (such as Federally Protected Species with Recharge areas Cultural Resource Areas) and **Level II Environmental Constraints** (including State Species of Concern, Extraordinary Resource Waters and Ecologically Sensitive Water Bodies).

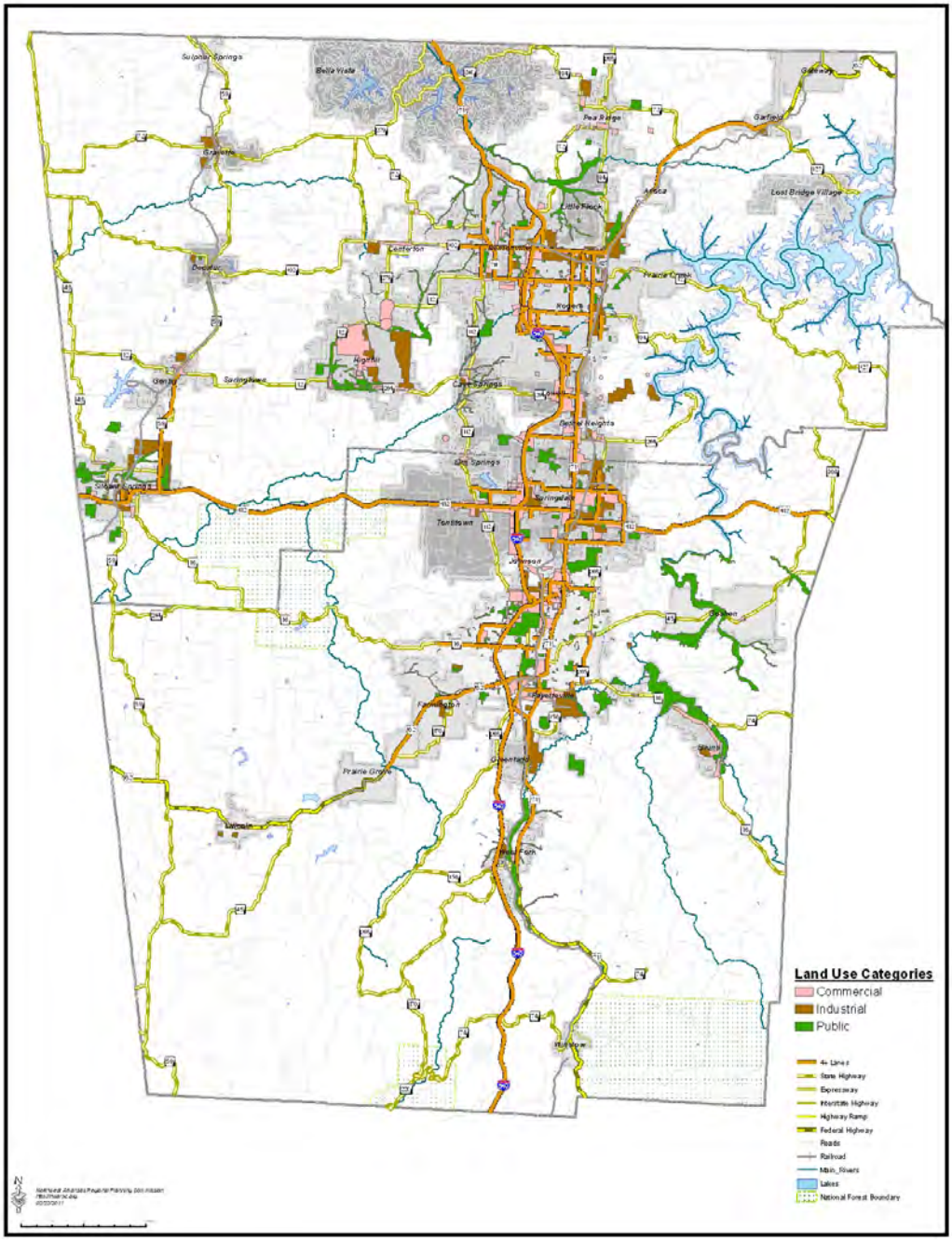
During the process of data gathering for the North-South Eastern Corridor Project, AHTD used relevant environmental datasets provided by the AHTD Environmental Division.

C. NEEDS ASSESSMENT

1. Highway Network and Major Highway Needs

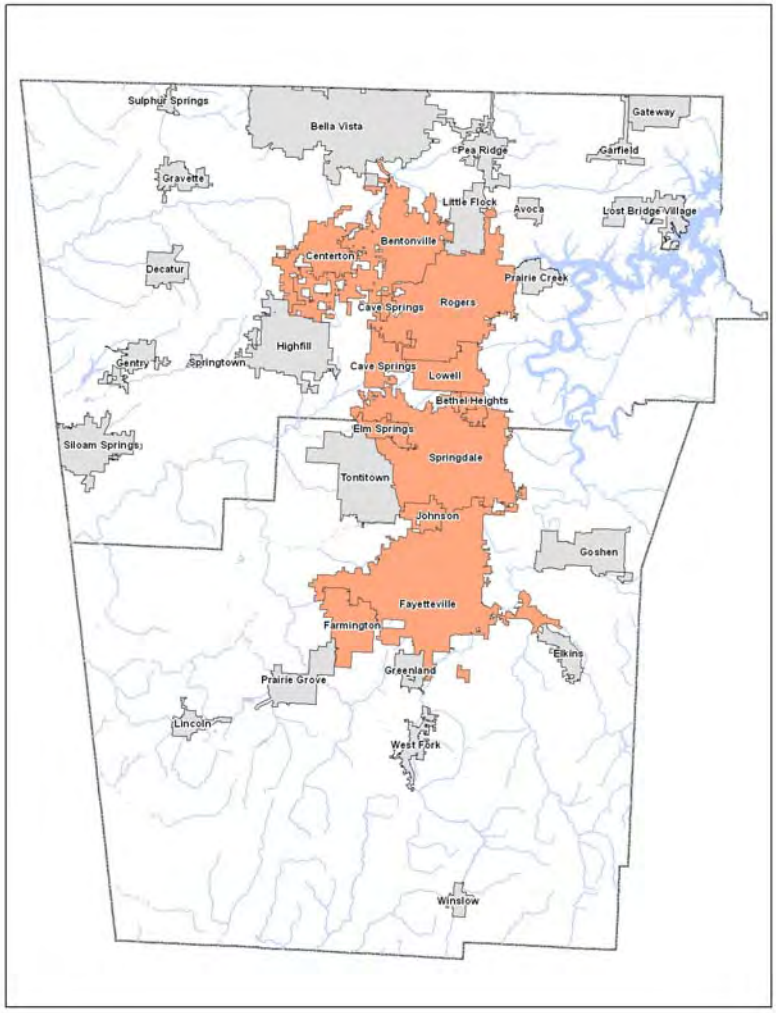
a. Land Use Map

The Northwest Arkansas Land Use map shows the combined land use categories of the major cities in the urbanized area. These areas will need to be served by the regional transportation system. NWARPC will continue to update the regional land use map. See the map below:



b. Population Growth

The current 2010 population is 424,404 (per Census Bureau). According to NWARPC projections an additional 267,000 people will reside in Northwest Arkansas by 2035. The 267,000 figure is equivalent to the current, 2010 population of Farmington, Fayetteville, Johnson, Springdale, Bethel Heights, Cave Springs, Elm Springs, Lowell, Rogers, Bentonville, and Centerton (as highlighted in the illustration below).



NWA Population Growth through time:

1990 = 210,908 (Census Bureau)

2000 = 311,121 (Census Bureau)

2010 = 424,404 (Census Bureau)

2020 = 531,000 (NWARPC estimate)

2030 = 638,000 (NWARPC estimate)

2035 = 691,000 (NWARPC estimate)

(Additional 267,000 by 2035)

c. Map of No-Build Model Run

This map is a result of the NWA Travel Demand Model analysis which shows daily total traffic counts on the existing 2010 road network combined with the 2035 projected demographic conditions by traffic analysis zones (TAZs). The model query depicted 2 lane roads with higher than 18,000 daily average counts. As a result, it is evident that a number of roads (highlighted in red) will need capacity improvements. (See map at the end of this chapter.)

2. Transit Needs

The rapid population growth in the region has been accompanied with increased traffic congestion. As land use densities continue to increase in the region, there is growing recognition that alternative travel modes must be developed and expanded. This recognition has been documented in the following recent surveys presented below.

An on-line survey was also conducted by the NWARPC in support of 2035 Northwest Arkansas Regional Transportation Plan. Respondents of this survey indicated a strong desire to see increased public transportation services in the Northwest Arkansas region over other transportation strategy options. In a ranking of transportation conditions from poor to excellent, public transit was ranked with the highest dissatisfaction with over 70 percent marking either poor or below average.

During the public outreach portion of this project, participants were asked to identify how transportation funds should be allocated through a "coin toss". Participants were given 10 coins and asked to distribute those coins to various transportation program options. Over 1,200 coins were collected. Improved bus transit received the largest number – 330 coins (27%). Also, in the scientifically valid Omnibus survey conducted by the University Arkansas Survey Research Center, the need for transit was highlighted by a question on transportation improvement options. The highest ranking, 46 percent, chose making minimal improvements on I-540 and other north-south roads while improving bus transit systems.

The section in Demographics shows that the region is not only continuing to grow in population but that the population is changing in composition. The Northwest Arkansas population is growing relatively older and has a growing percentage of Hispanic and other minority groups such as the Marshallese Island community. As seen in Chapter IV on The Planning Process, Public Involvement, the Spanish language survey results indicated a strong desire for improved public transit. Many of the comments indicated that newcomers to Northwest Arkansas come from areas where public transit is a given and are used to daily commuting on transit.

The University of Arkansas Community and Family Institute completed a Northwest Arkansas Community Survey in 2010. Respondents identified the existing lack of public transportation as a source of discontent and felt that transportation was one of the biggest challenges facing the region.

A competitive assessment report, *Greater Northwest Arkansas Development Strategy*, authorized by the Northwest Arkansas Council, presents data that shows Northwest Arkansas has the lowest public transit usage compared to similar regions including the Austin, Gainesville, Huntsville, and Lexington MSAs.

The Transit Development Plan (TDP) conducted an extensive analysis of needs and identified requirements for both Razorback Transit and Ozark Regional Transit and presented them in a near term, short range, and long range table.

The TDP states, "Expansion of service will result in the need for $22.7 million to cover annual operating and maintenance expenditures for the two transit systems upon full implementation of the TDP. New equipment and facilities will also be needed, such as expanded bus fleets (including large buses), passenger transit centers, a new maintenance facility, and improved passenger amenities at bus stops. Almost $63 million has been identified for vehicle and facility improvements. It will be important to include funding for pedestrian access improvements at bus stops (e.g., sidewalks, crosswalks and pedestrian signals). The proposed expansion of bus service in this TDP includes service on major roadways. Routes serving those major roadways should be operated with large buses (i.e., 30-40' buses). Safety (pedestrian and vehicular) must be considered with the placement of bus stops on those major roadways, and bus pull-out lanes should be pursued where appropriate.

Ozark Regional Transit – Current and Projected Fixed-Route Operating Requirements

	Current	Near-Term	Short-Range	Long-Range
Peak Buses	12	11	34	59
Annual Hours	29,116	29,116	122,655	234,032
Annual Miles	496,862	488,788	1,570,137	3,178,511
Annual O&M Costs	$2,600,000	$2,600,000	$10,744,900	$20,201,600

Razorback Transit – Current and Projected Fixed-Route Operating Requirements

	Current	Near-Term	Short-Range	Long-Range
Peak Buses	16	17	18	18
Annual Hours	33,210	33,437	36,426	36,426
Annual Miles	378,622	378,909	394,997	394,997
Annual O&M Costs	$2,350,000	$2,363,6000	$2,542,900	$2,542,900

The plan further states: "The financial analysis that was completed for this TDP identifies projected costs (operations and maintenance, and capital) and potential revenue sources over the TDP's 10-year period. The expansion of transit services will require a significant commitment of local funding. Recent studies indicate that a ¼ cent sales tax in Washington and Benton Counties can raise $15 million per year. This

amount would be sufficient when combined with other revenue sources to fund the transit service and facility improvements identified in this TDP, should local government leaders decide to pursue a ¼ sales tax ballot initiative. It should be noted that both ORT and Razorback Transit may soon be losing federal operating assistance formula funds because of the region's recent population increases (regions over 200,000 in population cannot use certain Federal Transit Administration funds to cover operations costs). Thus, revenues from a sales tax initiative could be used to cover this anticipated loss in federal funds and the expansion of transit services as proposed in this TDP."

A much greater level of documentation of needs may be found in Transit Development Plan Final Report found on-line at www.nwarpc.org under Transit.

3. Environment/Livability/Quality of Life Needs:

As NWA continues to grow in population, the road and building infrastructure can place an increasing stress on the existing natural and cultural environments. In recent years local citizens and citizen groups have become increasingly concerned with environmental and quality of life issues that cite the dominance of road and highway construction compared to alternative modes. For example, the Fayetteville Forward Transportation Committee submitted a resolution letter to the NWARPC citing their concerns about a Western Beltway. (See the resolution in Appendix A). New alternative approaches such as Context Sensitive Solutions (covered in Chapter V, in Section E) to mitigate potential environmental damage must be implemented if Northwest Arkansas plans to maintain the quality of life and the natural landscapes that it has enjoyed in the past and possibly contributed to its rapid growth.

"To provide a transportation system that protects and enhances the environment, promotes energy conservation and improves the quality of life" is a prominent goal in the 2035 Northwest Arkansas Regional Transportation Plan. This is also part of the eight SAFETEA-LU planning factors that MPOs must consider as part of the planning process. The Plan also contains four objectives to minimize fossil fuel energy consumption; minimize air, water, noise and visual pollution; minimize disturbances of the region's natural aesthetics and wildlife habitat; and to provide for needed highway and transit system enhancements.

Most of these environmental needs are addressed in the section on Environmental Factors above, in Environmental Justice, and in transit needs. However, there are several regional initiatives that should be mentioned here.

Water Quality:

As pointed out in the Environmental Factors, stormwater runoff control is important during the construction of transportation facilities and post construction as well. The Beaver Water District and the Illinois River Watershed Partnership both conducted studies and produced strategic plans for their watershed protection. Silt runoff from construction is the main source of pollution for area streams and lakes and with the Phase II Stormwater Program MS4s (Municipal Separate Storm Sewer Systems), erosion control systems are required.

The Beaver Lake Watershed Protection Strategy pointed out that based on a review of the latest annual reports from the MS4s, several of the MS4s met the 2008 deadline for adopting a construction site runoff control ordinance or plan and an ordinance or plan for controlling post construction runoff. The consulting firm of Tetra Tech evaluated the stormwater programs in place and found that they would need to be strengthened in order to meet the lake protection goals. A number of the MS4s have not

been able to develop and enforce construction and post-construction requirements, citing a lack of resources. The report recommends that the stormwater program needs to be strengthened in the watershed along with ADEQ enforcement.

Details of the Beaver Lake Watershed Protection Strategy can be found at: http://www.beaverlakewatershedstrategy.com/images/documents/BeaverLakeWPSReportFinal10-5-09.pdf

The NWARPC, having worked with the urbanized area cities and counties to implement their Phase II Stormwater Programs, will to continue efforts to encourage compliance with all stormwater regulations during and after the construction of transportation facilities with both local and state government.

Wildlife Habitat:

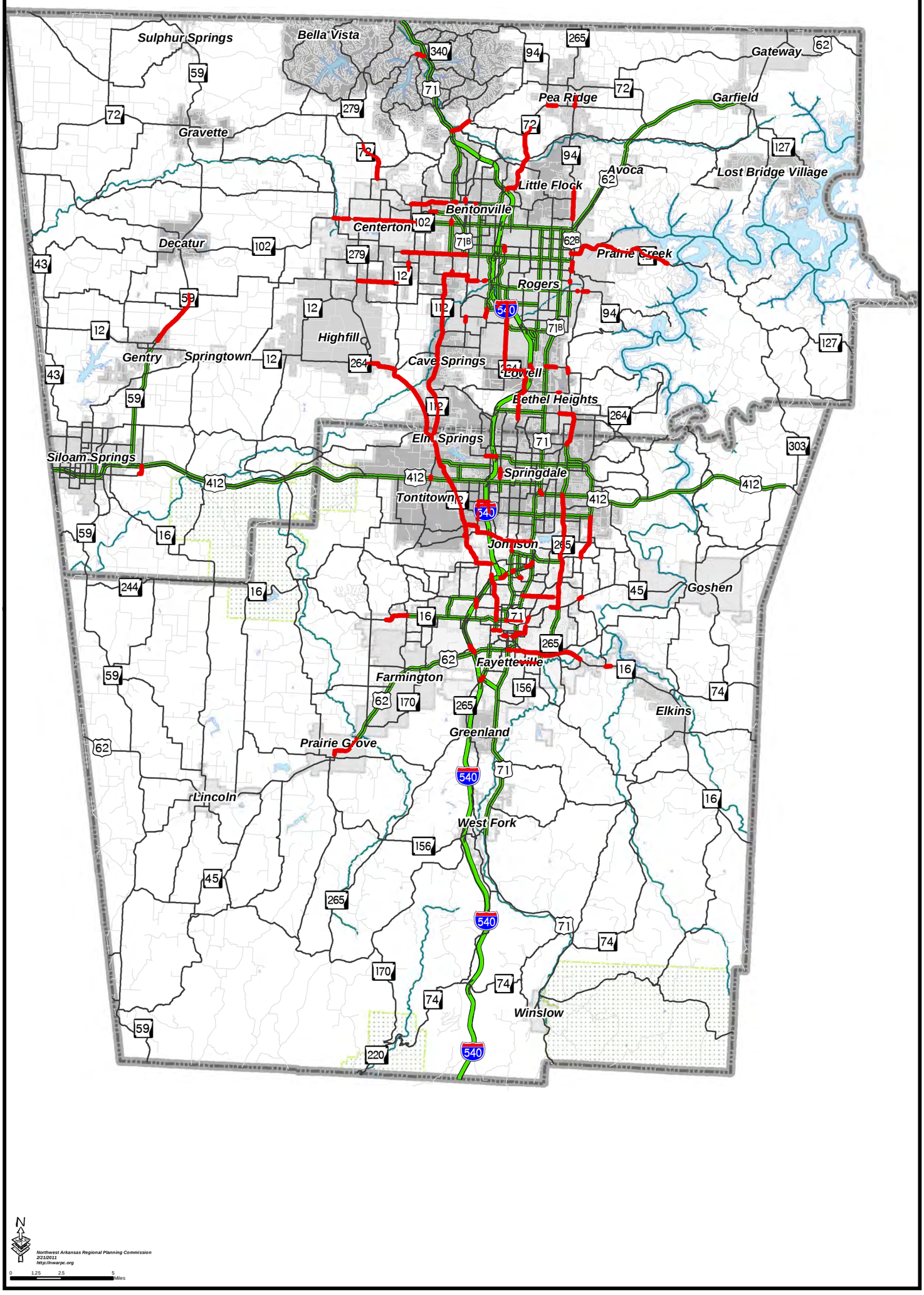
The Fayetteville Natural Heritage Association, a local non-profit volunteer conservation group, working with a grant from the USDA Forest Service (USFS) to the Arkansas Forestry Commission completed a study, Green Infrastructure Planning: Linking Arkansas Communities, in July 2010. The study gathered information on ecosystems, rare or sensitive features, recreational opportunities, important cultural resources, and other valuable characteristics to help planners make informed decisions.

The Green Infrastructure study suggests that the information gathered could be used by local communities as a "basis for their future land use plans, become a regional planning tool to insure that interface issues are addressed, and can be a starting point for determining which development codes can best support a community's green infrastructure goals."

Information from this report was included with regional information for the Western Beltway Feasibility Study. Detailed information on the study can be found at: http://www.fayettevillenatural.org/whats-happening.php

Other information on wildlife habitat, ecologically sensitive areas, and culturally valuable areas includes a study done by the Northwest Arkansas Nature Conservancy. Maps of this study are presented on the NWARPC website at under GIS and Mapping/Regional Maps.

The NWARPC will continue to work with local and regional organizations to identify and develop plans to protect natural and cultural resources for the benefit of current and future generations.



2010 Road Network and 2035 Demographics Analysis
NWARPC Travel Demand Model Results

Travel Demand Model Analysis
2 Lanes Roads with Daily Counts over 18000

4+ Lanes (2010 TDM)
4+ Lanes

Other Features
Roads
Rivers
Lakes
National Forest Boundary

CHAPTER IV: THE PLANNING PROCESS

A. TECHNICAL ADVISORY COMMITTEE (TAC) AND TAC WORK GROUP INVOLVEMENT IN THE PLANNING PROCESS

The Northwest Arkansas Regional Transportation Plan is a 25-year vision for the region. This Plan guides transportation development through the year 2035. Projects in the Plan must be cost-feasible, meaning the region must have available funding sources to pay for the improvements. With a list of needed improvements that is significantly greater than available funds, the development of the 2035 Northwest Arkansas Regional Transportation Plan requires local elected officials and transportation experts to make difficult decisions that will have a tremendous impact on the future of Northwest Arkansas. Because of the importance and magnitude of the Plan, its development incorporates extensive technical analysis, cost feasibility studies, stakeholder input, policy debate and public involvement.

Whereas the 2035 Northwest Arkansas Regional Transportation Plan provides the general framework, the "Constrained List" actually lists projects in ranked order. This list is updated periodically and determines the sequence in which projects will receive funding. The Constrained List consists of projects that can reasonably be expected to be funded with Federal-Aid funds during the Plan period. This is determined by estimates of Federal-Aid funds that can reasonably be expected to come to the area given the area's highway network, population, etc. These estimates are developed with assistance from the Arkansas Highway and Transportation Department and are not limits, nor are they guarantees of funding. They are conservative reasonable estimates of future funding to guide development of the Plan. Priorities are based on criteria, such as traffic volumes, available funding and regional equity. The established priority order allows local governments to plan for the funding and implementation of projects in their respective jurisdictions.

The Technical Advisory Committee (TAC) is made up of technical staff and some elected officials of the region's cities and counties. The TAC Work Group, a subcommittee of the TAC, was formed as a result of the 2030 Northwest Arkansas Regional Transportation Plan development process, beginning in November 2004. The TAC Work Group has met on a continuous basis since its inception. This sub-committee was instrumental in bringing forth the recommendations of the 2030 Northwest Arkansas Regional Transportation Plan. The TAC Work Group tackled many projects during the Spring 2006 to Spring 2011 time frame. While the TAC Work Group has no voting power, all actions that needed to be taken by the formal TAC were vetted by the TAC Work Group. Using the TAC Work Group as the "work-horse" allowed fewer formal TAC meetings and consensus among the member jurisdictions. It is the intention of the TAC Work Group to continue to meet frequently to further the recommendations of the 2035 Northwest Arkansas Regional Transportation Plan.

The TAC, through the TAC Work Group, was engaged in the development of the 2035 Northwest Arkansas Regional Transportation Plan – meeting in advance of community outreach sessions to approve the information shared, attending the community outreach sessions to hear the issues and concerns of the citizens first hand and finally meeting after the community meetings to make technical recommendations, which reflect the input of the meeting participants.

For meeting dates see Appendix A, TAC and TAC Work Group Involvement in the Planning Process.

B. PUBLIC INVOLVEMENT

The Northwest Arkansas Regional Planning Commission (NWARPC) has established a proactive community involvement process in the planning of regional transportation projects. The Public Participation Plan (PPP) was adopted in 2007 and sets out the process by which the Long Range Transportation Plan will accomplish public outreach throughout the Plan development process. The PPP outlines procedures that are designed to promoted and encourage public participation and involvement in the transportation planning process.

The 2035 Northwest Arkansas Transportation Plan will be used as a means of identifying areas of need and developing a course of action toward addressing these areas as it relates to transportation. Input to the 2035 Northwest Arkansas Regional Transportation Plan was requested from various groups including transportation professionals, private organizations, citizen groups, local special interests, and the general public early and at every stage of the planning process.

Community Outreach Plan

Continual community involvement in the creation of the 2035 Northwest Arkansas Regional Transportation Plan was imperative thus the 2035 Plan Community Outreach Plan (COP) was created.

The COP provided the opportunity for public involvement and comment throughout the Plan development process.

- Plan Kick-off Open House – The 2035 Northwest Arkansas Regional Transportation Plan COP process began with an Open House held on April 18, 2010. Human service organizations, transit advocacy groups, community leaders, local governmental officials, transportation officials, the general public, and the news media were invited to attend the Open House to learn about the COP and direction the Plan development process would be taking. Presentations at the Open House included posters highlighting such things as the 2035 Arterial map, the Regional Trail map, and future public input meetings dates, locations and times. Additionally, the Year 2035 Regional Transportation Plan Public Opinion Survey (Opinion Survey) was introduced. The Opinion Survey was made available in paper copy and on the NWARPC website, www.nwarpc.org, in English and Spanish.
- The COP process continued with a series of Public Input Meetings; continual monitoring of the Opinion Surveys that were received electronically as well as through the mail, fax and in person; one-on-one meetings.
- The COP process culminated in a Final Public Forum held March 3, 2011 and ultimate adoption of the 2035 Northwest Arkansas Regional Transportation Plan by the members of the Metropolitan Planning Organization – the NWARPC/Policy Committee.

In addition to reaching out to the public at-large, the existing professional knowledge base was maximized by taking advantage of local staff and elected officials throughout the Plan development process.

Plan updates were provided to members of the TAC Work Group, the TAC and the NWARPC/Policy Committee of the Metropolitan Planning Organization (MPO).

In addition to the existing MPO standing committees, several specialized committees were formed to

work specifically on the 2035 Northwest Arkansas Regional Transportation Plan:

- The NWA Active Transportation Committee
- The Access Management Subcommittee
- The Transit Advisory Committee
- The Vision and Goals Sub-committee
- The Sustainable Mobility Sub-committee.

A number of public relations tools were used to communicate with the public, provide information on the progress of the Plan, and generate public input into the Plan in an effort to develop consensus and direction. The following tools focus on notifications and communications:

- Direct Mailings
- Newspaper articles and advertisements
- Web-site
- Email broadcasting
- Interactive public input meetings
- Community meetings and
- One-on-one meetings.

The first Public Input Meeting series was held May 4, 2010 from 11:00 am until 7:00 pm, at the Jones Center for Families (Washington County) and May 6, 2010 from 11:00 am until 7:00 pm, at the Bentonville Public Library (Benton County). The second Public Input Meeting series was held September 7, 2010 from 11:00 am until 7:00 pm at the Fayetteville Public Library (Washington County) and September 9, 2010 from 11:00 am until 7:00 pm at the Center for Non-Profits at Mercy Hospital, Rogers (Benton County). All of the above Public Input Meetings were held on a public transit route. The Final Public Forum was held at the offices of the Northwest Arkansas Regional Planning Commission, due to its central location in the region, on March 3, 2011. Notice for the meetings were published through advertisement with the local newspapers and press releases were developed and distributed to all local media outlets, which attracted great interest for the plan. In addition, email notification was given to special interest groups, local officials, business leaders, MPO committees and sub-committees, news media, and other interested citizens. In all, over 300 people attended the public input meetings.

In addition, one-on-one meetings/briefings were held with local elected and appointed officials to obtain information regarding the vision of each community and goals for obtaining said visions.

Some of the regional major investment projects were advanced by elected officials with a specific vision for the region. In addition, other elected officials suggested that projects which benefit the region as a whole should have a higher priority than projects that had simply local benefit.

Public Input Sessions

As detailed in the previous sections, the NWARPC took great efforts to increase the educational level to the citizens of the region as it pertains to transportation planning processes and implementation. As indicated earlier, it was critical that the communication regarding this plan was “two-way” – the citizens and community leaders also needed to “educate” those developing the 2035 Northwest Arkansas Regional Transportation Plan.

There were two series of Public Input Meetings held throughout the Plan development process. All

meetings were held from 11:00 am to 7:00 pm in both Benton and Washington Counties. The purpose of the multiple time-frames and locations were to maximize the opportunities for community involvement. The meeting format was "Open House" so that participants could stay for as long as their schedules would allow and a member of the staff or TAC Work Group provided one-on-one attention to the participants.

At the first series of community input sessions, May 4th and 6th, 2010 a one-page public opinion survey was distributed to the community. Additionally, the surveys were posted on the Northwest Arkansas Regional Planning Commission's website and distributed through libraries, chambers of commerce and other public venues. Over 835 people completed the survey. (To view a copy of this and other Long Range Plan surveys see Appendix B). It should be noted that although this tool did not provide "scientifically valid" information, it did provide insight as to the opinions of those in the community.

As detailed in the chart below (Figure 4.A.1), the results of this survey indicated that the existing system is adequate (for the time being) for automobile transportation but that this community is not doing as well with non-vehicle modes including pedestrian and bicycle facilities, and public transit. These survey results, along with the questions asked at the sessions, influenced the direction of the Plan.

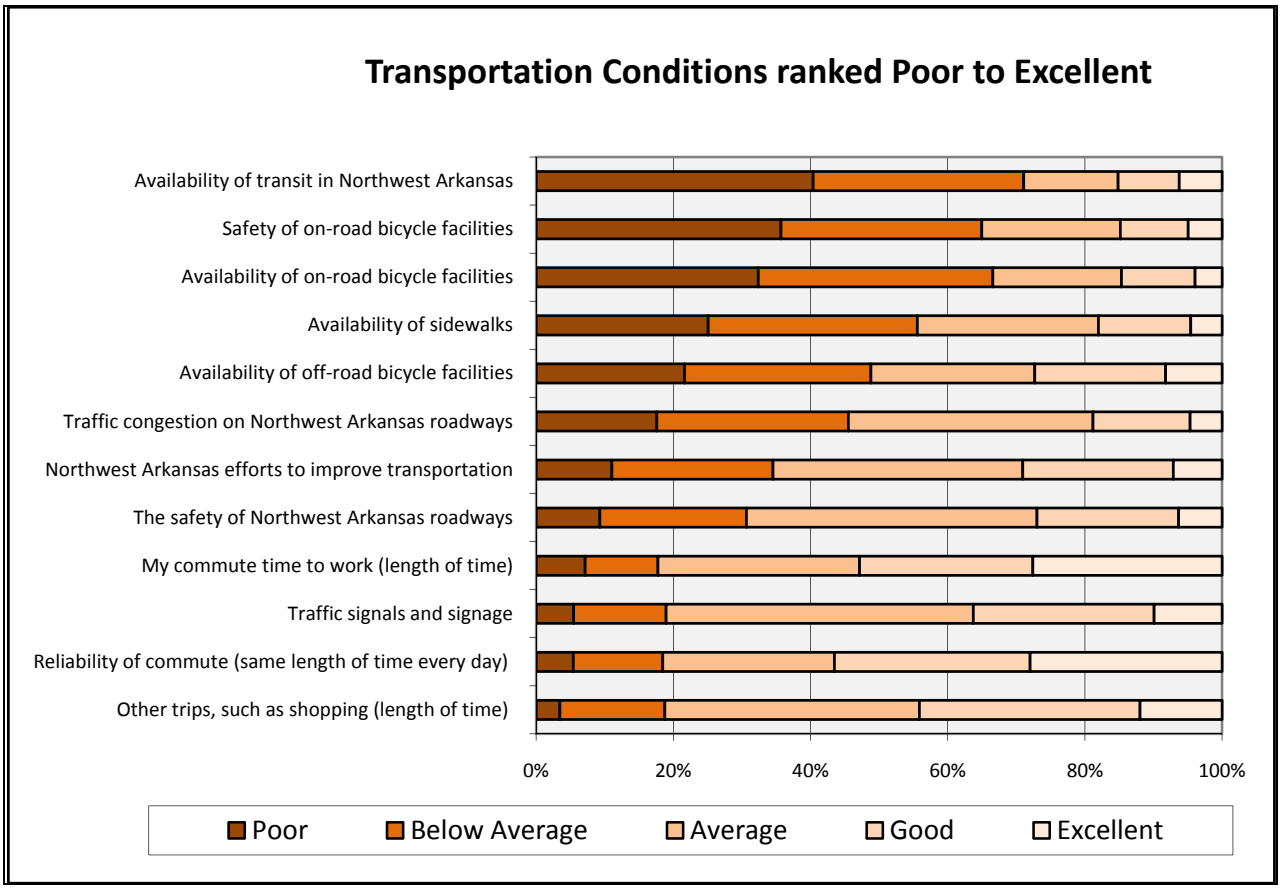


Figure 4.A.1

In addition, the Community Outreach Subcommittee wanted to know how important a variety of transportation improvement types ranked to those being surveyed. While it should be noted that most of the improvements were considered important or somewhat important, the top ranking improvements

included bicycle lanes, additional lanes to roadways, bicycle amenities, sidewalks, public transit, and rideshare development (Figure 4.A.2). Building new roads was listed as the least important improvement in the survey.

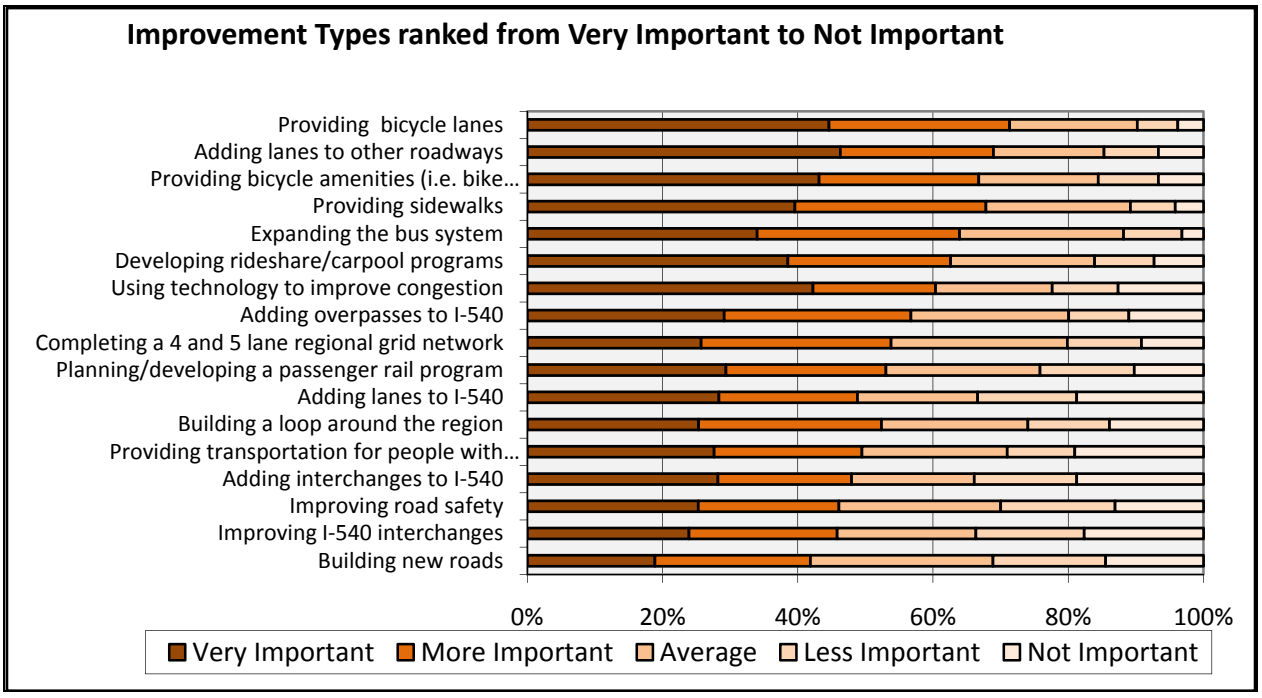


Figure 4.A.2

Lastly, those surveyed were asked about funding strategies for improving transportation (Figure 4.A.3). Increasing the use of transit scored the highest acceptable alternative. When asked, the respondents indicated that maintaining the Status Quo was the least acceptable alternative. Furthermore, given the revenue choices presented, respondents did not like increasing sales or gas taxes but were more accepting of building toll roads.

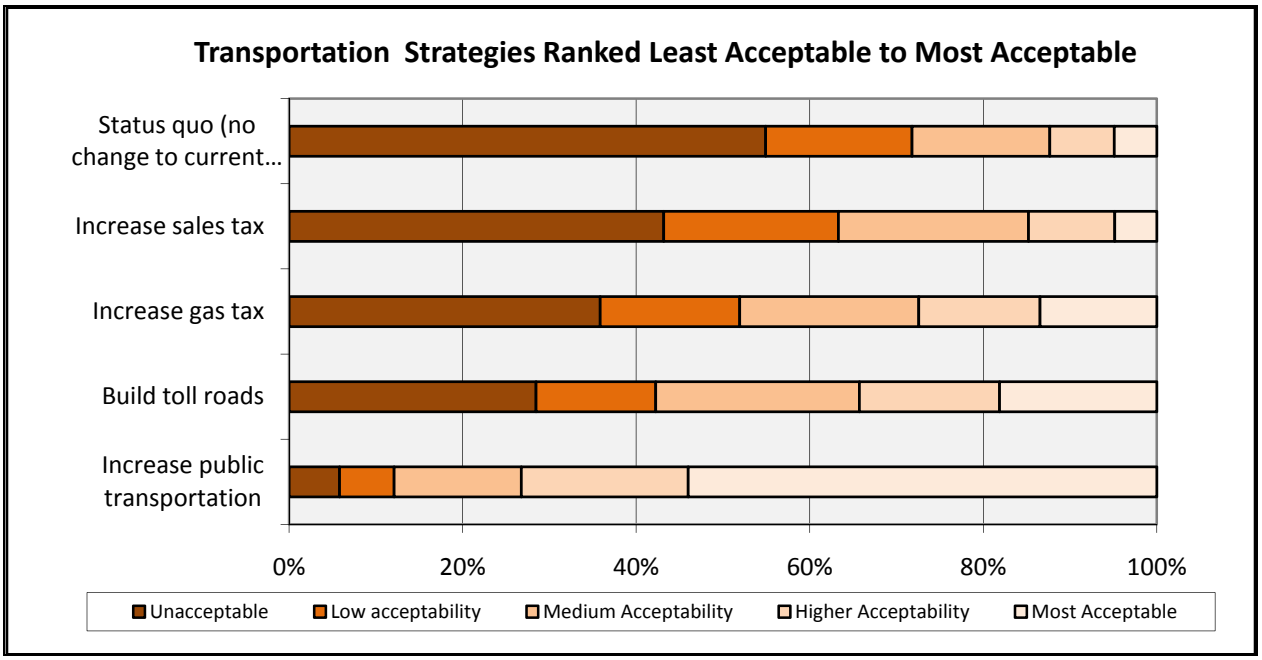


Figure 4.A.3

In a second series of public input sessions used a "Gold Coin Toss" method to ask participants how they would spend a limited amount of transportation financial resources. In this Survey in general the participants indicated that they would spend transportation dollars on improving bus transit, improving I-540, and passenger rail and less on ride share, Intelligent Transportation System improvements, and an Eastern Parkway.

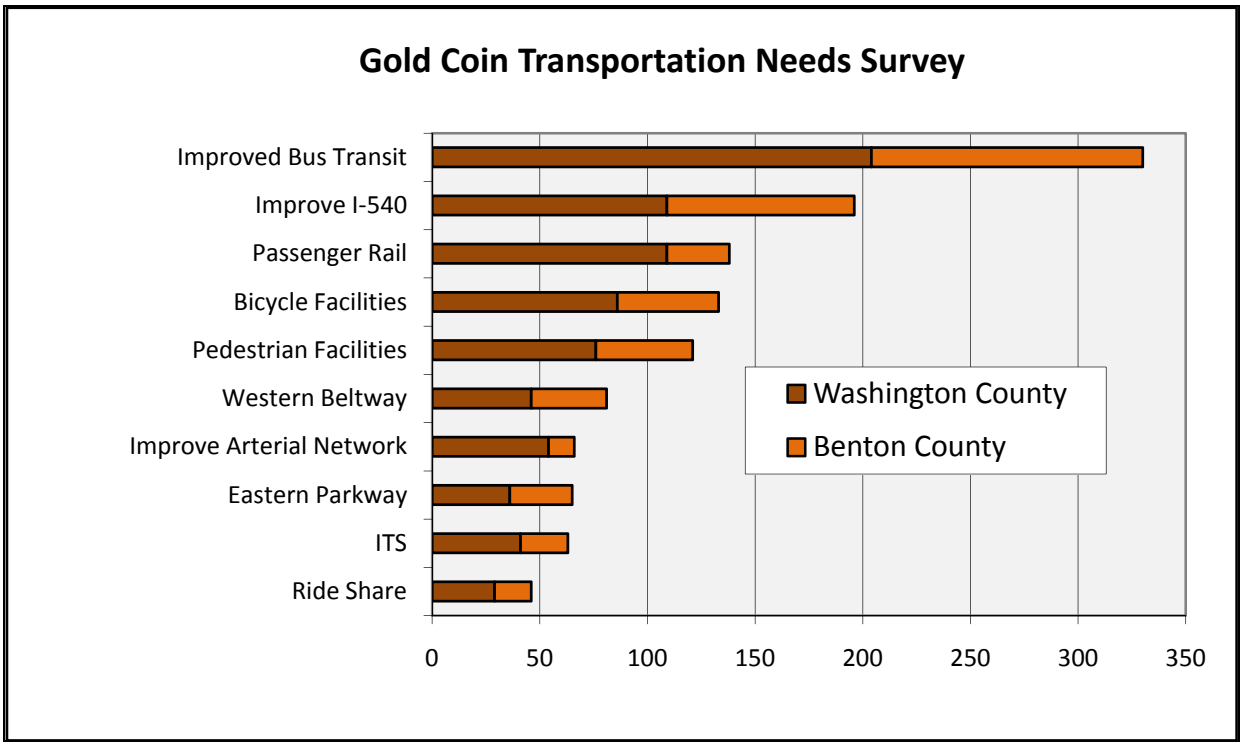
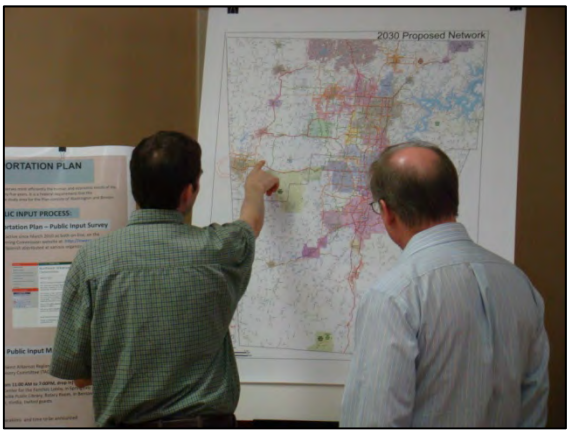


Figure 4.A.4

Each person who attended the sessions was given ten gold coins to "invest in transportation". There were no limitations to their investment other than the fact that they were allowed to "invest" only once. It should be noted that the project priorities are documented as the cumulative study area priorities, although subsets of the information is provided by county. As detailed in the previous graph, improved bus transit and improving I-540 surfaced as the two highest priority projects. The second grouping of priorities included passenger rail, bicycle facilities, and pedestrian facilities. The final priority grouping includes building a western beltway, improving the arterial network, building an eastern parkway, developing an ITS system, and, finally, developing ride share opportunities.

It is important to note that each of the community input tools documented thus far are purely public opinion in nature. During some of the community input sessions there were some attendees who came only to "invest" in one form of transportation improvement and to leave.



Public Input Meeting in Fayetteville

Display at Public Input Meeting in Bentonville

Although public input did indeed guide the formation of the 2035 Northwest Arkansas Regional Transportation Plan, it was important for the Community Outreach Subcommittee to obtain community input that was scientifically valid. Therefore, the Subcommittee took the input from the citizens to date and created a five-question survey. The Subcommittee then contracted with the University of Arkansas' Survey Research Center to include transportation questions in the Northwest Arkansas Omnibus Survey to gain insight as to the transportation opinions of the public. Staff of the NWARPC worked directly with the University to develop the following questions that pertain to long range transportation efforts in Northwest Arkansas. The results of this survey provide for data worthy of note for all community leaders in Northwest Arkansas.

The Survey Research Center follows standard surveying techniques to maximize the sampling of this community and gathered opinions at random of over 600 participants - with a potential sampling error within plus or minus 4%.

Question 1. To improve north-south traffic flow, which of the following options would you prefer?

Concentrate improvements on I-540 …… 21.1%

Make limited improvements on I-540 and improve other major north-south highways …26.4%

Make minimal improvements on I-540 and north-south highways and improve bus transit systems …… 46.6%

No Action …….. 5.9%

Question 2. To what degree do you favor or oppose developing a regional passenger rail project?

Strongly favor ……..... 33.3%
Favor……41.3%
Neither favor nor oppose…….... 11.9%
Oppose…… 8.1%
Strongly oppose …….. 5.5%

Question 3. With limited funding available for regional transportation improvements, which funding option would you most favor?

Construct projects only as funds become available…… 54.3%
Build toll roads …… 26.3%
Increase sales tax …… 9.0%
Implement a local gas tax …… 10.3%

Question 4. Which one of the following forms of transportation would you most consider using at least two times per week as an alternative to driving alone?

Carpooling/vanpooling ……31.4%
Walking …… 5.2%
Riding a bicycle …… ..7.8%
Taking a bus…… 16.6%
Taking passenger rail …… 19.6%
I would not use alternative transportation ……19.3%

Question 5. Would you like to see a north-south Interstate-quality highway completed west of the regional airport?

Yes ……62.6%
No …… 37.4%

The results of this survey assisted the TAC Work Group and staff in developing scenarios for the allocation of resources in the development of a cost-feasible Plan.

The following is an analysis of the results of the scientifically valid survey. The first issue was where to apply the scarce Interstate resources. The first question asked by the NWARPC was where the respondents recommended allocating resources. The survey revealed that 46.6% suggested that the region should make minimal improvements on I-540 and north-south highways and improve bus transit systems. The 2035 Northwest Arkansas Regional Transportation Plan recommends establishing a

regional arterial network with an emphasis on east/west and north/south connectivity as well as studying locations for parkways and boulevards. Additionally, the Plan recommends establishing and maintaining a regional cohesiveness and unity by requesting federal funding for specific major corridor projects, and several I-540 improvements.

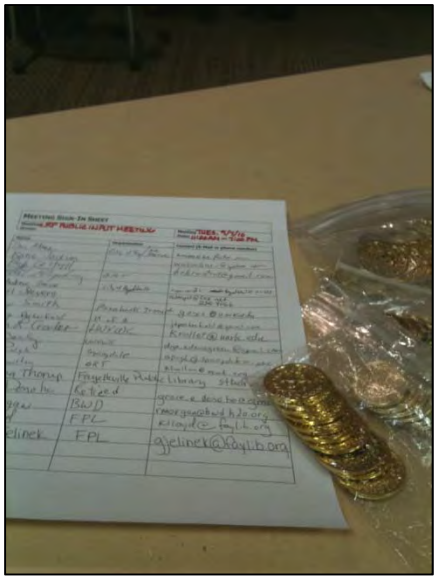
The next question revealed that over 33% of the community strongly favors developing a passenger rail project and 41.3% favors a rail project. Therefore, a recommendation in the 2035 Northwest Arkansas Regional Transportation Plan is to explore all modes of transportation including passenger rail. It should be noted that information about various forms of rail/transit was provided at the community input session.

The third question asked about alternative financing for transportation. A very large 54.3% suggest that projects be constructed only as funds become available, and 26.3% support toll roads. The survey indicates that only 9.0% would support increasing a sales tax and 10.3% would support a local gas tax option gas tax. The speculation is that as traffic congestion worsens, a community's willingness to increase transportation funding increases. It should be noted that all of the major cities in NWA already have a dedicated sales tax to fund transportation infrastructure. The 2035 Northwest Arkansas Regional Transportation Plan recommends investigating innovative funding mechanisms, including toll roads.

The fourth question pertained to people's willingness to take another form of transportation other than a single occupant vehicle at least twice a week. Carpooling/Vanpooling was the highest ranking alternative at 31.4%. Of those surveyed riding a passenger rail and taking a bus received 19.6% and 16.6%.r respectively. While 7.8% and 5.2% said they would ride a bicycle or walk a fairly significant number, 19.3%, stated that they would not use any alternative to the automobile. It should be noted that while a total of 74.6% of the respondents favor or strongly favor the development of passenger rail (question #2), 19.6% indicated that they would use it in this question. The Plan recommends that transit and transportation alternatives be encouraged and explored.

The last question asked by the NWARPC was about building a north-south interstate-type highway in the region west of the airport. Sixty-six percent (62.6%) responded that they would like to see this roadway constructed, 37.4% said they would not like to see it constructed. Currently a study is being conducted on the feasibility of such a north-south interstate type facility.

Although the Plan must be cost-feasible, the data provided by this survey assisted the TAC Work Group in recommending projects for alternative financing to increase the potential for new major investments to be funded. The data also assisted in creating a prioritized list of projects.



Public Input Meeting with illustration of Gold Coin Toss and Transit Study Input

Final Public Forum

The Final Public Forum was held March 3, 2011 at the NWARPC conference room, due to its central location in the two-county area. The purpose of this session was to present the Draft Plan and accompanying maps, and receive comments. Specifically, the TAC presented the major categories of

projects and associated costs totaling $1.9 billion with less than $500 million of projected funding.

After a 30-day public comment period, running from March 4th through April 4th, 2011 the NWARPC/Policy Committee met and adopted the 2035 Northwest Arkansas Regional Transportation Plan.

Additional Public Input Opportunities

In addition to the other community meetings, the TAC Work Group and NWARPC staff attended public input sessions sponsored by AHTD, gaining insight into individual viewpoints on specific highway projects. NWARPC took advantage of current or recent public input meetings and public opinion surveys conducted by private consultants on the proposed Western Beltway (200 surveys received) and the Transit Development Plan (over 1,000 surveys received). Valuable input from concerned citizens was gathered at each of these meetings and through the surveys. A list of selected comments and suggestions from the Public Input Survey can be found in Appendix B.

C. ENVIRONMENTAL JUSTICE

The principles of environmental justice, as outlined by the Federal Highway Administration, were used to ensure that the process of transportation planning is consistent with the provisions of FHWA Order on Environmental Justice and Title VI of the Civil Rights Act of 1964. These provisions were adhered to throughout the community involvement of the 2030 Northwest Arkansas Regional Transportation Plan.

The three fundamental environmental justice principles, which require the inclusion of traditionally under-represented groups in transportation studies, are:

- To avoid, minimize or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations.
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority or low-income population.

In keeping with the principles and objectives of environmental justice, the MPO made special efforts to reach out to minorities and low-income groups within the region through media outlets and grass-roots outreach. These techniques included moving locations of the meetings to include meeting locations where the traditionally underserved gather, reaching out to the Hispanic and Marshallese communities and providing survey materials in Spanish as well as English.

The Long Range Plan Survey online was published in both English and Spanish, we received 7 web based survey responses in Spanish and 107 hard copy surveys. The hard copy surveys were distributed at key locations in both Washington and Benton Counties such as Spanish speaking Community Centers, NWA Clinic Center, Libraries and the Jones Center in Springdale. An example of the Long Range Transportation Survey in Spanish is summarized below:

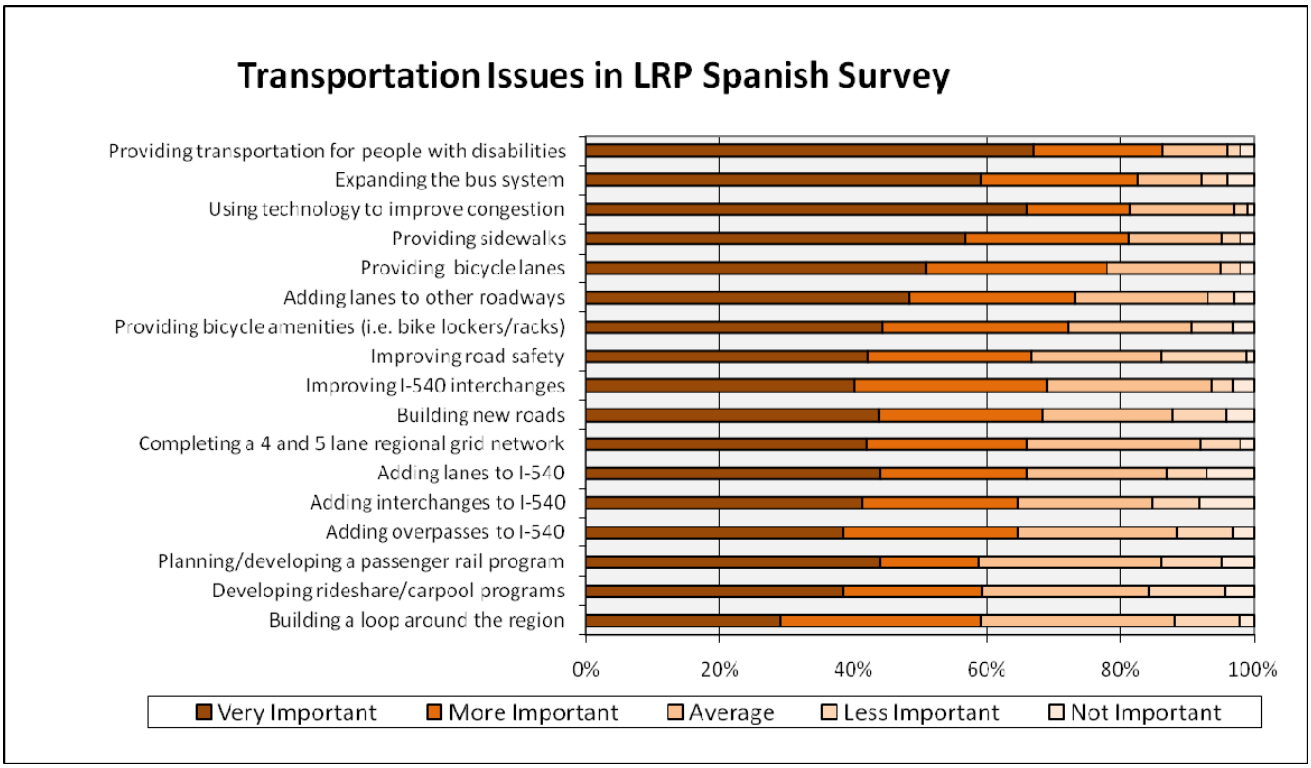


Figure 4.A.5

An analysis of whether highway projects either underserved or unduly impacted minority groups was performed by overlaying the developed list of financially constrained projects over a map depicting concentrations of minority groups.
It was determined that the minority populations were neither underserved nor disproportionately impacted by adverse impacts.

An analysis of whether highway projects either underserved or unduly impacted minority groups was performed by overlaying the developed list of financially constrained projects over a map depicting concentrations of minority groups.

Also it should be noted that a consistent need expressed by minorities was for improved public transportation. The Plan addresses this need in the Transit and Transportation Alternatives Chapter.

The Environmental Justice maps are attached at the end of this chapter.

D. CURRENT STUDIES

1. **Western Beltway Feasibility Study**
   The purpose of the Feasibility Study was to look at the concept of a Western Beltway and come to an understanding and conclusion as to the necessity of a Western Beltway facility.
   - A contract with Parsons Brinckerhoff (PB) was approved by FHWA in late June and a notice to proceed starting July 1, 2010 was issued to PB. The schedule for the project is 18 months, beginning July 1, 2010.
   - A Steering Committee was established in August 2010.

- The kick-off meeting for the project was August 23, 2010. The consultant presented a power point for the steering committee explaining the study process. Surveys for stakeholders and the public were developed.
- A process of GIS data sharing with the GIS consultants in charge of the environmental constraints analysis was developed. The McDonald County, Missouri TAZ and network data was integrated into the Travel Demand Model.
- PB conducted a public meeting Thursday, September 16, 2010 from 4:00 pm to 7:00 pm at the Conference Meeting Room at the Arvest Ballpark in Springdale. Additionally, a Public Officials meeting was held from 2:30 pm to 4:00 pm at the same location. The public opinion survey was available, as well as an environmental constraints map.
- One-on-one meetings with area elected officials, industry leaders, environmental interests, and the development industry took place in November 2010. Work continued on development of the 2035 forecast year model.
- PB conducted a meeting of the Steering Committee on December 10, 2010. PB gave a report on several corridors that have been identified as potential locations for a western beltway.
- At publication of the 2035 Northwest Arkansas Regional Transportation Plan, April 7, 2011, the Feasibility Study is on-going.

2. Transit Development Plan

In December of 2010 the Northwest Arkansas Regional Planning Commission (NWARPC) in partnership with Ozark Regional Transit, Razorback Transit, and the Arkansas State Highway and Transportation Department (AHTD) finalized a Transit Development Plan (TDP) that encompasses current, near term, short range, and long range plans for public transit in the Northwest Arkansas Study Area (NARTS). The Transit Development Plan process, administered by NWARPC and carried out by the Connetics Transportation Group, included a review of existing transit plans and proposals, an operational analysis of the current fixed route systems, potential system ridership analysis, development of short-range and long-range improvements, costs analyses of proposed capital and operation improvements, and proposed funding scenarios. Details of the plan can be found in the transit section (Chapter V, Section D) of this document and the entire Northwest Arkansas Transit Development Plan Final Report is located on the NWARPC website www.nwarpc.org under Transit.

3. Eastern North-South Corridor Study

The Eastern North-South Corridor Study, conducted internally by AHTD, will cover a north-south corridor from Highway 16 in southeast Fayetteville to Highway 62 in northeast Rogers, with consideration of possible connections and alternatives. At the request of NWARPC, the Arkansas Highway Commission authorized the Arkansas State Highway and Transportation Department (AHTD) to study a north-south corridor from Highway 16 in Fayetteville to Highway 62 in Rogers, with a possible extension west to Highway 71. This corridor stems from the NWARPC 2030 Regional Transportation Plan.

An eastern north-south route has been studied by the NWARPC and the AHTD off and on since at least the 1970s. The last planning study was in the 1990s, when the AHTD looked at the need for a northern bypass around Springdale, an eastern bypass around Fayetteville, and a possible extension into Rogers. That study led to the Springdale Northern Bypass environmental study and project development, while the eastern north-south route study was put off to a later date.

The time frame is expected to be approximately two years for the study completion. Phase I will cover

the existing street network, and if that study shows there is a need, Phase II will cover a new location facility.

Work began in spring 2010 has been concentrated on the initial environmental review and traffic counts (both in-office counts and special counts). Additionally, AHTD is working with NWARPC and using the Travel Demand Model for traffic counts.

4. State-wide Transit Study

The Arkansas Statewide Public Transportation Needs Assessment is a consultant led planning study. The Assessment is an effort to identify and address the public transportation needs in each the State's 75 counties. The purpose of the assessment is three-fold.

- Develop a statewide, regional, and county-level assessment of public transportation needs. This includes identifying existing service levels and capacity and estimating latent demand for service.
- Develop service recommendations to address those needs
- Identify a 10-year financial needs for implementation of hose services

The study will be completed by the summer of 2011.

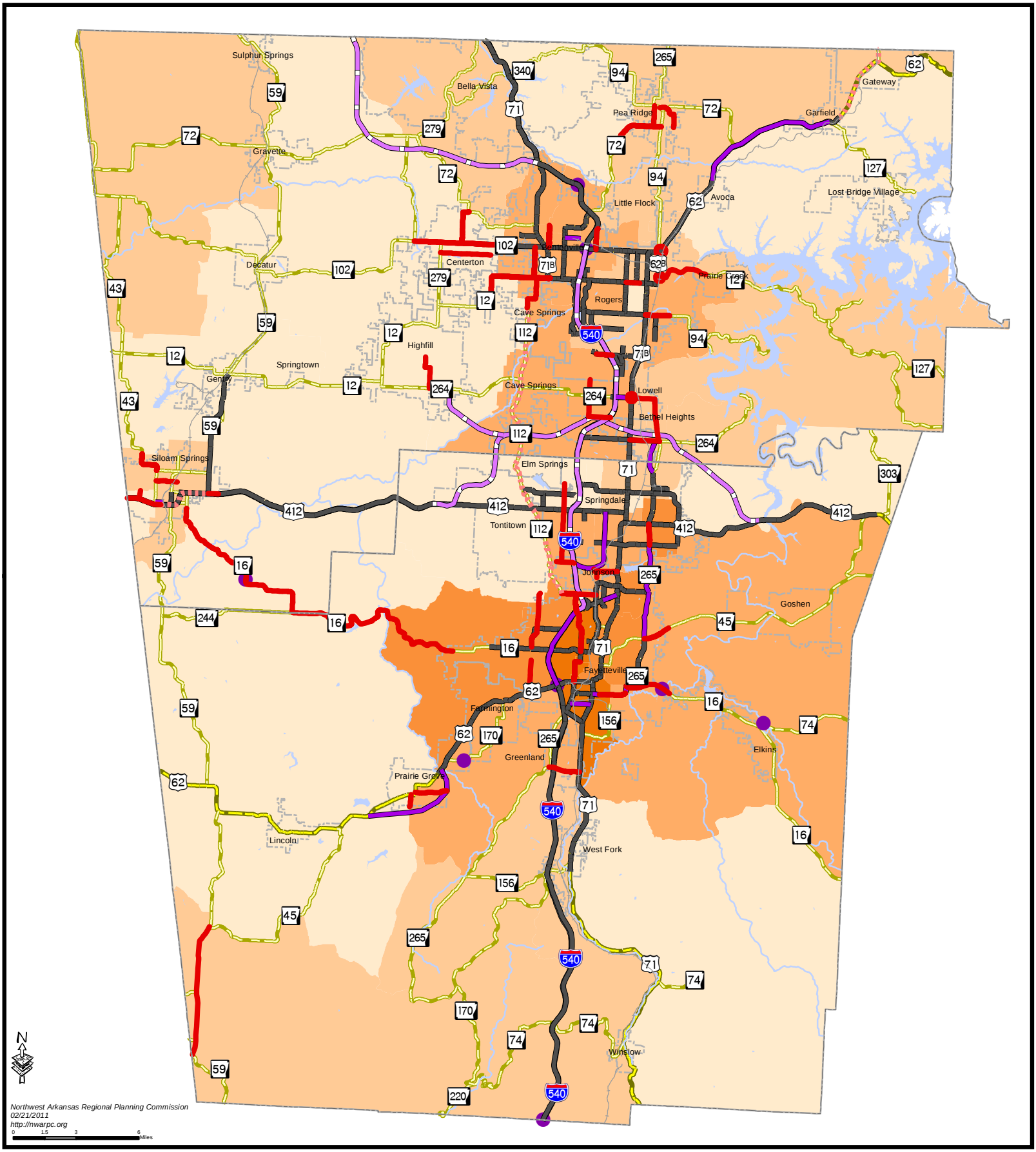
Conclusion:

Northwest Arkansas was able to meet the challenge of involving the community during this 2035 Northwest Arkansas Regional Transportation Plan update through regular input sessions in the community as well as regular media attention to engage citizens for a long-range plan. The MPO has taken great strides in engaging the public in this process and the end result reflects the opinions of those who took the time and effort to provide input.

Involving the public in the decision-making process was an essential part in developing public consensus in this 2035 Northwest Arkansas Regional Transportation Plan. The public was invited to provide information, offer alternatives, present their interests and opinions, and react to the recommended Plan. This allowed important community concerns and technical issues to be identified and addressed. By using techniques outlined in the Public Participation Plan and the Community Outreach Plan, the MPO was able to engage the citizens of this region to participate in the development of a transportation blueprint for this region for future generations.

As the projected costs and anticipated revenues for the projects in the 2035 Northwest Arkansas Regional Transportation Plan were analyzed and updated, it became apparent that there were not enough anticipated resources to complete all of the listed improvements. To determine what would be "cost feasible" to build, the projects were evaluated by the TAC Work Group from a technical and financial perspective to determine the most crucial regional transportation needs. Due to the fact that the transportation needs are significantly greater than expected revenues, the issue of adequate funding and alternative funding will remain an issue for the MPO.

In regards to transit projects, anticipated revenues determine the level of service. These revenues will only maintain the existing service. With the expected funding structure change in 2013 even the existing service may decline. Without a dedicated funding source, transit service is at risk within the area. With dedicated funds, transit service will not only be preserved but may be expanded to adequately serve the entire region.



African American Population Concentration Environmental Justice Analysis

2000 Census Tracts

African American

- 3 - 13
- 14 - 29
- 30 - 99
- 100 - 212
- 213 - 561

2035 Fiscally Constrained Plan

- Fully Funded Projects
- Partially Funded Projects

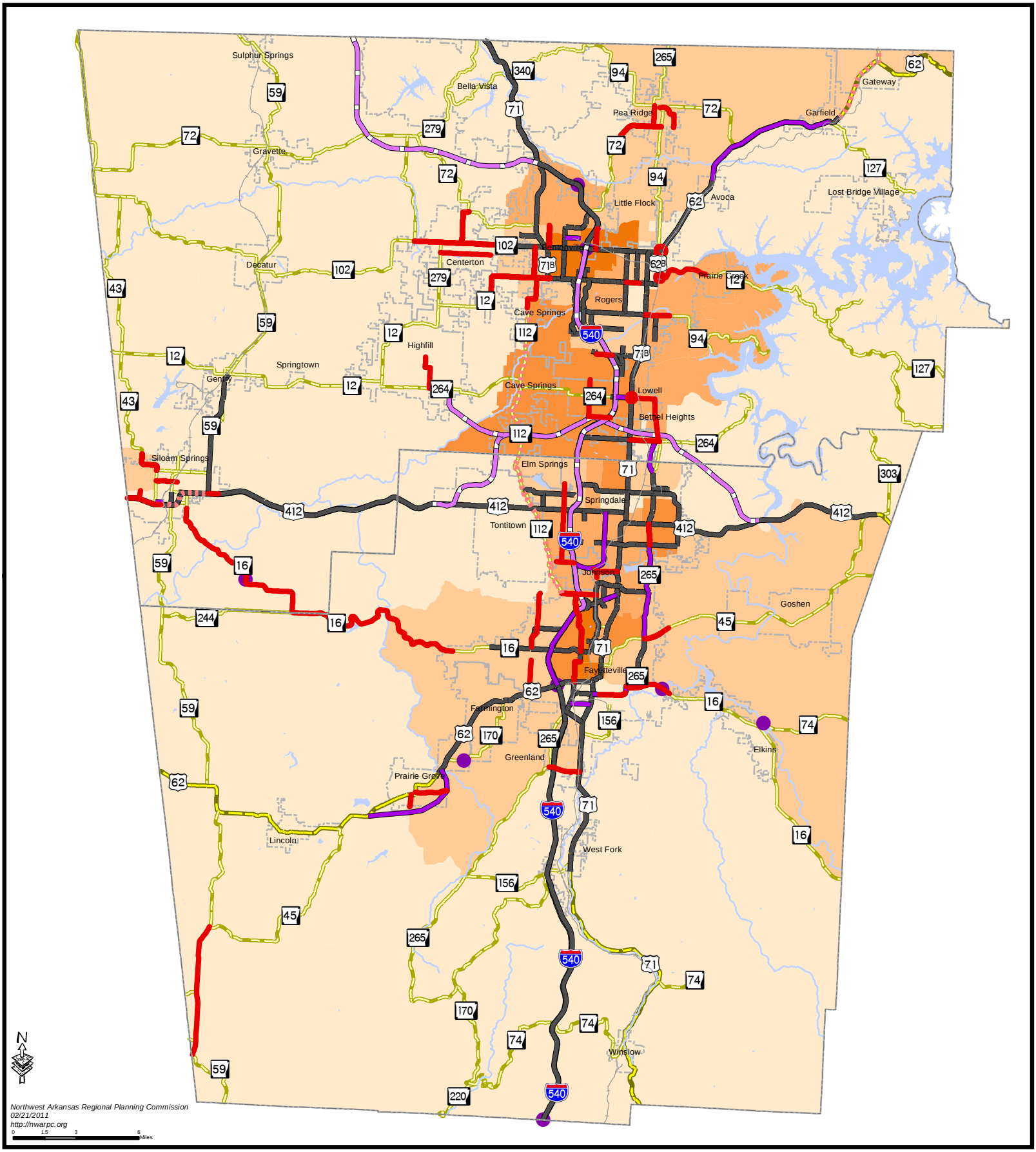
2010-2013 TIP

- Fully Funded
- Partially Funded
- 2010-2013 Bridges and Interchanges

4+ Lanes (2010 TDM)

- 4+ Lanes

- State Highway
- Expressway
- Interstate Highway
- Highway Ramp
- Federal Highway
- Railroad
- City Limits
- Rivers
- Lakes



State Highway
Expressway
Interstate Highway
Highway Ramp
Federal Highway
Railroad
City Limits
Rivers
Lakes

Asian American Population Concentration Environmental Justice Analysis

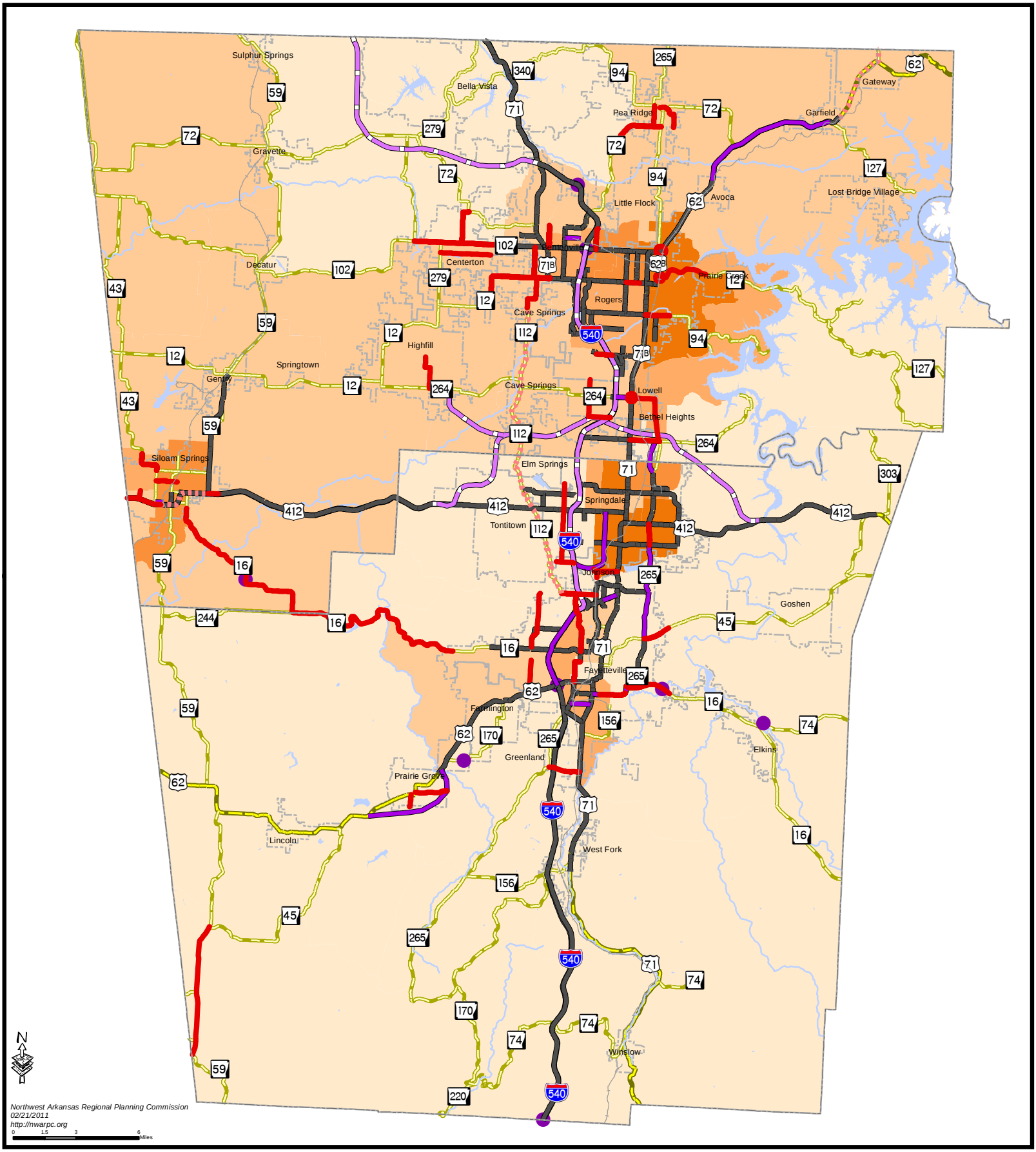
2035 Fiscally Constrained Plan
- Fully Funded Projects
- Partially Funded Projects

2010-2013 TIP
- Fully Funded
- Partially Funded
- 2010-2013 Bridges and Interchanges

4+ Lanes (2010 TDM)
- 4+ Lanes

2000 Census Tracts

Asian American
- 5 - 29
- 30 - 60
- 61 - 100
- 101 - 175
- 176 - 329



- State Highway
- Expressway
- Interstate Highway
- Highway Ramp
- Federal Highway
- Railroad
- City Limits
- Rivers
- Lakes

Hispanic American Population Concentration Environmental Justice Analysis

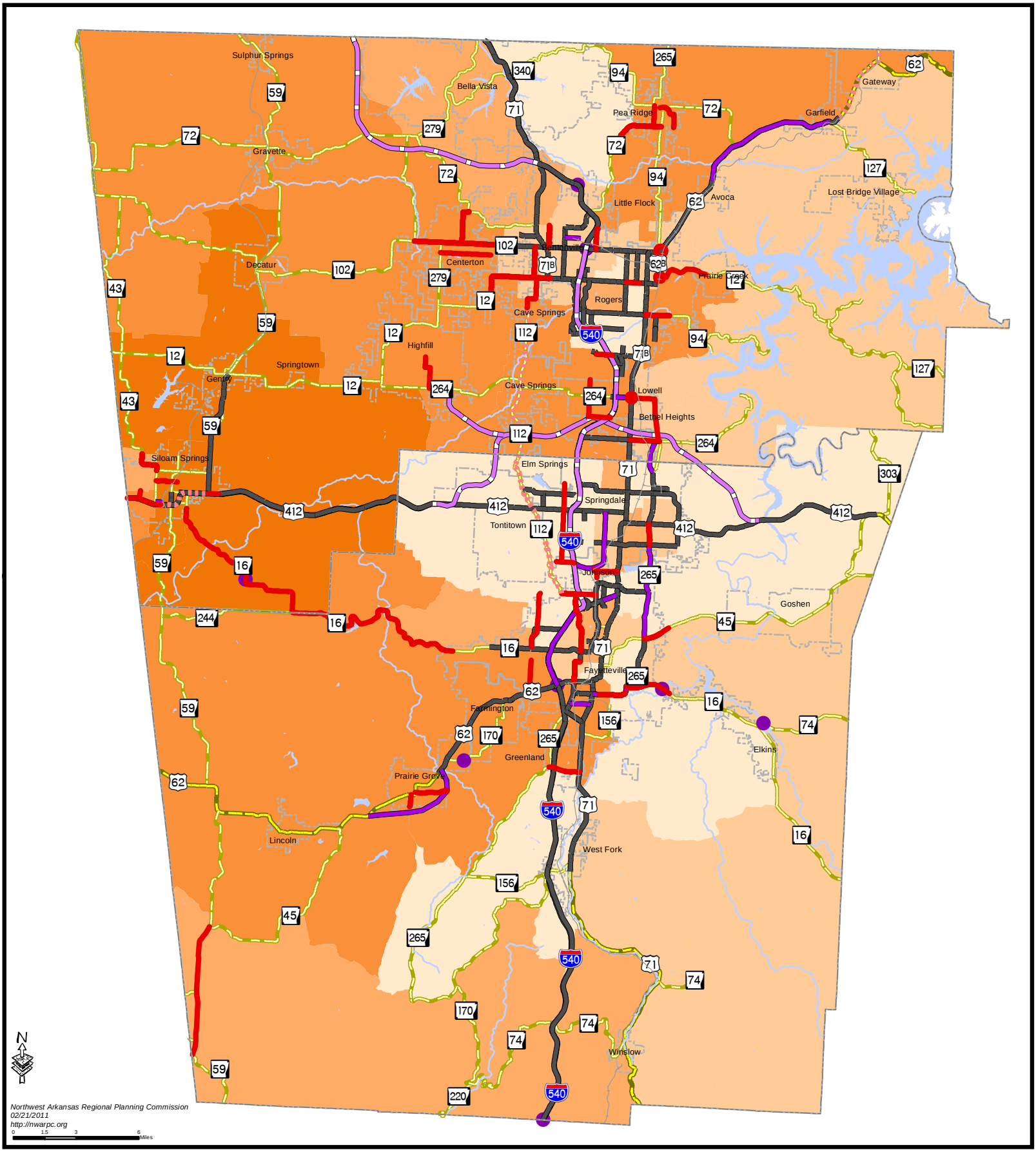
2035 Fiscally Constrained Plan
- Fully Funded Projects
- Partially Funded Projects

2010-2013 TIP
- Fully Funded
- Partially Funded
- 2010-2013 Bridges and Interchanges

4+ Lanes (2010 TDM)
- 4+ Lanes

2000 Census Tracts

Hispanic American
- 51 - 191
- 192 - 358
- 359 - 529
- 530 - 1115
- 1116 - 2606



State Highway
Expressway
Interstate Highway
Highway Ramp
Federal Highway
Railroad
City Limits
Rivers
Lakes

Native American Population Concentration Environmental Justice Analysis

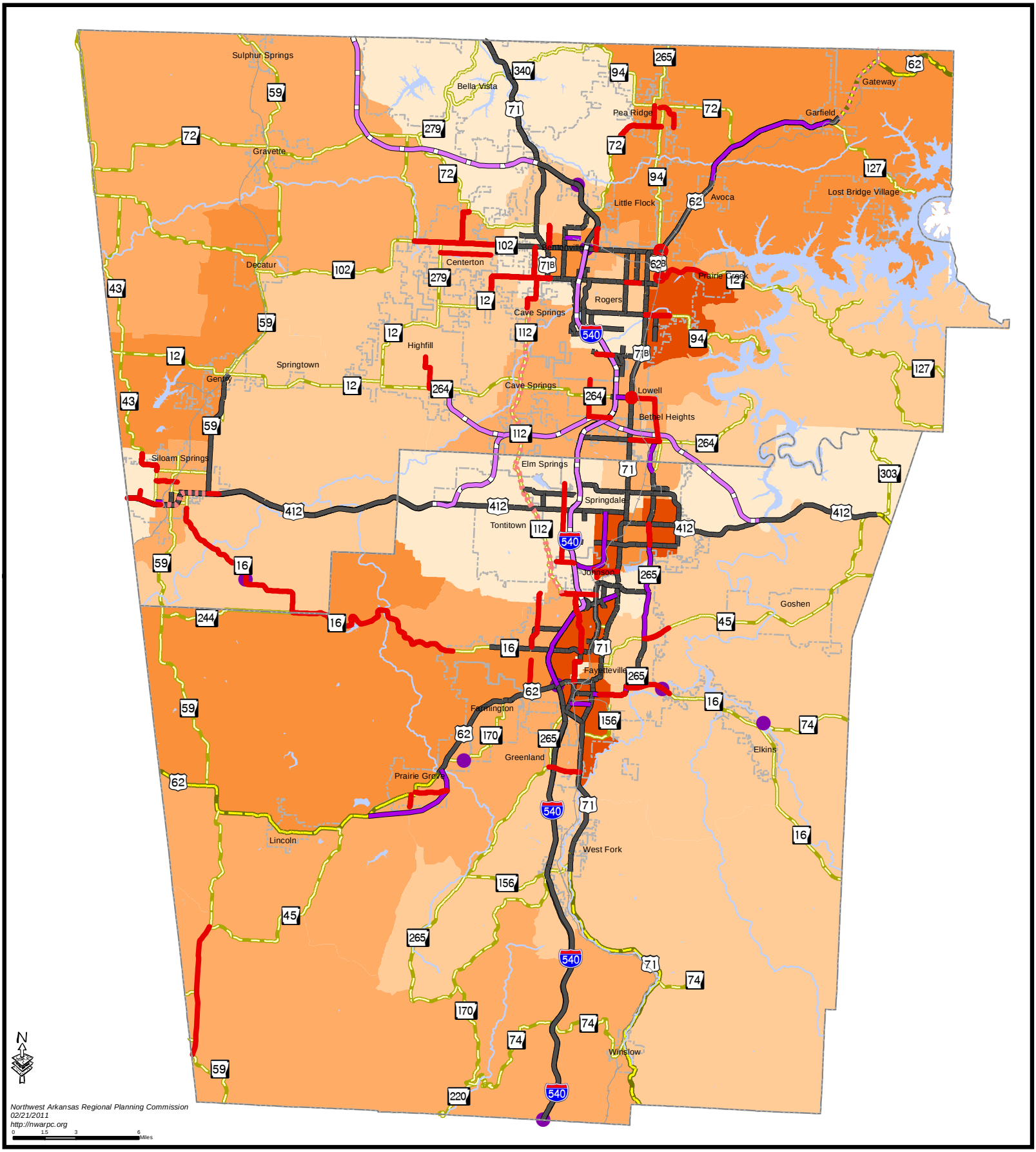
2035 Fiscally Constrained Plan
- Fully Funded Projects
- Partially Funded Projects

2010-2013 TIP
- Fully Funded
- Partially Funded
- 2010-2013 Bridges and Interchanges

4+ Lanes (2010 TDM)
- 4+ Lanes

2000 Census Tracts

Native American
- 23 - 47
- 48 - 69
- 70 - 94
- 95 - 138
- 139 - 268



- Rivers
- State Highway
- Expressway
- Interstate Highway
- Highway Ramp
- Federal Highway
- Lakes
- City Limits
- Railroad

People Below The Poverty Level (1999)
Environmental Justice Analysis

2035 Fiscally Constrained Plan
- Fully Funded Projects
- Partially Funded Projects

2010-2013 TIP
- Fully Funded
- Partially Funded
- 2010-2013 Bridges and Interchanges

4+ Lanes (2010 TDM)
- 4+ Lanes

2000 Census Tracts

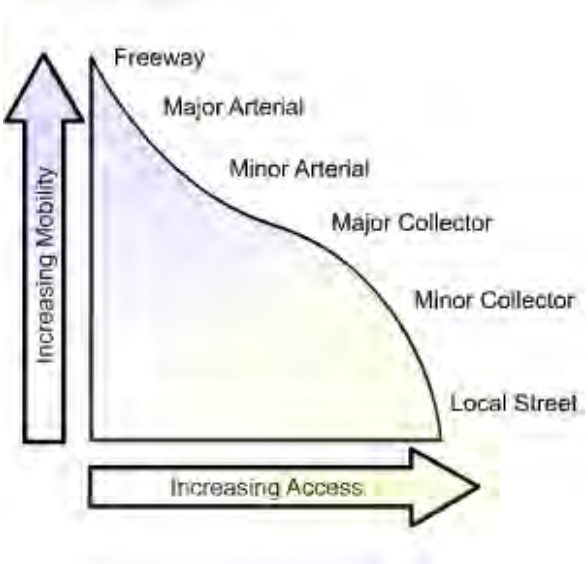
People Below Poverty Level
- 165 - 351
- 352 - 550
- 551 - 683
- 684 - 891
- 892 - 2159

CHAPTER V: IMPLEMENTATION STRATEGIES

A. TRANSPORTATION DESIGN

1. Cross-Section

Roadway facilities are classified as Local, Collectors, Minor Arterials, Principle Arterials, and Freeway/Expressways. These classifications reflect the utility of the various facilities as illustrated below with the higher classifications more responsible for moving traffic long distances while the lower functional classes are primarily responsible for access to land. It is necessary for roadways to be on the State's functionally classified system to qualify for State and Federal funding. A map of the functionally classified system is in Appendix C.

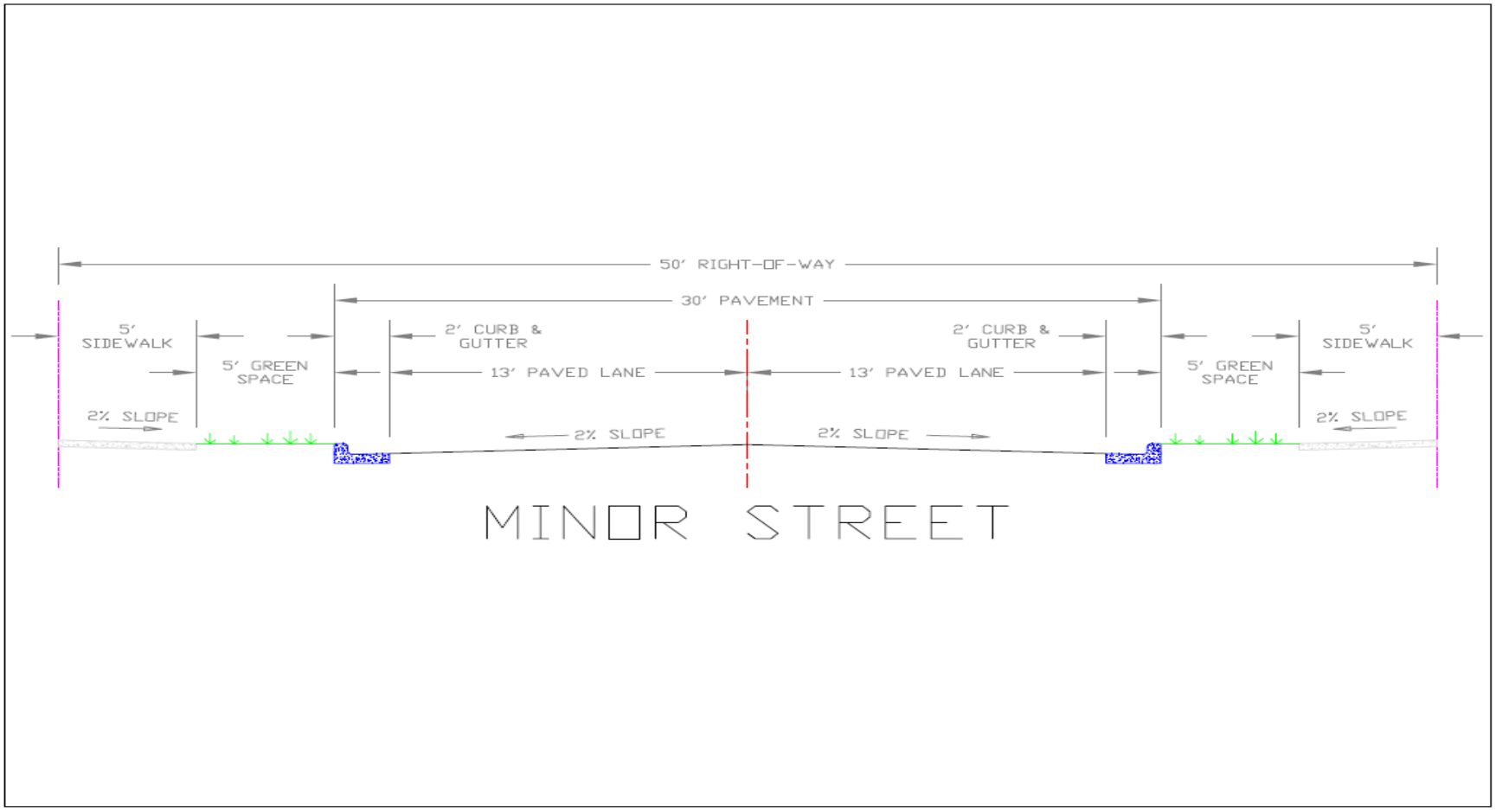


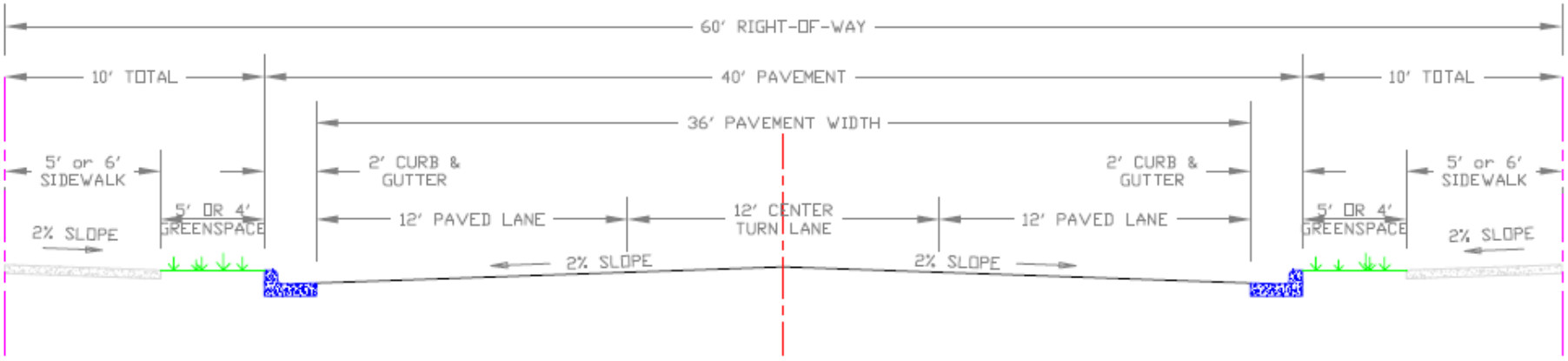
Cross-section recommendations are provided here along with more information regarding the use and capacity of the different classifications. The cross-sections shown are not intended to preclude the use of alternative cross-sections meeting AASHTO standards. Cross-sections should be determined by a project by project basis.

Of particular importance to the rapidly growing area of Northwest Arkansas is adequate protection of right of way and setbacks adjacent to current and proposed roads. A primary tool for this protection is the adopted master street plan of the cities and road plan of the counties.

The cities and counties are urged to consider the existing functionally classified system as well as the proposed 2035 network and to protect the necessary rights of way through their adopted plan and ordinances. It should also be noted that the cross-section designs in this Plan reflect typical recommended designs and some areas of commercial or industrial development will require cross-section designs higher than the typical cross-section of the designated functional class of the roadway. Cities should identify those areas and preserve the necessary right of way for the higher design.

The following cross-sections are recommended:





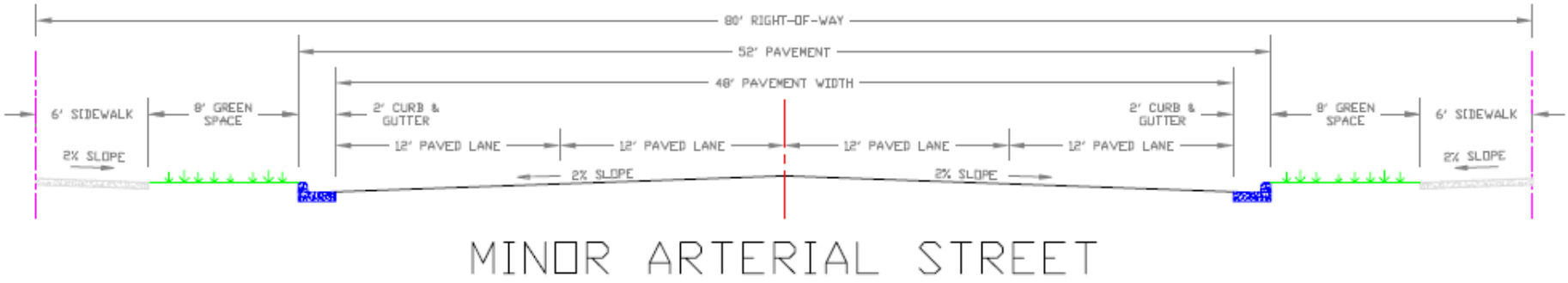
COLLECTOR STREET

Function Provides traffic circulation within neighborhoods, commercial and industrial areas. Collects traffic from local streets in neighborhoods and channels it into the arterial system. Connections between arterials should be indirect or should not be allowed in order to discourage use by traffic from outside the neighborhood.

Design Service Volume 4,000 vpd; 6,000 vpd with left turn bays

Speed 25-30 mph

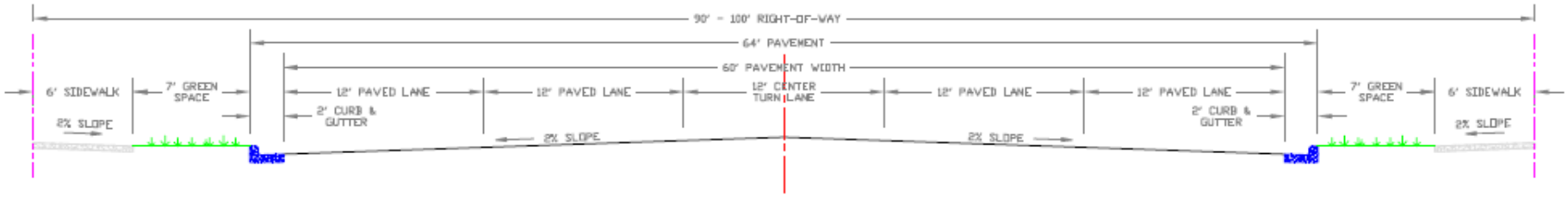
(For Five Lane Minor Arterial see Major Arterial)



Function Connects higher functional class facilities, activity centers, regions of the area, and major county roads at the edge of the metropolitan area. Traffic is composed predominantly of trips across and within regions of the city. Provides service to traffic at a somewhat lower level of travel mobility than principal arterials with minimal control of access. Ideally does not penetrate neighborhoods.

Design Service Volume 12,200 vpd; 14,800 vpd with left turn bays

Speed 35-40 mph

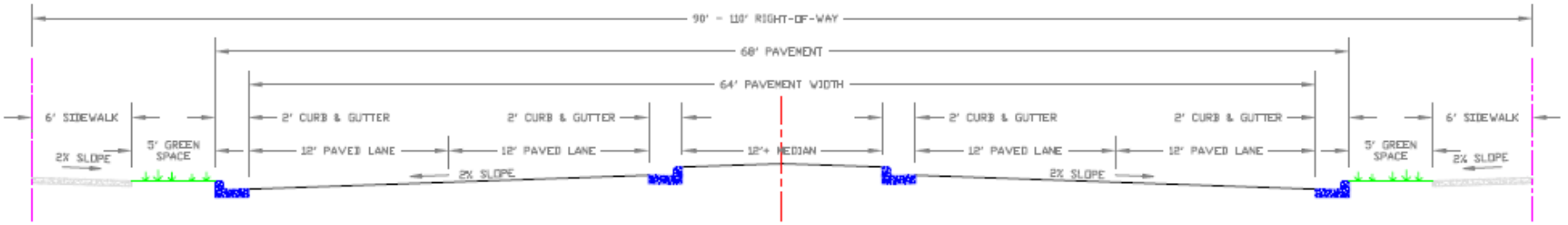


MAJOR ARTERIAL STREET

Function Connects freeway/expressways, rural highways at the edge of the metropolitan area, and major urban activity centers within the metropolitan area. Traffic is composed predominantly of traffic across or through the city. Access may be controlled through medians or by the limitation of curb cuts through the orientation of access for new developments, especially residential subdivisions, to intersection cross streets.

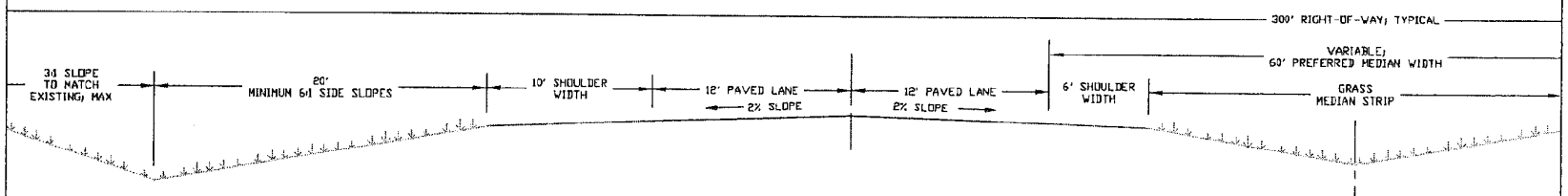
Design Service Volume 17,600 vpd – 20,600 vpd with left turn lane

Speed 40-45 mph



4-LANE DIVIDED MEDIAN STREET

Function, Design Service Volume, and Speed will be similar to other Arterials, boulevards, or parkways.



SCALE: 1" = 110'

0 110 220

FREEWAY/EXPRESSWAY; 4-LANES TOTAL
(HALF-SECTION/MIRROR FOR OTHER 2 LANES)

Function High speed, multi-lane facilities with a high degree of access control. These facilities serve the major centers of activity of the metropolitan area; the longest trip desires; and are well integrated with urban arterials and major rural arterial routes entering the area. They should provide a high level of traffic service to travellers who do not have local destinations and wish to bypass the city.

Design Service Volume 28,300 vpd expressway; 44,800 vpd freeways

Speed 45 - 70 mph

Lanes Four 12-foot lanes; 10-foot outside shoulders and 6-foot inside shoulders

Median Either acceptable depressed median or raised median with safety barrier

AHTD Policy Regarding Bicycle Lanes and Sidewalks:

For designated on-street bike routes, add:

- Four feet to total ROW requirements allowing for two extra feet on each outside lane for bicycle safety. **OR**

- Eight feet to total ROW requirements allowing four to five foot striped bicycle lanes.

It should also be noted that the adopted AHTD Policy regarding sidewalks calls for 5-foot sidewalks with a 3-foot buffer between the roadway and the sidewalk. Any State Highway project with wider sidewalks or buffer zones will have a cost share requirement from the local jurisdiction. AHTD Policy regarding bike lanes indicates that they will be considered if the facility is on an adopted master trail plan. From the AHTD Policy:

- When bicycle accommodations are to be made on routes with an open shoulder section, the paved shoulder will be used to accommodate bicycles. Shoulder widths shall conform to the widths recommended in the American Association of State Highway and Transportation Officials (AASHTO) Green Book.
- When bicycle accommodations are to be made on routes with a curb and gutter section, the bicycle lane will be in accordance with recommendations in the AASHTO Guide for the Development of Bicycle Facilities. Generally, a bicycle lane width of 4 feet (measured from the lane edge to the edge of the gutter) will be considered.
- If local or regional design standards specify bicycle facility widths greater than the standards noted above, the additional right-of-way and construction costs associated with the greater width shall be funded by the local jurisdiction that adopted the higher design standards.

The complete AHTD Policy for Pedestrian and Bicycle Facilities can be seen in this Chapter under **B. Bicycle and Pedestrian Facilities.**

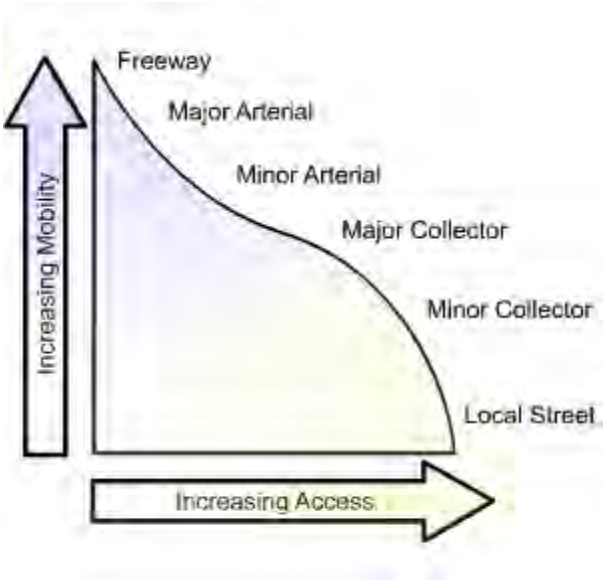
Road Sign Recommendation: All roads crossing named waterways will have a sign naming the waterway.

2. Access Management

a. Introduction

One of the recommendations coming out of the 2030 Northwest Arkansas Regional Transportation Plan was that "cities, counties, and AHTD should be encouraged to apply techniques of access management." Since approval of the 2030 Plan, the Access Management Subcommittee and the TAC Work Group have worked toward development of regional policies and a Model Access Management Ordinance, to be included in the 2035 Northwest Arkansas Regional Transportation Plan. The Model Access Management Ordinance is included here as a template, available to local governments to use and tailor to their unique and specific needs and situations.

Access Management provides an important means of maintaining mobility. It calls for effective ingress and egress to a facility, efficient spacing and design to preserve the functional integrity, and overall operational viability of street and road systems. Good access management promotes safe and efficient use of the transportation network.



Access Management should address, among other things, the following areas:

- Facility hierarchy
- Intersection and interchange spacing
- Driveway spacing
- Traffic signal spacing
- Median treatments and median openings
- Turning lanes and auxiliary lanes
- Street connections

In areas of dynamic land development, it is important for jurisdictions to develop access standards that achieve a balance between property access and functional integrity of the road system. Studies show that implementing access management provides three major benefits to transportation systems:

- Increased roadway capacity
- Reduced crashes
- Shortened travel time for motorists

An effective access management program will accomplish the following:

1) Limit the number of conflict points at driveway locations. Conflict points are indicators of the potential for accidents. The more conflict points that occur at an intersection, the higher is the potential for vehicular crashes. When left turns and cross street through movements are restricted, the number of conflict points is significantly reduced.

2) Separate conflict areas. Intersections created by streets and driveways represent basic conflict areas. Adequate spacing between intersections allows drivers to react to one intersection at a time, and reduces the potential for conflicts.

3) Reduce the interference of through traffic. Through traffic often needs to slow down for vehicles exiting, entering, or turning across the roadway. Providing turning lanes, designing driveways with large turning radii, and restricting turning movements in and out of driveways allows turning traffic to get out of the way of through traffic.

4) Provide sufficient spacing for at-grade, signalized intersections. Good spacing of signalized intersections reduces conflict areas and increases the potential for smooth traffic progression.

5) Provide adequate on-site circulation and storage. The design of good internal vehicle circulation in parking areas and on local streets reduces the number of driveways that businesses need for access to the major roadway.

Access management applies land use and transportation strategies that control the flow of traffic between the road and surrounding land. Access management, if implemented locally and regionally, can address a broad array of quality of life issues fundamental to promoting livable, prospering communities. Access controls, coupled with land division controls may:

- Foster well designed circulation systems that improve the safety and character of commercial corridors.
- Discourage subdivision practices that destroy the rural character of the landscape or essential natural resources.
- Advance economic development goals by promoting more efficient use of land and transportation systems.
- Help control public service costs and the substantial public investment in infrastructure and services.
- Make bicycle and pedestrian travel safer.
- Postpone or preventing more costly highway improvements.
- Improve safety, reducing delays, promoting desirable land use patterns.
- Protect the value of private investments .

Access Management encompasses a set of techniques that state and local governments can use to control access to highways, major arterials, and other roadways. The Federal Highway Commission lists the following techniques:

- **Access Spacing:** Increasing the distance between traffic signals improves the flow of traffic on major arterials, reduces congestion, and improves air quality for heavily traveled corridors.
- **Driveway Spacing:** Fewer driveways spaced further apart allow for more orderly merging of traffic and presents fewer challenges to drivers.
- **Safe Turning Lanes:** Dedicated left and right-turn, indirect left-turns and U-turns, and roundabouts keep through-traffic flowing. Roundabouts represent an opportunity to reduce an intersection with many conflict points or a severe crash history (T-bone crashes) to one that operates with fewer conflict points and less severe crashes (sideswipes) if they occur.
- **Median Treatments:** Two-way left-turn lanes (TWLTL) and non-traversable, raised medians are examples of some of the most effective means to regulate access and reduce crashes.
- **Right-of-Way Management:** As it pertains to Right-of-Way reservation for future widening, good sight distance, access location, and other access-related issues.

b. Regional Policies

In an effort to promote the orderly development of a transportation network to serve both land development and traffic and freight circulation, the Plan offers the following Regional Policies as guides when developing an access management strategy and plan:

- Coordinate with the Arkansas Highway and Transportation Department.
- Protect the capacity of the roadway to carry significant local and regional traffic while increasing the safety for drivers, bicyclists, and pedestrians that use the facility.
- Maximize safety and capacity of the corridor in light of possible future development/redevelopment.
- Provide a mechanism to balance national, state, regional, and local interests in a manner that protects the function of the roadway as well as the existing and future investments in it, along with allowing reasonable economic development opportunities.
- Improve the environment for pedestrians, bicycles, and motor vehicles by reducing and consolidating driveway conflict points.
- Effective local access management requires planning as well as regulatory solutions. Where applicable, communities should establish a policy framework that supports access management in the local comprehensive plan, prepare corridor or access management plans for specific problem areas, and encourage good site planning techniques. Local comprehensive plans should establish how the community would balance mobility with access, identify the desired access management approach, and designate corridors that will receive special treatment. This may be supplemented through functional plans, such as an access management or thoroughfare plan, or through sub area plans, such as an interchange or corridor plan. By establishing the relationship between regulatory strategies and public health, safety, and welfare, the comprehensive plan can serve as the legal basis for access controls.
- Remedial access management techniques are recommended for areas that are already developed. Remedial access management focuses on reducing congestion, improving safety and improving aesthetic conditions on arterials that have developed into the familiar strip pattern with numerous separated driveways.
    - Closing or consolidating driveways, sharing driveways, improving on-site circulation, linking adjoining parking lots, and constructing parallel access roads are common access management techniques applied in existing developed areas.

- Remedial access management efforts can be accomplished through alternative driveway design and applied during site plan review for a parcel as it goes through the permitting process for changes in use, expansion, etc.
- Another effective time to implement remedial access management techniques is when new roadway improvements are being made.

The following actions may be implemented to further the Regional Principles:

- Provide a Specialized Roadway System
- Limit Direct Access to Major Roadways
- Promote Intersection Hierarchy
- Locate Signals to Favor Through Movements
- Preserve the Functional Area of Intersections and Interchanges
- Limit the Number of Conflict Points
- Separate Conflict Areas
- Remove Turning Vehicles from Through Traffic Lanes
- Use Non-traversable Medians to Manage Left-Turn Movements
- Provide a Supporting Street and Circulation System

c. Suggested Regional Planning Process

Although progress has been made, most local governments continue to act independently. Many are evaluating development plans and access issues on a site-by-site basis. The Plan offers the following Suggested Regional Planning Process, in the spirit of regional cooperation and coordination:

- Form a Corridor Study Team – representing various governmental entities with jurisdiction over the corridor.
- Produce an access management plan that is responsive to local needs as well as being consistent with access management principles.
- Form a Coordinated Site Plan Review Committee or a Corridor Management Team. The Committee may contain representatives from various agencies and local units of government. The coordinated process brings all the agencies together to perform the review as a unit. Preventative and remedial access management objectives are often achieved through a coordinated site plan review as property is proposed for development or redevelopment.
- Remediation of older development may take a long time, but if the local zoning ordinance requires access improvements as rehabilitation and redevelopment occurs, over time there will be improvement.

d. Individual Corridor Access Management Plans

AHTD/Local Jurisdiction Individual Corridor Access Management Plans on State Numbered Highways:

- Individual Access Management plans will specifically identify all median breaks.
- Establish standards for driveways to be applied during plat review prior to development approval by the local jurisdiction.
- Access Management Plan Agreement - Each Access Management Plan agreement will be deemed adopted when passed in identical form by the local jurisdiction, the NWA RPC acting in its capacity as MPO, and the Arkansas State Highway Commission (when the Plan applies to a State Highway).

- The Access Management Plan agreement may be terminated or modified, in whole or in part only by mutual agreement of all of the parties as evidenced by resolutions adopted by each governing body.
- Amending the Access Management Plan – An Access Management Plan amendment (variance) will be considered at the request of any of the parties to the Agreement or at the request of an applicant whose permit request has been denied by any of the parties. The proposed amendment must be adopted in identical form by the local jurisdiction, the NWARPC, and Arkansas State Highway Commission to become effective. The Access Management Plan will be updated immediately after construction of each widened portion of the roadway is completed to reflect any changes to driveway location due to that construction if necessary.

e. Business Concerns and Access Management

When access management techniques are proposed, very often business owners that depend on pass-through traffic (especially gas stations and fast food restaurants) raise questions concerning reduced access to business locations. This is particularly the case when planners propose that the middle two-way left turn lane be converted to a raised median strip. Planners and traffic engineers must take these concerns into consideration and carefully study each specific location in detail. The Federal Highway Administration says that although there are few studies of the actual impacts of medians on business sales, there are several surveys of business owner opinions. Surveys conducted in multiple corridors in Texas, Iowa, and Florida demonstrate that the vast majority of business owners believe there have been no declines in sales, with some believing there are actually improvements in business sales.[1] If appropriate access management can reduce travel time while increasing the safety of an area, the market radius surrounding a commercial location increases significantly.

f. When to implement Access Management

The best time to plan and employ access management is when cities improve or build new roads. In this way much of the disruptions to businesses can be avoided. With the update of the 2035 Northwest Arkansas Regional Transportation Plan, the TAC Work Group projected that many roads must be built or widened in the next ten years. These planned new road locations and widening should be seen as an opportunity to prevent business disruptions and save tax dollars by implementing access management as part of the design process rather than retrofitting roads later. However, given the many benefits of access management, cities should apply access management techniques whenever possible.

g. **Access Management Model Ordinance**

Local government adoption of implementing regulations, standards and procedures is critical to an effective regional access management effort. Without local government enforcement of implementing regulations, the regional access management effort may be undermined by inconsistent decisions during the development review and permitting process. The 2035 Northwest Arkansas Regional Transportation Plan includes an Access Management Model Ordinance whose purpose is not to identify

[1] U.S. Department of Transportation Federal Highway Administration *Benefits of Access Management Brochure*: FHWA Document Number FHWA-OP-03-066; http://ops.fhwa.dot.gov/access_mgmt/docs/benefits_am_trifold.htm#8

specific projects, rather, it is to establish guidelines that will promote safe and efficient traffic flow and which will enhance and sustain economic development along the corridor over which it is laid. It is understood that the Model Ordinance may be amended or tailored to suit each local jurisdiction's individual needs. The **Access Management Model Ordinance** may be found in Appendix D.

1) BICYCLE AND PEDESTRIAN FACILITIES

1. Introduction

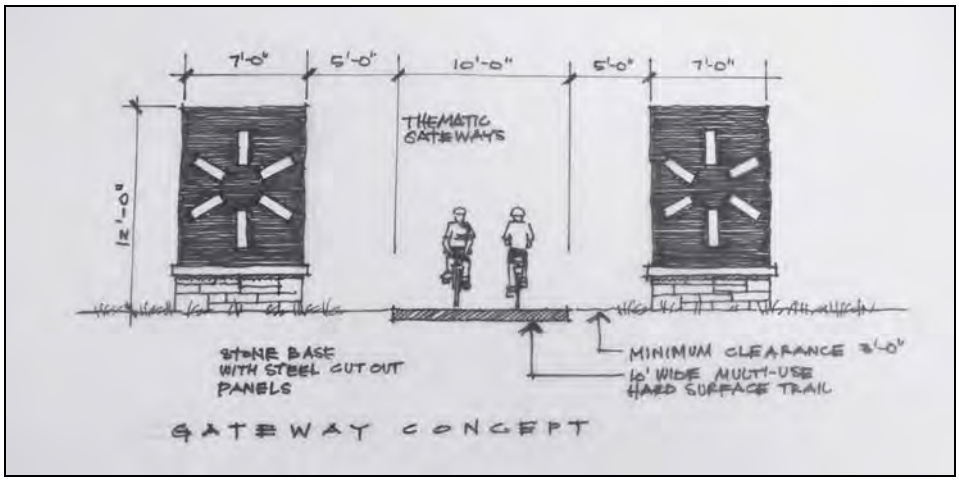
Northwest Arkansas' population is growing rapidly. Public support and advocacy for improved conditions for bicycling and walking have grown even faster, as evidenced in community input sessions and surveys presented in the 2035 Northwest Arkansas Regional Transportation Plan. This emphasis on non-motorized transportation reflects a desire by the region's population for livable communities, in which young and old alike are able to move about.

Bicycle and pedestrian trails are also important factors in developing a comprehensive transportation plan. Federal law states that "bicyclists and pedestrians shall be given due consideration in the planning process…bicycle facilities and pedestrian walkways shall be considered, where appropriate, in conjunction with all new construction and reconstruction of transportation facilities except where bicycle use and walking are not permitted".

The benefits of non-motorized transportation include health and environmental as well as economic. Many recent articles have highlighted the epidemic of obesity that is affecting the citizens of our nation and pointedly noted that city, county and regional planners bear some of the responsibility for this. If planners plan beyond motorized transport, they allow the average citizen to incorporate exercise into their daily routine of commuting to work/school or through other daily activities.

The environmental benefits of walking and bicycling – decreased air, water and noise pollution, less vehicular traffic, and hence, decreased congestion, etc. , have been well documented, as have been the health benefits to individuals.

Businesses are increasingly concerned about locating in livable communities in order to attract and retain employees. Additionally, businesses are concerned about their access to goods and services on a timely basis. For all these reasons, it is important that communities in Northwest Arkansas be aware of the bicycling and pedestrian initiatives that are taking place in neighboring communities so that eventually, these efforts can be integrated into a network of multi-use trails, sidewalks and other amenities for bicyclists and pedestrians.



Context sensitive design elements will highlight local heritage, culture and community partnerships

States and Metropolitan Planning Organizations are required to carry out a continuing, comprehensive, and cooperative transportation planning process that results in two products.

1. A long range transportation plan, which provides for the development and integrated management and operation of transportation systems and facilities, including pedestrian walkways and bicycle transportation facilities. Both Federal and MPO plans will consider projects and strategies to increase the safety and security of the transportation system for non-motorized users.

2. A Transportation Improvement Program (TIP) which contains a list of proposed federally supported projects to be carried out over the next three years. Projects that appear in the TIP should be consistent with the 2035 Northwest Arkansas Transportation Plan.

The transportation planning process is carried out with the active and on-going involvement of the public, affected public agencies, and transportation providers.

SAFETEA-LU maintains that bicyclists and pedestrians shall be given due consideration in the planning process (including the development of both the Plan and TIP) and that bicycle facilities and pedestrian walkways shall be considered, where appropriate, in conjunction with all new construction and reconstruction of transportation facilities except where bicycle use and walking are not permitted. Transportation plans and projects shall also consider safety and contiguous routes for bicyclists and pedestrians.

Bicycling and walking are important elements of an integrated, intermodal transportation system. Constructing sidewalks, installing bicycle parking at transit, teaching children to ride and walk safely, installing curb cuts and ramps for wheelchairs, striping bike lanes and building trails, all contribute to our national transportation goals of safety, mobility, economic growth and trade, and to the enhancement of communities and the natural environment, and national security.

2. Northwest Arkansas Active Transportation Network

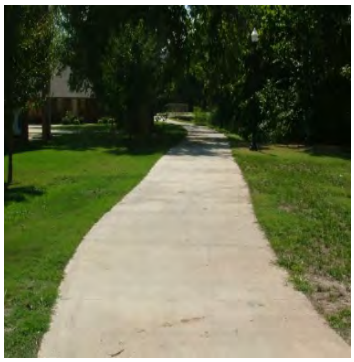
a. The Regional Plan

As part of the Northwest Arkansas Active Transportation Network Plan (ACT Plan) NWARPC initiated a committee with open participation from cities, counties and local organizations and citizens who were interested in promoting on and off road trails in Northwest Arkansas. The Northwest Arkansas Active Transportation Committee began to have meetings on a monthly basis at the NWARPC office in the spring of 2009 as a small group of city officials, interest groups representatives and local citizens interested in trails and off road transportation. The participation was open and highly encouraged by postings on the NWARPC website and listserv emails. The meetings concentrated at first on identifying where and how long the trail system in the two counties was and mapping the trails so that the group could get an overall, regional view of the Northwest Arkansas trail system. Another goal identified by the group was to look into expanding the Heritage Trail and develop a more comprehensive bicycle and pedestrian network for Benton and Washington counties.

During the first months of 2010 NWARPC developed a draft map of the regional off-road and with-road trails that was based on the master street plans developed by each city participating in the group discussions and on public input. Staff met with bicycle organizations and local citizens in both Washington and Benton County to identify the needs of the bicycle community in Northwest Arkansas. The input gathered from these meetings was reflected in the regional trail map as potential connectors or preferred bicycle routes. As cities adopt and expand their own master trail plans that link to the region-wide Trail Plan, those plans will be recognized as part of the regional plan. This regional system is designed to link the emerging master trail plans of the region's cities. By linking the cities' plans and including strategic spurs, the Regional Trail Plan provides links to recreational site, parks, historic sites, museums, schools, work centers and retail shopping.

The 2035 Northwest Arkansas Regional Transportation Plan recommends maintaining a regional commitment to bicycle and pedestrian facilities, as well as encouraging cities to develop master trail plans in conjunction with the Regional Trail Plan. Specific ACT Plan route locations may be impacted by changing circumstances such as new road locations, changing city master trail plans, environmental considerations, historic research, and other issues, however, route connectivity should always be maintained. The Regional Trail Plan map is attached at the end of this chapter.

In addition, the Active Transportation Committee identified the main types of trails and routes represented on the regional map and compiled a definition list for each type of trail as in the following table:

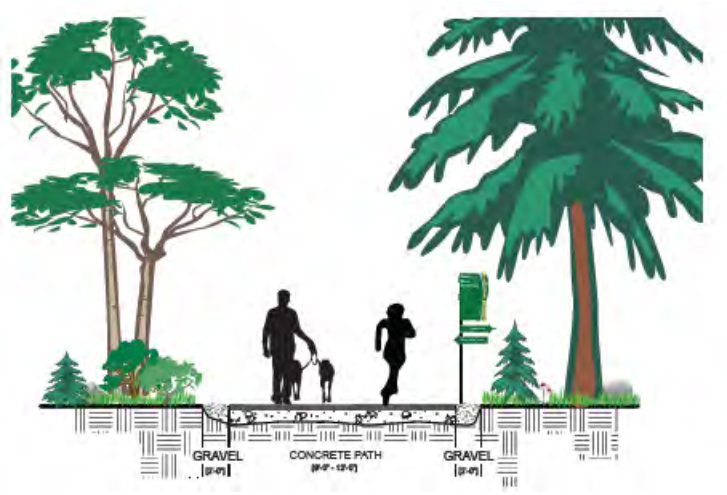
Off-Road Trail A trail that is physically separated from motorized vehicular traffic by large open space or barriers and located within an independent right-of-way or trail easement; used by bicyclists, pedestrians, skaters, wheelchair users, joggers and other non-motorized users. These are best located in railroad right-of-ways, floodplains, and designated greenways. Minimum width is 8 feet. See AASHTO guide for the development of bicycle facilities.	
With-Road Linkage A trail that predominately follows a street and is physically separated from motorized vehicular traffic by a small open space or barrier within a street or road right-of-way; used by bicyclists, pedestrians, skaters, wheelchair users, joggers and other non-motorized users.	
Signed Shared Roadway A roadway which is open to both bicycle and motor vehicle travel designated with share the road signs and sharrows. This may be an existing roadway, street with wide curb lanes, or road with paved shoulders. These should be located on streets with speeds of less than 35 mph, relatively low traffic volumes and no or limited on-street parking. See MUTCD standards for sign and symbol placement guidelines.	
Bike Lane A portion of a roadway which has been designated by striping, signing and pavement markings for the preferential or exclusive use of bicyclists. Minimum width is 5 feet. See MUTCD standards for marking placement and sign guidelines.	 

In 2010 the Active Transportation Committee focused its interest mainly on the off-road trails. As a result of mapping the existing and city planned trails in the urban corridor, sections of no off-road trail and no planned off-road trails have been identified mainly in Springdale and Lowell, critical for

connecting the urban corridor from Fayetteville to North Bentonville. As a result, discussions have been concentrated on how to pursue the funding necessary to connect the off-road trails.

In the spring of 2010 the Walton Family Foundation (WFF) representative at the Active Transportation Committee meeting promoted an initiative for NWARPC to actively seek funding for completing the sections that were critical to a regional trail central spine. Following these meetings, the WFF contracted *ALTA Planning+Design,* a renowned trail consulting and design company, to assist NWARPC in its efforts to pursue the goal of connecting the Northwest Arkansas communities by an off-road trail system. Through a series of workshops and meetings organized by *ALTA Planning+Design* and with the active participation of NWARPC,WFF, city and county officials along with other interest groups and various private and public participants, a plan of action was identified.

Following these workshops, in July 2010 *ALTA Planning+Design* also published the Trail Design Resource Notebook providing design guidelines for trails and trail-related amenities that are used in various places throughout United States. These guidelines could be used to determine the best solutions on a regional as well as a local, city by city, basis. You can download a copy of the notebook at this http://nwarpc.org/pdf/Transportation/Trail%20Design%20Guidelines.pdf



Trail Design Resource Notebook Illustration of a typical trail

b. Razorback Regional Greenway Plan and DOT-TIGER II Grant

Over the past several years, the municipalities of Northwest Arkansas, the Walton Family Foundation, and other grant sources have demonstrated strong support in planning, funding, and building local trails and greenways. Not only have the cities been working to build sustainable trail systems in the past few years, but they have truly embraced the concept that trails and greenways can provide alternative transportation, health and environmental benefits, as well as economic development. The idea of a regional greenway that stretches along a corridor from south Fayetteville to Bella Vista has been discussed at various meetings that the Active Transportation Committee had in the past couple of years

at NWARPC. This regional greenway that was named the Northwest Arkansas Regional Razorback Greenway will complement the full regional trail network and the *Heritage Trail Plan*.

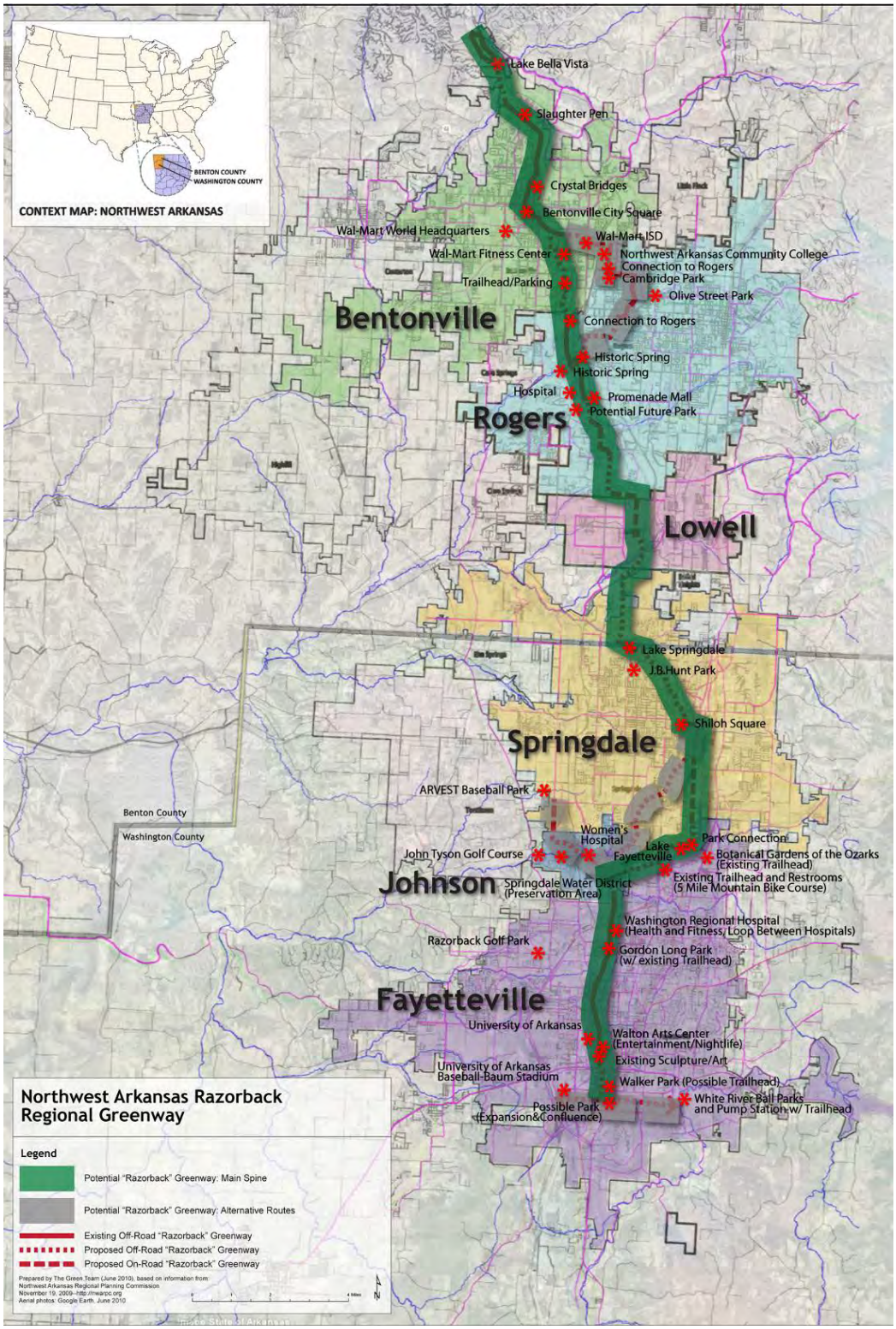
In an effort to further refine the regional greenway concept two workshops were organized in Northwest Arkansas in early 2010. The workshops involved a team of greenway experts from around the country with municipal representatives and corporate leaders from Northwest Arkansas. This effort served as a catalyst that offered the chance for the communities to work neighbor-to-neighbor on shared greenways opportunities and resulted in a coordinated strategy for the elected leadership of the region to capitalize on the exciting opportunities that a regional greenway system represents.

Northwest Arkansas Razorback Regional Greenway Workshop Participants

The key outcome of those workshops was the creation of Northwest Arkansas Razorback Regional Greenway, a regional greenway vision that will connect existing and proposed greenway sections into an innovative system. The momentum created by this new greenway vision is unparalleled in the U.S.

The project received funding of $15M from the TIGER II (USDOT's Transportation Improvements Generating Economic Recovery) program, with a match share of $3.75M from the Walton Family Foundation.

Because of the unique combination of involved elected officials and community interest, philanthropic support, and private sector leadership, this project will be able to capitalize on the TIGER II program to quickly put in place a nationally significant project that would take other regions years to accomplish.



Northwest Arkansas Razorback Regional Greenway

c. Heritage Trail Plan

The Heritage Trail Plan describes a regional network for proposed bicycle and pedestrian facilities within the two counties of Northwest Arkansas, which combines the historic Butterfield Stagecoach Route, the Trail of Tears and Civil War trails into automobile, bicycle, and pedestrian facilities that connect Northwest Arkansas citizens and visitors to heritage, recreational, and cultural assets, a healthier lifestyle, and to each other. The entire network can be seen, at a minimum, as a bicycle route with improvements along the route providing safety for bicyclists. Within the more populated areas, where pedestrian traffic is anticipated, the improvements will also accommodate safe pedestrian travel.

The Butterfield Stagecoach Route is a major "backbone" component of the Heritage Trail Plan. In addition, Trail of Tears Routes and Civil War Routes have been identified on the Heritage Trail Plan. These routes are marked with unique signage and promoted with an informational brochure. As such, the Heritage Trail system can double as an auto tour guiding citizens and visitors to our region's attractions and points of interest. The Heritage Trail Plan map is at the end of this chapter. The full 2035 Northwest Arkansas Heritage Trail Plan is in Appendix D.

d. City Trail Project Highlights

The tables below summarize the multi-use trails and other types of trails that Bentonville, Rogers and Fayetteville have completed since 2006 in these three major cities of the Northwest Arkansas urban corridor.

Bentonville completed a total of 14.51 Miles between 2006-2011 as described in the table below:

Trail Name	Trail Type	Section	Length (Feet)	Length (Miles)	Completion Date
North Bentonville Trail	Shared Use Trail	Dog Park to NE A Street	15,840	3.00	2006
E Central Sidewalk / Heritage Trail	Pedestrian Connector	F Street to J Street	1,387	0.26	2006
Tiger Trail	Sidepath	J Street to McCollum Rd	3,487	0.66	2006
Town Branch Trail	Shared Use Trail	Central Ave to J Street	4,022	0.76	2007
Memorial Park Fitness Trail	Shared Use Trail - Fitness Loop	Perimeter of Memorial Park	5,280	1.00	2007
John De Shields Trail	Sidepath	NE J St to NE S Street	5,150	0.98	2007
Slaughter Pen Trail - Phase I	Native Surface Trail - Mountain Biking	North side of N Bentonville Trail			2007
NE J Street	Sidepath	Tiger Blvd to John de Shields Blvd	6,494	1.23	2008
Slaughter Pen Trail - Phase II	Native Surface Trail - Mountain Biking	East side of NE A Street, north of Tiger			2008
SW I Street / Heritage Trail	Sidepath	I Street, between Walmart and Hwy 102	3,146	0.60	2008
NW A St Sidewalks	Pedestrian Connector	Top of hill to N Bentonville Trail	1,430	0.27	2008
Slaughter Pen Trail - Phase III / All Ar	Native Surface Trail - Mountain Biking	W side of NE A Street, south of Tiger			2009
Sugar Creek/ TJ SRtS Trail	Shared Use Trail	Behind Sugar Creek, TJ and Washington JR	4,187	0.79	2009
Apple Glen/Washington SRtS Trail	Sidepath	Around Apple Glenn and Washington Jr High			2009
McKissic Creek Trail	Shared Use Trail	Lake Bella Vista Trail to Hwy 71	3,296	0.62	2009
Crystal Bridges Trail	Shared Use Trail	NE A Street to Compton Gardens	5,280	1.00	2009
Burns Trail	Native Surface Trail - Hiking	In Park Springs Park	3,960	0.75	2010
NWACC/ISD	Shared Use Trail	Walmart ISD to NWACC	1,263	0.24	2011 - under const.
NE A Street Connection	Sidepath	Tiger bridge to N Bentonville Trail	1,820	0.34	2011 under const
South Bentonville Trail / Medical Cer	Shared Use Trail / Sidepath	J St at 8th St, south to Riviera Rd			2011 under const
SW I Street / Heritage Trail	Sidepath	Hwy 102 to Community Center	10,560	2.00	2011 under const
TOTAL			**76,602**	**14.51**	

Rogers completed a total of 10.87 Miles between 2006-2011 as described in the table below:

Completion Year	Location	Length (Feet)	Length (Miles)
2006	Rogers High School	4,168	0.79
	Turtle Creek (boardwalk to Sam's Club)	8,257	1.56
2007	Turtle Creek (boardwalk to Olive Street)	2,564	0.49
	Oakdale School to Olive Street & 13th Street	3,455	0.65
	Olive Garden	573	0.11
	Mercy Hospital: Rife Medical Lane to New Hope Road	1,176	0.22
2008	Walnut Street to Olive Street and to 24th Street	4,755	0.90
	Adult Wellness Center	660	0.13
	Peaks Subdivision	900	0.17
	Church at the Pinnacle Hills	1,750	0.33
	Red Lobster	311	0.06
2009	Home Depot to Promenade Boulevard	1,700	0.32
	City Property "below" hospital	1,050	0.20
	Turtle Creek Connector	150	0.03
	Rogers Industrial Development Corporation	3,019	0.57
	Horsebarn Road: south line of Metro Park North to city limits	2,800	0.53
	Horsebarn Road: Stoney Brook Road to Metro Park North	2,700	0.51
	Mercy Hospital remainder	1,813	0.34
	Great Northwest Development property	1,192	0.23
2010	Horsebarn Trailhead: lighted parking lot, trail bridge, park, rain garden, playground, restrooms, picnic tables, benches	400	0.08
	Immanuel Baptist Church (gravel only)	3,600	0.68
	South 26th Street; from 2006 Bond money	7,060	1.34
	West Pleasant Grove Road	2,060	0.39
	Promenade Trail Bridge (I-540 Exit 82)	180	0.03
2011	Horsebarn Road trail (doctors); from 2006 Bond money	500	0.09
	BW 8W (under I-540 at Lindsey apartment complex)	600	0.11
TOTALS		**57,393**	**10.87**

Fayetteville completed a total of 14.64 Miles between 2006-2011 as described in the table below:

Trail Name	Trail Section	Length (Feet)	Length (Miles)	Completion Date
Clabber Creek Trail	Rupple Road to West City Limit line	3,427	0.65	May 16th 2007
Davis Park Trail	Dartmouth toward the Dog Park - Phase I	1,022	0.19	October 14th, 2010
	Center Street to Spring Street	900	0.17	Aug, 24 2006
	Scull Creek Trail to Maple Street	1,511	0.29	October 18th, 2008
	Maple to Spring Street	2,151	0.41	October 15th, 2010
Hamestring Creek Trail	Wildwood Park	3,263	0.62	Dec-07
Happy Hollow Trail	Timber Trails Subdivision - Built by Barber Group	796	0.15	2006
	North Shore to Environmental Study Center	5,079	0.96	Spring 2006
	Environmental Study Center to Hwy 265	6,442	1.22	September 5th 2007
	Hwy 265 through BGSO to Tyson Prop. Corner	8,349	1.58	December 31st 2009
Mud Creek Trail	Steele Boulevard to Scull Creek Trail	1,351	0.26	October 18th 2008
	Old Missouri Road to Sweetbriar	1,050	0.20	April 30th 2010
Shiloh Trail	Hwy 112 to Moore Lane - Built by Collins Haynes	3,937	0.75	2006
	Holiday Inn Express - Built by Hilton	412	0.08	Spring 2009
	Mountain Ranch - Built by Developer - Paid by Parks	1,812	0.34	Spring 2009
	Villas at Shiloh - Built by Triton Homes	855	0.16	Fall 2008
Scull Creek Trail	Frisco Trail to North Street	1,731	0.33	October 18th, 2008
	North St. to Poplar St.	4,857	0.92	July 17th, 2008
	Poplar St. to Gordon Long Parking Lot	5,917	1.12	January 16th 2008
	Gordon Long Parking Lot to middle of Fulbright Tunnel	4,262	0.81	December 14th 2006
	Fulbright Tunnel to Mud Creek Trail	3,960	0.75	October 17th 2008
St. Paul Trail	Morningside to Armstrong	4,118	0.78	Spring 2006
	Beechwood to Razorback Road - Includes Bridge	1,174	0.22	April 4th 2007
Tsa La Gi Trail	Hill Avenue west to Railroad Bridge	832	0.16	Jul-09
Pinnacle Prairie Trail	12th Street to Hill Place Development	800	0.15	Sept.-09
Walker Park Trail	15th Street to School Ave.	6,852	1.30	2004
	13th south to the restrooms	432	0.08	Dec-09
TOTALS		**77,292**	**14.64**	

3. AHTD POLICIES

a. Bicycle Facility Accommodation Policy

1. Accommodation of bicycles will be given due consideration when a proposed highway project is on a route that has been designated as a bicycle route by a locally adopted bicycle plan or master street plan and the Department concurs that the route should be a designated bicycle route. Coordination with local jurisdictions may be necessary to determine the recommended accommodations.

2. Bicycle accommodations on routes that have not been designated as bicycle rotes by a locally adopted bicycle plan or a master street plan will be considered if the local jurisdiction will provide the required additional funds.

3. When bicycle accommodations are to be made on routes with an open shoulder section, the paved shoulder will be used to accommodate bicycles. Shoulder widths shall conform to the widths recommended in the American Association of State Highway and Transportation Officials (AASHTO) Green Book.

4. When bicycle accommodations are to be made on routes with a curb and gutter section, the bicycle lane will be in accordance with recommendations in the AASHTO Guide for the Development of Bicycle Facilities. Generally, a bicycle lane width of 4 feet (measured from the lane edge to the edge of the gutter) will be considered.

5. If local or regional design standards specify bicycle facility widths greater than the standards noted above, the additional right-of-way and construction costs associated with the greater width shall be funded by the local jurisdiction that adopted the higher design standards.

6. Shared use paths (joint pedestrian/bicycle facilities separated from the roadway) are used primarily for recreational purposes, and as such will not normally be considered for bicycle accommodation on the Federal highway system. Exceptions will be considered when the local jurisdiction specifically requests the shared use path. In such cases, the minimum shared use path width shall be 10 feet and the local jurisdiction shall bear any additional right-of-way and construction costs required for the shared use path and shall assume all future maintenance of the facility.

b. Sidewalk Policy

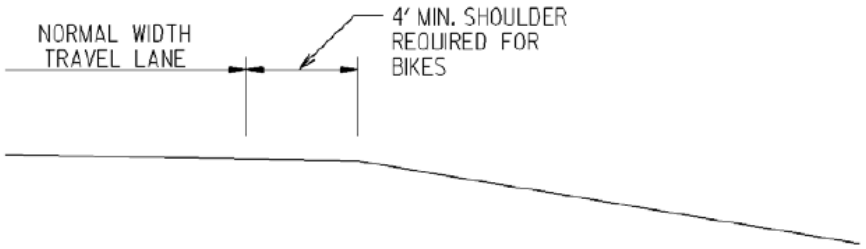
1. When curb and gutter sections are proposed along a highway with existing sidewalks, the sidewalks will be replaced in accordance with this policy.

2. When curb and gutter sections are proposed along a highway with no existing sidewalks, sidewalks will be constructed on both sides of the roadway in developed areas. In undeveloped areas, sidewalks will be considered on one side of the roadway unless evidence of pedestrian traffic warrants sidewalks on both sides of the roadway.

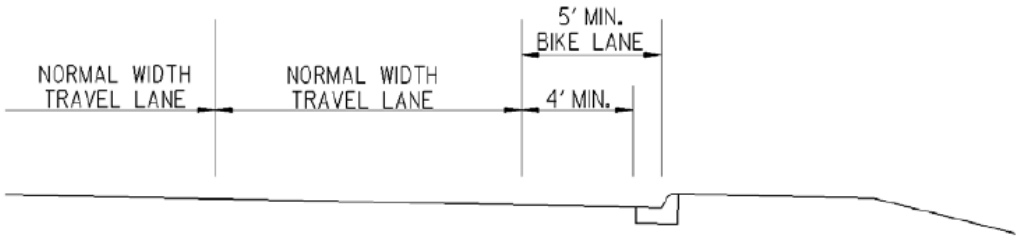
3. All sidewalk construction will conform to the latest edition of *the Americans with Disabilities Act Accessibility Guidelines* (ADAAG).

4. The minimum sidewalk width will be 5 feet, and the minimum offset from the back of the curb to the sidewalk edge will be 3 feet. No obstructions (mailboxes, signs, etc.) will be allowed in the sidewalk. The minimum vertical clearance to the bottom of any obstruction overhanging the sidewalk will be 80 inches.

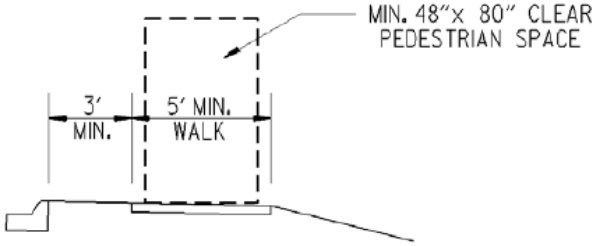
5. If local or regional design standards specify pedestrian facility widths greater than the standards shown above, the additional right-of-way and construction costs associated with the greater width will normally be funded by the local jurisdiction that adopted the higher design standards.



SHOULDER WIDTH DETAILS



BIKE LANE DETAILS



SIDEWALK DETAILS

4. FUNDING ALTERNATIVES

A variety of funding sources are available for bicycle and pedestrian facilities. The following are excerpts from a summary by the U.S. Department of Transportation addressing bicycle and pedestrian funding sources:

Bicycle and pedestrian projects are broadly eligible for funding from almost all the major Federal-aid highway, transit, safety, and other programs. Bicycle projects must be "principally for transportation, rather than recreation, purposes" and must be designed and located pursuant to the transportation plans required of states and MPOs.

a. Federal Aid Highway Programs

National Highway System funds may be used to construct bicycle transportation facilities and pedestrian walkways on land adjacent to any highway on the National Highway System, including Interstate highways.

Surface Transportation Program (STP) funds may be used for either the construction of bicycle transportation facilities and pedestrian walkways, or non-construction projects (such as maps, brochures, and public service announcements) related to safe bicycle use and walking.

Ten percent of each state's annual STP funds are set-aside for **Transportation Enhancement Activities.** The law provides a specific list of activities that are eligible enhancement activities and this includes "provision of facilities for pedestrians and bicycles, provision of safety and educational activities for pedestrians and bicyclists, and the "preservation of abandoned railway corridors (including the conversion and use thereof for pedestrian and bicycle trails)."

Hazard Elimination and Railway-Highway Crossing Programs addresses bicycle and pedestrian safety issues. Each state is required to implement a Hazard Elimination Program to identify and correct locations that may constitute a danger to motorists, bicyclists, and pedestrians. Funds may be used for activities including a survey of hazardous locations and for projects on any publicly owned bicycle or pedestrian pathway or trail, or any safety-related traffic calming measure. Improvements to railway-highway crossings "shall take into account bicycle safety."

Recreational Trails Program funds may be used for all kinds of trail projects. Of the funds apportioned to a state, 30 percent must be used for motorized trail uses, 30 percent for nonmotorized trail uses, and 40 percent for diverse trail uses (any combination).

National Scenic Byways Program funds may be used for "construction along a scenic byway of a facility for pedestrians and bicyclists."

High Priority Projects and Designated Transportation Enhancement Activities include numerous bicycle, pedestrian, trails, and traffic calming projects in communities throughout the country.

b. Federal Transit Program

Title 49 U.S.C. allows those FTA formula and discretionary programs providing capital assistance to be used for bicycle projects designed for transportation purposes within a three-mile radius of transit service. Typically, bicycle projects designed for recreational purposes are not allowed.

Job Access and Reverse Commute Grants are available to support projects, including bicycle-related services, designed to transport welfare recipients and eligible low-income individuals to and from employment.

The **Transit Enhancement Activity** program with a one percent set-aside of Urbanized Area Formula Grants funds designated for, among other things, pedestrian access and walkways, and "bicycle access, including bicycle storage facilities and installing equipment for transporting bicycles on mass transportation vehicles".

c. Highway Safety Programs

Pedestrian and bicyclist safety remain priority areas for **State and Community Highway Safety Grants** funded by the Section 402 formula grant program. A state is eligible for these grants by submitting a Performance Plan (establishing goals and performance measures for improving highway safety) and a Highway Safety Plan (describing Activities to achieve those goals).

Research, development, demonstrations and training to improve highway safety (including bicycle and pedestrian safety) is carried out under the Highway Safety Research and Development (Section 403) program.

d. Federal/State Matching Requirements

In general, the Federal share of the costs of transportation projects is 80 percent with a 20 percent state or local match. However, there are a number of exceptions to this rule.

- Federal Lands Highway projects and Section 402 Highway Safety funds are 100 percent federally funded.
- Bicycle-related Transit Enhancement Activities are 95 percent federally funded.
- Hazard elimination projects are 90 percent federally funded. Bicycle-related transit projects (other than Transit Enhancement Activities) may be up to 90 percent federally funded.
- Individual Transportation Enhancement Activity projects under the STP can have a match higher or lower than 80 percent. However, the overall Federal share of each state's Transportation Enhancement Program must be 80 percent.
- States with higher percentages of Federal Lands have higher Federal shares calculated in proportion to their percentage of Federal lands.
- The Federal and/or local funds used to match Federal-aid highway projects may include in-kind contributions (such as donation). In some cases, funds from other Federal programs may also be used to match Transportation Enhancement, Scenic Byways, Transit, and Recreational Trails program funds. A Federal agency project sponsor may provide matching funds to Recreational Trails funds provided the Federal share does not exceed 95 percent.

2) INTERMODAL FACILITIES/FREIGHT

1. Intermodal Transport

One of the Regional Transportation Goals of the 2035 Northwest Arkansas Regional Transportation Plan states the need to:

1. Promote connections between transportation modes that support efficient movement of goods and freight.

2. Encourage improvements that facilitate the efficient movement of freight and enhance regional and global competitiveness.

3. Encourage cooperative planning with other Transportation districts to insure regional goals.

Connections facilitating the transfer between modes of both people and goods are the essential elements of the intermodal concept.

2. Motor Freight

Northwest Arkansas is the home to several major trucking companies such as J.B. Hunt and Willis Shaw. Large retailers also include Wal-Mart and Tyson. Freight movement is essential to the economy of Northwest Arkansas and the transportation infrastructure will need to accommodate the movement of goods in and out of the region. The AHTD conducted a freight survey to gather data for the developing travel demand model. This information will aid future plan updates to address the needs of the motor freight industry.

3. Rail

The Northwest Arkansas region is served by two railroads: The Arkansas and Missouri Railroad and the Kansas City Southern. AHTD conducted a route study to examine a possible route linking the Kansas City Southern line to the XNA Airport.

4. Airports

The area is served by one regional airport: Northwest Arkansas Regional Airport, located in Highfill, and five municipal airports located in Fayetteville, Springdale, Rogers, Bentonville and Siloam Springs.

The Northwest Arkansas Regional Airport (XNA)

In the late 1990s a regional airport was established. XNA, located in Highfill, is the major commercial airport serving the region. XNA opened for commercial passenger business on November 1, 1998. The geographic terrain where the airport is located provides facilities for regional and larger jet aircraft to operate.

The Northwest Arkansas Regional Airport Authority operates the airport. NWARAA is comprised of five cities and two counties. The cities, Bentonville, Fayetteville, Rogers, Siloam Springs and Springdale each appoint two members to the Board of Directors, as do Benton and Washington County. The Board of Directors mission is to build, operate and maintain the runways, structures, roadways, staff and finances required to operate a modern aviation facility.

The site of the airport is centrally located within close proximity to all the communities of Northwest Arkansas while also being far enough away from populated areas so as to minimize any adverse impact from aircraft operations. The access to the new airport is provided from I-540 on Highway 264 at the Lowell exit and from Bentonville on Highway 12.

The Authority is working with the AHTD on a new, direct access from the I-540 to the airport. In an effort to expedite construction of the new access road, the Authority is exploring the issuance of bonds to cover the cost of construction and the local match for the Federal grant. The bonds would be repaid with funds received from the Federal appropriation and the collection of a toll for traffic using the access road. This "Airport Access Road" is an essential component of the regional transportation network. With the February 2006 Federal Record of Decision regarding the route of the Highway 412 Northern Bypass.

D. TRANSIT

1. Introduction

Public Transit systems are also included in the 2035 Northwest Arkansas Regional Transportation Plan. Public and private transit facilities will make the region more accessible to those who have no means of transportation. This includes the young, elderly, disabled, low-income and all others without means of personal transportation, or simply those who do not wish to drive a private vehicle. Transit can serve more people while causing less environmental impact and traffic congestion. As it reduces dependence upon the automobile, it also increases job opportunities to those without automobiles. Transit options can provide safe routes to work, school, medical appointments and shopping.

- Northwest Arkansas and the NARTS area have several transit programs including Ozark Regional Transit (ORT), Razorback Transit and the City Taxi/Bus Transit Program (formerly known as the Elderly Taxi Program). Clearly, with an increasing population base that needs transit as an effective means to travel to and from work and play, it is imperative that the region takes the necessary steps to effectively meet the needs of area citizens.

- Funding identified specifically for public transit in the Estimated Funds Available for Long Range Planning supplied by AHTD consists of Section 5307 funds at an annual rate of $2,227,000 for

the years 2010 through 2012. Funding levels after 2012 are uncertain due to the likelihood of the Northwest Arkansas area becoming a Transportation Management Area (TMA) based on the population of the Urbanized Area. This will change the Section 5307 funding status for the area. In addition, funding amounts will likely be impacted by future Federal transportation acts. Under current law Section 5307 funds are not available for transit operating costs for TMAs. Therefore, funding estimates for the 5307 programs reflect two major assumptions. First, all Section 5307 funds will be available only for capital projects. Second, Ozark Transit and Razorback Transit will continue to provide some level of transit service – at the same funding level as the year 2010. The region leaders are contemplating a general vote for a transportation sales tax. It is uncertain if this tax will pass therefore these revenues are not included. If this tax is passed, the systems will be able to develop their transit programs as described in the sections below.

- Figure V.D.1 presents estimated funding levels provided by AHTD.

Funding Mark Projections Ozark Regional Transit, Razorback Transit and other Statewide Transit Programs (in millions)

	Capital 5307	**Operating 5307 ***	**Admin/Op 5311**	**Summary 5309** (Statewide)	**Summary 5310** (Statewide)	**Summary 5316** (Statewide)	**Summary 5317** (Statewide)
2011-2013				$9.000	$5.682	$4.237	$1.771
ORT	$1.568	$4.965	$0.451				
RT	$1.283	$4.063					
2014-2015				$6.000	$4.127	$3.077	$1.286
ORT	$3.315	$3.433	$0.302				
RT	$2.713	$2.809					
2016-2020				$15.000	$11.651	$8.687	$3.632
ORT	$9.359	$8.628	$0.758				
RT	$7.657	$7.059					
2021-2035				$45.000	$49.792	$37.123	$15.520
ORT	$39.996	$26.275	$2.308				
RT	$32.724	$21.498					

* Beginning with FY 2014 all operating funds are local amounts with no Federal participation.

ORT = Ozark Regional Transit; RT = Razorback Transit

Explanation of Federal Transit Administration Funding Programs:

5307	Urbanized Area Formula Program
5309	Capital Program
5310	Elderly and Persons with Disabilities Program
5311	Non-urbanized Area Formula Program
5316	Job Access Reverse Commute
5317	New Freedom

Figure V.D.1

2. Transit Programs Overview

The following is a summary of federal transit programs whereby the region's transit providers may obtain transit funds. Those marked with an asterisk are the most commonly requested funding programs.

SAFETEA-LU authorizes transit programs, with funding coming from both the Mass Transit Account of the Highway Trust Fund and the General Fund.

- **The Statewide Planning and Metropolitan Planning Program, Sections 5303/5304.** These programs provide planning assistance to areas designated as urbanized areas with populations over 50,000 persons. There are currently eight areas eligible for assistance: Little Rock, Jonesboro, Fort Smith, Pine Bluff, Texarkana, Hot Springs, Fayetteville/Springdale, and West Memphis. This program is allocated $1,600,000 annually.

- **The Urbanized Area Program, Section 5307.** This program provides capital and operating assistance to areas with populations over 50,000 persons and under 200,000 persons. These funds are for systems that are open to the public and may support fixed route and demand response systems. There are currently seven urbanized transit systems in Arkansas: Fort Smith Public Transit, Fort Smith; Hot Springs Transit, Hot Springs; Jonesboro Economic Transportation System, Jonesboro, Ozark Regional Transit Authority, Springdale; Pine Bluff Transit, Pine Bluff, and Razorback Transit, Fayetteville. Texarkana Urban Transit District receives funds allocated for Arkansas through the Texas Department of Transportation. This program is allocated $2,200,000 annually based on population and population density.

- **The Clean Fuels Formula Grant Program, Section 5308.** This program supports the global warming initiative by providing an opportunity to accelerate the introduction of advanced bus propulsion technologies into the mainstream of the Nation's transit fleets. Eligible projects include the purchasing or leasing of clean fuel buses and facilities, and the improvement of existing facilities to accommodate clean fuel buses. Clean fuel buses include those powered by compressed natural gas, liquefied natural gas, biodiesel fuels, batteries, alcohol-based fuels, hybrid electric, fuel cell, certain clean diesel, and other low or zero emissions technology. Available funds will be allocated among the eligible grant applications using a formula based on an area's non-attainment rating, number of buses, and bus passenger-miles.

- **The Discretionary Capital Assistance Program, Section 5309.** This program provides capital assistance to transportation agencies and systems for busses and bus related items. Seven rural systems, eight urban systems, and two hundred and thirty public and private human service providers rely on this program for replacement and expansion of their rolling stock fleets. This program requires monitoring inventories, preventative maintenance, and use of capital.

- **The New Starts Program, Section 5309.** The New Starts Program provides funds for construction of new fixed guideway systems or extensions to existing fixed guideway systems. The Small Starts program provides funds to capital projects that either (a) meet the definition of a fixed guideway for at least 50 percent of the project length in the peak period or (b) are corridor-based bus projects with 10 minute peak/15 minute off-peak headways or better while

operating at least 14 hours per weekday. The Federal assistance provided or to be provided under Section 5309 must be less than $75 million and the project must have a total capital cost of less than $250 million, both in year of expenditure dollars.

- **The Elderly and Persons with Disabilities Program, Section 5310.** This program provides capital assistance grants to private nonprofit and public organizations that provide transportation. This assistance primarily consists of purchasing rolling stock and specialized equipment to transport elderly persons and persons with disabilities. This is a statewide program that is allocated $1,300,000 yearly. The Public Transportation Section determines the eligibility of applicant organizations and orders rolling stock and equipment according to the organizations' needs.

- **The Rural & Small Urban Area Program, Section 5311.** This program provides capital, operating, and administration assistance to areas with populations under 50,000 persons. These funds are for transit systems that are open to the public and may support fixed route or demand response systems. There are currently seven rural public transit systems in Arkansas: Black River Area Development (BRAD) Transit, Pocahontas; Mid-Delta Transit System, Helena-West Helena; North Arkansas Transit System (NATS), Harrison; Ozark Regional Transit Authority, Springdale; South Central Arkansas Transit (SCAT), Malvern; Southeast Arkansas Transit (SEAT), Pine Bluff; and Eureka Springs Transit, Eureka Springs. This program is allocated $8,800,000 annually.

- **The Job Access Reverse Commute Program, Section 5316**. This program provides planning, operating and capital assistance to projects that assist access to employment. Funds are available for projects in large urbanized, small urbanized, and rural areas. Requirements include that a project be derived from a local human service public transportation coordination plan. This program is allocated $1,400,000 annually.

- **The New Freedom Program, Section 5317.** This program provides funding assistance for projects that go beyond the Americans with Disabilities Act and were proposed after August, 2005. Funds are available for projects in large urbanized, small urbanized, and rural areas. Requirements include that a project be derived from a local human service public transportation coordination plan. This program is allocated $800,000 annually.

- **The Alternatives Analysis Program, Section 5339.** This program assist in financing the evaluation of all reasonable modal and multimodal alternatives and general alignment options for identified transportation needs in a particular, broadly defined travel corridor. Funds may be used to assist State and local governmental authorities in conducting alternatives analyses when at least one of the alternatives is a new fixed guideway system or extensions to an existing fixed guideway system.

- **The Over-the-Road Bus Accessibility Program Incentive, SAFETEA-LU Section 3039.** This program provides for over-the-road bus service. The purpose of the funding is to help public and private operators finance the incremental capital and training costs of complying with the DOT's final rule on accessibility of over-the-road buses. Funding may be used for intercity fixed-route over-the-road bus service and other over-the-road service such as local fixed route and

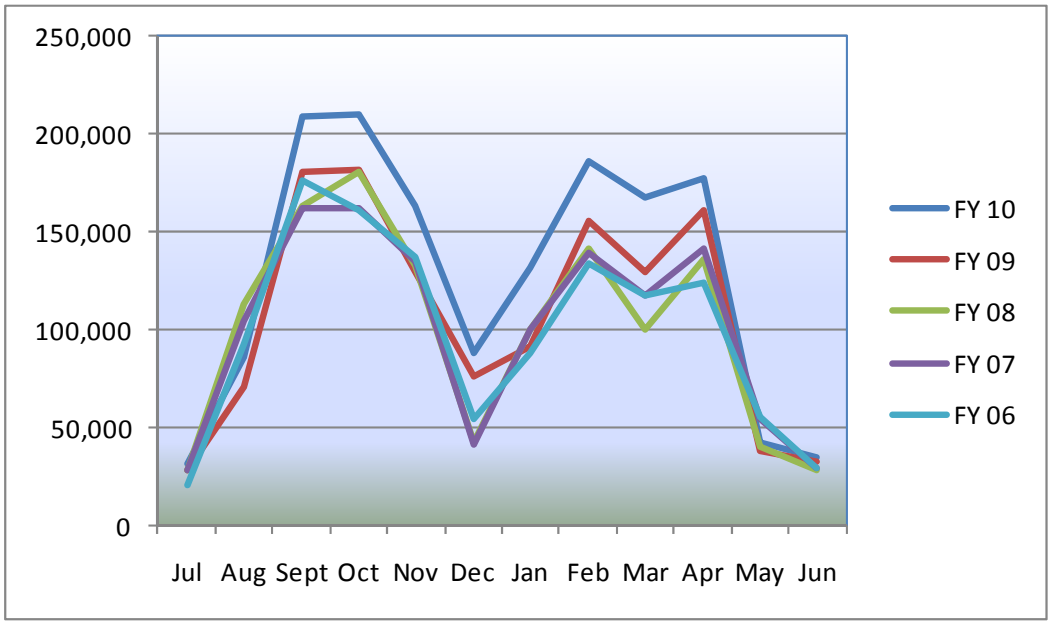
commuter service. The Secretary will allocate available funding through a competitive grant selection process.

3. Razorback Transit / University of Arkansas

Razorback Transit originated in 1989, through the joint efforts of the University of Arkansas - Fayetteville (UA), the Arkansas State Highways and Transportation Department (AHTD) and the Metropolitan Planning Organization (MPO) of Northwest Arkansas. The nucleus for public transit in Fayetteville was a well developed and highly effective University of Arkansas Transit System established in 1979. In July 1990, UA / Razorback Transit became a directly operated public transit system with AHTD as recipient and administrator of Federal transit grants. In July 2004, Razorback Transit became a direct recipient of Federal Transportation Administration (FTA) funds.

Razorback Transit provides fare-free transportation to on-campus locations and major off-campus living and shopping areas in the City of Fayetteville. Sixteen full size (40 foot long, 102" wide) buses are operated from 7:00 a.m. to 6:00 p.m., Monday through Friday on eleven fixed routes during the fall and spring semesters (mid-August to mid-May) and reduced service is also provided on four combined routes when school is in session from 6:00 p.m. until 10:00 p.m. Additionally, Saturday bus service on the four combined routes is provided during these same months from 7:00 a.m. until 10:00 p.m. During summer and Christmas breaks, four combined routes are operated from 7:00 a.m. until 6:00 p.m. Figure RZBK 1 shows the current full service routes and figure RZBK 2 shows the combined, after hours, Saturday and summer route alignment.

The following charts show ridership for Razorback Transit over the past five years.
Razorback Transit System Monthly Ridership (FY 2006 through FY 2010)



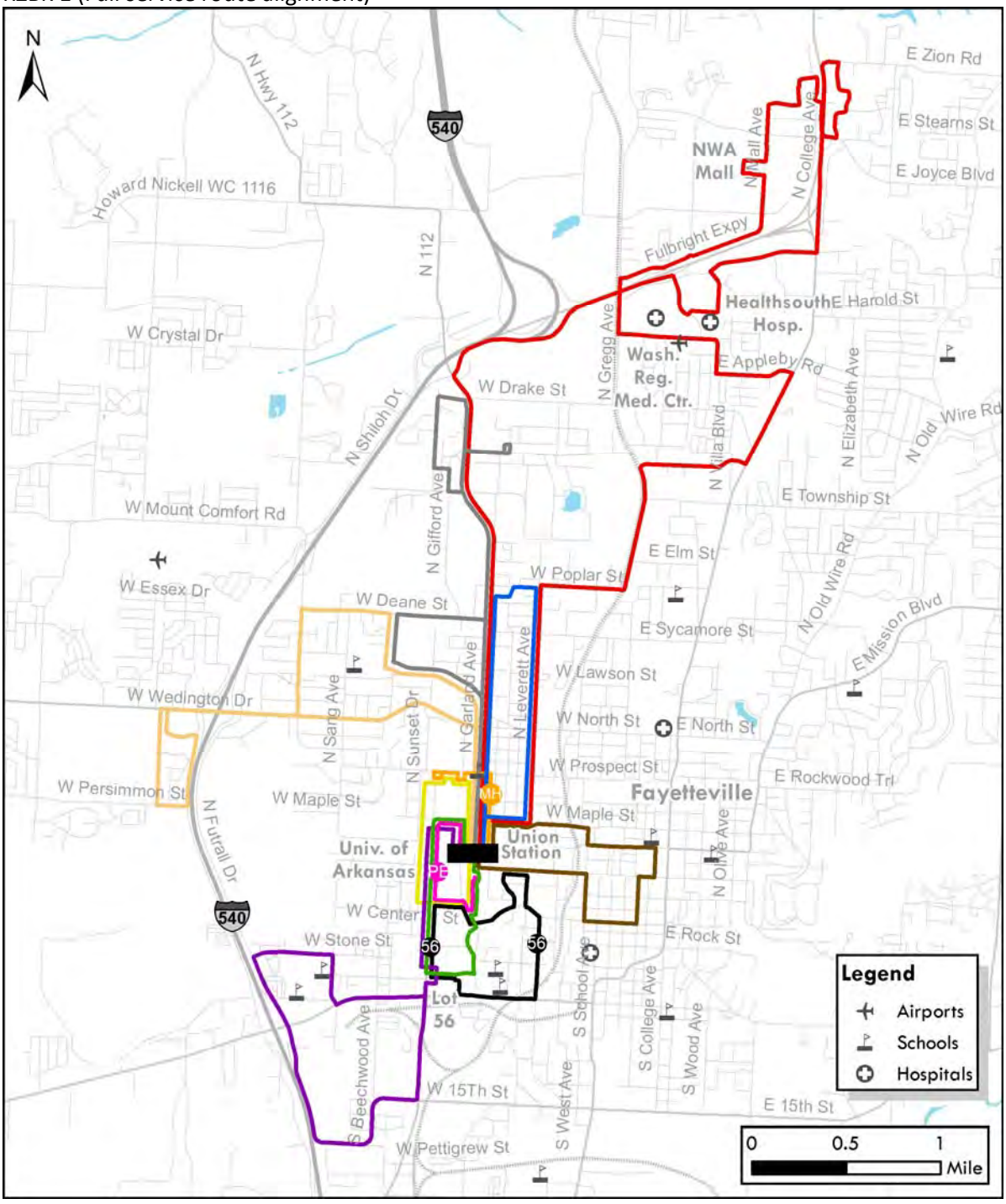
Annual fixed route ridership averaged 1.2 million from FY 2006 to FY 2009. In FY 2010, annual fixed route ridership increased to over 1.5 million. As shown in the above graph, September usually has the highest ridership in each year.

- FY 2009 fall average ridership was over 9,000, which is slightly higher than spring average ridership (almost 8,500).
- The Green and Blue routes have the highest ridership of all Razorback Transit routes, and account for about one half of all Razorback transit ridership.
- Weekday evening ridership averages about 400 passengers, with the Blue Reduced route typically having the highest ridership in the evenings.
- Saturday ridership averages about 1,000 riders, with the Red Route having the highest ridership of the four Saturday routes.
- In the summer, ridership averages over 1,500 passengers per day.

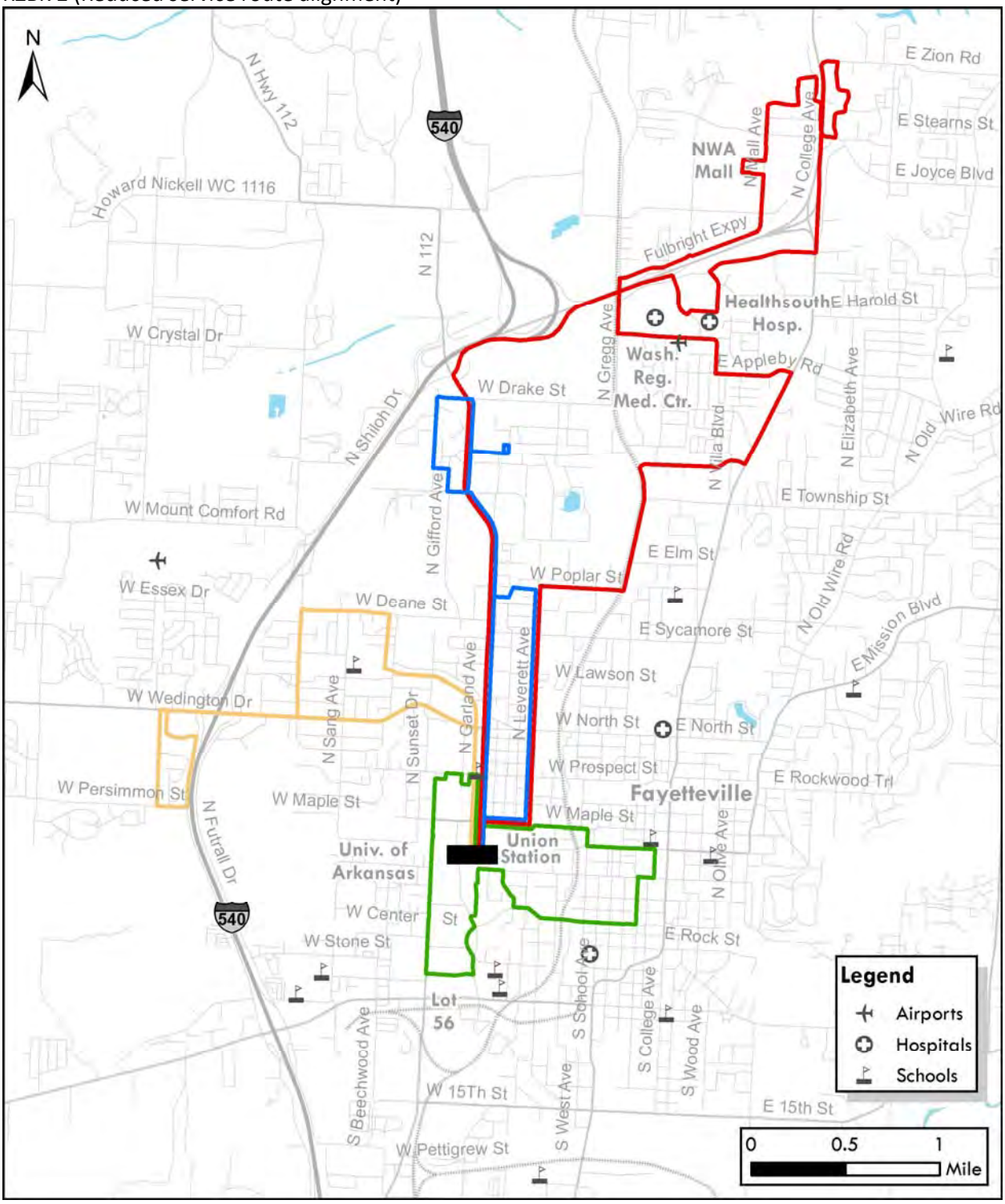
The Northwest Arkansas Transit Development Plan, authorized by Northwest Arkansas Regional Planning Commission (NWARPC) and AHTD, presented by the Connetics Group in the fourth quarter of 2010, recommended several improvements to Razorback's service. In the near term (1-2 years), which assumes a modest amount of growth to accommodate existing overloads and peak crowding conditions, some route streamlining is advised to provide more direct travel to areas where service is in highest demand. With these modest gains, much of the current route structures are maintained but to address the routes with crowding conditions, one route would be eliminated due to poor performance (Maple Hill) and a new route created (Bronze) to shift service from low demand to high. Two other routes would see improvement to morning peak frequency to address chronic crowding. An effort to promote consistency between daytime and evening service structure is also applied. See "Razorback Transit Routes, Near Term."

Short term improvements (3-5 years) are reflected by restructuring Ozark Regional Transit routes to begin to handle more of the general public's demand in the city and allowing Razorback to focus more on routes that are traditionally patronized by students and university employees. Given the emphasis on Razorback Transit's core mission, all service modifications and improvements within this TDP are accomplished during the near-term and short-range planning horizons. Thus, Razorback Transit's Long-Range Service Plan (6-10 years) is identical to the short-range plan. However, improvements to coverage, frequency and service span are improved in the ORT Long-Range Plan, which greatly improves mobility options for students and City of Fayetteville area residents who reside near the university. See "Razorback Transit Routes, Long Term" for route alignment.

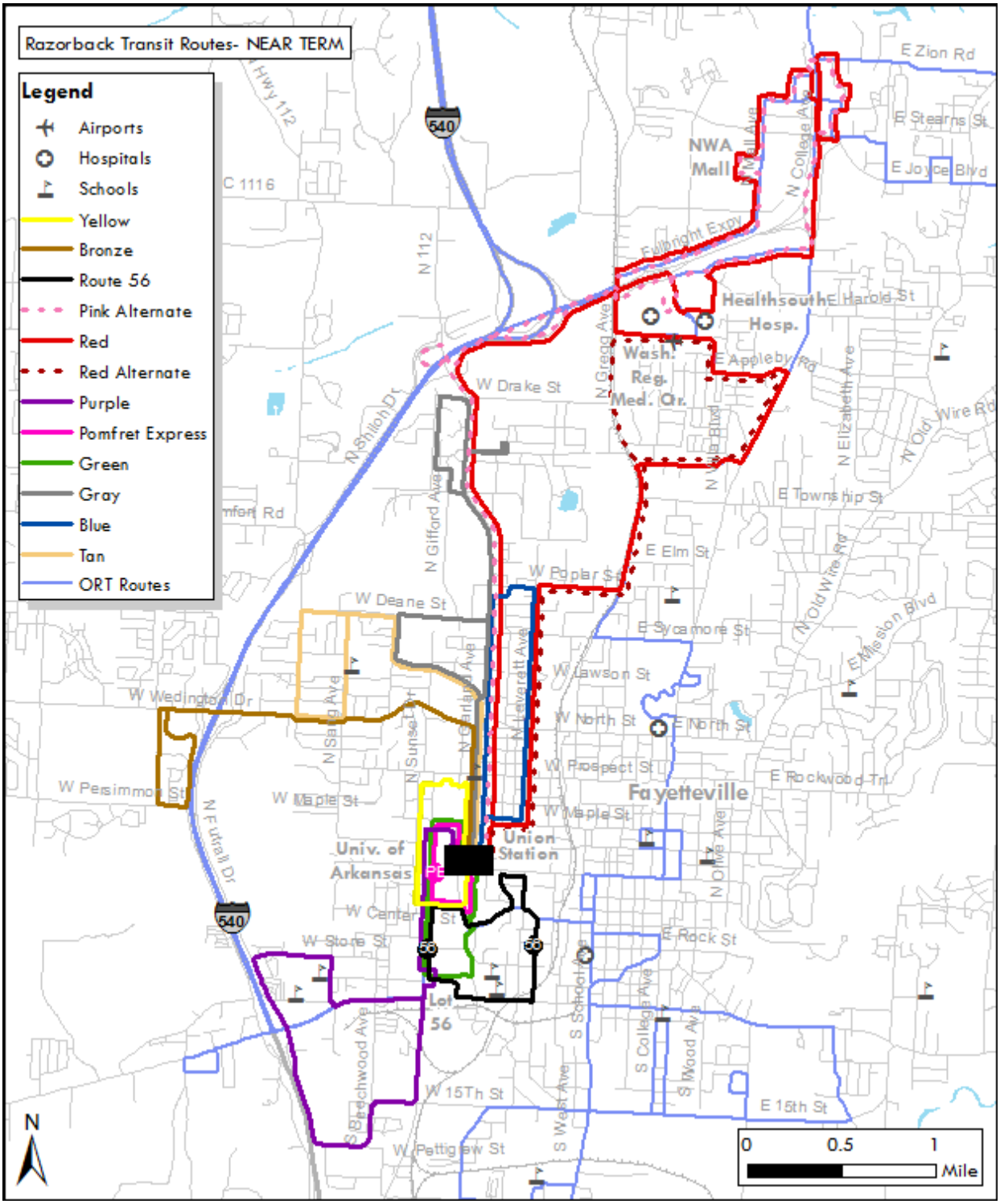
RZBK 1 (Full service route alignment)



RZBK 2 (Reduced service route alignment)



Razorback Transit Routes, Near Term



Razorback Transit's fixed route operating requirements in the near-term are nearly cost -neutral, which is consistent for the region and includes Ozark Regional Transit (ORT). The Transit Development Plan recommends restructuring service provided by the two transit systems. This restructuring allows Razorback Transit to focus on its core mission while ORT provides general public service throughout the region. The short-range plans represent signification growth for ORT with modest growth occurring at Razorback Transit. Likewise, the long-range plan identifies stronger growth in ORT's size while Razorback Transit remains fairly constant, with only modest growth. Operating requirements, including peak buses, annual hours and annual miles are described in the charts immediately following. The following charts reflect this growth pattern.

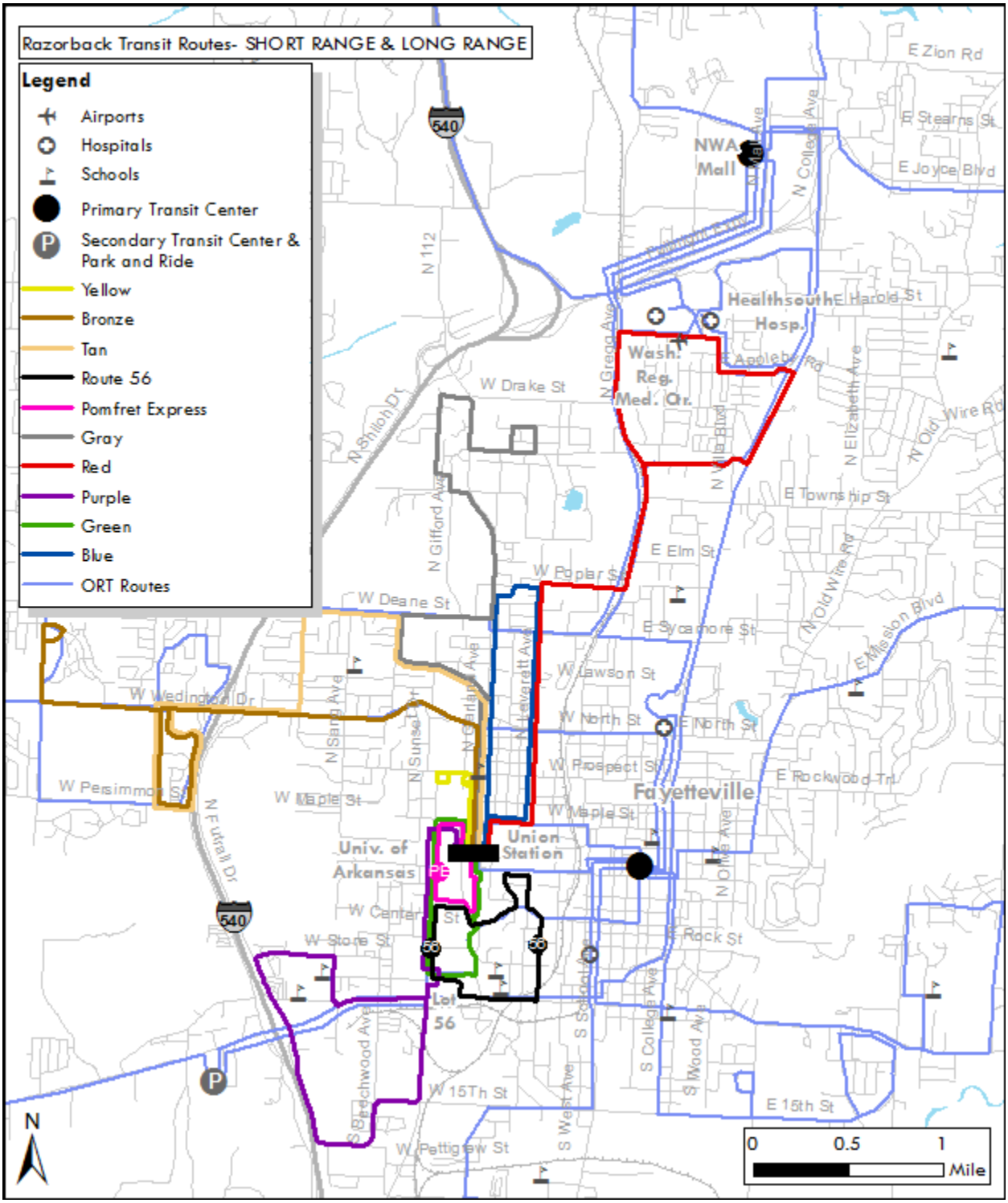
Razorback Transit – Current and Projected Fleet

	Current	Near-Term	Short-Range	Long-Range
35'& 40' Buses				
Peak Requirement	16	17	18	18
Total Fleet	21	21	22	22
Demand Response				
Fleet	6	6	6	6
TOTAL FLEET	27	27	28	28

Razorback Transit – Current and Projected Fixed-Route Operating Requirements

	Current	Near-Term	Short-Range	Long-Range
Peak Buses	16	17	18	18
Annual Hours	33,210	33,437	36,426	36,426
Annual Miles	378,622	378,909	394,997	394,997

Razorback Transit Routes Long Term



4. Ozark Regional Transit

Ozark Regional Transit (ORT) began operations in Northwest Arkansas in 1979 under the direction of Community Resources Group (CRG), a local non-profit organization. In 2001, CRG announced that they wanted to get out of the transportation business. At that time, the Mayors of Bentonville, Fayetteville, Springdale, and Rogers as well as the County Judges of Benton, Carroll, Madison and Washington formed a Board to take over the oversight of ORT. One of their first acts as a Board was to hire a professional transit management firm, and First Transit was hired to manage the system.

Prior to 2002, ORT provided only dial-a-ride services in this area, predominately to support the health and human services agencies. ORT received rural FTA funding starting in 1980. With the tremendous growth in Northwest Arkansas, in 1990, the Fayetteville/Springdale metropolitan area became an urbanized area and ORT began receiving FTA financial assistance for urbanized areas over 50,000 in population. In 2002, the urbanized area FTA funding increased from a total of $750K to $1.7M, which is currently split between ORT and Razorback Transit, which serves the University of Arkansas students. Currently, ORT receives funding from the FTA in rural and urban funding, a State rental car tax and the local match to FTA monies from the cities and counties it serves. This local funding has been relatively stable at $750,000 since 2008. With the anticipated increase of population in the 2010 U.S. Census, there will likely be a shift in FTA section 5307 funding from operations to maintenance funding about 2012-2013. This is approximately $750,000 annually, and the cities and counties involved in ORT do not have the resources to make up this loss. If the money is not replaced, then ORT will virtually cease operations, having only three vans each for Benton and Washington counties to serve the public. This would mean all fixed routes would cease existence; which in turn leave many economically disadvantaged users of transit without any form of transportation. This could result in a loss of state rental car tax as well in the amount of approximately $150,000, because of the elimination of the fixed routes.

ORT operates seven dial-a-ride routes in the Benton, Carroll, Madison, and Washington counties. In 2002, ORT began its first fixed route in south Fayetteville. In 2005, it began six new fixed routes, with two in Fayetteville, Rogers and Springdale, and one in Bentonville. At the time of this report, ORT operates ten fixed routes using twelve buses. There are three routes in Fayetteville, Springdale has four routes, one route each in Bentonville and Rogers, and an express route connecting the University of Arkansas in Fayetteville, with Springdale, Bentonville and Rogers and the Northwest Arkansas Community College (NWACC). Last year, (2010) ORT operated a total of 694,040 passenger miles. ORT carried 212,000 passengers on fixed routes with a total of 24,557 revenue hours, and 24,123 passengers on dial-a-ride services with a total of 9,538 revenue hours. The total revenue hours are 34,095. Ridership has grown over 350% over the last eight years on ORT's fixed routes. If ORT funding remains stable, ORT growth is expected to continue.

In 2009, Stimulus funding allowed ORT to add an additional bus to the NWACC express, and Saturday paratransit service to the four major cities. NWACC picked up the local match for the second express bus in 2010, and added the local match to add a cross-town bus in Springdale to connect their Elm Springs road campus to connect to the Jones Center. This partnership has exceeded expectations for both organizations, and both ORT and NWACC have experienced tremendous growth.

The Future of Ozark Regional Transit

ORT formed a strategic advisory board called "Advocates for Public Transit" (APT) in 2009. This group is made up of individuals from a cross section of representatives from businesses, health and human service agencies, Chamber of Commerce, and the Northwest Arkansas Community College to study the aforementioned issue of Federal funding changes due to the 2010 Census. The APT made a recommendation to the ORT Board in May of 2010 for a ¼ of 1% sales tax as a solution to this funding problem, placing it on the ballot before the end of 2011. The Board accepted this recommendation.

Route

The following sections represent recommendations for improving the ORT system as well as a vision for future bus transit services in Northwest Arkansas. These recommendations are included in the Northwest Arkansas Transit Development Plan (TDP) as prepared by the Connetics group. These sections are only a summary of the recommendations. More details are contained within the full document.

For Ozark Regional Transit (ORT), the Short-Range Service Plan represents an aggressive expansion in service hours based on the anticipated passage of a dedicated revenue stream for operations and capital. As such, the system undergoes a significant redesign. Regional routes that connect transfer points in Bentonville, Rogers, Springdale and Fayetteville are established. Local routes become far less circuitous, deferring to more direct corridor-oriented service. A modest number of new service areas are also established.

With this expansion in routes and services, also comes the establishment of transfer facilities, some of which will be expanded into Park & Rides in the Long-Range Plan. These facilities are outlined in the following maps along with the newly designed route alignments. These locations serve as regional hubs for local services to connect, often meeting with longer regional routes. There are two levels of facilities outlined within this service plan. Primary Transit Centers are typically larger and serve a more regional need. Their size range from eight to ten bays, depending on the anticipated number of routes served and vehicle arrivals and departures each hour. Primary Transit Centers are usually located at or near a regional destination for shopping or employment such as a college or shopping mall. Secondary Transit Centers (also referred to as Neighborhood Transfer Centers) are smaller in scale with three to six bays. They may often be co-located with local shopping, medical or some other popular destination whose draw isn't as distant. Either size transit center can be designed in a linear or loop configuration, depending on property availability. Park & Ride facilities may also be co-located with either size facility**.**

Type/Area

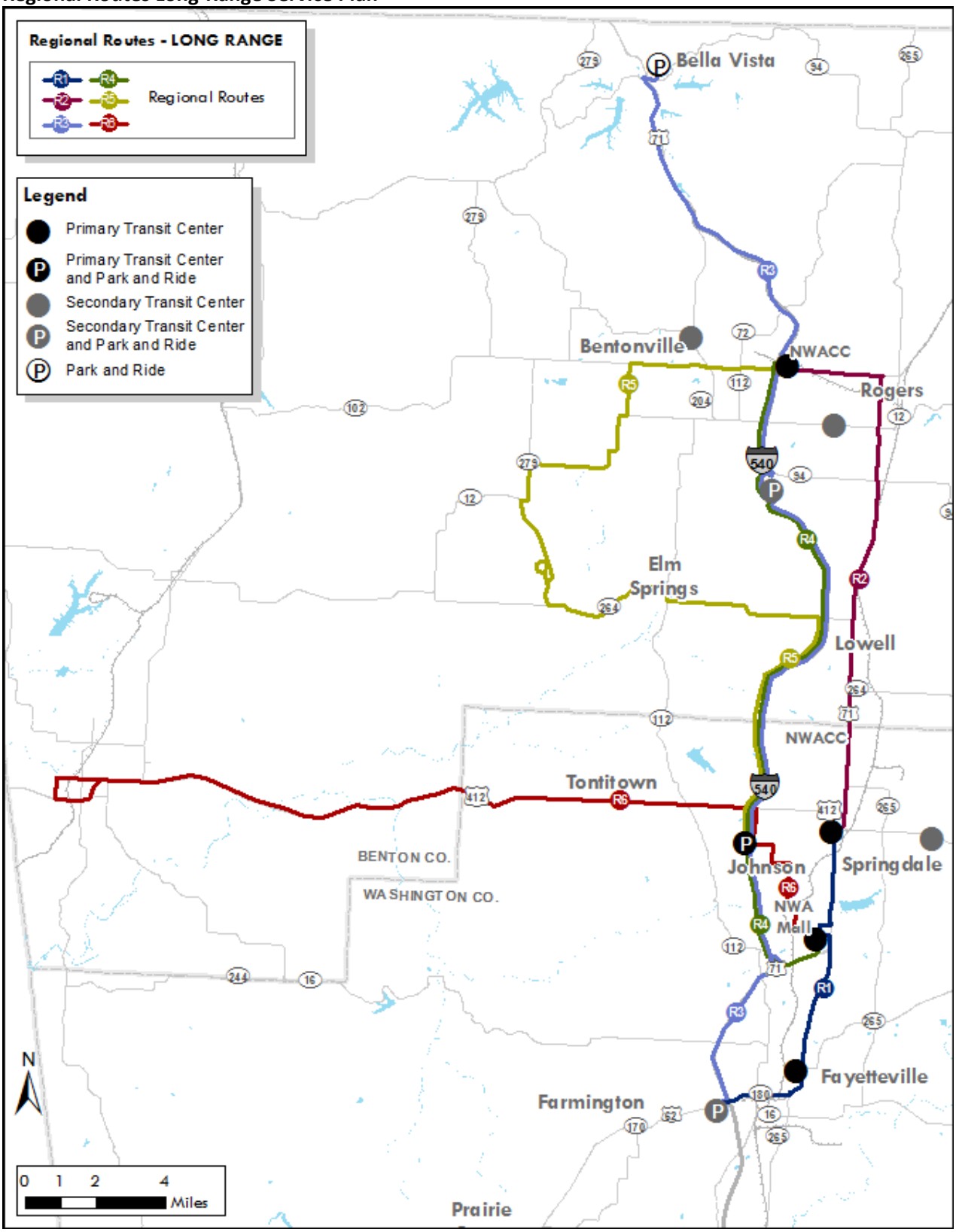
The Long-Range Service Plan builds upon the redesigned route network laid out in the short-range plan. Select routes with higher demand and productivity are identified for weekend service. Some also improve to 30-minute frequency on the weekdays. Two new service classifications are also added to ORT's repertoire. Flex zone service features on-demand zones that serve less densely populated areas. Each of these routes will be anchored at one of the transit centers but will have no specific routing. Instead, riders can call ahead (typically no less than two hours in advance) to schedule a pick-up.

Likewise, the return trip can be accommodated by informing the bus operator or prearranging the trip. Rural Connector service also serves more remote areas but operates during the peak hours only. These routes may or may not have a flex component but will likely serve a central point in the community that could be used for informal park & ride, such as a grocery, before continuing to one of the transit centers.

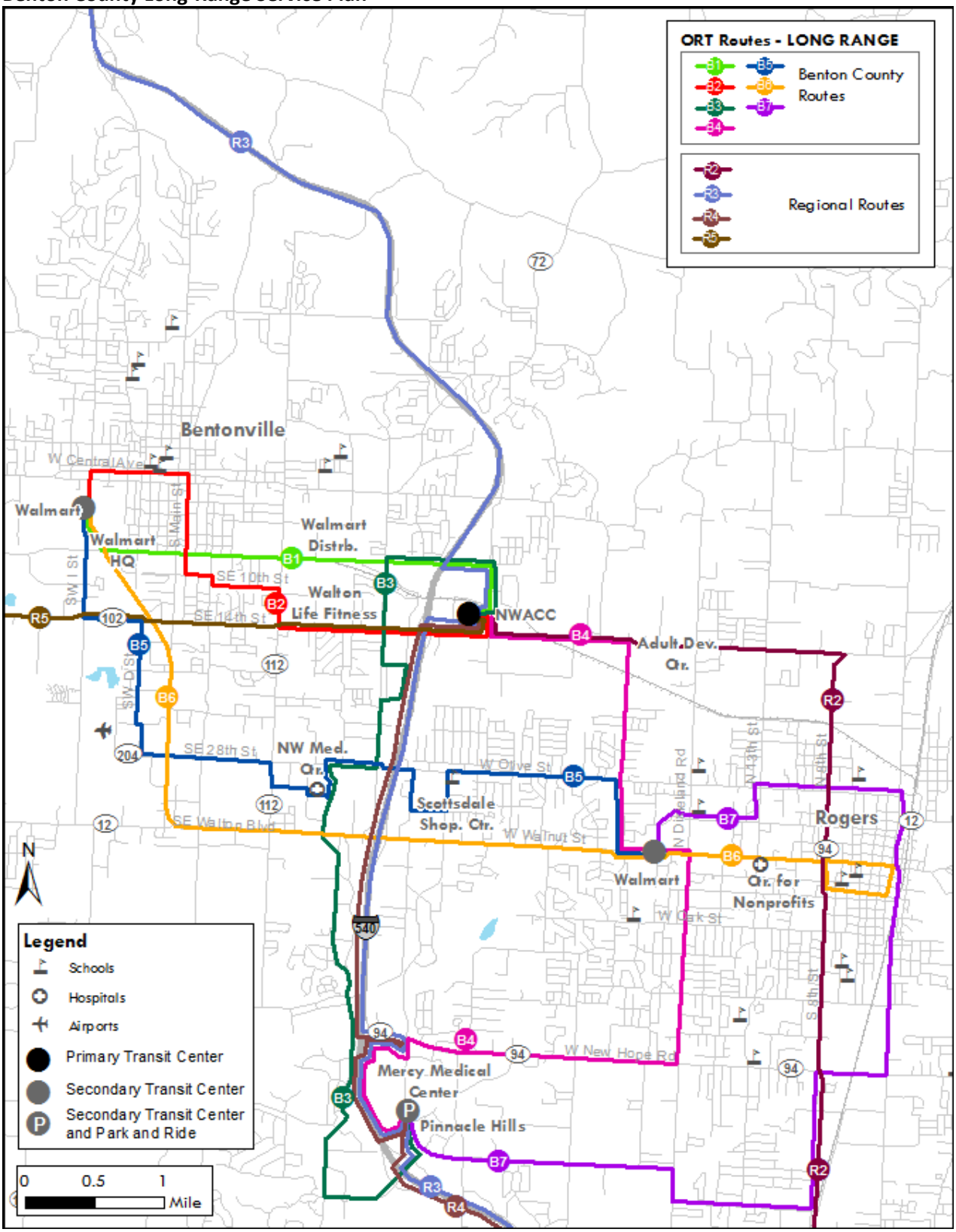
The maps on the following pages show the long-range system. This is the vision for a future bus transit system in Northwest Arkansas. If implemented, adequate and efficient transit service can be provided to a large majority of citizens in Benton and Washington Counties.

However, these improvements come with a price tag. The operational and capital costs of this visionary bus system are summarized in the tables following the maps.

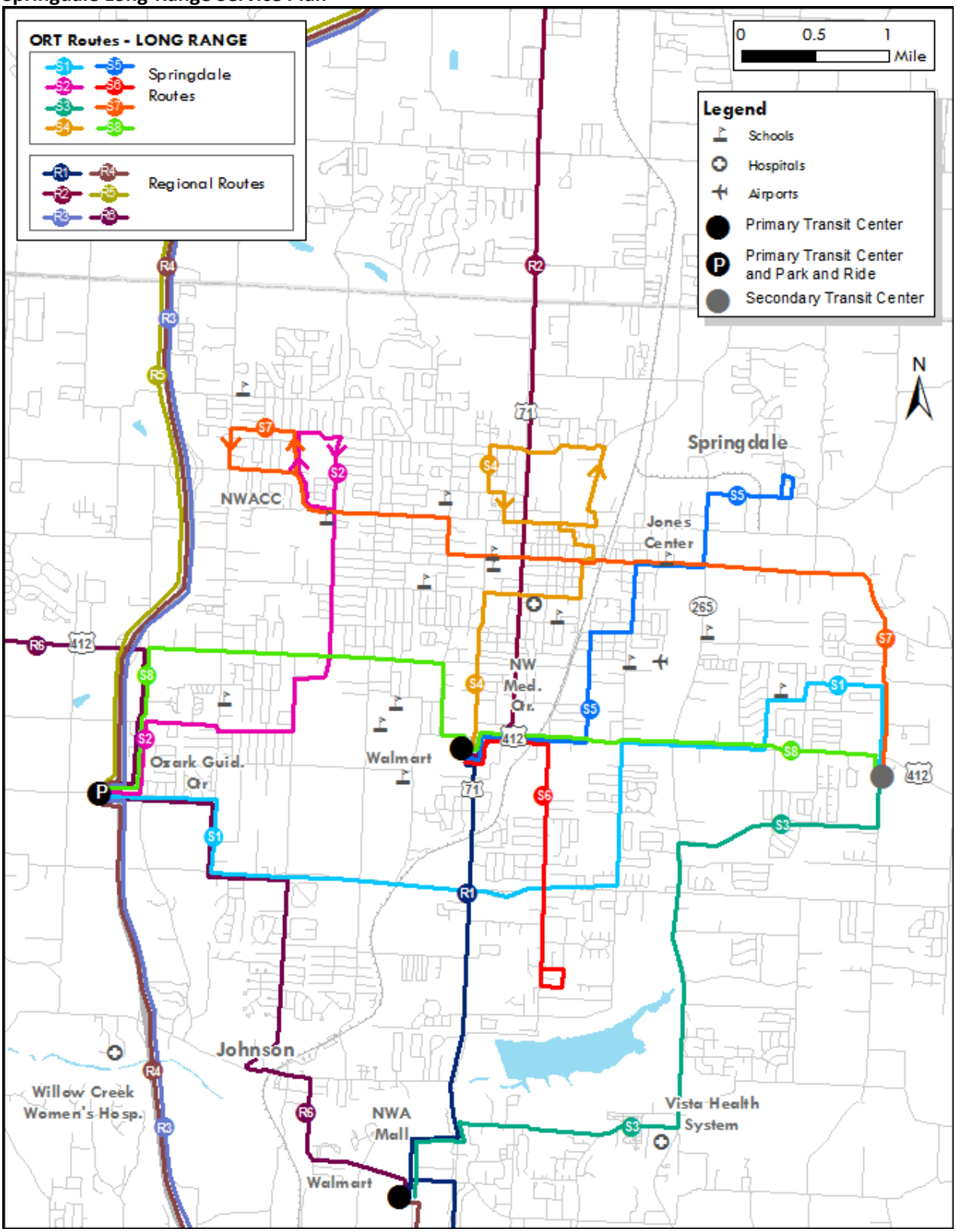
Regional Routes Long-Range Service Plan



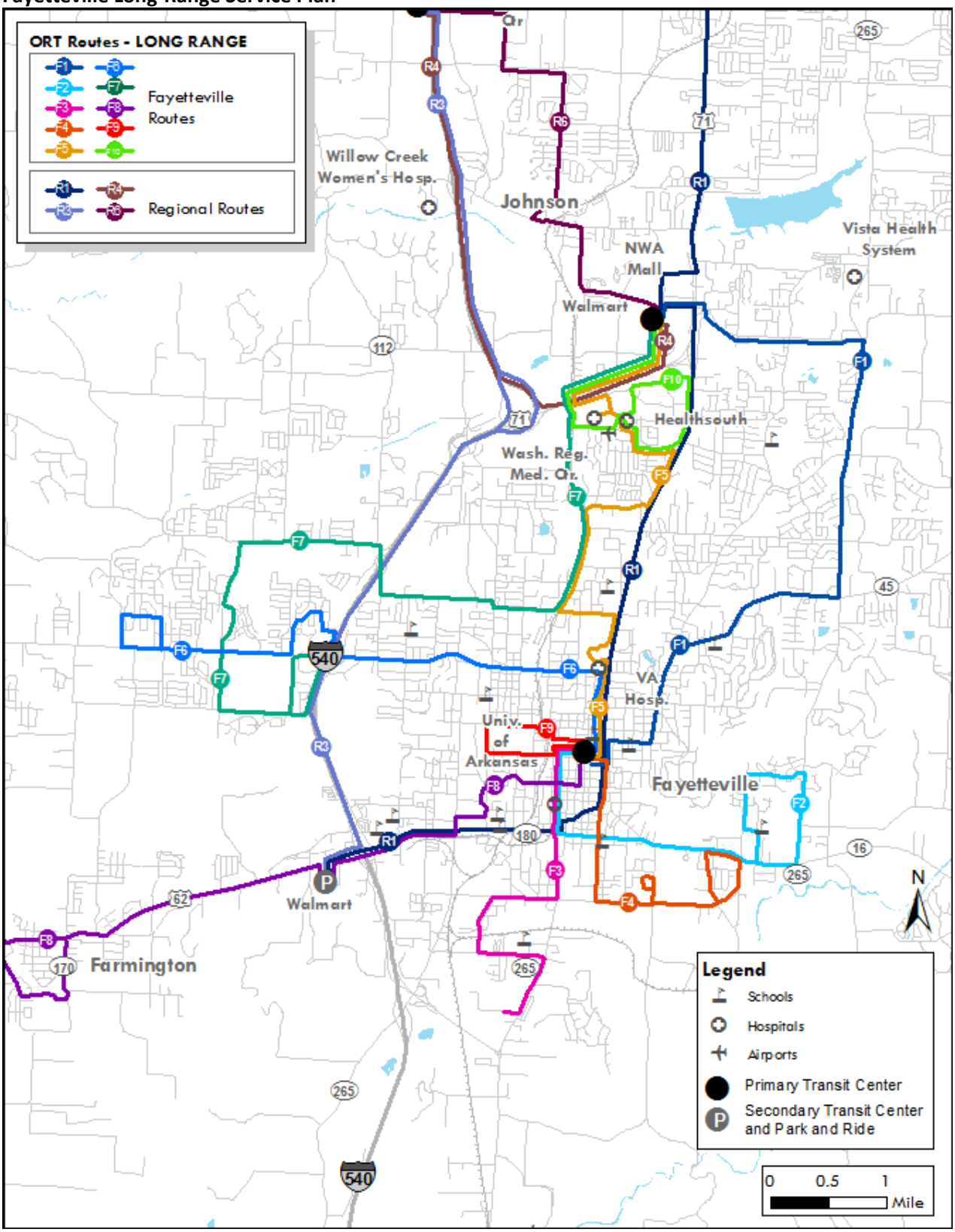
Benton County Long-Range Service Plan



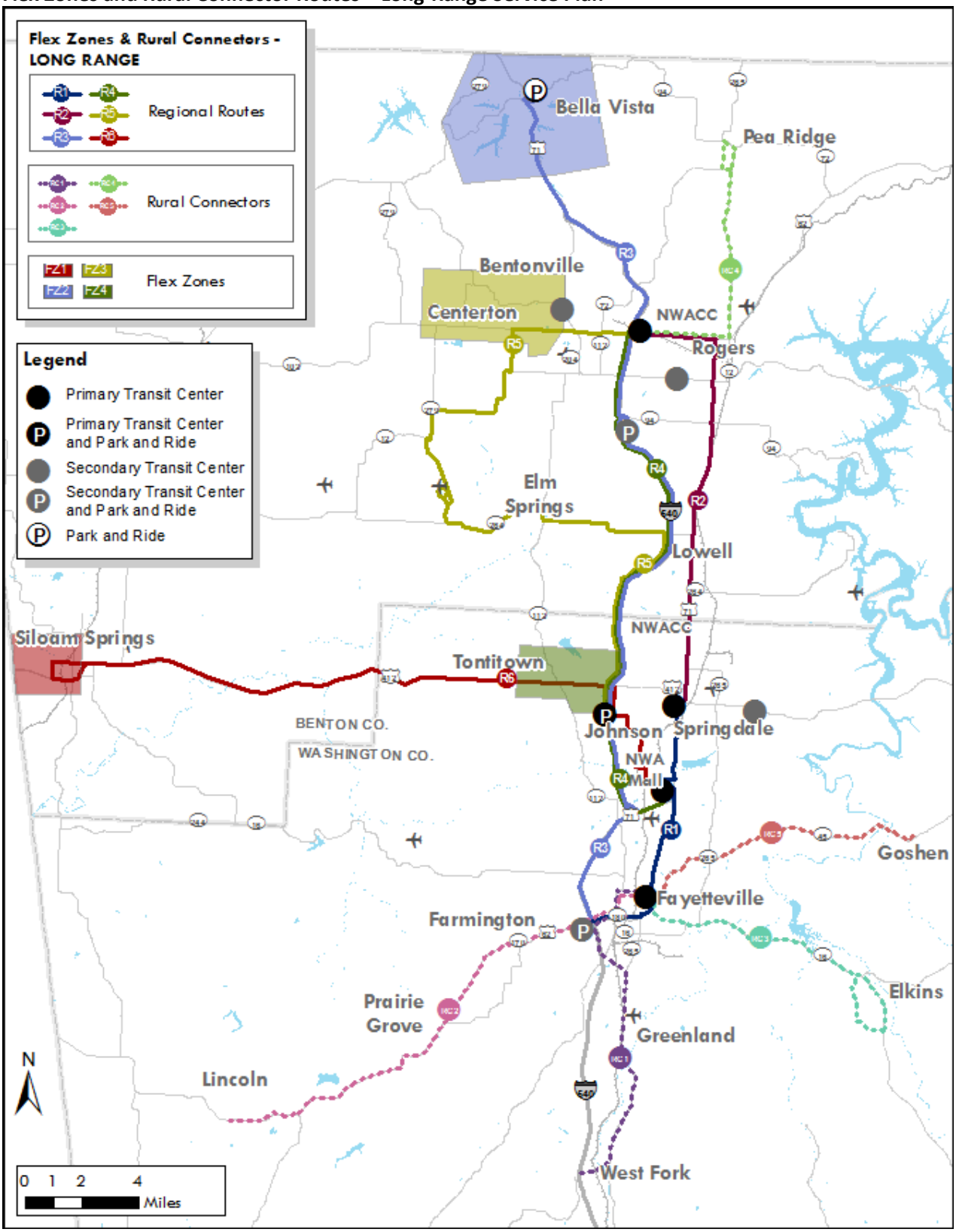
Springdale Long-Range Service Plan



Fayetteville Long-Range Service Plan



Flex Zones and Rural Connector Routes – Long-Range Service Plan



Ozark Regional Transit – Current and Projected Fixed-Route Operating Requirements

	Current	Near-Term	Short-Range	Long-Range
Peak Buses	**12**	**11**	**34**	**59**
Annual Hours	**29,116**	**29,116**	**122,655**	**234,032**
Annual Miles	**496,862**	**488,788**	**1,570,137**	**3,178,511**

Capital Cost Estimates (2011 dollars)

Operator	Cost Item	Near-Term	Short-Range	Long-Range	Total 10-Year Costs
ORT	**Vehicle Capital Costs**				
	Cutaway Vehicles				
	Replacement Fleet Vehicles	6	2	3	11
	Expansion Fleet Vehicles	0	0	11	11
	Unit Cost	$70,000	$70,000	$70,000	n/a
	Total Cost	*$420,000*	*$140,000*	*$980,000*	$1,540,000
	Standard Bus				
	Expansion Fleet Vehicles	0	38	18	56
	Unit Cost	*$400,000*	*$400,000*	*$400,000*	n/a
	Total Cost	*$0*	*$15,200,000*	*$7,200,000*	$22,400,000
	D.R. (Paratranasit) Vehicles				
	Replacement Fleet Vehicles	6	9	15	30
	Expansion Fleet Vehicles	0	10	0	10
	Unit Cost	$70,000	$70,000	$70,000	n/a
	Total Cost	*$420,000*	*$1,330,000*	*$1,050,000*	$2,800,000
	Total Vehicle Costs	***$840,000***	***$16,670,000***	***$9,230,000***	**$26,740,000**
	Passenger Facility Capital Costs				
	Primary Transit Ctrs.				
	NWACC		$1,250,000		
	Springdale Wal-Mart		$1,250,000		
	Arvest Ball Park			$1,250,000	
	NWA Mall/Wal-Mart			$1,250,000	
	Downtown Fayetteville		$1,250,000		$6,250,000
	Secondary Transit Ctrs.				
	Bentonville Wal-Mart		$750,000		
	Rogers Wal-Mart			$750,000	
	Pinnacle Hills		$750,000		
	East Springdale		$750,000		
	MLK Wal-Mart			$750,000	$3,750,000
	Park-and-Ride Lots				
	Bella Vista			$250,000	
	Pinnacle Hills			$250,000	
	Arvest Ball Park			$250,000	
	MLK Wal-Mart			$250,000	$1,000,000
	Bus Stop Enhancements		$500,000	$500,000	$1,000,000
	Total Pass. Facility Costs	**$0**	**$6,500,000**	**$5,500,000**	**$12,000,000**
	Maintenance Facility Costs		**$15,000,000**		**$15,000,000**
TOTAL ORT CAPITAL COSTS		**$840,000**	**$38,170,000**	**$14,730,000**	**$53,740,000**

Range Year Costs

Operator	Cost Item	Near-Term	Short-Range	Long-Range	Total 10-Year Costs
Razorback	**Vehicle Capital Costs**				
	Standard Bus				
	Replacement Fleet Vehicles	4	6	10	20
	Expansion Fleet Vehicles	0	1	0	1
	Unit Cost	*$400,000*	*$400,000*	*$400,000*	n/a
	Total Cost	*$1,600,000*	*$2,800,000*	*$4,000,000*	$8,400,000
	D. R. (Paratransit) Vehicles				
	Replacement Fleet Vehicles	2	3	5	10
	Expansion Fleet Vehicles	0	1	1	2
	Unit Cost	*$70,000*	*$70,000*	*$70,000*	n/a
	Total Cost	*$140,000*	*$210,000*	*$350,000*	$700,000
	Bus Stop Enhancements	$0	$75,000	$75,000	$150,000
TOTAL RAZORBACK CAPITAL COSTS		**$1,740,000**	**$3,085,000**	**$4,425,000**	**$9,250,000**
TOTAL REGIONAL CAPITAL COSTS		**$2,580,000**	**$41,255,000**	**$19,155,000**	**$62,990,000**

Cumulative Expenses and Revenues – Local Funds Required (2011 dollars)

		Agency	Near-Term 2012-2013	Short-Range 2014-2017	Long-Range 2018-2022	10-Year TDP Period
Expenses	O&M	ORT	$5,200,000	$24,089,800	$72,637,900	$101,927,700
		Razorback	$4,727,200	$7,628,700	$12,714,500	$25,070,400
	Capital	ORT	$840,000	$38,170,000	$14,730,000	$53,740,000
		Razorback	$1,740,000	$3,085,000	$4,425,000	$9,250,000
	Total Expenses		**$12,507,200**	**$72,973,500**	**$104,507,400**	**$189,988,100**
Revenues	Farebox		$303,800	$4,113,900	$13,335,400	$17,753,100
	Fed. Funds - Operating		$1,600,000	$0	$0	$1,600,000
	Fed. Funds - Capital		$2,064,000	$33,004,000	$15,324,000	$50,392,000
	Fed. Funds - 5311		$100,000	$150,000	$250,000	$500,000
	State Funds		$1,300,000	$1,950,000	$3,250,000	$6,500,000
	Miscl. Funds		$300,000	$450,000	$750,000	$1,500,000
	Local Funds Req'd.		**$6,839,400**	**$33,305,600**	**$71,598,000**	**$111,743,000**
	Total Revenues		**$12,507,200**	**$72,973,500**	**$104,507,400**	**$189,988,100**

Note: Local Funds include those budgeted annually by the University of Arkansas for Razorback Transit service.

5. City Taxi/Bus Transit Program

The Northwest Arkansas Regional Planning Commission (NWARPC) developed the area's first City Taxi/Bus Transit Program for the City of Springdale in 1983. After the great success of this Program, Subsequent Programs were developed for Fayetteville, Siloam Springs, Bentonville, and Rogers. Twenty-three years later, these Programs continue to help meet the mobility needs of senior citizens throughout Northwest Arkansas. Each city provides a monthly-allocated number of coupons to approved participants. The participants use the taxi service in the normal way, except at the end of the trip they pay any fare difference over the coupon(s) amount. At the end of the month, the City reimburses the taxi companies for approved coupons collected. There were several program additions and modifications made during 2005 to meet the growing demand for both para-transit and fixed transit. Ozark Regional Transit began accepting coupons in the same manner as the local taxi companies. ORT offers both fixed routes and para-transit trips. The Program participants now have expanded options.

These Programs have been highly successful. Current Program providers are committed to continue this worthy and much needed Program for the senior citizens of Northwest Arkansas. The cities are strongly committed to this service. Changes will be made as growth and issues warrant.

6. Human Service Providers

While ORT and Razorback Transit provide fixed route transit service throughout the region, there are many other transit providers in the area. Human service agencies provide a vital role in the overall transportation needs of the region. They provide access to agency services and/or to meet the basic, day-to-day mobility needs of transportation-disadvantaged populations, especially individuals with disabilities, older adults, and people with low incomes.

There are nineteen human service agencies in the Northwest Arkansas region actively participating in AHTD administered transit programs Section 5310, Section 5316, Section 5317). Most of these agencies provide service to specific clientele for shopping, medical appointments, social, work, or education activities. In 2009, these agencies provided approximately 330,000 passenger trips to clients and traveled over 1.2 million miles.

Transit Coordination Planning Federal transit law, as amended by SAFETEA–LU, requires that projects selected for funding under the Elderly and Persons with Disabilities: Section 5310, Job Access and Reverse Commute (JARC): Section 5316, and New Freedom: Section 5317 programs be derived from a locally developed, coordinated public transit-human services transportation plan" and that the plan be "developed through a process that includes representatives of public, private, and non-profit transportation and human services providers and participation by members of the public. A locally developed, coordinated public transit-human services transportation plan ("coordinated plan") identifies the transportation needs of individuals with disabilities, older adults, and people with low incomes, provides strategies for meeting those local needs, and prioritizes transportation services for funding and implementation. Regulations also state that the coordination should be updated every five years.

Pursuant to this requirement, NWARPC developed and approved the Northwest Arkansas Public Transit-Human Services Coordinated Transportation Plan (Coordination Plan) on November 1, 2007. High priority unmet needs in services documented in the Coordination Plan include:

- Access to services, businesses and employment.
- Additional and affordable transit services throughout the region and non-traditional work hours.
- A lack of formal coordination between providers.
- A lack of knowledge of various programs.
- Community leaders' awareness of transportation needs.

The ultimate purpose of the Coordination Plan is to provide comprehensive strategies, or opportunities, for meeting local needs. Nine major strategies were developed as a guide to develop and implement projects. These strategies will be revisited every five years and modified as appropriate.

- Maintain existing levels of service is essential.
- Improve access and provide additional, affordable transportation service.
- Build a local coalition of interested parties for transportation service.
- Develop a coordinated local system to provide transportation information to public transportation dependent persons and the general public.
- Provide more efficient and effective service delivery.
- Provide a better quality of life for public transportation dependent persons.
- Coordinate an approach for the development of model contracts or agreements for public, private, and nonprofit providers.
- Coordinate services with emergency response agencies.
- Research new programs, technology and educational/training opportunities that could enhance transportation services.

Ozark Regional Transit Bus

Razorback Transit Bus

7. Other Transit Services

a. School Bus System K-12

The two counties of the NARTS transportation study area have fifteen public school districts. The Arkansas Division of Public School Academic Facilities & Transportation reported that in 2010 there were

693 public school buses with 49,748 Average Daily Transported (ADT) in Benton and Washington Counties. The following table shows school district breakout figures.

County	District	Buses	ADT
Benton	Bentonville	128	11,044
Benton	Decatur	14	510
Benton	Gentry	20	1279
Benton	Gravette	31	1633
Benton	Pea Ridge	23	1143
Benton	Rogers	126	8644
Benton	Siloam Springs	41	2498
Washington	Elkins	22	1084
Washington	Farmington	32	1516
Washington	Fayetteville	68	3999
Washington	Greenland	14	724
Washington	Lincoln	21	919
Washington	Prairie Grove	21	1536
Washington	Springdale	112	12,238
Washington	West Fork	20	981
ADT= Average Daily Transported		693	49,748

b. Inter-City Bus Transportation

The Jefferson Lines Bus Service travels through Northwest Arkansas from Fort Smith to Joplin. A Jefferson Lines depot is located in Fayetteville at 3075 Wedington Drive with the hours of Monday through Saturday, 9:00 a.m. to 5:00 pm. Another stop is located in Rogers at 4601 W. Walnut Street. The Rogers location hours are Monday through Saturday from 6:30 a.m. to 3:00 p.m. The Jefferson Lines operates in thirteen states including the Arkansas contiguous states of Texas, Oklahoma, Kansas, and Missouri. Other Arkansas stops include Clarksville, Conway, Fort Smith, Harrison, Little Rock, Ozark, Pine Bluff, and Russellville. Out-of-state nearby connections include Tulsa, Oklahoma, Joplin and Springfield in Missouri, and Coffeeville, Kansas.

E. TRANSPORTATION ALTERNATIVES

1. Introduction

This section will address transportation issues that fall under two somewhat different uses of the term "alternative transportation". One part of this section on Transportation Alternatives (Part 2.) will address the status of implementing an "Alternatives Analysis" for the Northwest Arkansas transportation corridor and how such an analysis would consider fixed guideway transit modes such as passenger rail, exclusive or controlled rights-of-way and bus rapid transit. Another part (Part 3.) of this

section will address issues that fall under a broader meaning of "alternative transportation". This broader meaning of alternative transportation will be referred to as "alternative methods" and will cover concepts such as Congestion Management, Context Sensitive Solutions, Complete Streets, Green Infrastructure planning, Commuter Choice programs, Park & Ride lots and other ideas related to increasing sustainable mobility and enhancing the quality of life and livability of the region. In general, this second approach explores how communities can become more efficient by making use of the existing transportation infrastructure without incurring major expenses. Both of these meanings, however, seek alternatives to the single occupancy vehicle.

In preparation of this Plan a subcommittee of the TAC Work Group was formed in the spring of 2009 to investigate sustainable mobility options to transportation in the NARTS area. The first task of the group was to identify a definition of Sustainable Mobility. The following definition was selected:

A Definition of Sustainable Mobility:

A sustainable transportation system:

• Meets the basic access needs of individuals and societies safely and in a manner consistent with human and ecosystem health, and with equity within and between generations.

• Is affordable, operates efficiently in terms of energy and resource use, offers a choice of multiple transport modes, and supports an ecologically sustainable economy.

• Limits emissions and waste within the planet's ability to absorb them, minimizes consumption of non-renewable resources, limits consumption of renewable resources to the sustainable yield level, reuses and recycles its components, and minimizes the use of land and the production of noise.

This definition is preferred by the Transportation Research Board's Sustainable Transportation Indicators Subcommittee, the European Council of Ministers of Transport, and the Canadian Centre for Sustainable Transportation, because it is comprehensive and indicates that sustainable transportation must balance a variety of economic, social and environmental goals.

In light of the definition for Sustainable Mobility the subcommittee produced a set of Guidelines of Sustainable Mobility as a set of recommendations to help inform transportation planning practices in Northwest Arkansas. They are as follows:

Sustainable Mobility Guidelines for Northwest Arkansas:

Northwest Arkansas Transportation Planning:

1. Is developed through inclusive and transparent public planning processes.
    a. NWARPC planning processes are open and well-publicized.
    b. Input on sustainable mobility practices should be solicited from ordinary individual citizens as well as stakeholder groups of city and regional planning jurisdictions in Northwest Arkansas. These should include large organizations such as the University of Arkansas, large corporations, small business representatives, non-profit organizations and other citizen stakeholder groups.
    c. Cities in NW Arkansas should solicit meaningful input from ordinary citizens.

2. Is financed on the basis of full cost, life-cycle accounting, including social and environmental costs and benefits as well as economic costs and benefits.
    a. Social and environmental benefits such as enhanced community engagement, provision of transportation among limited-resource citizens and reduction of greenhouse gas emissions are included in cost-benefit analyses.
    b. The benefit of avoiding future sprawl is integrated into cost accounting for transit and transport systems.
    c. The costs of roads and transit systems are distributed fairly among producers, distributors and consumers of goods and services.
3. Allows efficient and equitable access to goods, services and activities.
    a. Streets, roads, and highways facilitate successful economic activities.
    b. Citizens with no private vehicles and individuals with disabilities have access to transportation.
    c. Freight is moved through the region efficiently and economically.
4. Provides good local circulation and long transport, and thereby avoids congestion.
    a. Residential neighborhoods are walkable.
    b. Personal travel to obtain goods and services is safe and convenient.
    c. Travel to Tulsa, Ft. Smith, Springfield, Little Rock and other population centers is not limited by high cost, congestion or delays.
5. Promotes population density in lieu of sprawl; supports and enhances local and regional growth and development strategies.
    a. Transit and transport systems encourage community and economic development near existing commercial, municipal and educational facilities.
6. Is safe, affordable, dependable, and accessible.
    a. Night travel is safe.
    b. Traffic calming measures reduce vehicle speed in residential and mixed-use neighborhoods.
    c. People without cars can afford the cost of public transit.
    d. Public transit systems are safe, affordable, dependable and accessible.
    e. Routes for bicycles, pedestrians, and public transit are well-distributed.
7. Connects people, markets and places efficiently and affordably.
    a. Residential neighborhoods have convenient access to formal and informal markets.
    b. Distributors of goods are provided roads and railways that allow successful commerce.
8. Discourages energy waste and addresses climate change issues.
    a. Alternatives fuels, including compressed natural gas, biodiesel and ethanol, are made available by municipalities and public-private consortia if private vendors do not supply them.
    b. Bicycle lanes, multi-use trails, park-and-ride lots, and preferred parking for energy efficient vehicles are widely available.
    c. Local and regional transportation planning processes establish GHG emissions reduction goals.
    d. Municipal, county, university and regional institutions invest in alternative fuels and low carbon transit systems.
9. Avoids or mitigates environmental and ecological degradation created by its construction and use.
    a. Habitats of endangered species are protected.
    b. Effective mitigation wetlands and prairies are established, monitored and maintained.

c. Roads and other transportation systems are built according to principles of low impact development.

10. Promotes healthy living and a vibrant community.
    a. Walking, running and biking are promoted by connecting residential neighborhoods with parks and shopping areas with the NW Arkansas Heritage Trail system and other multi-use trails.
    b. Municipal and state parks include multi-use trails that connect them to local goods and services.
    c. Bike lanes lead to all vital commercial and community services.
    d. Bicycle parking is available and convenient at all public facilities.

Having established this set of guidelines the TAC Work Group recommended that the Northwest Arkansas Regional Planning Commission pursue three major goals in the area of Sustainable Mobility. These are:

(1) Identify, pursue, and obtain sufficient funding for Public Transit;

(2) To continue to pursue funding for an Alternatives Analysis for the Northwest Arkansas Region;

(3) To establish a committee to carry out the development of a Congestion Management Process (CMP) as will be required when the Region is officially designated a Transportation Management Area (TMA). Such a Congestion Management Process would consider a broad range of concepts, techniques, and technologies that would reduce congestion, lower travel demand, enhance quality of life/livability, and support the principles presented in the Sustainable Mobility Guidelines. This committee might be comprised of appropriate Technical Advisory Committee members, representatives of stakeholder groups, and citizen volunteers.

The first objective related to public transit, was covered in the preceding section of this document on Transit and the Transit Development Plan and will not be re-addressed here.

2. Alternatives Analysis – A Fixed Guideway Feasibility Study for the North-South Corridor: History and Status

Throughout the past decade in Northwest Arkansas, local officials and the general public have expressed a growing interest in transportation alternatives. This level of interest was seen in the public surveys undertaken with the 2035 Long Range Plan update. In the University of Arkansas Research Center's Omnibus random survey on the question concerning passenger rail, 33.3 percent said they would *strongly favor* and 41.3 percent said they would *favor* a passenger rail connecting Fayetteville, Springdale, Lowell, Rogers, Bentonville and the Northwest Arkansas Regional Airport. Only a total of 13.6 percent would either oppose or strongly oppose a rail project. Also, the Fayetteville Forward Transportation Committee, an organization commissioned by the Mayor, recommended in a letter to the Northwest Arkansas Regional Planning Commission that:

- The region should avoid building yet another major north-south highway such as the proposed western beltway, which would contribute to urban sprawl and primary reliance on the car.

- Local authorities should seek federal, state, local, or other funds for feasibility studies that give equal weight to expanding alternative transportation modes in Northwest Arkansas.

In late 2004, the non-profit group, Greenway, LLC, commissioned Beta-Rubicon, Inc. to undertake a pre-feasibility study to explore the potential for a light rail system for the region. One of the study's recommendations was for a public forum to be held for the purpose of building an informed public awareness of light rail. Subsequently, in November of 2005, the Northwest Arkansas Light Rail Transit System Public Forum was held in Springdale. The primary objectives of the Forum was the sharing and exchange of information so that all issues associated with the pursuance of such a system would be considered in a well-informed, comprehensive, and balanced fashion.

The forum led to an invitation from Congressman John Boozman for a delegation to travel to Washington, D.C. for a Northwest Arkansas Transit Symposium to be hosted by the Congressman, in conjunction with Senator Blanche Lincoln and Senator Mark Pryor. The invitation was accepted, and a group from Northwest Arkansas met with congressional delegation staff, an advisor to the Administrator of the Federal Transit Administration (FTA), and staffers from key congressional committees. Much information was gained regarding FTA's transit programs and possible sources for funding the initiative's next step.

Specifically, the New Starts/Small Starts program was identified as the Federal government's primary financial resource for supporting transit guideway capital investments. Like all federally funded transportation investments in metropolitan areas, New Starts/Small Starts projects must emerge from a locally driven, multimodal transportation planning process coordinated through the MPO. The Washington trip, along with subsequent attendance at seminars and listening sessions, has made clear the fact that the FTA has a very detailed and specific planning and project development process that must be met.

An important aspect of the process is that regardless of all the "feasibility studies" that may be done, New Starts/Small Starts program projects require what the FTA calls an "Alternatives Analysis." Such a study is an absolute must, and is a prerequisite to future project funding. Without exception, discussions with those involved with the New Starts/Small Starts program have yielded the same advice—pursuing an Alternatives Analysis, rather than another feasibility study, is the most prudent and advisable direction in which to proceed. This advice is due in large part to fact that an Alternatives Analysis would be required anyway, regardless of whatever other studies are done.

The FTA describes the New Starts program as follows:

New Starts Project Planning & Development: Following the results of systems planning, project planning focuses on a specific transportation need (or set of needs) in a given metropolitan corridor or sub-area, identifies alternative actions to address these needs, and generates the information needed to select a preferred project for implementation. These activities are often collectively referred to as "alternatives analysis" and typically address such issues as costs, benefits, environmental and community impacts, and financial feasibility. Consequently, an alternatives analysis spans a wide range of technical disciplines, ranging from engineering to ridership forecasting to the natural and social sciences. Project planning continues beyond the selection of a preferred capital investment strategy (or

"New Start" for fixed guideway transit projects funded, in part, through the discretionary FTA Section 5309 grant program) and into further refinement and analysis, including completion of federal environmental review requirements.

Projects eligible for New Starts (49 USC §5309) funding include any fixed guideway system which utilizes and occupies a separate right-of-way, or rail line, for the exclusive use of mass transportation and other high occupancy vehicles, or uses a fixed cantenary system and a right-of-way usable by other forms of transportation. This includes, but is not limited to, rapid rail, light rail, commuter rail, automated guideway transit, people movers, and exclusive facilities for buses (such as bus rapid transit) and other high occupancy vehicles.

More details of the New Starts and the alternative analysis requirement at: http://www.fta.dot.gov/planning/newstarts/planning_environment_2608.html

It should be noted that an Alternatives Analysis must look at all alternatives -- not a pre-conceived conclusion regarding a particular mode. A problem must exist in a given corridor, and all alternative modal solutions explored prior to project approval. To some degree, the program may not readily lend itself to certain projects that seek to use transit to open up future opportunities.

Since 2005 the Northwest Arkansas Regional Planning Commission requested High Priority Project (HPP) funds for an Alternative Analysis every year for three years. None of the special requests obtained funding. In 2010 the Federal Transit Administration (FTA) announced the availability of up to $25.7 million in discretionary Fiscal Year (FY) 2009 and 2010 funds under the Alternatives Analysis Program (49 U.S.C. 5339) authorized by the Safe, Accountable, Flexible, Efficient, Transportation Equity Act. The Northwest Arkansas Regional Planning Commission passed a resolution in support of applying for the Alternative Analysis grant. Planning staff submitted the application but Northwest Arkansas did not receive a grant award. Currently, the Northwest Arkansas Regional Planning Commission is waiting to see if additional funding for Alternatives Analysis will be forthcoming.

The following fixed guideway modes of transportation could be considered in an Alternatives Analysis. Note that a "fixed guideway" refers to any transit service that uses exclusive or controlled rights-of-way or rails, entirely or in part. The term includes heavy rail, commuter rail, light rail, monorail, trolleybus, aerial tramway, inclined plane, cable car, automated guideway transit, ferryboats, that portion of motor bus service operated on exclusive or controlled rights-of-way, and high-occupancy-vehicle (HOV) lanes.

a. Bus Rapid Transit (BRT): BRT encompasses a broad variety of modes, including those known or formerly known as express buses, limited busways and rapid busways. BRT is an enhanced bus system that operates on exclusive dedicated bus lanes or other transitways. What is now called bus rapid transit first got major impetus in the United States with the rise of Federal funding for urban mass transportation during the 1960s. Bus rapid transit targets the same segment of the transit market as light rail transit. BRT operates at faster speeds, provides greater service reliability and increased customer convenience. It also utilizes a combination of advanced technologies, infrastructure and operational investments that provide significantly better service than traditional bus service. Proponents say it combines the rapidity of a rapid transit or light rail line with the flexibility of buses.

Given the I-540 corridor that connects Northwest Arkansas in a north-south direction, bus rapid transit may be feasible with park-and-ride and conventional bus feeder systems.

For detailed information see: www.gobrt.org and http://www.vtpi.org/tdm/tdm120.htm

b. Light Rail: *Light Rail Transit* (LRT, also called *trams* or *trolleys*) systems provide convenient local public transit service on busy urban corridors, connecting major destinations such as central business districts, medical centers, campuses and entertainment centers. LRT vehicles tend to have relatively smooth and comfortable operation, easy boarding, attractive station areas, and easy-to-understand routes and schedules. Many rail systems have quick loading and Transit Priority features (grade separation and traffic signal preemption) to maximize travel speeds and minimize congestion delay. They are often supported with convenient user information (many city maps show rail transit routes and stations) and other Transit Encouragement strategies to increase ridership.

Light Rail Transit both requires and supports Smart Growth land use policies. LRT systems are often implemented in conjunction with Transit Oriented Development (common destinations are located within convenient walking distance of transit stations). Rail Transit stations provide a catalyst for creating compact, mixed, walkable urban centers (often called *Transit Villages* or *Transit Centers*). Where this occurs, Light Rail increases accessibility (land use patterns that minimize distances between common destinations and maximize transport system diversity) rather than just *mobility* (the physical movement of people). As a result, well-planned Light Rail Transit systems can provide additional benefits associated with more accessible land use.

Like any transit service, the travel impacts of Light Rail services depend on various factors including the quality of service, fares and user incentives (such as Commuter Financial Incentives), marketing, and the degree to which land use policies support transit (Transit Evaluation). Various Transit Encouragement strategies can increase ridership.

In Northwest Arkansas a light rail support group, Greenway, LLC, commissioned Beta-Rubicon, Inc. to undertake a pre-feasibility study on the potential for a light rail system for the region. Beta-Rubicon, Inc. completed the preliminary feasibility study for a light rail transit (LRT) system in Northwest Arkansas in July 2005. The study examined the possibility of a "green" light rail system that would operate between Drake Field in Fayetteville and Bentonville. The study concluded that a LRT system is a viable option for the region but requires both public and private support.

The study concludes that the most cost-effective route would predominantly follow the current Arkansas-Missouri railroad line, utilizing existing right-of-way. However, the current estimate of costs ranges between $550 million to $1.24 billion (2005 dollars). This cost will only increase as the price of land increases in Northwest Arkansas, which creates a sense of urgency in moving a LRT project forward. A Northwest Arkansas Light Rail Transit Forum, held in November 2005, provided an analysis of regional demographics and population growth that demonstrated the potential of supporting a transit system of this magnitude. The Arkansas-Missouri railroad management and elected officials at the federal level expressed a willingness to support a LRT initiative. After the forum, a regional action committee formed and seeks to develop public and private partnerships to support a LRT project. In 2007 the University of Arkansas Community Design Center published NWA Rail; Visioning Rail Transit in Northwest Arkansas: Lifestyles and Ecologies.

c. Heavy Rail: The term "heavy rail" is often used for regular railways, to distinguish from systems such as trams/light rail and metro. Heavy rail typically refers to the standard inter-city rail network, which is built to be robust enough for heavy and high-speed trains, including freight trains, and long distance and high speed passenger trains. Heavy rail is almost always built on its own dedicated right of way and is separate from road traffic. This distinguishes it from light rail which is built to lightweight construction, carries lightweight trains or trams and which is usually intended for passenger traffic only, usually around cities.

d. Monorail: A monorail is a metro or railroad with a track consisting of a single rail (actually a beam), as opposed to the traditional track with two parallel rails. Monorail vehicles are **wider** than the beam they run on. There are two main types of monorail systems. In *suspended monorails*, the train is located under the track, suspended from above. In the more popular *straddle-beam monorail*, the train straddles the rail, covering it on the sides. There is also a form of *suspended monorail* that places the wheels inside the rail.

Modern monorails are powered by electric motors and generally have tires, instead of metal wheels, which are found on subway, streetcar (tram), and light rail trains. These wheels roll along the top and sides of the rail to propel and stabilize the train. Most modern monorail systems employ switches to move cars between multiple lines or permit two-way travel. Some early monorail systems--notably the suspended monorail of Wuppertal (Germany), dating from 1901 and still in operation--have a design that makes it difficult to switch from one line to another. This limitation of the Wuppertal monorail still comes up at times in discussions of monorails despite that fact for both the suspended and straddle-beam type monorails the problem has been overcome. For more information see: www.monorails.org

e. Ultra-light Monorail / Personal Rapid Transit (PRT): Personal Rapid Transit is a transport method that has been implemented at Heathrow airport in London, England and is being planned for in several cities in Sweden. In this country studies are being carried out to build a PRT system in the area surrounding the airport in San Jose, California. The PRT offers on-demand non-stop transportation between any two points on a network of specially built guideways. Most Personal Rapid Transit systems propose ultra-light monorail with small cabs that carry two to four passengers.

Advantages of PRT systems are outlined as follows:
Convenience for commuters:

- Increased ridership due to PRT cabs ready and waiting.
- Greater privacy for an individual to travel alone or in a small group.
- Reduced travel time with no stop-and-go travel.
- Small design would allow PRT stations in buildings and shopping malls.

Land use and environmental benefits:

- Less energy consumption due to lighter weight, fewer stops and starts, high efficiency of electric motors, and partial recovery of energy during braking; PRT is independent of fossil fuels.
- Low visual impacts: Compared to other transit options, PRT guideways allow greater flexibility; PRT guideways can be run through alleyways, in existing road medians, or behind existing tree lines and buildings; the guideway covers can be painted to match the needs of the neighborhood.

- Reduced roadway and parking needs. Roadways and parking pavement covers about 50 percent of modern cities. The Taxi 2000 Skyweb PRT requires 2-foot diameter support columns every 60 feet or so; less need for pavement, potentially, would help prevent stormwater runoff and protect water resources.
- Smaller stations and guideway supports reduce conflicts with existing infrastructure including underground utilities (water, sewer, storm drains, gas, electric, cable TV, telephone, and fiber optic cables), trees, private property rights, sidewalks, etc.
- Small stations located in a network every ½ mile would encourage transit-oriented development throughout a city.
- No tail pipe emissions.

Inexpensive to build and operate:

- Reduced labor and operating costs due to automated fare collection and automated guidance.
- Reduced station size resulting from smaller vehicles, high station vehicle throughput and real-time system allocation of vehicles; this again acts to reduce station costs and visual impact.
- The ability to be implemented in an incremental manner; beginning as a single loop, the network could evolve into a comprehensive system as demand warrants.
- Ability to use existing easements, which would reduce the need to purchase right-of-way from property owners and greatly reduce start-up costs.
- Lightweight vehicles and track reduces the capital cost while the absence of drivers and instant service reduces the operating costs per passenger mile; depending on the design, cost estimates generally range between 5 and 15 million dollars per mile for a PRT system.

Increased safety:

- Elevated PRT guideways eliminate the possibility of collisions with automobiles, pedestrians, children, or pets.
- Dispersed nature of PRT makes it a less likely terrorist target.

In Northwest Arkansas the PRT system, if shown to be operable, might be considered most feasible in Bentonville connecting the Wal-Mart campus areas.

For more information see: www.bettercampus.org, http://www.skytran.net/phpsite/home/home.html, http://kinetic.seattle.wa.us/prt.html and http://prtinternational.com/cms/

f. High Occupancy Vehicle (HOV) and High Occupancy Toll (HOT) lanes

HOV Priority refers to strategies that give priority to *High Occupant Vehicles* (also called Rideshare Vehicles), including transit buses, vanpools and carpools. HOV Priority is a major component of many regional transportation demand management programs. Two, three or four occupants (indicated as 2+, 3+ or 4+) may be required to be considered an HOV, depending on circumstances. This is opposed to *Single Occupant Vehicles* (SOVs).

HOV Priority includes:

- HOV highway and arterial lanes. These are sometimes reversible (or "counter flow" lanes), which means that they provide traffic capacity in the peak direction. Lanes open only to buses are called *busways*.
- High Occupancy Toll (HOT) lanes. These are HOV lanes that also allow low occupancy vehicles if they pay a toll, as described in Road Pricing.
- Busways, that is, special lanes dedicated to transit buses, often incorporating other features to insure high quality transit service.
- Queue-jumping lanes (other vehicles must wait in line to enter a highway or intersection, but HOVs enter directly).
- Intersection controls that give priority to HOVs. For example, a traffic light might be set to stay green for several extra seconds if that allows a bus to avoid stopping.
- Preferred parking spaces or parking fee discounts provided to rideshare vehicles (Parking Management).
- Special benefits to HOV riders often included in commute trip reduction programs.

HOV Priority provides travel time savings, operating cost savings and increased travel reliability. HOV lanes typically provide time savings from 0.5-minute per mile on arterial streets up to 1.6-minutes per mile on congested freeways. Queue-jumper HOV facilities can provide savings up to 20 minutes (Pratt, 1999). Many travelers place a high value on these time savings, particularly if unpredictable delays are reduced.

HOV and HOT lanes could be considered for use on I-540 in Northwest Arkansas if and when it is expanded from the current four lanes to six and eight lanes.

3. Congestion Management Process:

As noted in the introduction to this section the Sustainable Mobility Work Group recommended that a Congestion Management subcommittee of the NARTS Technical Advisory Committee be established to develop a Congestion Management Process as required by Federal law when the region is certified as a Transportation Management Area (TMA). The U.S. Census has scheduled updates to urbanized areas to be released in October, 2012. However, given the growing Average Daily Trip counts on our regional major and minor arterial network it would be prudent to begin this process before the official designation as a TMA.

The Texas Transportation Institute, which reports on the cost of traffic congestion, reports states that for the United States in 2009:

- Congestion costs continue to rise: measured in constant 2009 dollars, the cost of congestion has risen from $24 billion in 1982 to $115 billion in 2009.
- The total amount of wasted fuel in 2009 topped 3.9 billion gallons – equal to 130 days of flow in the Alaska Pipeline.
- Cost to the average commuter: $808 in 2009, compared to an inflation-adjusted $351 in 1982.
- Yearly peak delay for the average commuter was 34 hours in 2009, up from 14 hours in 1982.

Below is information on the Congestion Management Process from the U.S. Department of Transportation Planning for Operations that briefly describes the Congestion Management Process:

A congestion management process (CMP) presents a systematic process for managing traffic congestion and provides information on transportation system performance. A CMP must:

- Measure multi-modal transportation system performance.
- Identify the causes of congestion.
- Assess alternative actions.
- Implement cost-effective actions.
- Evaluate the effectiveness of implemented actions.

A CMP should include alternative strategies for alleviating congestion and enhancing the mobility of persons and goods to levels that meet state and local needs. At the core, a CMP should include a data collection and monitoring system, a range of strategies for addressing congestion, performance measures or criteria for identifying when action is needed, and a system for prioritizing which congestion management strategies would be most effective.

A CMP is required in metropolitan areas with population exceeding 200,000, known as Transportation Management Areas (TMAs). In TMAs designated as ozone or carbon monoxide non-attainment areas, the CMP takes on a greater significance. Federal guidelines prohibit projects that increase capacity for single occupant vehicles unless the project comes from a CMP. Federal requirements also state that in all TMAs, the CMP shall be developed and implemented as part of the metropolitan planning process.

For more details on CMP information see:
http://www.plan4operations.dot.gov/congestion.htm and
http://www.plan4operations.dot.gov/ .

It should be noted that the Northwest Arkansas region to date is not an ozone or carbon monoxide non-attainment area and would not need to meet the non-attainment area responsibilities.

Once the Technical Advisory Committee's Congestion Management Process subcommittee is established, it is suggested that a variety of "Alternative Methods" could be reviewed, prioritized and eventually implemented to not only manage and reduce traffic congestion as part of the Congestion Management Process, but to reach broader goals of sustainable mobility, livability, ecological sustainability, and social/environmental justice as stated in the **Sustainable Mobility Guidelines for Northwest Arkansas** presented above.

A list of such "Alternative Approaches", that is, alternatives to solely meeting the needs of single occupancy vehicles, are presented with a brief description below.

a. Travel Demand Management
b. Livability Initiative: Partnership for Sustainable Communities (HUD, DOT, EPA)

c. Context Sensitive Solutions
d. Green Infrastructure Planning
e. Complete Streets
f. Commuter Choice Programs
g. Park and Ride Infrastructure
h. Taxi Service Improvements
i. Transportation Oriented Development (TODs)
j. Land Use Incentives
k. Changing What We Measure:
    i. Sustainable Transportation Indicators
    ii. Quality of Life Index program for the Region
    iii. Green Roads Rating System
l. Other Methods, Concepts, Technologies (See Appendix D)

a. Transportation Demand Management (TDM) (also known as *Mobility Management*) is a general term for various strategies that increase transportation system efficiency. TDM treats mobility as a means to an end, rather than an end in itself, and so helps individuals and communities meet their transport needs in the most efficient way, which often reduces total vehicle traffic. TDM prioritizes travel based on the value and costs of each trip, giving higher value trips and lower cost modes priority over lower value, higher cost travel, when doing so increases overall system efficiency. It emphasizes the movement of people and goods, rather than motor vehicles, and so gives priority to public transit, ridesharing and non-motorized travel, particularly under congested urban conditions.

There are many different TDM strategies with a variety of transportation impacts. Some improve the transportation options available to consumers. Some cause changes in trip scheduling, route, destination or mode. Others reduce the need for physical travel through more efficient land use, or transportation substitutes such as telecommuting. TDM is an increasingly common response to transport problems. Although most individual TDM strategies only affect a small portion of total travel, the cumulative impacts of a comprehensive TDM program can be significant. The Victoria Transportation Institute, a research organization that focuses on Transportation Demand Management, provides a long list of ways to manage transportation demand. This list is included in Appendix D. More information can be found at: http://www.vtpi.org/

b. Livability Initiative: The Department of Transportation states on their DOT Livability webpage:

> "In June 2009, the **U.S. Department of Housing and Urban Development, U.S. Department of Transportation, and the U.S. Environmental Protection Agency** joined together to form the Partnership for Sustainable Communities, an unprecedented agreement to coordinate federal housing, transportation and environmental investments, protect public health and the environment, promote equitable development, and help address the challenges of climate change. The three agencies are working together more closely than ever before to meet President Obama's challenge to coordinate federal policies, programs, and resources to help urban, suburban, and rural areas and regions build more sustainable communities and make those communities the leading style of development in the United States. The agencies

are working together to identify opportunities to build more sustainable communities and to remove policy or other barriers that have kept Americans from doing so."

Six Principles of Livability are identified:

- **Provide more transportation choices** to decrease household transportation costs, reduce our dependence on oil, improve air quality and promote public health.
- **Expand location- and energy-efficient housing choices** for people of all ages, incomes, races and ethnicities to increase mobility and lower the combined cost of housing and transportation.
- **Improve economic competitiveness of neighborhoods** by giving people reliable access to employment centers, educational opportunities, services and other basic needs.
- **Target federal funding toward existing communities** – through transit-oriented and land recycling – to revitalize communities, reduce public works costs, and safeguard rural landscapes.
- **Align federal policies and funding** to remove barriers to collaboration, leverage funding and increase the effectiveness of programs to plan for future growth.
- **Enhance the unique characteristics of all communities** by investing in healthy, safe and walkable neighborhoods, whether rural, urban or suburban.

There are many Federal grant programs connected to the above Principles of Livability. Some of these programs include:

i. **Federal Transit Administration:** Rural Transit Assistance Program (RTAP);Bus and Bus Facilities Discretionary Grant Program; New Starts/Small Starts Discretionary Grant Program; Transportation for Elderly Persons and Persons with Disabilities; The Job Access and Reverse Commute Program (JARC); The New Freedom Formula Grant Program.

ii. **Federal Highway Administration:** Pedestrian and Bicycle Safety Program; Recreational Trails Program (RTP); Transportation Enhancement (TE) Program; Context Sensitive Solutions (CSS**);** National Scenic Byways Program; Safe Routes to School Program; Transportation, Community, and System Preservation Program (TCSP).

For more information on these and other federal programs that connect to the Principles of Livability see: http://www.fhwa.dot.gov/livability/scp.cfm

c. Context Sensitive Solutions (CSS): Context Sensitive Solutions, previously known as Context Sensitive Design, is another "Alternative Approach" to transportation development that has show very promising results throughout the country. By resolving design issues in the beginning of a transportation project much time and money can be saved. The Federal Highway Administration describes the CSS process below:

The CSS process is a collaborative, interdisciplinary, holistic approach to the development of transportation projects. It is both process and product, characterized by a number of attributes. It involves all stakeholders, including community members, elected officials, interest groups, and affected local, state, and federal agencies. It puts project needs and both agency and community values on a level playing field and considers all trade-–offs in decision making.

The process differs from traditional processes in that it considers a range of goals that extends beyond the transportation problem. It includes goals related to community livability and sustainability, and

seeks to identify and evaluate diverse objectives earlier in the process and with greater participation by those affected. The result is greater consensus and a streamlined project during later stages of project development and delivery.

While every project has unique circumstances, all CSS processes should build consensus around these issues before solutions are identified:

- Project context, including geography and community values
- Problem to be addressed
- Implementation plan and decision-making process and roles
- Vision, goals, and evaluation factors

Once stakeholders agree on these, the team can begin to identify and evaluate alternatives and make decisions. The steps for building agreement are flexible and can be adapted to suit individual projects. At the heart of the approach is the methodical integration of diverse values at each step of the process.

As shown by the graphs below, a CSS process becomes less contentious as the design becomes more complex. Public and stakeholder involvement might be a primary activity early in the project, but by the time engineers are producing detailed plans, stakeholders only wish to be kept informed about progress and involved when changes arise. This front-loaded community participation and decision-making process allows stakeholders to influence outcomes by raising issues early when they can still be addressed.

Characteristics of the CSS Products or Design

- The project is in harmony with the community, and it preserves environmental, scenic, aesthetic, historic, and natural resource values of the area.
- The project is a safe facility for all users and the community.
- The project solves problems and satisfies the purpose and needs identified by a full range of stakeholders.
- The project exceeds the expectations of both designers and stakeholders and is perceived as adding lasting value to the community as a whole.
- The project involves efficient and effective use of resources (time, budget) of all involved parties.

These before and after photos from the Aurora Avenue Project (Shoreline, Washington) illustrate how successful CSS projects improve safety and mobility for a variety of users. The photo illustrates a new grade-separated pedestrian crossing, improved sidewalks, managed access, enhanced greenscape.

- CSS projects consider new and emerging technologies, funding sources, and public policy issues aimed at addressing major drivers such as energy supply, climate change, and sustainability initiatives.
- CSS projects address livability issues such as bicycle and pedestrian facilities, transit, and multimodal connections.
- CSS projects embrace sustainability principles such as stormwater management, water quality, and the use of recycled materials throughout their lifecycles.

Given the potential of avoiding transportation project delays and costs, and at the same time meeting the needs of interested individuals and stakeholders, the CSS process would be an important alternative approach for the Northwest Arkansas region to consider adopting into the planning process.

d. Green Infrastructure Planning:

There are a couple of ways to look at the meaning of the term "Green Infrastructure" (GI).

One meaning, primarily used by the Environmental Protection Agency (EPA), involves looking at Green Infrastructure as a stormwater management technique that uses green landscapes to filter and contain stormwater runoff. A brief description on the EPA website states: Green infrastructure is an approach to wet weather management that is cost effective, sustainable, and environmentally friendly. Green infrastructure management approaches and technologies infiltrate, evapotranspire, capture, and reuse stormwater to maintain or restore natural hydrology. Many of these approaches, including green roofs, rain gardens, green streets, and other innovative stormwater management techniques, can also make neighborhoods safer, healthier, and more attractive. EPA has compiled a list of funding resources to help communities fund green Infrastructure projects
http://cfpub.epa.gov/npdes/greeninfrastructure/fundingopportunities.cfm.

Another meaning of the term Green Infrastructure uses the concept as a strategic conservation tool. This concept of Green Infrastructure is used by the U.S. Forest Service in their Changing Roles program

that involves the treatment of forest land as it is encroached by urban growth. One organization, The Green Infrastructure Conservation Fund presents this description of this second meaning of Green Infrastructure:

Green Infrastructure Definition

Green infrastructure is strategically planned and managed networks of natural lands, working landscapes and other open spaces that conserve ecosystem values and functions and provide associated benefits to human populations.

The foundation of green infrastructure networks are their natural elements – woodlands, wetlands, rivers, grasslands – that work together as a whole to sustain ecological values and functions. Healthy functioning natural or restored ecological systems are essential to ensure the availability of the network's ecological services.

Additional elements and functions can then be added to the network, depending on the desires and needs of the designers – working lands, trails and other recreational features, cultural and historic sites. These all can be incorporated into green infrastructure networks that contribute to the health and quality of life for America's communities.

The Strategic Approach to Land Conservation

Just as haphazard development must be addressed, haphazard conservation must also be addressed – conservation activities that are reactive, site-specific, narrowly focused, or not well integrated with other efforts. Smart growth is needed to strategically direct and influence the patterns of land development, "smart conservation" is needed to strategically direct the nation's conservation practices. Green infrastructure provides a solution that ensures environmental protection and a higher quality of life within communities as well as regulatory predictability for landowners and investors.

Green Infrastructure at Multiple Scales

While green infrastructure planning occurs at a broad landscape scale, elements of the over-arching network can be found at all scales, from state-wide, to the county, city, and parcel/site scale. Critical elements of the implementation strategy, such as low-impact development practices (LID), conservation developments, green/grey interface, etc., are necessary components to any successful green infrastructure plan, and are frequently found at the site/parcel scale.

The Fayetteville Natural Heritage Association, a local non-profit conservation group, completed a "Plan for Green Infrastructure" in 2010 that presented a Green Infrastructure assessment of areas that included the cities of Fayetteville, Johnson, and Greenland on the east to Wedington Wildlife Management Area on the west. In the report a series of maps designated areas and land sites with both cultural and ecological value that should be considered when transportation and other development decisions are conducted. The group hopes to extend the Green Infrastructure assessment to all of Washington County and Benton County.

e. Complete Streets

The "Complete Streets" Alternative Approach involves designing streets not just for the automobile but for all users. Generally the elements that make up a complete street, according the National Complete Streets Coalition, are sidewalks, bicycle lanes, shared-use paths, designated bus lanes, safe and

accessible transit stops, and frequent and safe crossings for pedestrians, including median islands, accessible pedestrian signals, and curb extensions.

There is no one design for Complete Streets since different areas have different road uses. However, all Complete Street designs should balance safety and convenience for everyone using the road.

This intersection in Charlotte, NC, safely accommodates all road users, including motorists, transit riders, bicyclists, and pedestrians.

For a good discussion on Complete Streets see the Federal Highway Administration site at: http://www.fhwa.dot.gov/publications/publicroads/10julaug/03.cfm

f. Commuter Choice Program

The Commuter Choice Program could be another promising approach to congestion management in Northwest Arkansas. The U.S. Department of Transportation sponsored the development of an excellent guide and toolkit, the ***Commuter Choice Primer***, which presents the program at http://ntl.bts.gov/lib/jpodocs/repts_pr/13669.html. The guide gives the following introduction to the initiative:

What is Commuter Choice?
Commuter Choice is a nationwide initiative encouraging employers to offer a broad range of commuting options to their employees. This means expanding the choices available for employees to get to and accomplish their work, whether they are transportation options such as public transportation, bicycles, carpools, modified work schedules, or technology options such as telecommuting that change how work is done.

Initiated by the U.S. Department of Transportation (DOT) and the U.S. Environmental Protection Agency (EPA), the goal of Commuter Choice is to expand the availability of commute options as a viable means of addressing growth-related issues impacting our communities.

More specifically, Commuter Choice is:

- A government/business/community partnership designed to motivate employers nationwide to offer commuter choices.
- A voluntary initiative motivating employers to offer a broader range of commute options to employees through services, work options, benefit programs or other business decisions.
- A benefit to employees that enhances their quality of life by making "getting to work" easier, more affordable, and more employee-friendly (i.e., sensitive to commute and lifestyle demands and needs).
- A benefit to communities to help achieve livability, sustainability, and mobility.

Commuter Choice covers a range of options that employers can use to encourage employees to choose an alternative to driving alone in peak travel periods. Options include when, how, where, and even whether to travel on work related trips. These options are categorized into four commuter choices:

1. Mode Choice — How to commute
2. Time Choice — When and how fast to commute
3. Location Choice — Where to commute and whether to commute
4. Route Choice — Which way to commute

These choices recognize that each employer, each worksite, and each employee has different needs and characteristics. Many commuters today cannot or will not change "how" they get to work. Yet they still have to make choices as to when they travel and the route they take. This is why the choices are broad based to allow an employer to customize a Commuter Choice program to meet their specific needs.

g. Park & Ride Infrastructure

Park & Ride consists of parking facilities at transit stations, bus stops and highway onramps, particularly at the urban fringe, to facilitate Transit and Rideshare use. Some include Bicycle Parking. Parking is generally free or significantly less expensive than in urban centers. Park & Ride facilities are usually implemented by regional transportation or transit agencies. In some cases, existing, underutilized parking (such as a mall parking lot) is designated for Park & Ride use. Patrols and lighting are sometimes provided to address security concerns that users may have about leaving their vehicles at such a location.

It should be noted that Park & Ride lots are eligible for the Federal Transit Administrations New Starts funding with fixed guideway systems.

In the Northwest Arkansas Long Range Plan Survey developing rideshare and carpooling programs was chosen by over 60 percent of the respondents to be either more important or very important. Also
It was noted by the Sustainable Mobility Work Group that in 2008 when gas prices approached and surpassed four dollars a gallon, there was much interest in carpooling. Given a rise in gas prices again, or with the introduction of other incentives, there could be more commuter interest in ridesharing. Park-and-Ride infrastructure would help facilitate commuter ridesharing.

The Arkansas Highway and Transportation Department identified a list of potential locations for Park-and-Ride lots. These include:

Interstate 540:

1) Exit 93 – Hwy 71B
2) Exit 88 – Hwy 72

3) Exit 86 – Hwy 62/ Hwy 102
NWACC
4) Exit 85 – Hwy 71B/ Hwy 12
Rogers, Bentonville
5) Exit 83 – Pinnacle Hills
6) Exit 82 – Promenade Blvd
7) Exit 81 – Pleasant Grove Rd
8) Exit 78 – Hwy 264
Lowell, Cave Springs
9) Exit 76 – Wagon Wheel Rd
10) Exit 73 – Elm Springs Rd
11) Exit 72 – Hwy 412
Springdale, Tontitown
12) Exit 69 – Johnson
13) Exit 67 – Hwy 71B
Fayetteville Business District
14) Exit 66 – Hwy 112
15) Exit 65 – Porter Rd
16) Exit 64 – Hwy 16/ Hwy 112
Wedington Dr
17) Exit 62 – Hwy 62/ Hwy 180
Farmington, U of A
18) Exit 60 – Hwy 265
19) Exit 58 – Greenland
20) Exit 53 – Hwy 170
West Fork
21) Exit 45 – Winslow

Highway 412:
22) Grade Separation at South Hwy 59

Northwest Arkansas needs to further pursue the potential of developing these locations as I-540 improvements are considered. Northwest Arkansas should further explore underutilized and unused parking lots located at or near transit stops or other north-south corridors.

For more information see: http://www.vtpi.org/tdm/tdm27.htm

h. Taxi Service Improvements

Taxi refers to for-hire automobile travel supplied by private companies. Taxi service is an important transportation option that meets a variety of needs, including basic mobility in emergencies, general transportation for non-drivers, and mobility for tourists and visitors.

Taxi service can be an important backup option for other alternative forms of transport, such as allowing pedestrians to carry large loads back from a store, providing an emergency ride home when a cyclist has a medical or mechanical problem, or a guaranteed ride home for a rideshare or transit commuter. Informal taxi service often develops in rural communities where certain motorists will drive their

neighbors for a fee. In this role, Taxi Improvements can be an important support for Transportation Demand Management efforts to reduce personal automobile ownership and use, and encourage use of alternative modes.

Taxi service can be improved by:

- Increasing the number of taxis in an area.
- Increasing the quality of taxi vehicles (comfort, carrying capacity, reliability, and safety), improving support services (such as radio dispatch), driver skill and courtesy.
- Universal Design of taxi vehicles, including accommodating people in wheelchairs and with large packages.
- Reducing fares through regulation, competition, increased efficiency, incentives or subsidies such as the Job Access Reverse Commute (JARC) Coupon Program. See: http://www.fta.dot.gov/funding/grants/grants_financing_3550.html
- Allowing shared taxi trips (more than one passenger) and paratransit services.
- Providing taxi stands, curb access and direct telephone lines.

Taxi service improvements have relatively modest direct travel reduction impacts; although allowing shared taxis (more than one passenger per trip) may reduce some vehicle trips. Taxi improvements may actually increase total motor vehicle travel if it allows increased mobility by people who are transportation disadvantaged.

However, Taxi Improvements support use of alternative modes, including walking, cycling, ridesharing and transit use, by giving people who use those modes a better fallback option in emergencies. It can allow people to reduce their car ownership. In these ways, Taxi Improvements can contribute to relatively large reductions in vehicle travel. Experience with Guaranteed Ride Home programs indicates that improving the availability of fallback options can significantly increase use of alternative modes. (See: www.vtpi.org for more information).

i. Transit Oriented Development (TOD)

Urban designers and planners who advocate more infill and compact development suggest Transit Oriented Development (TOD) as one alternative. Transit Oriented Development is compact, walkable development occurring within one-half mile of a transit stop. In general, transit oriented developments include a mix of uses, such as housing, shopping, employment, and recreational facilities within a design that puts a high priority on accommodating transit, pedestrians and bicycles. Besides providing direct access to transit, transit oriented developments can offer a variety of destinations close to one another, making it possible to move around without exclusive reliance on a car. If possible, transit oriented developments should incorporate an attractive public area —for example, streets with trees, furniture, and plazas—to encourage pedestrian activity.

People walking and shopping in an Atlanta Regional Commission Livable Centers Initiative proposed TOD
(http://fta.dot.gov/publications/publications_11007.html)

Opportunities for Transit Oriented Developments in Northwest Arkansas may include downtown locations of large and small cities. Also, locations near major freeways such as I-540, might be adaptable to TODs should bus rapid transit become available.

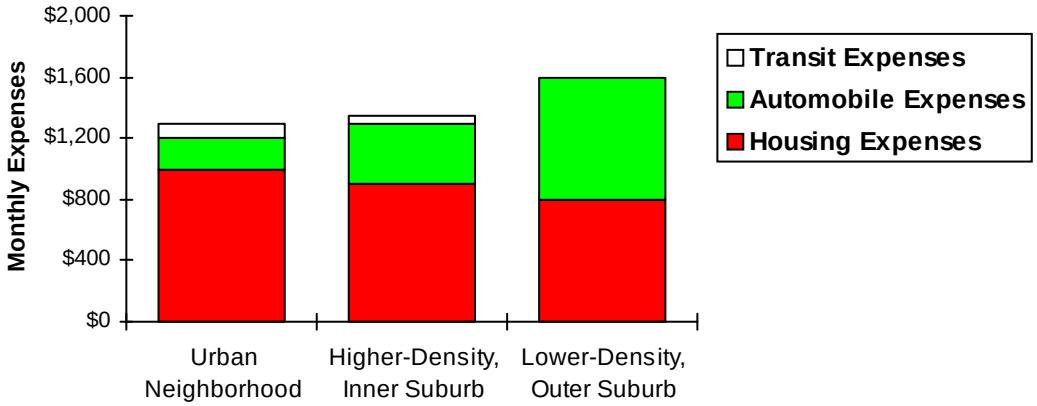
A study prepared by the California Department of Transportation points out that there are many benefits associated with TODs including:

- **Quality of Life:** "Quality of life" is often used to represent a host of factors that collectively describe a good place to live. It includes concepts such as safe neighborhoods, access to jobs and recreation, a sense of community, ease of getting around, and moderate cost of living.
- **Increased Mobility Choice:** Because of their pedestrian orientation, mix of uses, and access to transit, TODs increase the number and proportion of all trips made by transit, walking, and cycling.
- **Reduced Congestion:** To the extent that TOD allows more people to use transit, walk, and bicycle, it reduces road and highway congestion.
- **Conservation of Land and Open Space:** By concentrating development, TOD helps to curtail sprawl, which protects open space.
- **Health Benefits:** By providing more opportunities for walking and bicycling, TODs offer direct health benefits—significant at a time when obesity has become a national epidemic, fueled partly by the sedentary lifestyle associated with sprawl.
- **Enhanced Sense of Community:** Research suggests that residents in suburban sprawl neighborhoods feel no strong "sense of community." TOD, however, provides and emphasizes public space that affords residents spending opportunities for face-to-face contact.
- **Economic & Social Benefits:** TOD can lower housing costs and reduce household transportation spending.
- **Jobs-Housing Balance:** A jobs-housing imbalance occurs when jobs are located far from housing. Bringing jobs, housing, and services closer together and linking them with transit helps mitigate this mismatch.

- **Redevelopment Opportunities:** TOD can combine public and private investment, so that scarce public funds can be used most efficiently and effectively.

Proponents of Transit Oriented Development maintain that people living within walking distance of public transit can reduce their transportation costs considerably by becoming a one-car family and driving less. Lower transportation costs, according to TOD advocates, can offset the higher housing costs of living in an urban neighborhood as shown in the diagram below. Indeed, a 2002 study by the Bureau of Labor Statistics suggested that the average family spends $7,000 per year for each vehicle it owns. (Transit advocates also point out that hidden costs of driving would make this figure much higher but the driver does not immediately pay for these costs.)

Household Housing and Transportation Expenses



Urban neighborhoods tend to have high housing costs but lower transportation costs. Current mortgage assessments only consider housing costs and treats automobile ownership as a financial asset rather than a liability, encouraging homebuyers to choose automobile-dependent locations. Higher density, location efficient development creates a more neutral housing market.

Even though there may be many benefits with TOD, there are also many obstacles to their development. Neighborhood groups usually oppose high-density developments that might attract more traffic. Local development codes around transit stations usually favors low-density, auto-oriented uses. Mixed-use, higher density projects with reduced amounts of parking (such as in TOD) can significantly increase risks for developers and financers. TOD can be more costly, and can be subject to more regulations and more complex local approval processes, as compared to conventional automobile oriented development. Lenders typically have concerns about financing mixed-use projects or those with lower parking ratios as with TOD.

The Department of Transportation points out that although it does not sponsor a grant program specific to transit-oriented development, most FTA funding programs can be used for capital projects that support TOD. The following is a list of TOD-related activities that may be funded by FTA:

- Real estate acquisition
- Demolition

- Site preparation
- Building foundations
- Utilities
- Walkways
- Open space
- Safety and security equipment and facilities
- Facilities that incorporate community services like healthcare and daycare
- Intermodal transfer facilities
- Transportation-related furniture, fixtures and equipment
- Parking
- Project development activities
- Professional services
- Pedestrian improvements
- Bicycle improvement

Given the listed potential advantages of Transit Oriented Developments and the possible funding sources the Congestion Management Process committee should consider how such developments might be encouraged in Northwest Arkansas.

j. Land Use Incentives for infill, redevelopment, and higher density for short commutes

Various forms of tax incentives and regulatory mechanisms have been employed to stem urban sprawl, encourage urban center redevelopment and urban density. These include Tax Increment Financing (TIFs), special tax districts, and urban growth boundaries. All of these approaches have had limited degrees of success.

One type of incentive, location value charges (also known as "site value taxation", has some unique advantages over other types of incentives and it is recommended that this be studied further. As described in the book *Home From Nowhere* by James Kunstler, Site Value Taxation would remove property taxes from building structures and, instead, would tax the land sites below the buildings according to their location value. The implementation of the tax, gradually applied, should be revenue neutral. As public infrastructure improvements are made to an area, location value charges would help pay for the improvement.

Three of many references on this topic are:
Lincoln Institute for Land Policy: A Tax for Today:
http://atlincolnhouse.typepad.com/weblog/2010/03/a-tax-for-today.html

Land Value Taxation by Robert Tideman: http://www.cooperativeindividualism.org/tideman-robert_land-value-taxation.html

FINANCING COMMUNITY REDEVELOPMENT THROUGH LAND VALUE INCREMENTS: AN ALTERNATIVE TO TIF by Dr. Thomas Gihring: http://commonground-usa.net/gihring_0607.htm

k. Expanding on What We Measure:

i) Sustainable Transportation Indicators

Conventionally transportation planning measures traffic as the main indicator of good or bad. Level of Service (LOS) is normally ranked on a scale of A to F. However, some writers [Todd Litman, Well Measured; Developing Indicators for Sustainable and Livable Transport Planning, January 6, 2011 (http://www.vtpi.org/wellmeas.pdf) consider the importance of measuring mobility and accessibility. The following chart presents how alternative measurement objectives might be different.

Comparing Transportation Measurements

	Traffic	Mobility	Access
Definition of Transportation	Vehicle travel.	Person and goods movement.	Ability to obtain goods, services and activities.
Unit of measure	Vehicle-miles and vehicle-trips	Person-miles, person-trips and ton-miles.	Trips.
Modes considered	Automobile and truck.	Automobile, truck and public transit.	All modes, including mobility substitutes such as telecommuting.
Common Performance Indicators	Vehicle traffic volumes and speeds, roadway Level of Service, costs per vehicle-mile, parking convenience.	Person-trip volumes and speeds, road and transit Level of Service, cost per person-trip, travel convenience.	Multi-modal Level of Service, land use accessibility, generalized cost to reach activities.
Assumptions concerning what benefits consumers.	Maximum vehicle mileage and speed, convenient parking, low vehicle costs.	Maximum personal travel and goods movement.	Maximum transport options, convenience, land use accessibility, cost efficiency.
Consideration of land use.	Favors low-density, urban fringe development patterns.	Favors some land use clustering, to accommodate transit.	Favors land use clustering, mix and connectivity.
Favored transportation improvement strategies	Increased road and parking capacity, speed and safety.	Increased transport system capacity, speeds and safety.	Various strategies to increase transport and land use system capacity, efficiency and safety.
Implications for TDM	Considers vehicle travel reductions undesirable, except where congestion is extreme.	Supports TDM strategies that improve personal and freight mobility.	Supports TDM whenever it is cost effective.

This table compares the three major approaches to measuring transportation.

Although the Level of Service (LOS) of the Northwest Arkansas region's road network may always remain a priority the Congestion Management subcommittee should consider developing measurements for Mobility and Accessibility for a different approach that may further the principles stated in the Sustainable Mobility Guidelines.

ii) Quality of Life Index for the Region

The concept of "Quality of Life" can cover a wide variety of factors including safe neighborhoods, access to jobs and recreation, a sense of community, ease of getting around, and moderate cost of living. Although not all of the "Quality of Life" is directly related to transportation, transportation plays a significant role. The development of a regional Quality of Life Index program might be considered to show regional progress in Quality of Life and Livability with factors that include congestion and other transportation elements.

iii) Green Roads Rating System:

Similar to the LEEDS energy efficient building program, the Green Roads Rating System is a voluntary sustainability rating system, or "performance metric," for roadway design and construction. It awards points for sustainable choices/practices and can be used to assess roadway project sustainability. For more information see: http://www.greenroads.us/

l. Other Methods, Concepts, Technologies (See Appendix D)

F. INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

1. Introduction

What Is ITS?

The application of advanced sensor, computer, electronics, and communication technologies and management strategies—in an integrated manner—to improve the safety and efficiency of the surface transportation system.

Intelligent Transportation Systems, or ITS, encompass a broad range of wireless and wireline communications-based information, control and electronics technologies. When integrated into the transportation system infrastructure, and in vehicles themselves, these technologies help monitor and manage traffic flow, reduce congestion, provide alternate routes to travelers, enhance productivity, and save lives, time and money. Intelligent Transportation Systems provide the tools for transportation professionals to collect, analyze, and archive data about the performance of the system during the hours of peak use. Having this data enhances traffic operators' ability to respond to incidents, adverse weather or other capacity constricting events.

Examples of Intelligent Transportations Systems include:

Advanced Traveler Information Systems deliver data directly to travelers, empowering them to make

better choices about alternate routes or modes of transportation. When archived, this historical data provides transportation planners with accurate travel pattern information, optimizing the transportation planning process.

Advanced Traffic Management Systems employ a variety of relatively inexpensive detectors, cameras, and communication systems to monitor traffic, optimize signal timings on major arterials, and control the flow of traffic.

Incident Management Systems, for their part, provide traffic operators with the tools to allow quick and efficient response to accidents, hazardous spills, and other emergencies. Redundant communications systems link data collection points, transportation operations centers, and travel information portals into an integrated network that can be operated efficiently and "intelligently."

2. ITS Regional Architecture Development

The Federal Highway Administration (FHWA) issued a final rule to implement Section 5206(e) of the Transportation Equity Act for the 21st Century (TEA-21) in January of 2001. This final rule requires that Intelligent Transportation System (ITS) projects funded through the Highway Trust Fund conform to the National ITS Architecture and applicable standards.

- To meet these requirements and ensure future Federal funding eligibility for ITS, the Northwest Arkansas Regional Planning Commission (NWARPC) in conjunction with the Arkansas State Highway and Transportation Department (AHTD) initiated the development of a Regional ITS Architecture and Deployment Plan. The Regional ITS Architecture provides a framework for ITS systems, services, integration, and interoperability, and the Regional ITS Deployment Plan identifies specific projects and timeframes for ITS implementation to support the vision developed by stakeholders in the Architecture.

The NWARPC in conjunction with local stakeholders and the consulting firm Kimberly Horn developed the Regional ITS Architecture and Deployment Plan in 2006 and 2007. The Plan was adopted as an amendment to the 2030 Long Range Transportation Plan on May 24, 2007
Here is a summary of the process:

- A consultant was chosen for the Architecture development. A meeting with the consultants, AHTD, and ITS Focus Team was held July 19, 2006 to initiate the project.
- A kick off meeting was held on September 14, 2006.
- A two-day workshop was held October 18 and 19, 2006.
- Police and EMS providers met on October 27, 2006 for a WebX meeting with the consultants.
- Workshops were held November 9 and December 7, 2006. The group discussed and prioritized market packages.
- A comment resolution workshop was held on January 25, 2007. The group discussed the deployment projects and changes to the architecture. A comment period was established to run through February 15, 2007.
- The final Draft ITS Regional Architecture and Deployment Plan was presented to the TAC and Policy Committee on April 26, 2007. The committees approved the Plan and initiated the

process to adopt the Plan as an amendment to the 2030 Northwest Arkansas Regional Transportation Plan.

- The final ITS Regional Architecture and Deployment Plan was presented to the TAC and Policy Committee on April 26, 2007. A process was initiated to amend the Architecture and Deployment Plan into the 2030 Northwest Arkansas Regional Transportation Plan. The TAC and Policy Committee met on May 24, 2007 and voted in favor of the amendment.

This Regional ITS Architecture and Deployment Plan will be retained as a part of the 2035 Northwest Arkansas Regional Transportation Plan.

Some of the benefits of the Regional ITS Architecture are:

- Allows ITS implementation to be efficiently structured.
- Builds a foundation for explicitly incorporating operations and management into decision-making.
- Encourages stakeholder buy-in.
- Assists in estimating funding needs.
- Serves as a tool for education/regional information exchange.
- Assists in identifying gaps in existing services.

G. TRAVEL DEMAND MODEL

1. Introduction

Travel Demand Models (TDM) are used to forecast traffic flows on the transportation system. Although the transportation system may include other modes of travel such as walking, bikes, or railroads, the models are typically used for evaluating roadway improvements or improvements to bus service. TDMs are used by consulting firms, MPOs and state departments of transportation to identify probable future year transportation system deficiencies that may not exist today. These agencies also use the models to evaluate the impact of alternative transportation solutions for development of long range transportation plans.

A travel demand model is a program or set of computer programs and data, which are assembled to aid in travel forecasting. The traffic forecasts are based on forecasted land use, demographic data, socio-economic factors and travel patterns unique to the region.

2. Benefits of a Regional Travel Demand Model

Specific Highway Construction Projects

- Five to thirty year forecasts
- Traffic impact of changes in land use and development
- Traffic pattern and volumes that are used by city and regional planners before deciding on roads improvements or construction

Studies

- Major investment studies
- Interchange justification studies
- Bypass studies
- Freight studies
- Corridor studies

General Highway Planning

- Traffic impact of changes in land use and development
- Traffic impacts of new roadways or closing roadways
- Evaluate bypasses
- Generate inputs to micro simulation models
- Accident prone locations identification

Development of Long Range Transportation Plans

- State and Regional Plan and TIP development
- Traffic impact of changes in land use and development
- Congestion Management Programs
- Forecast regional pollution from vehicles
- Evaluate Environmental Justice
- Transit route planning

The Travel Demand Model for Northwest Arkansas:

- Provides inputs for site-specific studies (including whole cities) that will make studies more accurate (by viewing the big picture) and less costly (future projections for major roads will be readily available to cities and consultants).

- Gives the local jurisdictions an on-going resource of traffic count projections to answer what-if questions
    - What if we four lane this segment as opposed to that segment?
    - What if we put three lanes instead of five lanes?
    - What if a large shopping mall goes here?
    - What if we put in this east/west corridor?

- Provides jurisdictions with SimTraffic type software inputs for traffic scenarios such as
    - Projected traffic counts for the base year as well as forecast years like, 2015, 2030, 2035 etc.
    - Traffic counts for different road improvement scenarios.
    - Traffic counts for intersection improvement and signalization analysis.

3. Model Development

The Arkansas Highway and Transportation Department in conjunction with the Northwest Arkansas Regional Planning Commission contracted for development of a base year travel demand model in the summer of 2004.

NWARPC staff, working with AHTD and the consultants, developed geographic and demographic data for the travel demand model including:

- Road network with attributes
- Transportation Analysis Zones (TAZ) with demographic attributes
- Employer data
- School Enrollment data

Household surveys and external trip surveys were performed by the consultants while a freight survey was conducted by AHTD.

All of this accumulated data was incorporated into the travel demand model. AHTD and locally derived traffic counts were compiled and used to calibrate the 2005 base year model. A first version model completion was finalized in 2006. NWARPC staff has been since developing forecast year data sets for 2010, 2015, and 2030 utilizing some of the projections referenced in Chapter III of this Plan, as well as other forecasting methods.

Due to the ever changing land use and population number and distribution in Northwest Arkansas, the model has been continuously updated since 2006 by NWARPC staff. In the summer of 2010, as part of the Western Beltway Feasibility study, an important task of this project has been identified to include a major update to the model. Since then, the consultants hired to work on the Feasibility Study and the NWARPC staff have been updating the model code as well as socio-demographic and land use data used for the model scenarios. The model has now added the 2035 scenario year as well as incorporated the McDonald County, Missouri as relevant geography to the Western Beltway project, as well as the Bella Vista and Springdale Bypass projects.

H. 2035 HIGHWAY NETWORK

1. 2035 Proposed Network

It is imperative that the cities and two counties of the NARTS area develop an interconnected road network that carries traffic seamlessly through the many jurisdictions. To this end, all of jurisdictions working together developed a connected network that was considered a high priority to be at four-lane capacity by 2035. After the cities and counties provided specific input, the TAC looked for and added regional connections that tied the system together.

The following 2035 Regional Network map was developed without consideration of financial limitations and could be considered a graphic representation of a Regional Unconstrained Plan. It allowed the TAC and the public to visualize the concept of a regional network. This map was also used to show the existing inventory of four-lane plus roads. This map must still be considered a work in progress, as all roads involving new location must be thoroughly analyzed.

The 2035 Regional Proposed Network map. See map attached at the end of this chapter.

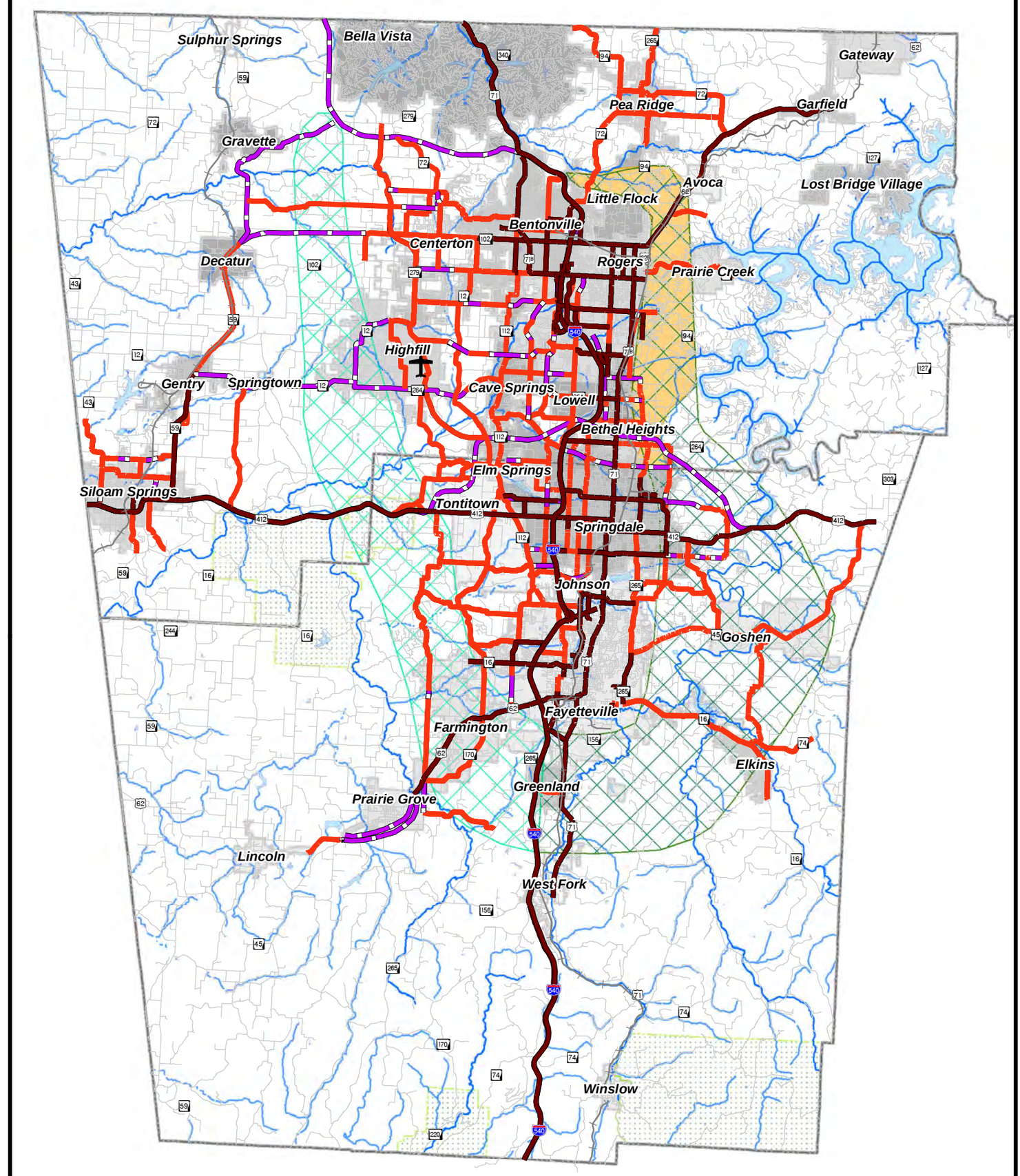
2. Unconstrained Concept

The 2035 Proposed Network is a working template used to develop and promote regional connectivity in the road system. It is a valuable graphic representation and emphasizes primarily the arterial needs of the region.

Federal legislation requires that future plans be developed with regard to funding constraints. Our rapid growth and limited financial resources demand that we prepare plans and schedules for accomplishing improvements. The 2035 Plan includes an "Unconstrained Plan" and "Constrained Plan". The "Unconstrained Plan" includes all transportation improvements (roadway, transit, trail, etc.) necessary to meet transportation needs in 2035. The "Constrained Plan" is developed from the "Unconstrained Plan" but is limited to estimated funds available.

3. ROW Preservation/Cross-sections

The importance of preserving ROW and adhering to uniform cross-sections constitutes a major emphasis identified from developing the 2035 Road Network. Cities are urged to consider the 2035 Network and to reflect the needed connectivity on their master street plans. This will allow them to preserve the important ROW easements as the area continues its rapid development. Cities are also advised to reflect the recommended cross-section guidelines from Chapter Five in their master street plans.



Northwest Arkansas Regional Planning Commission
02/22/2011
http://nwarpc.org

0 1.25 2.5 5 Miles

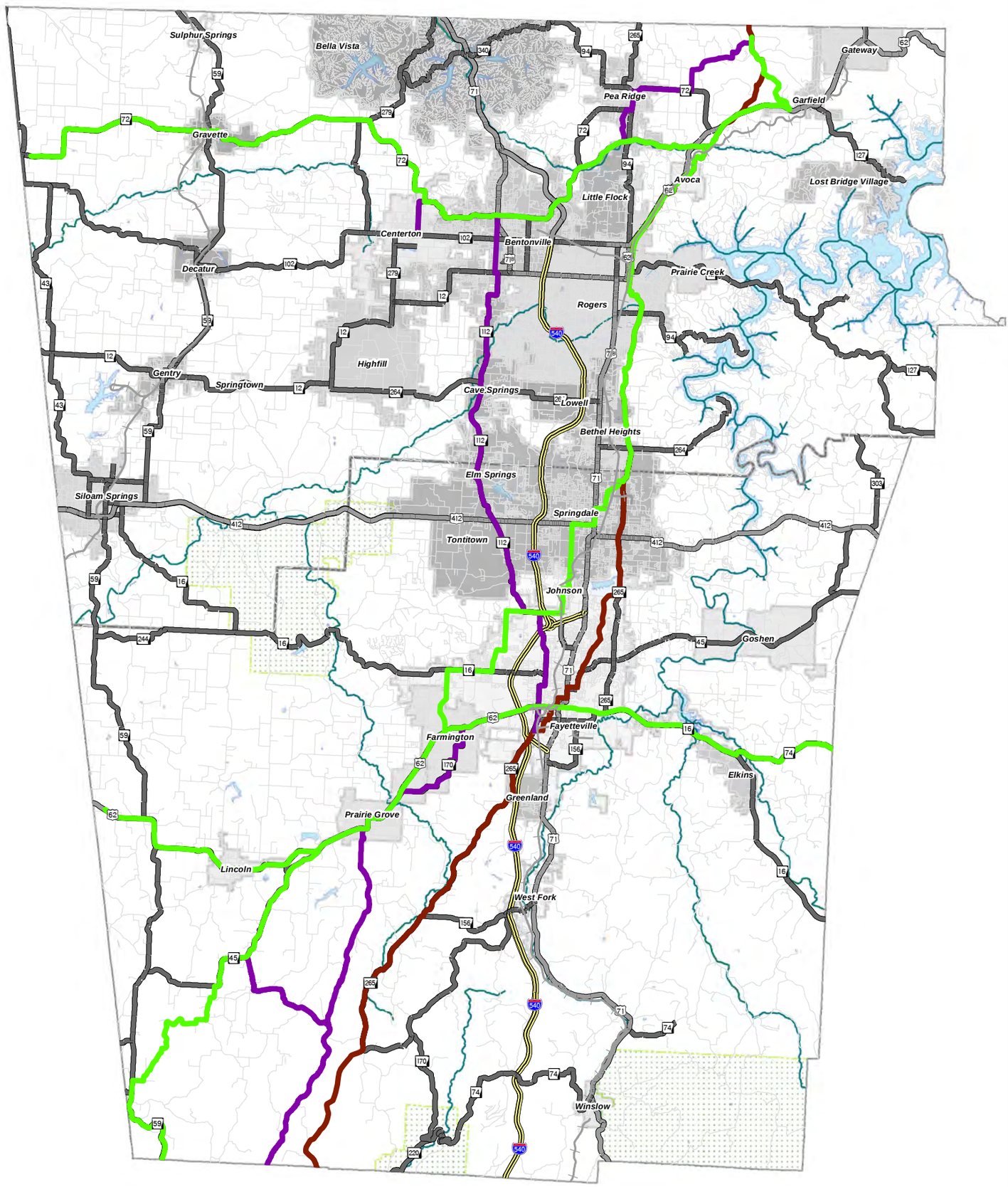
2035 Proposed Network for Northwest Arkansas

Road Centerlines
Railroad
Large Streams
Lakes
National Forest Boundary

4+ Lanes (2010 TDM)
4+ Lanes

2035 Future 4+ Lane Roads
On Existing Road
On New Road

Proposed Corridors
Western Beltway
Eastern Parkway
Eastern Corridor



N

Northwest Arkansas Regional Planning Commission
3/21/2011
http://nwarpc.org

0 1.25 2.5 5 Miles

Northwest Arkansas Heritage Trail Plan

Heritage Trail Plan Routes

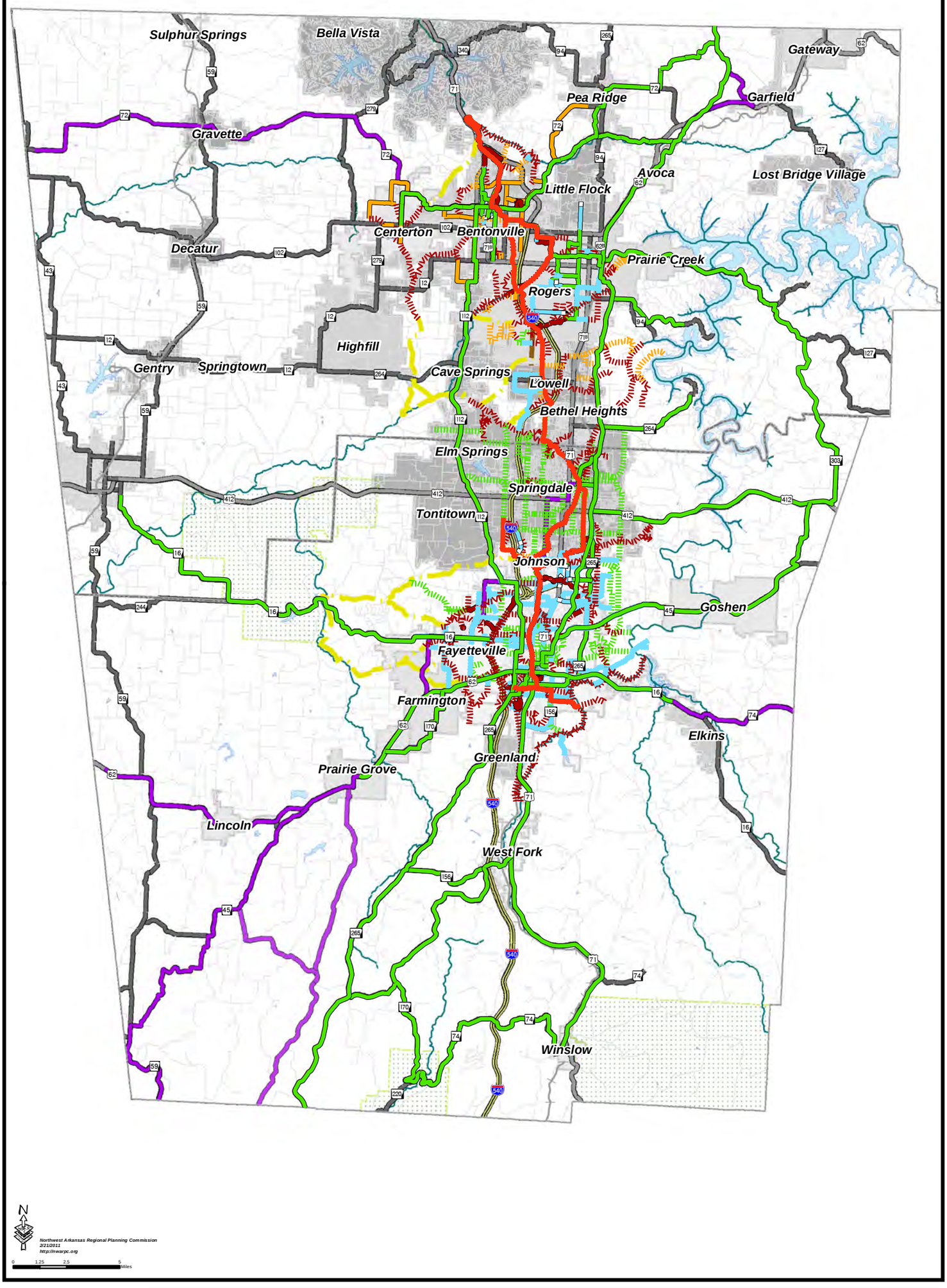
- Butterfield Coach
- Civil War
- Cherokee Trail of Tears

Roads and Highways

- Interstate Highways
- US Highways
- AR State Highways
- Roads
- Railroad

Natural Features

- Rivers
- Lakes
- National Forest Boundary



Northwest Arkansas Regional Planning Commission
2/21/2011
http://nwarpc.org

0 1.25 2.5 5 Miles

Northwest Arkansas Regional Trail Plan

Roads and Natural Features

- Interstate Highways
- US Highways
- AR State Highways
- Roads
- Railroad
- Rivers
- Lakes
- National Forest Boundary

NWA Trail System

- Off Road, Multi-Use Trail, Existing
- Off Road, Multi-Use Trail, Proposed
- With Road, Multi-Use Trail, Existing
- With Road, Multi-Use Trail, Proposed
- With Road, Ped Bike Lane, Existing
- With Road, Ped Bike Lane, Proposed
- With Road, Ped Bike Route, Existing
- With Road, Ped Bike Route, Proposed
- Heritage Trail Plan
- NWA Razorback Regional Greenway

Potential Connections

- Potential Regional Off Road Connectors
- Potential Regional Bike Routes

CHAPTER VI: FINANCIAL PLAN

A. THE FINANCIALLY CONSTRAINED IMPROVEMENT PLAN

1. Introduction

The 2035 Proposed Network and the Constrained and Unconstrained Road Project Lists represent potential road improvements in the region. The individual cities and counties also have important projects that will utilize federal funding. A major component of the 2035 Northwest Arkansas Regional Transportation Plan is to take the estimated available funds through the year 2035 and prioritize the potential projects within the limits of the estimated funds.

This "Constrained List" consists of projects that can reasonably be expected to be funded with Federal-Aid funds during the Plan period. This is determined by estimates of Federal-Aid funds that can reasonably be expected to come to the area given the area's highway network, population, etc. These estimates are provided by the Arkansas Highway and Transportation Department and are not limits, nor are they guarantees of funding. They are conservative, reasonable estimates of future funding to guide development of the Plan. The costs of the road projects in this plan have been adjusted to represent future inflated construction costs at a rate of 7.9 % per annum.

2. The FY 2010-2013 Transportation Improvement Program (TIP)

The "Financially Constrained List" of projects necessarily starts with the adopted FY 2010-2013 TIP, which shows the projects that already have Federal, State, and local commitments. The full TIP is in Appendix E and many of the projects are also represented on the various constrained lists.

3. NHS/IM, STP / STP-U and STP-A Projects

AHTD provided funding estimates for several categories of major road projects as shown in this table. All of the totals reflect the current TIP and estimated Federal funds and matching funds.

Estimated Funds available for 2010-2035:

STP (State Highway)	$594,754,000
STP-U and A(Local and Regional Roads)	$279,063,020
NHS (National Highway System)	$308,420,000
IM (Interstate Maintenance)	$251,256,000
Total estimated Funds Available (includes current TIP)	**$1,433,493,020**

National Highway System (NHS) funds are available only for highways that are on the National Highway System.

Interstate Maintenance (IM) funds are only available for Interstate highways and thus are limited to I-540 through Northwest Arkansas.

Surface Transportation Program (STP) funds are available for numbered State and US highways.

STP-Urban and STP-Attributable funds are available for local roads as long as they are on the Functionally Classified Highway Map. This map is in the appendix of this document and updates will be posted on the www.nwarpc.org webpage.

Developing a Policy for Use of STP-A Funds

Surface Transportation Program – Attributable (STP-A) funds are expected to become available to Northwest Arkansas after the Census Bureau determines the urbanized population to be over 200,000 and the FHWA designates Northwest Arkansas as a Transportation Management Area (TMA). This is expected to happen in late 2012. This designation will also be subject to new federal legislation enacted in the coming Federal Highway Reauthorization bill. Under current legislation, these STP-A funds can be utilized for all permitted transportation projects at the discretion of the TMA Policy Committee.

There are many uses permitted for STP-A funds as described in the list below.

According to the funding table provided by AHTD, the Northwest Arkansas area should have $7.3 million per year available as STP-A funds. When funds are adjusted for inflation, these amounts raise up to an average of $13 million per year in 2021- 2035.

The TAC developed project lists containing a prioritized fiscally constrained list of projects showing the distribution of these funds. However, due to the many potential uses of the funding it was determined that the NWARPC as the MPO Policy Committee should develop a more specific policy regarding use of and allocation of the funds. One method that was discussed involved distribution of the STP-A funds based on a per capita funding level. Discussions also involved use of the money for transit, planning administration, and various programs. Due to the complexity of the various options and the lack of a new Federal Highway Bill, a determination was made to use the remainder of 2011 to develop a policy for use of the STP-A funds and amend that policy into the 2035 Northwest Arkansas Regional Transportation Plan. The new policy will also influence and probably involve changes to the current tables showing the use of the funds.

Permitted Uses of STP Funds

The Surface Transportation Program provides flexible funding that may be used by States and localities for projects on any Federal-aid highway, including the NHS, bridge projects on any public road, transit capital projects, and intra-city and intercity bus terminals and facilities.

PROJECT TYPES

Eligible project types (Title 23 USC, Chapter 1, Section 133) include:

- Construction, reconstruction, rehabilitation, resurfacing, restoration and operational improvements for highway and bridge projects, including bridge seismic retrofit, painting and application of calcium magnesium acetate, sodium acetate/formate, or other environmentally acceptable, minimally corrosive anti-icing and de-icing compositions. Also included are the necessary engineering, right-of-way and environmental mitigation for these activities.
- Transit capital projects under Chapter 53 of 49 USC including vehicles and facilities, whether publicly or privately owned, that are used to provide inter-city passenger service by bus.
- Carpool projects, fringe and corridor parking facilities, bicycle facilities and non-construction projects, pedestrian walkways, and modification of public sidewalks to comply with the Americans with Disabilities Act of 1990 (42 USC 12101 et seq.).
- Highway and transit safety infrastructure projects, hazard eliminations, projects to mitigate hazards caused by wildlife, and railway-highway grade crossing elimination or improvement.
- Highway and transit research and development and technology transfer programs.
- Capital and operating costs for traffic monitoring, management and control facilities and programs.
- Surface transportation planning programs.
- Transportation enhancement activities.
- Transportation control measures listed in Section 108(f)(1)(A) of the Clean Air Act excluding clause (xvi).
- Development and establishment of management systems under Title 23 USC, Section 303.
- Wetlands mitigation and natural habitat efforts related to projects funded under Title 23 USC.
- Capital improvements for infrastructure-based intelligent transportation systems.
- Environmental restoration and pollution abatement projects, including retrofit or construction of stormwater treatment facilities (limited to 20% of the total cost of reconstruction, rehabilitation, resurfacing, or restoration projects).

Local Matching Funds

These estimated funds include matching funds from AHTD. Northwest Arkansas cities are also demonstrating an aggressive effort to raise local funds for road projects. These funds are used for local road projects and sometimes as a supplement to state and federal funds. This chart summarizes the level of local initiatives utilizing sales tax dedicated to road projects:

Sales Tax Revenue Dedicated to Roads:

Summary

City	Sales Tax	Approx. Annual Revenue
Rogers	1% (65% to roads)	$6,500,000
Springdale	1% (all to roads) 1% (75% to roads)	$12,131,000
Bentonville	1% (70% to roads)	$3,167,000
Fayetteville	1% (38% to roads)	$6,158,000
Lowell	1% (70% to roads)	$840,000
Centerton	1% (67% to roads)	$168,000
Prairie Grove	1% (45% to roads)	$130,000
Pea Ridge	1% (40% to roads)	$86,000
Siloam Springs	1% (80% to roads)	$2,000,000

All road projects receiving Federal funds must be on the Functionally Classified Highway Map. See map showing all functionally classified roads in the Study Area at the end of this chapter. Updates to the map will be posted on the NWARPC webpage, www.nwarpc.org.

Developing the Constrained Project List

Development of the 2030 Northwest Arkansas Regional Transportation Plan involved a significant amount of work. Consequently, the Technical Advisory Committee (TAC) decided to keep the basic constrained lists in place, but adjust them for inflated construction costs, and eliminate projects that are already completed. Due to an increase in estimated federal funds several projects were also moved into the “constrained lists” from previous “unconstrained lists”.

A sub-committee of the TAC was formed to evaluate the projects as the lists were adjusted. These listed projects were reviewed monthly by the TAC Work Group and were posted on the NWARPC webpage on February 23, 2011. The RPC/Policy Committee was made aware of the posting at this time. The constrained list and the full Plan was recommended for approval by the full TAC on March 3, 2011. March 3rd was also the day of the final public forum for the 2035 Northwest Arkansas Regional Long Range Plan and was the start of a 30 day public comment period prior to final RPC/Policy Committee approval on April 7, 2011

The 2035 Travel Demand Model was used as a valuable analysis tool to check the reasonableness of the draft "constrained list" The proposed projects were entered into a model run and then two queries were made:

1. Show all roads (in 2035) that still have two lanes but have over 18,000 ADT.

2. Show all roads (in 2035) that are four lanes but have less than 10,000 ADT.

The model did show some significant sections of arterial roads that were still two lanes (in 2035) with a forecast ADT of over 18,000. These roads were added to the "unconstrained" lists of needed road improvements.

The model analysis showed some existing or proposed four lanes roads with less than 10,000 ADT. Many of the roads meeting those criteria are already built and are local streets near schools and commercial centers.

The Constrained Lists by funding category:

- **Interstate Maintenance (IM) / National Highway System (NHS) Constrained List:**

2035 NHS and IM Constrained List							
	2010-2013 TIP						
	Project	**Cost**	**HPP**	**IM**	**NHS**	**Local**	**State Match**
I-540	I-540/62/102 Interchange (Bentonville)	$6,598,000.00	$1,278,000.00		$4,000,000.00	$1,000,000.00	$320,000.00
I-540	I-540/62/180 Interchange (Fayetteville)	$5,000,000.00			$4,000,000.00		$1,000,000.00
412	Springdale Northern Bypass	$11,521,000.00	$1,217,000.00		$8,000,000.00		$2,304,000.00
I-540	I-540 Major Widening and Interch Imp	$15,890,000.00	$5,335,000.00		$8,000,000.00		$2,555,000.00
I-540	I-540 Major Widening and Interch Imp	$20,000,000.00			$16,000,000.00		$4,000,000.00
	Total NHS				**$40,000,000.00**		
	2013-2015			**IM**	**NHS**		
	Available Funds (Includes 20% match)			**$21,660,000**	**$16,167,000**		
I-540	Routine Maintenance			$8,785,000			
I-540	Hwy 16 (Wedington) Int. Interim Imp. (Fayetteville)			$2,750,000			
I-540	Johnson Rd. Int. Interim Imp. (Johnson)			$1,125,000			
I-540	Hwy. 72 Int. Intermim Imp. (Bentonville)			$4,125,000			
I-540	Porter Rd. Int. Interim Imp. (Fayetteville)			$2,000,000			
I-540	Selected Int. Imp.			$2,875,000			
I-540	Major Widening				$8,167,000		
I-540	Don Tyson Interchange				$8,000,000		
	Total			**$21,660,000**	**$16,167,000**		
	2016-2020						
	Available Funds (Includes 20% Match)			**$42,112,000**	**$46,268,000**		
I-540	Routine Maintenance			$22,000,000			
I-540	Long-term Interchange Improvements			$20,112,000			
I-540	Main Lane Widening and Interchange Improvements				$22,268,000		
I-540	NE J Interchange				$8,000,000		
412	Through Siloam Springs				$8,000,000		
412	Springdale Bypass				$8,000,000		
	Total			**$42,112,000**	**$46,268,000**		
	2021-2035						
	Available Funds (Includes 20% Match)			**$187,484,000**	**$205,985,000**		
I-540	Routine Maintenance			$100,000,000			
I-540	Long-term Interchange Improvements			$87,484,000			
I-540	Main Lane Widening and Interchange Improvements				$105,985,000		
412	Through Siloam Springs				$20,000,000		
412	Springdale Bypass				$80,000,000		
	Total			**$187,484,000**	**$205,985,000**		
	Total for 2013 - 2035			**$251,256,000**	**$268,420,000**		
	Plus 2010 - 2013 TIP				**$308,420,000**		
	Total for all (NHS and IM)					**$559,676,000**	

- **STP Constrained Project List:**

2010-2013 TIP		Start with the TIP:				
		(The TIP includes additional funding categories)				
Job No.	**Hwy**	**Project**	**MILES**	**Cost/Mile**	**Project Cost**	**Funding**
90174	**102**	**Hwy 102-B- Greenhouse Rd**	**1.79**		**$12,000,000**	**$12,000,000**
40489	**112**	**Hwy 112 Spur - North**	**0.75**		**$3,000,000**	**$3,000,000**
40490	**265**	**South City Limits - Hwy 412 (Springdale)**	**1.25**		**$4,700,000**	**$4,700,000**
40517	**265**	**Hwy 45 E - Joyce Blvd**	**2.19**		**$15,400,000**	**$15,400,000**
40524	**62**	**Prairie Grove Bypass**	**4.20**		**$15,000,000**	**$15,000,000**
90224	**71**	**Bella Vista Bypass**			**$33,584,000**	**$33,584,000**
12007	**265**	**Randall Wobbe - Hwy 264**	**1.55**		**$5,000,000**	**$5,000,000**
40486	**16**	**Armstrong Ave- Stone Bridge Rd**	**1.54**		**$10,000,000**	**$10,000,000**
90065	**62**	**Avoca - N. Garfield**	**6.43**		**$28,000,000**	**$28,000,000**
40518	**265**	**E. Joyce Blvd - City Limit (Fayetteville)**	**2.04**		**$15,000,000**	**$15,000,000**
090X02	**264**	**Hwy 71-B - Hwy 265**	**1.40**		**$11,000,000**	**$11,000,000**
	265	**Springdale to Rogers**			**$5,000,000**	**$5,000,000**
Total					**$157,684,000**	**$157,684,000**

2013-2015		Future Years:				
Job. No.	**Hwy.**	**Project**	**MILES**	**Cost/Mile**	**Project Cost**	**Funding**
	102	Hwy. 279 South-102-B.	1.00	$7,600,000	$7,600,000	$7,600,000
	71B	Hwy. 71B /Hwy. 264 Intersection Imp. (Phase II) (Lowell)	-		$2,100,000	$1,500,000
	112	I-540-Van Asche (Fayetteville)	0.80	$7,600,000	$7,600,000	$6,080,000
	265	Springdale to Rogers			$6,000,000	$6,000,000
	71 B	Eighth Street to Dixieland			$7,000,000	$5,000,000
	Total				**$30,300,000**	**$26,180,000**
2016-2020						
Job. No.	**Hwy.**	**Project**	**MILES**	**Cost/mile**	**Project Cost**	**Funding**
40582	112	LeRoy Pond - Garland Ave	1.00	$9,300,000	$9,300,000	$9,300,000
40579	16	Stone Bridge Road - Falcon	1.47		$13,670,000	$5,510,000
	265	Springdale to Rogers Corridor			$6,000,000	$6,000,000
40521	62	Prairie Grove Bypass Base and Surfacing	-		$29,000,000	$29,000,000
	412	Hwy. 412 Springdale Bypass	-		$15,000,000	$15,000,000
	412	Hwy. 412 Improvements (Siloam Springs)	-		$2,000,000	$2,000,000
	12	2nd street to Rogers city limits	-		$3,400,000	$2,000,000
	112	Corridor Improvements			$5,000,000	$5,000,000
	71B	46th and 71B Intersection Imp. (Rogers)	-		$3,400,000	$2,000,000
Total					**$86,770,000**	**$75,810,000**

2021-2035 Job No.	Hwy.	Project	MILES	Cost/mile	Project Cost	Funding
	43	Dawn Hill Rd. - City Limits (Siloam Springs)	0.75	$18,400,000	$13,800,000	$13,800,000
	12	Greenhouse Road to Wal-Mart Dist. Center (Bentonville)	1.60	$18,400,000	$29,440,000	$29,440,000
	45	Hwy. 265 - Starr Road (Fayetteville)	0.50	$18,400,000	$9,200,000	$9,200,000
	45	Starr Road - Oakland-Zion (Fayetteville)	0.75	$18,400,000	$13,800,000	$13,800,000
090096	62	N. Garfield-Gateway (partial funding)	4.14		$12,000,000	$12,000,000
	72	Hwy. 94 - Mariano Rd. (Pea Ridge)	2.15	$18,400,000	$39,560,000	$39,560,000
	94	Hwy. 71-Old Wire Road (Rogers)	1.15	$18,400,000	$21,160,000	$21,160,000
	112	Bel Air-I-540 (Fayetteville)	1.00	$18,400,000	$18,400,000	$18,400,000
	112	Van Asche - Howard Nickell (Fayetteville)	0.75	$18,400,000	$13,800,000	$13,800,000
	112	Hwy 12 to Windmill (Bentonville)	1.80	$18,400,000	$33,120,000	$33,120,000
	102	Hwy 279 South - Hwy 279 North	1.25	$18,400,000	$23,000,000	$23,000,000
	16	College Ave - Huntsville Road	1.47	$18,400,000	$27,048,000	$10,000,000
	59	Hwy. 45-South (Sel. Sections) (Rehab./Minor Widen)	3.00		$12,240,000	$3,600,000
	16	Washington Co. Line-West (Rehab/Minor Widening)	6.60		$26,860,000	$7,900,000
	16	Wedington Woods-Washington Co. Line (Rebab/Minor Wi	8.00		$32,640,000	$9,600,000
	102B	Hwy. 102-Hwy. 72 Minor Widening (Centerton)	1.78		$6,688,000	$2,200,000
	412	Hwy. 412 Improvements (Siloam Springs)	-		$5,500,000	$5,500,000
40523	62	Prairie Grove Bypass gr &strs and bs & surf			$34,000,000	$34,000,000
	265	Springdale to Rogers Corridor			$20,000,000	$20,000,000
	112	Corridor Improvements (Howard Nickle to Windmill)			$15,000,000	$15,000,000
					$407,256,000	**$335,080,000**
TOTAL for 2014- 2035					**$524,326,000**	**$437,070,000**
TOTAL including 2010- 2013 TIP					**$682,010,000**	**$594,754,000**
	Shortfall of Constrained					**$87,256,000**

- **STP Urban and Attributable Constrained List:**

2010 - 2013 TIP	**From the 2010-2013 TIP**					
Jurisdiction	**Project**	**Begin**	**End**	Miles	**Estimated Project Cost**	**STP-U Funding**
Lowell	East Monroe Extension				$2,100,000	$1,000,000
Johnson	Johnson Road				$14,586,000	$1,000,000
Fayetteville	112	180	Leroy Pond		$1,250,000	$1,000,000
Total					**$17,936,000**	**$3,000,000**
Add to TIP						
Rogers	Garett	Bellview	City Limit		$5,400,000	$1,000,000
Springdale	56th	412	Watkins	1	$5,400,000	$1,000,000
Bentonville	Water Tower Road	Battlefield	102	1.25	$5,300,000	$1,000,000
Siloam Springs	Tahlequah Road	Hwy 264	S. Country Club		$1,165,813	$932,650
Total					**$17,265,813**	**$3,932,650**

2013 - 2015 STP-A						
Jurisdiction	**Route**	**Begin**	**End**			**STP-A Funding**
Bentonville	SW A	Hwy 71B	Central	1.25	$7,000,000	$2,750,000
Fayetteville	Rupple Road	Wedington	Mt. Comfort Road	1	$7,290,000	$3,250,000
Lowell	Monroe extension	RR/Monroe Int.	Brandon St.		$2,160,000	$1,100,000
Rogers	Frontage Road	Pleasant Grove	Greens		$3,780,000	$2,700,000
Johnson	Main Drive	Little Sandy	I-540		$1,750,000	$550,000
Springdale	56th Street	Hwy 412	Harber Ave.	0.75	$5,700,000	$2,870,000
Pea Ridge	Green St	Hwy 94	Hwy 72		$1,400,000	$729,000
Bella Vista	State Hwy 279/340	Intersection			$1,400,000	$1,000,000
Benton County	Mill Dam/Col Meyers	Hwy 12	Hwy 112		$4,340,000	$2,850,000
Washington County	Woolsey Bridge				$4,340,000	$2,850,000
Transit/Admin/Program					$2,300,000	**$2,300,000**
Total					**$41,460,000**	**$22,949,000**

2016-2020 STP-A						**STP-A Funding**
Washington Co	Orr Bridge				$2,900,000	$1,700,000
Washington Co	Harvey Dowell/MW Bridge				$4,760,000	$2,800,000
Benton County	Hwy 68 Bridge				$5,100,000	$3,000,000
Bella Vista	Hwy 71 (add S.bound Lane)	Dartmoor Rd	I-540		$5,100,000	$3,000,000
Fayetteville	Van Ashe Drive	Gregg Ave.	Garland	1	$6,510,000	$4,650,000
Fayetteville	Rupple Road	Mt. Comfort	Howard Nickel	1.7	$9,669,600	$3,000,000
Centerton	Kimmel/Fish Hatchery	Greenhouse Rd.	Womack Road		$5,950,000	$1,200,000
Rogers	Laurel Ave.	71B	26th		$12,070,000	$3,000,000
Rogers	Frontage Road	Bellview	PWP		$6,120,000	$3,000,000
Bentonville	E. Battlefield	Central	Watertower		$5,950,000	$3,000,000
Springdale	56th Street	Watkins Ave.	Greathouse Springs	1.5	$10,200,000	$5,000,000
Springdale	56th Street	Harber Ave.	Elm Springs Road	0.5	$4,335,000	$2,550,000
Other Cities					$4,000,000	$4,000,000
Transit/Admin/Program					**$4,461,600**	**$4,461,600**
Total					**$87,126,200**	**$44,361,600**

2021-2035 STP-A						**STP-A Funding**
Washington County	Bush Valley Road	Lincoln CL	Hwy 45		$1,768,000	$520,000
Washington County	Hazel Valley Road	Hwy 16	CR 123		$2,298,400	$676,000
Benton County	Robinson Road	Hwy 68	WC Line		$5,100,000	$1,500,000
Benton County	Railroad Cut	Piney Pt	Steger Ln.		$5,100,000	$1,500,000
Bella Vista	Lancashire Blve	left turn lanes	variour intersections		$13,600,000	$4,000,000
Bentonville	Moberly Lane	SE 28th St.	Walton Blvd.		$7,650,000	$5,750,000
Bentonville	Beakart Dr				$10,200,000	$3,000,000
Fayetteville	Rupple Road	6th St.	Persimmon		$23,800,000	$7,000,000
Greenland	Wilson Street	Highway 265	Highway 71-B		$13,600,000	$2,000,000
Highfill	Pinalton Rd & Hutchens Rd	Hwy 264	Hwy 12		$43,520,000	$2,000,000
Johnson	Great House Springs Road	I-540	West to City Limits		$4,420,000	$550,000
Johnson	Wilkerson North	Clear Creek	Main Drive		$6,120,000	$1,000,000
Johnson	Wilkerson Street North	Main	Hewitt or Johnson Road exten		$10,880,000	$1,000,000
Johnson	Main Drive Widening	Wilkerson	East City Limits		$10,880,000	$1,000,000
Lowell	Bellview	Hwy 264	North to City Limit		$9,595,650	$1,000,000
Lowell	Springcreek	Hwy 264	Apple Blosom		$12,745,920	$3,000,000
Lowell-Benton Co.	Apple Blosom	S. Goad Springs Rd.	Spring Creek		$6,800,000	$2,000,000
Pea Ridge	Greer	Highway 72	Lee Town		$6,800,000	$1,000,000
Pea Ridge	Weston Street	Hwy 94	Hwy 72		$10,880,000	$2,000,000
Prairie Grove	Parks St./IllinoisChapel Rd	Prairie Grove City lim	Hwy 62		$3,400,000	$1,000,000
Prairie Grove	Hogeye RD	Prairie Grove City lim	Hwy 62		$3,400,000	$1,000,000
Rogers	Pinnacle Hills	PWP	P.Grove		$14,620,000	$3,000,000
Rogers	Price Lane	71 B	Dixie Land		$14,280,000	$3,000,000
Springdale	Mountain Road	Monitor Road	Hwy 264		$20,400,000	$6,000,000
Regional	Hwy 112	Howard Nickle	Windmill		$64,000,000	$64,000,000
Regional	Hwy 265/Old Wire Corridor	Hwy 264	N. Rogers		$60,000,000	$60,000,000
Transit/Admin/Programs					$19,683,000	**$19,863,000**
Total					**$405,540,970**	**$198,359,000**

2013 - 2015 - STP-U						**STP-U Funding**
Siloam Springs	Kenwood Street	Hwy 412	Mt. Olive		$2,610,000	$1,000,000
2016 - 2020 - STP-U						
Siloam Springs	Tahlequah Road	Hico	Highway 264		$1,980,000	$932,650
Siloam Springs	Tahlequah Road	Washington	Hico		$1,585,500	$746,120
2021 - 2035 - STP-U						
Siloam Springs	Tahlequah Road	Madison	Washington		$12,070,000	$1,000,000
Siloam Springs	Lake Francis Drive	Mt Olive	Washington		$11,900,000	$1,000,000
Siloam Springs	Lake Francis Drive	Washington	Azlin		$10,540,000	$1,000,000
Siloam Springs	Lake Francis Drive	Azlin	Hwy 59		$13,651,000	$1,000,000
SS Sub Total					**$54,336,500**	**$6,678,770**
Total of all STP-U/A					**$623,665,483**	**$279,281,020**
STP- U/A Shortfall						**$344,384,463**

- **High Priority Unconstrained Projects:**

Projects that were significant but did not make the final Constrained List are shown as Top Priority Unconstrained Projects in the Unconstrained List shown below:

Top Unconstrained	Hwy.	Projects	MILES	Cost/Mile	Project Cost	Funding
	12	Wal-Mart Dist. Center to NWARA	3.30	$18,400,000	$60,720,000	$60,720,000
	12	NWARA to Hwy 264	5.30	$18,400,000	$97,520,000	$97,520,000
	16	Falcon Road - Middle Fork (Fayetteville)	2.50	$18,400,000	$46,000,000	$46,000,000
	16	Middle Fork - Hwy 74 (Elkins)	2.00	$18,400,000	$36,800,000	$36,800,000
	45	Oakland-Zion to White River Bridge (Fay)	5.25	$18,400,000	$96,600,000	$96,600,000
	112	Howard Nickell-Hwy. 412	6.20	$18,400,000	$114,080,000	$114,080,000
	112	Hwy. 412 to Windmill	10.30	$18,400,000	$189,520,000	$189,520,000
	264	I-540 - Hwy. 112	4.80	$18,400,000	$88,320,000	$88,320,000
	264	East Main St. - Hwy. 43 (Siloam Springs)	1.13	$18,400,000	$20,792,000	$20,792,000
	279	Hwy. 102 - Hwy. 12 (Centerton)	3.05	$18,400,000	$56,120,000	$56,120,000
	279	Hwy 102 - Hwy 72	5.51	$18,400,000	$101,384,000	$101,384,000
	94	Old Wire Road to Blue Hill in Rogers	1.00	$18,400,000	$18,400,000	$18,400,000
	412	Siloam Springs (finish six lanes)			$30,000,000	$30,000,000
	62	N. Garfield to Gateway or Missouri Line			$64,000,000	$64,000,000
	265/Old Wire	264 to 62 in Rogers or NE J interchange (Bentonville)			$30,000,000	$30,000,000
	72	I-540 - Mariano Road	3.00	$18,400,000	$55,200,000	$55,200,000
	72	East of 71B in Bentonville	2.00	$18,400,000	$36,800,000	$36,800,000
	94	N. of Rogers	2.00	$18,400,000	$36,800,000	$36,800,000
	12	E. of Rogers CL	2.00	$18,400,000	$36,800,000	$36,800,000
	16	W. of Double Springs Road	1.00	$18,400,000	$18,400,000	$18,400,000
	43	RR Overpass at Country Club Rd.			$3,360,000	$3,360,000
Total of STP Unconstrained					**$1,237,616,000**	**$1,237,616,000**
		Completion of Major Projects (see major corridor summary)				
		Funds could be STP or NHS				
	I-540	Finish Bella Vista Bypass				$341,416,000
	I-540	Finish Eight Lanes and Interchange Improvements				$709,421,000
	412	Finish Springdale Bypass				$1,721,479,000
Total of Corridor Unconstrained						**$2,772,316,000**
Combined Total Unconstrained						**$4,009,932,000**

- **Highway System Needs Constrained and Unconstrained:**

Constrained STP (State Highways)	$594,705,000
Constrained STP Project Cost Shortfall	$87,256,000
Unconstrained STP	$1,237,616,000
Springdale Northern Bypass (if primarily built 2021-2035)	$1,836,000,000
Bella Vista Bypass (if primarily built 2010-2020)	$375,000,000
Local and Regional Roads (STP-U and A)	$279,281,020
STP-U and A Project cost shortfall	$344,384,463
I-540 Improvements (build 33% 2010-2020, 67% 2021-2035)	$1,029,800,000
Interstate Maintenance	$130,785,000
Western Beltway ???	
Total Needs	**$5,914,827,483**
Funds Available	**$1,433,493,020**
Shortfall	**$4,481,334,463**

4. Major Corridors

Some of the major corridors have funding from different funding sources; hence summarizing each corridor can show the best representation of funding levels.

	Funding amounts are from combined constrained lists							
	2010-2013 (TIP	*2013-2015*	*2016-2020*	*2021-2035*	*Total Funds*	*Estimated Costs*	*Estimated Costs*	***Unfunded***
						(today's dollars)	*(with inflated construction costs)*	
Bella Vista Bypass	$33,584,000				$33,584,000	$250,000,000	$375,000,000 (if primarily built 2010-2020)	$341,416,000
Interstate I-540	$47,488,000	$29,042,000	$50,380,000	$193,469,000	$320,379,000	$377,000,000	$1,029,800,000(if 33% built 2010-2020, 67% 2021-2035	$709,421,000
Hwy 412 Bypass	$11,521,000		$23,000,000	$80,000,000	$114,521,000	$540,000,000	$1,836,000,000 (if primarily built 2021-2035)	$1,721,479,000
Western Beltway	$0					$800,000,000		
						(WB Not included)		
Totals					$468,484,000	$1,167,000,000	$3,240,800,000	$2,772,316,000

B. FINANCIALLY CONSTRAINED PLAN MAP (Contains the TIP, NHS/IMS, STP and STP-U)

The Financially Constrained Road Projects Map and the Financially Constrained Road Projects with Land Use Map are attached at the end of this chapter. This map represents projects from the Constrained Lists. Not all STP-A projects are on the map. The Constrained Lists are the controlling document.

C. MAJOR CORRIDOR SUMMARIES

1. Highway 412 Northern Bypass

Project Overview

The FHWA issued a Record of Decision on February 15, 2006 that approved a Selected Alignment Alternative for the proposed bypass. This project is considered an essential improvement to the Highway System in the Northwest Arkansas Urbanized Area. While not fully funded in the Constrained Plan, the project is still considered one of the top priorities in the area. Every funding option will need to be explored to fund this project. A strong recommendation from the RPC/Policy Committee is for all local jurisdictions to express a common interest to elected congressional officials for federal help with this project. All local financial options including toll roads must also be pursued.

2. The Bella Vista Bypass

Project Overview

FHWA issued a Record of Decision approving the location of the Bella Vista Bypass on April 19, 2000. The bypass will be constructed as a four-lane, divided, interstate type facility west of existing Highway 71 from Bella Vista, Arkansas to Pineville, Missouri. In SAFETEA-LU Congress set aside $37,000,000 for Arkansas' portion of the Bypass. The ROW acquisition is essentially complete and $10 million in funding made available through the TIGER I Program will allow construction to begin on

a portion of the Bypass in the Hiwassee area of Benton County. This project is also of the highest priority and all funding options must be explored

3. I-540 Improvements

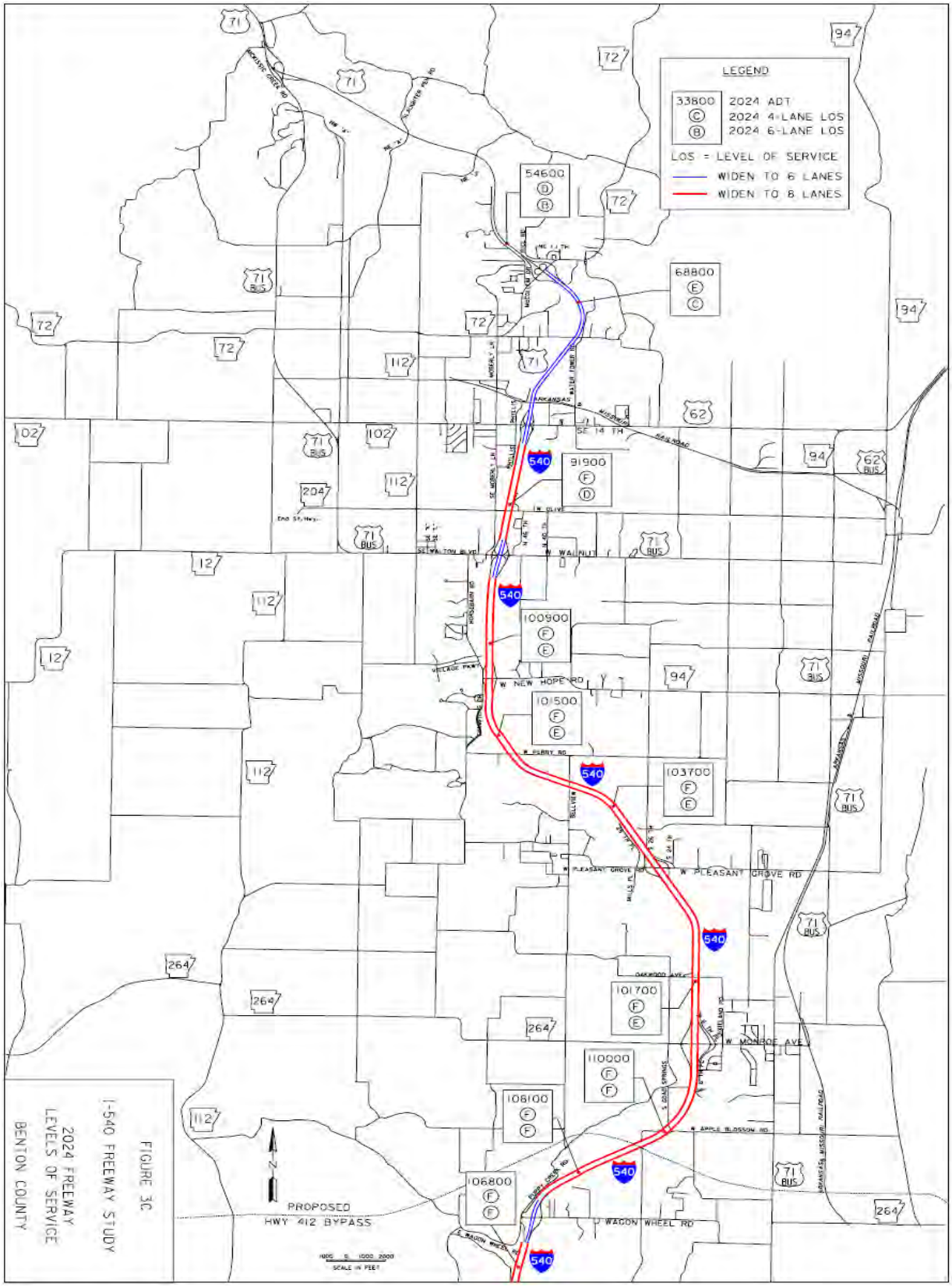
Project Overview

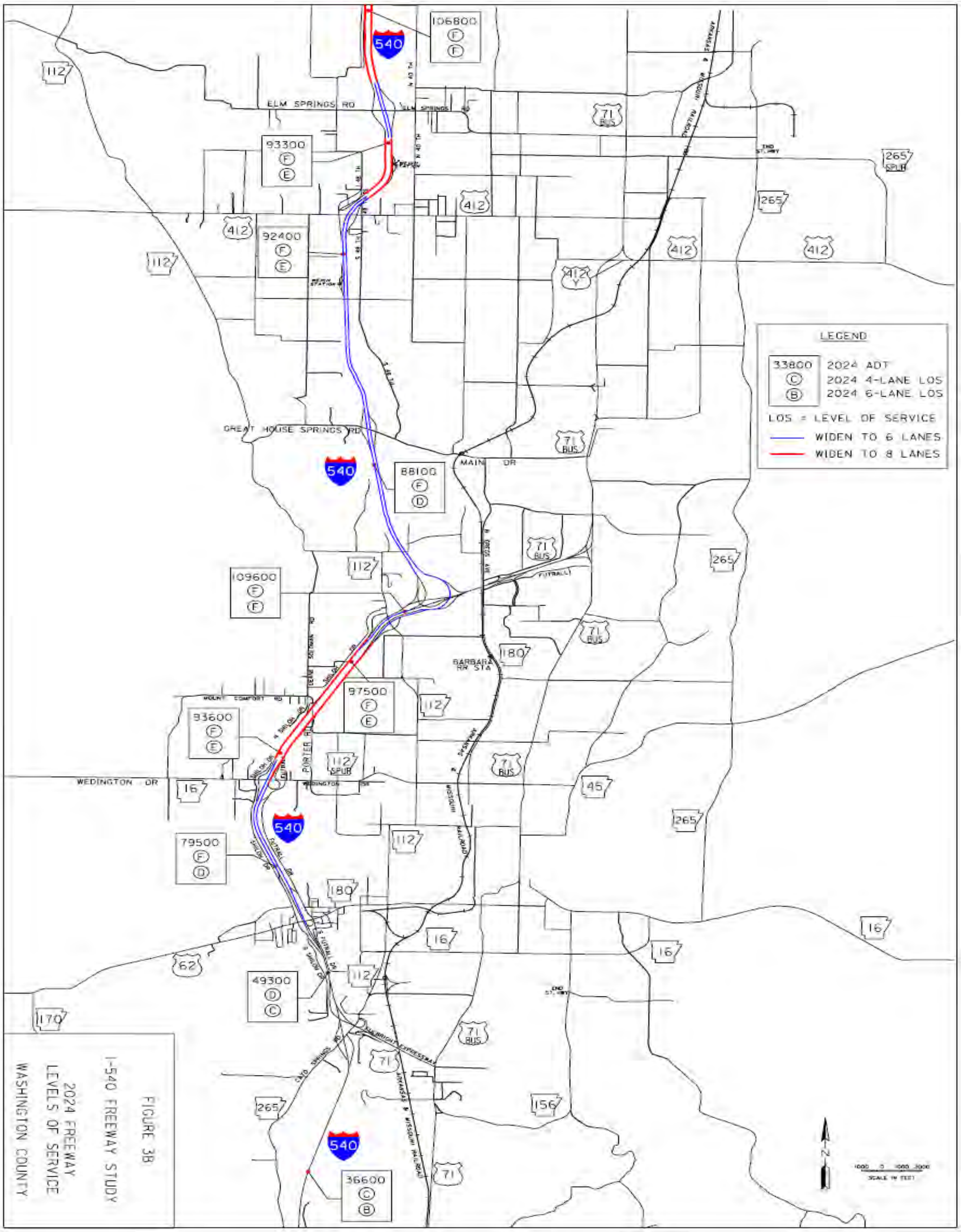
In the summer of 2002 the Northwest Arkansas MPO requested that the AHTD undertake a study of future capacity needs for the I-540 corridor through Washington and Benton Counties. In September of 2003 the Parsons Transportation Group was selected to perform the Study. The Study was completed in April of 2006. The recommendations in this Study provided the basis for allocating estimated funding resources to this important corridor in this Plan. The Study made recommendations to increase the number of lanes for most of the I-540 corridor and recommended short term, mid-term and long term solutions for the majority of the interchanges. These recommendations are portrayed in the maps and tables on the following pages and are available in much greater detail in the full *Interstate I-540 Improvement Study*.

A strong recommendation from the RPC/Policy Committee is for all local jurisdictions to express a common interest to elected congressional officials for federal help with this project. All local financial options must also be pursued.

I-540 Study Recommendations:

Improve-ment Type	Route	Begin	End	Estimated Cost		
				2 lanes inside	2 lanes outside	
WD	I-540	Hwy. 62	Hwy. 112	$13,100,000	$10,500,000	$23,600,000
WD	I-540	Hwy. 71B (Fulbright)	Hwy. 412	$23,700,000	$0	$23,700,000
WD	I-540	Hwy. 412	Hwy. 412 Bypass	$24,100,000	$20,400,000	$44,500,000
WD	I-540	Hwy. 412 Bypass	Hwy. 71B	$38,800,000	$43,700,000	$82,500,000
WD	I-540/Hwy. 71	Hwy. 71B	Hwy. 72	$18,300,000	$7,100,000	$25,400,000
				$118,000,000	$81,700,000	$199,700,000
Int Imp	I-540	**Hwy 112 & Hwy 71B (Fulbright)**	**Interim**	**$5,600,000**		
Int Imp	I-540	**Hwy 16 (Wedington) Int.**	**Interim**	**$2,200,000**		
Int Imp	I-540	**Hwy 62 Int.**	**Interim**	**$2,900,000**		
Int Imp	I-540	**Hwy 62/Hwy 102**	**Interim**	**$3,900,000**		
Int Imp	I-540	**Hwy. 71B**	**Interim**	**$4,100,000**		
Int Imp	Hwy. 71	**Hwy. 72**	**Interim**	**$3,300,000**		
Int Imp	I-540	**Johnson Rd. Int.**	**Interim**	**$900,000**		
Int Imp	I-540	**Pleasant Grove Rd. Int.**	**Interim**	**$2,100,000**		
Int Imp	I-540	**Porter Rd. Int.**	**Interim**	**$1,600,000**		
				$26,600,000		
Int Imp	I-540	Huntsville Rd./Elm Springs Int	Long-Term	$1,000,000		
Int Imp	I-540	Hwy 112 & Hwy 71B (Fulbright)	Long-Term	$28,300,000		
Int Imp	I-540	Hwy 16 (Wedington) Int.	Long-Term	$15,400,000		
Int Imp	I-540	Hwy 264	Long-Term	$11,900,000		
Int Imp	I-540	Hwy 62 Int.	Long-Term	$21,300,000		
Int Imp	I-540	Hwy 62/Hwy 102	Long-Term	$12,500,000		
Int Imp	I-540	Hwy 94 (New Hope) Int.	Long-Term	$6,100,000		
Int Imp	I-540	Hwy. 71B	Long-Term	$14,700,000		
Int Imp	Hwy. 71	Hwy. 72	Long-Term	$5,900,000		
Int Imp	I-540	Johnson Rd. Int.	Long-Term	$1,600,000		
Int Imp	I-540	Pleasant Grove Rd. Int.	Long-Term	$16,200,000		
Int Imp	I-540	Porter Rd. Int.	Long-Term	$12,500,000		
Int Imp	I-540	Wagon Wheel Int.	Long-Term	$300,000		
				$147,700,000		
Int Imp	I-540	**Hwy 112 & Hwy 71B (Fulbright)**	**Short-term**	**$280,000**		
Int Imp	I-540	**Hwy 16 (Wedington) Int.**	**Short-term**	**$670,000**		
Int Imp	I-540	**Hwy 264**	**Short-term**	**$120,000**		
Int Imp	I-540	**Hwy 62 Int.**	**Short-term**	**$210,000**		
Int Imp	I-540	**Hwy 62/Hwy 102**	**Short-term**	**$330,000**		
Int Imp	Hwy. 71	**Hwy. 72**	**Short-term**	**$560,000**		
Int Imp	I-540	**Pleasant Grove Rd. Int.**	**Short-term**	**$110,000**		
Int Imp	I-540	**Porter Rd. Int.**	**Short-term**	**$230,000**		
				$2,510,000		
			Long-term + Main lane	$347,400,000		
			+ Perry Rd. HPP	$365,629,986		


LEGEND
33800 2024 ADT
2024 4-LANE LOS
2024 6-LANE LOS
LOS = LEVEL OF SERVICE
WIDEN TO 6 LANES
WIDEN TO 8 LANES
54600
68800
91900
100900
101500
103700
101700
110000
108100
106800
PROPOSED HWY 412 BYPASS
W NEW HOPE RD
W PLEASANT GROVE RD
W MONROE AVE
E WAGON WHEEL RD
FIGURE 3C
I-540 FREEWAY STUDY
2024 FREEWAY LEVELS OF SERVICE
BENTON COUNTY


LEGEND
33800 2024 ADT
© 2024 4-LANE LOS
® 2024 6-LANE LOS
LOS = LEVEL OF SERVICE
WIDEN TO 6 LANES
WIDEN TO 8 LANES
106800
93300
92400
88100
109600
97500
93600
79500
49300
36600
ELM SPRINGS RD
GREAT HOUSE SPRINGS RD
MAIN DR
WEDINGTON DR
MOUNT COMFORT RD
PORTER RD
BARBARA RR STA
540
FIGURE 3B
I-540 FREEWAY STUDY
2024 FREEWAY
LEVELS OF SERVICE
WASHINGTON COUNTY

4. The Western Beltway

Another corridor resulting from the development of the 2030 Northwest Arkansas Regional Transportation Plan Update is the concept of a Western Beltway. This proposed beltway would leave I-540 between West Fork and Fayetteville and connect with the Bella Vista Bypass near its interchange with Highway 72. The proposed facility would lie to the west of Tontitown and Highfill.

One catalyst for the Western Beltway concept was the proposed cost of upgrading I-540 to eight lanes. It was suggested by elected officials that a western alternative should be examined before committing to eight lanes for I-540. A question was posed. Would six lanes suffice if alternative North-South corridors near I-540 were established with additional crossovers and a western beltway was constructed? Another issue driving the Beltway concept is the future completion of I-49 from Shreveport, LA to Kansas City, MO. The additional freight traffic generated on a completed I-49 (of which current I-540 is a part) could overwhelm the current I-540 corridor in the year 2035.

The Western Beltway is currently the subject of a feasibility study.

D. BRIDGES

Bridge Replacement and Rehabilitation Program funds replace or rehabilitate deficient bridges dependent upon bridge sufficiency ratings developed through regular inspections by the AHTD of all public bridges. Annual Fund Estimates for Long Range Planning supplied by AHTD indicate $144,852,000 available for the 2010 – 2035 time-frame. (See table below)

Funding for Bridges:

Year	**Bridge Cost** (in millions)
2010	$3.315
2011	$3.445
2012	$3.579
2013	$3.719
2014-2015	$7.878
2016-2020	$22.545
2021-2035	$100.372
Totals	**$144.852**

A list of the qualified bridges from AHTD is in Appendix E.

E. STATE MAINTENANCE

State Maintenance funds are spent on routine maintenance of State Highways and the annual overlay program. These funds are programmed by the District Engineer and are a significant part of maintenance of the existing system.

Annual fund estimates supplied by AHTD indicate that $118,820,000 is available for the 2010 – 2035 time-frame (see table below).

Year	**State Maintenance Cost** (in millions)
2010	$4.570
2011	$4.570
2012	$4.570
2013	$4.570
2014-2015	$9.140
2016-2020	$22.850
2021-2035	$68.550
Totals	**$118.820**

F. TRANSIT

Estimated funding levels for Public Transit Programs are presented in the table below:

Funding Mark Projections Ozark Regional Transit, Razorback Transit and other Statewide Transit Programs (in millions)

	Capital 5307	Operating 5307 *	Admin/Op 5311	Summary 5309 (Statewide)	Summary 5310 (Statewide)	Summary 5316 (Statewide)	Summary 5317 (Statewide)
2011-2013				$9.000	$5.682	$4.237	$1.771
ORT	$1.568	$4.965	$0.451				
RT	$1.283	$4.063					
2014-2015				$6.000	$4.127	$3.077	$1.286
ORT	$3.315	$3.433	$0.302				
RT	$2.713	$2.809					
2016-2020				$15.000	$11.651	$8.687	$3.632
ORT	$9.359	$8.628	$0.758				
RT	$7.657	$7.059					
2021-2035				$45.000	$49.792	$37.123	$15.520
ORT	$39.996	$26.275	$2.308				
RT	$32.724	$21.498					

* Beginning with FY 2014 all operating funds are local amounts with no Federal participation.

ORT = Ozark Regional Transit; RT = Razorback Transit

Explanation of Federal Transit Administration Funding Programs:

5307	Urbanized Area Formula Program
5309	Capital Program
5310	Elderly and Persons with Disabilities Program
5311	Non-urbanized Area Formula Program
5316	Job Access Reverse Commute
5317	New Freedom

The projected funding assumes that the dollars will maintain a .035 percent annual inflationary increase.

The Transit Development Plan's long range horizon extends to the year 2022. The following table shows estimated revenues and expenses for both transit agencies. The long range shortfall is projected to be $111,743,000 if no new revenues are identified. However, if a ¼ cent sales tax was passed in the two counties there would be sufficient funds to meet the projected TDP needs.

Cumulative Expenses and Revenues – Local Funds Required (2011 dollars)

		Agency	Near-Term 2012-2013	Short-Range 2014-2017	Long-Range 2018-2022	10-Year TDP Period
Expenses	O&M	ORT	$5,200,000	$24,089,800	$72,637,900	$101,927,700
		Razorback	$4,727,200	$7,628,700	$12,714,500	$25,070,400
	Capital	ORT	$840,000	$38,170,000	$14,730,000	$53,740,000
		Razorback	$1,740,000	$3,085,000	$4,425,000	$9,250,000
	Total Expenses		**$12,507,200**	**$72,973,500**	**$104,507,400**	**$189,988,100**
Revenues	Farebox		$303,800	$4,113,900	$13,335,400	$17,753,100
	Fed. Funds - Operating		$1,600,000	$0	$0	$1,600,000
	Fed. Funds - Capital		$2,064,000	$33,004,000	$15,324,000	$50,392,000
	Fed. Funds - 5311		$100,000	$150,000	$250,000	$500,000
	State Funds		$1,300,000	$1,950,000	$3,250,000	$6,500,000
	Miscl. Funds		$300,000	$450,000	$750,000	$1,500,000
	Local Funds Req'd.		**$6,839,400**	**$33,305,600**	**$71,598,000**	**$111,743,000**
	Total Revenues		**$12,507,200**	**$72,973,500**	**$104,507,400**	**$189,988,100**

Note: Local Funds include those budgeted annually by the University of Arkansas for Razorback Transit service.

Projected needs and costs are detailed in the Transit section of this document in Chapter V. Section D. Transit. Also, even more information can be found in the actual Transit Development Plan Final Report found in the Transit section of the NWARPC website at www.nwarpc.org .

G. ACTIVE TRANSPORTATION PLAN FUNDING

Funding for Trails:

1. Transportation Enhancement Funds – See table below

Year	**Enhancement Cost** (in millions)
2010	$1.613
2011	$1.613
2012	$1.613
2013	$1.613
2014-2015	$3.226
2016-2020	$8.066
2021-2035	$24.197
Totals	**$41.941**

2. Recreational Trails Program

State-wide funding for this program amounts to $1.09 million per year in 2010. From 2011 to 2035 the estimated funds will increase by 3.9 percent per year.

3. Safe Routes to Schools

State-wide funding for this program amounts to $1.09 million per year in 2010. From 2011 to 2035 the estimated funds will increase by 3.9 percent per year.

N

Northwest Arkansas Regional Planning Commission
2/21/2011
http://nwarpc.org

0 1.25 2.5 5 Miles

This map represents projects from the Constrained Lists. Not all STP-A projects are on the map. The Constrained Lists are the controlling document.

Legend

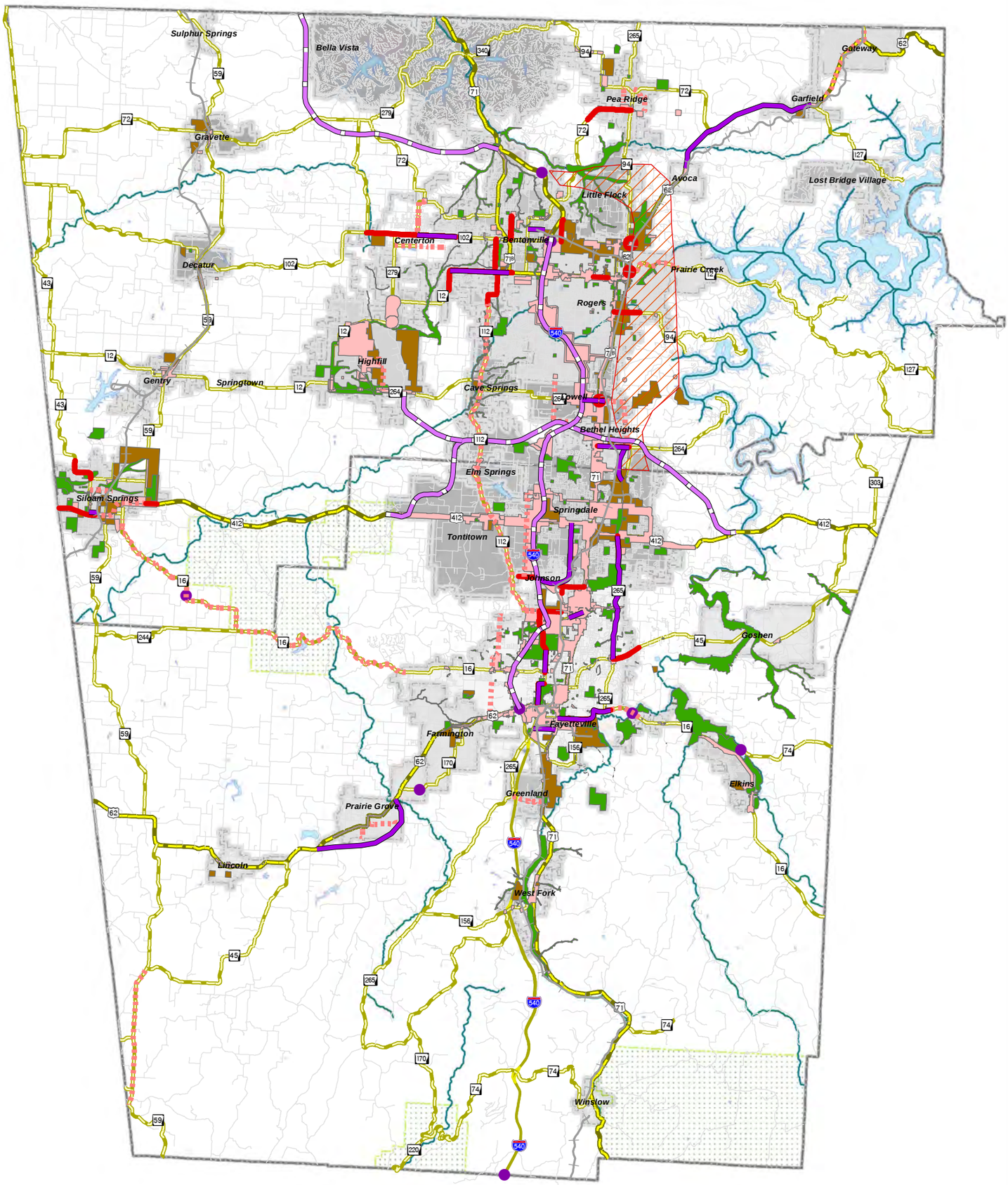
- Roads
- Railroad
- Rivers
- Lakes
- National Forest Boundary
- State Highway
- Expressway
- Interstate Highway
- Highway Ramp
- Federal Highway

2035 Fiscally Constrained Road Projects for Northwest Arkansas

2035 Fiscally Constrained Projects
- Fully Funded Projects
- Partially Funded Projects

2010-2013 TIP
- Fully Funded
- Partially Funded
- 2010-2013 TIP Bridges and Interchanges

4+ Lanes (2010 TDM)
- 4+ Lanes
- Eastern Corridor



N

Northwest Arkansas Regional Planning Commission
http://nwarpc.org
02/22/2011

0 1.25 2.5 5 Miles

This map represents projects from the Constrained Lists. Not all STP-A projects are on the map. The Constrained Lists are the controlling document.

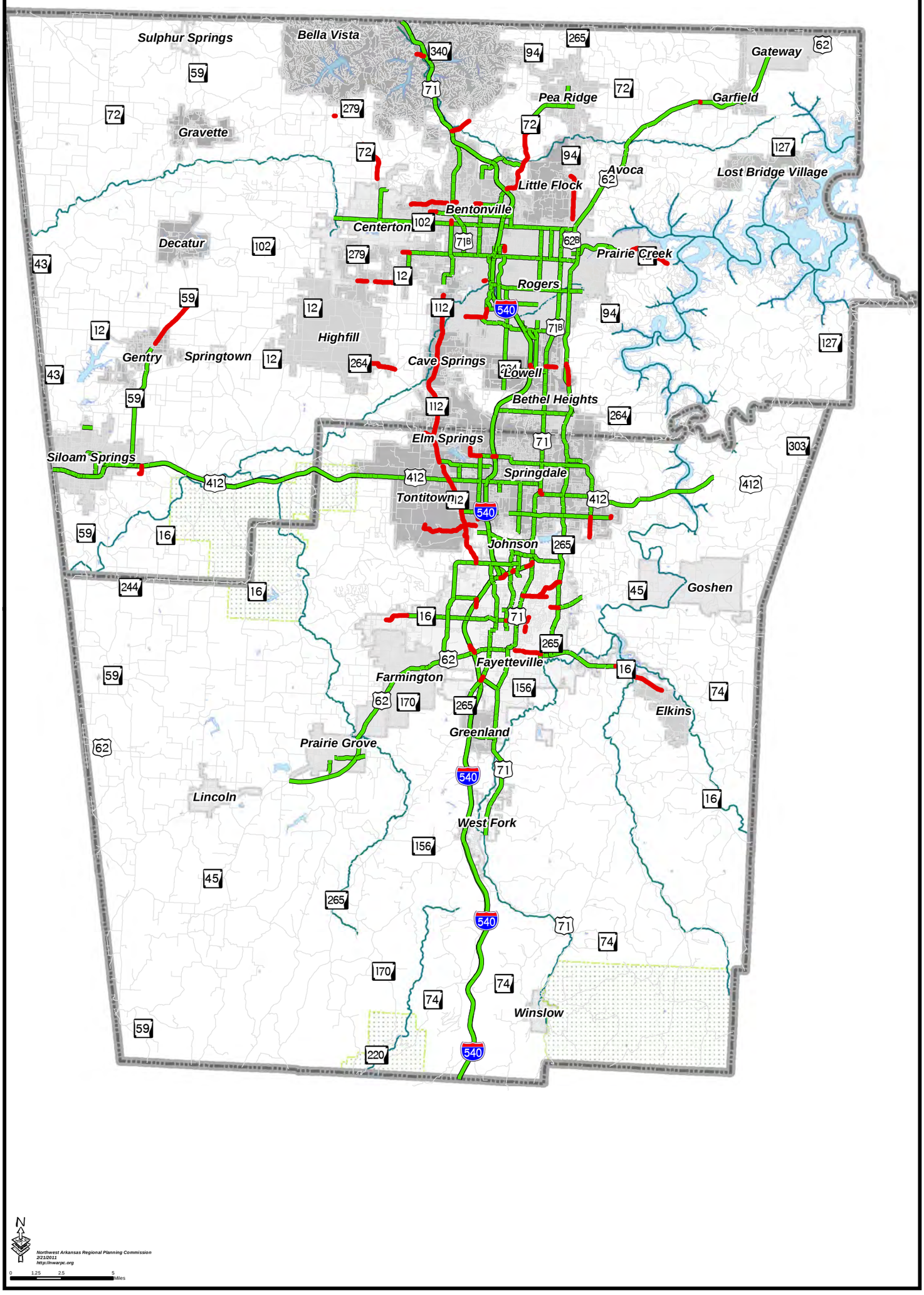
- State Highway
- Expressway
- Interstate Highway
- Highway Ramp
- Federal Highway
- Roads
- Railroad
- Main_Rivers
- Lakes
- National Forest Boundary

2035 Fiscally Constrained Road Projects and Future Land Use for Northwest Arkansas

2035 Fiscally Constrained Plan
- **Fully Funded Projects**
- **Partially Funded**

2010-2013 TIP
- Fully Funded
- Partially Funded
- 2010-2013 TIP Bridges or Interchanges

Future Land Use Categories
- Commercial
- Industrial
- Public
- Eastern Corridor



2035 Road Network and 2035 Demographics Analysis
NWARPC Travel Demand Model Results

Travel Demand Model Analysis

2 Lanes Roads with Daily Counts over 18000

4+ Lanes (2035)

4+ Lanes

Other Features

- Roads
- Rivers
- Lakes
- National Forest Boundary

CHAPTER VII: PLAN RECOMMENDATIONS

SUMMARY OF RECOMMENDATIONS BY IMPLEMENTATION STRATEGIES

The TAC and Policy Committee advances the following recommendations as a result of technical evaluation and community input:

TRANSPORTATION DESIGN

- Adhere to Cross-section Guidelines
- Cities, counties, and AHTD should be encouraged to apply techniques of access management
- Continue the regional goal of promoting parkways/boulevards including potential locations
- Utilize ITS technologies to maximize infrastructure efficiency
- Examine use of Alternative Traffic Controls
- Encourage Transit Oriented Design practices
- Cities, counties, AHTD, and Federal government should be encouraged to erect signs naming waterways at road crossings
- Encourage and support a regional signage and way- finding plan

BICYCLE AND PEDESTRIAN FACILITIES

- Continue a regional commitment to bicycle and pedestrian facilities
- Adhere to the Active Transportation Plan
- Support development of the Razorback Regional Greenway
- Encourage cities to develop master trail plans
- Continue support of the Heritage Trail Plan
- Seek out and use alternative funding for construction and maintenance of existing and new facilities

INTERMODAL FACILITIES

- Efforts should continue to finance and build the Airport Access Road
- Examine the AHTD study of the potential rail connection between the Kansas City Southern and the NWA Regional Airport

TRANSIT

- Implement the Transit Development Plan
- Explore Funding Options for Bus and Fixed Guideway Service
- Encourage the development of Transit Service by Human Service Agencies and Taxi Companies

TRANSPORTATION ALTERNATIVES

- Continue to pursue an Alternatives Analysis of potential fixed guide-way systems for the North-South corridor (such as passenger rail, bus rapid transit and High Occupancy Vehicle lanes)
- Meet the federal requirement to implement a Congestion Management Process;

HIGHWAY PROJECT PRIORITIZATION

- Establish a regional arterial network:
    - Encourage local governments to protect and acquire ROW on routes identified on the 2035 Network
    - Improve East/West connections
    - Establish North/South regional arterials including those close to both sides of I-540 with connecting grade separations for traffic relief on I-540
    - Plan for an additional interchange on the Highway 412 Springdale Bypass between Highway 264 and the Beaver Lake Bridge
    - Construct the Highway 412 Northern Bypass at four lanes but plan for and buy ROW for six lanes
    - Improve the rural county road network
    - Refine and improve the 2035 Network with the aid of the travel demand model

- Maintain a regional cohesiveness and unity by pursuing all funding alternatives for these specific major corridor projects:
    - I-540 Improvements
    - Bella Vista Bypass
    - Highway 412 Northern Bypass
- I-540 Improvements:
    - Focus first on short and interim improvements to interchanges
    - Improve existing grade separations;
    - Develop new locations of grade separations on I-540;
    - Long term interchange improvements;
    - Widen mainline
    - Possible new interchanges at:
        - Don Tyson Parkway in Springdale
        - J Street in Bentonville
        - Eighth Street in Bentonville
        - Fayetteville will study the possibility of an interchange at Joyce and I-540
- Continue study and funding of the Eastern North-South corridor
- Request AHTD to study the potential of Highway 112 as a major North-South corridor
- Complete the NWA Regional Airport Access Road
- Utilize ITS technologies to maximize infrastructure efficiency
- Support the NWA Regional Mobility Authority as it investigates innovative funding mechanisms.

APPENDIX A:

- Fayetteville Forward Transportation Group- Resolution on Alternative Transportation in Northwest Arkansas

- TAC Work Group Involvement

Fayetteville Forward TRANSPORTATION GROUP

www.facebook.com/group.php?gid=127082242096

November 30, 2010

To: Northwest Arkansas Regional Planning Commission
From: Fayetteville Forward Transportation Group
Subject: Resolution on Alternative Transportation in Northwest Arkansas

Northwest Arkansas has serious transportation needs that extend to all modes: buses, sidewalks, trails, rail, and roads. In our opinion, the discussions about these needs have focused too exclusively on roads. For example, the U.S. Congress recently earmarked a federal grant of $600,000 (plus $150,000 in local matching funds) for a feasibility study of a possible new "western beltway" highway in Northwest Arkansas. Such a beltway would promote sprawl and the continuation of increasing car traffic. Therefore, the north-south regional transportation problem that led to the western beltway proposal might be more effectively resolved by other means including buses, rail, and “complete streets” that include sidewalks and bikeways. So this feasibility study needs to be smartly balanced with studies of other transportation modes, and more effective land use mixes.

As is well demonstrated in the Bentonville and Fayetteville downtowns, an overemphasis on roads can reduce the quality of civic life, while sidewalks, trails, buses, and rail enhance our quality of life and economic development options. Fayetteville's 2004 Downtown Master Plan makes "A superbly walkable environment" the first of its six principles, explaining that "Over time, Fayetteville's traditionally walkable streets have been disturbed by road widenings and automobile dominance. It is important that in the future these streets be reclaimed, creating a healthy balance between vehicular and pedestrian traffic. " Among the five goals of Fayetteville's City Plan 2025 are; discouraging suburban sprawl, and growing a livable

transportation network. “The Plan explains that, "For decades ... development has spread across the natural landscape and has made people solely dependent on the automobile. The City must consider a multi-modal transportation network with a rich menu of transit choices, including citywide and regional transit, and promoting the NWA rail transit initiative." Transportation is a strong factor in determining the nature of communities, and a robust and balanced network that includes walkability, trails, and transit is now recognized as a key economic development tool. In addition, a careful cost-benefit analysis might show that, all things considered, alternative transportation would be less expensive than our current road-building plans.

Therefore, we recommend that all Northwest Arkansas regional transportation planning be fundamentally based on the concepts of sustainability and livability. In particular:

- The region should avoid building yet another major north-south highway such as the proposed western beltway, which would contribute to urban sprawl and primary reliance on the car.
- Local authorities should seek federal, state, local, or other funds for feasibility studies that give equal weight to expanding alternative transportation modes in Northwest Arkansas.

TECHNICAL ADVISORY COMMITTEE WORK GROUP (TAC WORK GROUP) AND TECHNICAL ADVISORY COMMITTEE (TAC) INVOLVEMENT IN THE PLANNING PROCESS

2006	**2007**	**2008**	**2009**	**2010**	**2011**
4-20 (TAC)	1-18	2-14	2-19	1-21	1-27
6-6 (TAC)	2-22	3-20 (TAC)	4-19	2-11 (TAC)	2-17
8-15 (TAC)	4-26	5-15 (TAC)	5-21 (TAC)	3-18	3-3 (TAC)
9-21 (TAC)	5-24 (TAC)	6-19	6-25	4-14(TAC)	
10-26 (TAC)	7-19	8-7 (TAC)	7-16	5-25 (TAC)	
	8-16	8-21	8-20	6-17	
	10-18	10-9	11-3	7-15	
	12-13	12-4	11-19	8-19	
				9-16	
				10-21	
				11-18	
				12-11 (TAC)	

APPENDIX B:

- 2035 Regional Transportation Survey Plan – Public Opinion Survey
- Plan Regional de Transporte para el Aňo 2035 – Encuesta de Opinión Pŭblica
- Selected Survey Comments and Suggestions from the 2035 Regional Transportation Survey

Year 2035 Regional Transportation Plan
Public Opinion Survey

The Northwest Arkansas Regional Planning Commission, the transportation planning organization in Northwest Arkansas is currently updating its Long Range Transportation Plan. The draft plan under development will guide transportation improvements through the year 2035.

Your opinion is very important. Since transportation affects everyone in the region, feedback from citizens is needed. Please take a moment to answer the following questions and share your suggestions about transportation. Please circle each answer and return this survey no later than July 31, 2010. You can also complete the survey online at www.nwarpc.org. Thank you.

A. On a scale of 1 to 5, with 1 being poor and 5 being excellent, please rank the following:

My commute time to work (length of time)	1	2	3	4	5
Reliability of commute (same length of time every day)	1	2	3	4	5
Other trips, such as shopping (length of time)	1	2	3	4	5
Traffic congestion on Northwest Arkansas roadways	1	2	3	4	5
Availability of transit in Northwest Arkansas	1	2	3	4	5
The safety of Northwest Arkansas roadways	1	2	3	4	5
Availability of sidewalks	1	2	3	4	5
Availability of off-road bicycle facilities	1	2	3	4	5
Availability of on-road bicycle facilities	1	2	3	4	5
Safety of on-road bicycle facilities	1	2	3	4	5
Traffic signals and signage	1	2	3	4	5
Northwest Arkansas efforts to improve transportation	1	2	3	4	5

B. On a scale of 1 to 5, with 1 being not important and 5 being very important, please rank the following transportation improvements:

Adding lanes to I-540	1	2	3	4	5
Adding interchanges to I-540	1	2	3	4	5
Improving I-540 interchanges	1	2	3	4	5
Adding overpasses to I-540	1	2	3	4	5
Building new roads	1	2	3	4	5
Improving road safety	1	2	3	4	5
Expanding the bus system	1	2	3	4	5
Adding lanes to other roadways	1	2	3	4	5
Completing a 4 and 5 lane regional grid network	1	2	3	4	5
Building a loop around the region	1	2	3	4	5
Providing transportation for people with disabilities	1	2	3	4	5
Providing sidewalks	1	2	3	4	5
Providing bicycle lanes	1	2	3	4	5
Providing bicycle facilities	1	2	3	4	5
Developing rideshare/carpool programs	1	2	3	4	5
Planning/developing a passenger rail program	1	2	3	4	5
Using technology to improve congestion (Changeable highway message signs, signal coordination, etc.)	1	2	3	4	5

C. On a scale of 1 to 5, with 1 being unacceptable and 5 being acceptable, please rank the following strategies to improve transportation in Northwest Arkansas:

Status quo (no change to current progress)	1	2	3	4	5
Increase gas tax	1	2	3	4	5
Increase sales tax	1	2	3	4	5
Build toll roads	1	2	3	4	5
Improve public transportation	1	2	3	4	5

D. Please list 3 ideas to improve transportation in Northwest Arkansas:

1._____

2._____

3._____

E. Please share any additional comments you may have.

_____

_____

_____

_____

_____

_____

Please tell us about yourself:

Where do you live?

_____Benton County
_____Washington County
_____Other

How old are you?

_____10-20
_____21-45
_____46-55
_____56-65
_____Over 65

Zip code where you live? _____

Zip code where you work? _____

Approximately how many miles do you live from I-540?

_____Under 5
_____5-10
_____11-20
_____21-30

Do you use a bicycle or walk to commute to work or for other types of trips?

_____**Yes** _____**No**

If your answer is Yes, how often?

_____Daily
_____2-3 times a week
_____Once a week
_____Several times a month
_____Other

Do you use public transportation to commute to work or for other types of trips?

_____**Yes** _____**No**

If your answer is Yes, how often?

_____Daily
_____2-3 times a week
_____Once a week
_____Several times a month
_____Other

Do you have regular access to a motor vehicle for work and other types of trips?

_____**Yes** _____**No**

Thank you for taking the time to complete this survey.
Your opinion is very important to us.
Please fold and return this survey to the address listed below or fax it to (479) 751-7150.
For additional copies of the survey or to complete it online, go to www.nwarpc.org or call (479) 751-7125.

---------- ***fold here*** ----------

_____

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place stamp here

Northwest Arkansas Regional Planning Commission
1311 Clayton
Springdale, AR 72762

Plan Regional de Transporte para el Año 2035
Encuesta de Opinión Pública

La Comisión Regional de Planeación del Noroeste de Arkansas, y la Organización de Planeación de Transporte del Noroeste de Arkansas están actualizando su plan de transporte a largo plazo. El bosquejo del plan bajo desarrollo creará una visión para las mejoras del transporte de ahora hasta el año 2035.

Su opinión es muy importante. Puesto que el transporte afecta a todos en la región, los comentarios de los ciudadanos es necesario. Por favor tome un momento para contestar las siguientes preguntas y compartir sus sugerencias sobre el transporte. Si cada respuesta círculo y devolver esta encuesta a más tardar el 31 de julio 2010. Usted también puede completar la encuesta en línea en www.nwarpc.org. Gracias.

En una escala del 1 al 5, 1 representa pobre y 5 excelente, por favor clasifique lo siguiente:

Mi viaje diario para ir al trabajo (tiempo de duración)	1	2	3	4	5
Vialidad del viaje (el mismo tiempo de duración cada día)	1	2	3	4	5
Otros viajes, tales como ir de compras (tiempo de duración)	1	2	3	4	5
Congestión del tráfico en las carreteras del Noroeste de Arkansas	1	2	3	4	5
Disponibilidad de tránsito en el Noroeste de Arkansas	1	2	3	4	5
La seguridad en las calles del Noroeste de Arkansas	1	2	3	4	5
La disponibilidad de aceras	1	2	3	4	5
La disponibilidad de carriles fuera de la calle para bicicletas	1	2	3	4	5
La disponibilidad de carriles en la calle para bicicletas	1	2	3	4	5
La seguridad de los carriles en la calle para bicicletas	1	2	3	4	5
Señales y rótulos de tráfico	1	2	3	4	5
Los esfuerzos del Noroeste de Arkansas para mejorar el transporte	1	2	3	4	5

B. En una escala del 1 al 5, siendo 1 no muy importante y el 5 muy importante, por favor clasifique las siguientes mejoras al transporte:

Añadir carriles a la autopista I-540	1	2	3	4	5
Añadir cruces en la autopista I-540	1	2	3	4	5
Mejoras a los cruces en la autopista I -540	1	2	3	4	5
Añadir pasos elevados a la autopista I-540	1	2	3	4	5
Construcción de nuevas calles	1	2	3	4	5
Mejoras a la seguridad en las calles	1	2	3	4	5
Ampliar el sistema de autobús	1	2	3	4	5
Añadir carriles a otras calles	1	2	3	4	5
Completar de 4 a 5 carriles a la cadena regional	1	2	3	4	5
Construcción de curva alrededor de la región	1	2	3	4	5
Proveer transporte para personas discapacitadas	1	2	3	4	5
Proveer aceras	1	2	3	4	5
Proveer carriles en la calle para bicicletas	1	2	3	4	5
Proveer carriles fuera de la calle para bicicletas	1	2	3	4	5
Proveer instalaciones para bicicletas (ej. armarios/percheros)	1	2	3	4	5
Desarrollar programas de uso compartido/carpool	1	2	3	4	5
Planificar/desarrollar programa de ferrocarril para pasajeros	1	2	3	4	5
Usar la tecnología para mejorar la congestión del tránsito (Letrero electrónico de mensajes en la autopista, señales, coordinación, etc.)	1	2	3	4	5

C. En una escala del 1 al 5, siendo 1 inaceptable y el 5 aceptable, por favor clasifique las siguientes estrategias para mejorar el transporte en el Noroeste de Arkansas:

Status quo (no cambiar el progreso actual)	1	2	3	4	5
Aumentar el impuesto de la gasolina	1	2	3	4	5
Aumentar el impuesto en las ventas	1	2	3	4	5
Construir peajes en las carreteras	1	2	3	4	5
Aumentar el transporte público	1	2	3	4	5

D. Por favor enumere tres de sus prioridades más importantes para mejorar el transporte en el Noroeste de Arkansas:

1. _____

2. _____

3. _____

E. Por favor comparta cualquier comentario adicional que usted pueda tener:

_____

_____

_____

_____

_____

Por favor díganos algo sobre usted:

¿Dónde vive?
_____Condado de Benton
_____Condado de Washington
Condado de _____

¿Cuántos años tienes?
_____10-20 años
_____21-45 años
_____46-55 años
_____56-65 años
_____Más de 65 años

¿Cuál es el código postal de donde vive?
_____

¿Cuál es el código postal de donde usted trabaja? _____

Aproximadamente, ¿a cuántas millas usted vive de la I-540?
_____Menos de 5 millas
_____5-10 millas
_____11-20 millas
_____21-30 millas

¿Utiliza una bicicleta para ir al trabajo o para otros tipos de viajes?
_____Sí _____No

¿Utiliza usted el transporte público para ir al trabajo o para otros tipos de viajes?
_____Si _____No

Si su respuesta es Sí, ¿con qué frecuencia?
_____Diario
_____2-3 veces a la semana
_____Una vez a la semana
_____Varias veces a la semana
_____Varias veces al mes
_____Otro

Si su respuesta es Sí, ¿con qué frecuencia?
_____ Diario
_____ 2-3 veces a la semana
_____ Una vez a la semana
_____ Varias veces al mes
_____ Otro

¿Tiene acceso regular a un vehículo de motor para el trabajo y otros tipos de viajes?

_____Si _____No

Gracias por tomar un poco de su tiempo para completar esta encuesta.
Su opinión es muy importante para nosotros.
Por favor doble y devuelva esta encuesta a la dirección que se muestra abajo o envíela por fax al 479-751-7150.
Para obtener copias adicionales de esta encuesta,
vaya al www.nwarpc.org o llame al 479-751-7125.

---------- *doblar aquí*----------

_____
_____
_____

poner sello aquí

Northwest Arkansas Regional Planning Commission
1311-A Clayton
Springdale, AR 72762

SUGGESTIONS FROM THE COMMENTS SECTION OF THE 2035 NORTHWEST ARKANSAS TRANSPORTATION SURVEY

Below is a selection of the participants' comments and suggestions from the 2035 Transportation Survey. A complete database of the survey results is available upon request at the Northwest Arkansas Regional Planning Commission office.

1. "I-540 is grossly overused; much like I-30 in Little Rock had been for many years until they finally doubled the number of lanes. Unfortunately, it was done after the major growth that the area southwest of LR had during the 80's & 90's. Yes, it took some major pressure off the drivers, but at the same time made this huge scar of a vehicle corridor. We really need to ask ourselves if we want to mirror this. To maintain the long-term atmosphere of this area, it would be ill-advisable to go "big" with our roadways. Developing parkways with smaller business and residential communities along the way holds much more appeal. In a like sense, a light rail in this region would be metro, but on a smaller scale."

2. "There are many barriers to comfortable walking even near central areas of our cities, where walking should be encourages. The priorities of the 1950s and 1960s no longer serve us when people live a half mile or less to major services and centers and can't get there because of wide, dangerous roads and other physical barriers.

3. "A regional light rail system would help us make our cities more livable as they grow and keep them from spreading over the beautiful farms and forests of the area. It would also allow us to welcome visitors and those new to the area at XNA, where people have no way to reach their destination at a reasonable price. My husband and I try to help international faculty and students find their way to Fayetteville and often have to wait in uncomfortable circumstances when flights are late, so that they will not feel ignored and abandoned. This is embarrassing and inconvenient for all. If there were a rail route from, say, Fayetteville's depot to a point near Crystal Bridges, I would attend every opening there. Without public transit, I will seldom do this, since I find driving to Rogers or Bentonville very unpleasant and difficult even at times after and before rush hours. Many people in our region who now avoid such trips would connect our cities by their presence at cultural events of all kinds."

4. "Springdale is finally traversable from east to west with the opening or widening of Huntsville and the Don Tyson Parkway. The Don Tyson Parkway is actually a pleasurable way to cross the town and it saves me five to ten minutes on every commute."

5. "Although it would be nice to have, NWA does not yet need a regional light rail system similar to Atlanta or DC, however the need for one (in conjunction with improved bus and bike

routes) is likely to increase over the next 10-15 years. Acquiring the land and right-of-ways for rail, bike, and pedestrian routes will not get cheaper, however. I think that increasing the resources for acquiring such pathways now, so that development and infrastructure can be built in around them, rather than having to cut through new development later, even if the routes aren't used right away, would be a wise strategy."

6. "Consider how much easier and cheaper it would have been to have established those routes 15 years ago. The difference between the costs in 2025 vs. 2010 will probably be even greater than the difference in cost between 2010 and 1995."

7. "I appreciate Ozark Transit. I am not sure what would help here as most have a hillbilly independent streak that is just awful! Carpooling education and some incentive plan would be good. Use of downtown for a grocery store, another post office and a few more walkable or biking areas would be nice for Farmers Markets and shopping. Pinnacle Promenade is a good idea but is not all walking traffic."

8. "Ways for kids to get around should be promoted as they would be great transit riders. We have lived in urban areas where there was close pick-up to schools and colleges and young people could to use the bus if they had no cart."

9. "Raising the driving age would be good as well as cutting out the insane 14 or 15 driving age that is need based and puts really young kids on the road, often driving siblings."

10. "I would like to see more funding and cooperation from Little Rock. Arkansas needs to realize the potential of its financial engine, which is NWA. I get frustrated when I see the road improvements in Little Rock and six lane highways going nowhere, in the rice fields of the Delta."

11. "My husband and I have a 20 acre produce farm just west of Harmon road. This is 90 % of our income. We have orchards and a small vineyard as well. Along with many other farmers in this area, if you plan a road through our area you will take our income if you take our farm. Yes we might find another place to live, but it has taken years to build the farm up. Finding a job to equal the amount of income that we have out here would be very hard. We are also a tourist destination. We have people from all over come to our pumpkin patch in the fall. Last year we had tourists from as far away as Australia. Please think about all the small farmers when you plan the route of the new roads."

12. "I believe that the best way to improve local transportation is to take cars off roads by providing alternative transportation possibilities. The roads are clogged with cars and the air is becoming filled with their fumes. If we build bike trails on all roads people will use them! Bike trails are good for our environment, good for our health, and cost effective. Public

transportation should also be in place, but I think it should focus on regional transportation needs rather than local. Bike locally, ride regionally!"

13. "Northwest Arkansas has a unique opportunity to fund projects, but can be progressive and stop using tolls when the projects have been paid off. In the case of Illinois, projects were never paid off, and eventually, the toll roads were privatized to compensate for the lack of funding to maintain highways. They sold off the toll roads to give the responsibility of maintenance to a private corporation, yet citizens still pay the tolls. Now, the roads are worse than they ever were because the private companies have zero liability to actually maintain the roads. Citizens are still paying tolls to use the road, which has been privatized so the road is maintained (which it isn't being maintained/plowed, etc. by private corporations) and the toll money goes directly into the private companies pockets."

14. "I'm very surprised that the new buses do not have safety belts."

15. "I have noticed and commend the additional sidewalks and bicycle lanes in Fayetteville. However, I feel that bicycles, instead of pedaling in car lanes, are making it unsafe for themselves and slow for vehicles. I wonder why they don't use the bike lane or sidewalks."

16. "We cannot keep making roads wider and wider or adding new super highways forever. They just add to the sprawl and while they may ease congestion at first, eventually congestion will return worse than before. Think of something new. Think outside the box. Keeping a personal vehicle is a financial hardship for many and expensive environmentally also. People are ready for something different. We need something different. "

17. "We cannot keep making roads wider and wider or adding new super highways forever. They just add to the sprawl and while they may ease congestion at first, eventually congestion will return worse than before. Think of something new. Think outside the box. Keeping a personal vehicle is a financial hardship for many and expensive environmentally also. People are ready for something different. WE need something different. "

18. "As far as depending on a car, I'm a poor example, as I have moved rural to avoid as much development as possible. But I do work and spend money all over Washington and Benton County. The Fayetteville bicycle sidewalk improvements are great - I work with people with disabilities, and public transportation is a number one concern - but there are also so many elderly people, students, people with temporary physical or financial issues, all who could benefit from expanded public transportation. Also, for transit while rural folks are in town, bus and light rail would save gas, congestion, expense.

19. "Better, cheaper transportation from Prairie Grove."

20. "NWA especially Benton County needs a permanent public transit system that runs 7 days a week (or at least 6) 24 hours. I see so many people walking (bad weather also) and it would highly diminish traffic congestion. "

21. "It does not make sense to take public transportation and be stuck in traffic. Public transportation needs its own lane to move and get to destinations."

22. "New Urbanism - We must plan our cities to be more pedestrian-oriented instead of car-oriented. Denser downtown and mixed residential/commercial districts just like before the 1940s."

23. "Need transit in country on 170 5 to 6 miles from West Fork sometimes/no car."

24. "Light rail systems are very beneficial to the economy and health of the population, and cut down on pollution."

25. "I would really like to see some form of a light rail as well as a regional public transportation system implemented in northwest Arkansas in the next 20 or 30 years. Thank you to the cities of Fayetteville and Rogers for building such wonderful bike paths throughout your community's. I've been using them regularly throughout the spring and fall. So far the majority of congestion I've noticed in NWA appears to be located between the JB Hunt HQ in Lowell to Bella Vista in Rogers during rush hour and appears to be caused by employees getting off from work by Wal-Mart, JB Hunt, as well as many other smaller shops and neighborhoods in the area. Perhaps if there was a way to bypass these areas by going around the western side of Bentonville from Bella Vista and tie into I-540 near Johnson or Tontitown traffic might ease up a bit. Most of the congestion also appears to be due to poor merging at the entry / exit ramps and might also be easily solved by just turning I-540 into a six lane interstate. There really does not seem to be that much traffic compared to most major cities, it is just a problem when traffic comes to a standstill due to one lane being held up completely by mergers."

26. "I like to bike and would bike to work but do NOT feel safe on the roads in NW AR. In the Bentonville area there is only one road with a shoulder to ride on."

27. "The local school systems have got to start planning the location of their schools. A lot of congestion is located in and around schools. They need to work with local governments find best case scenarios."

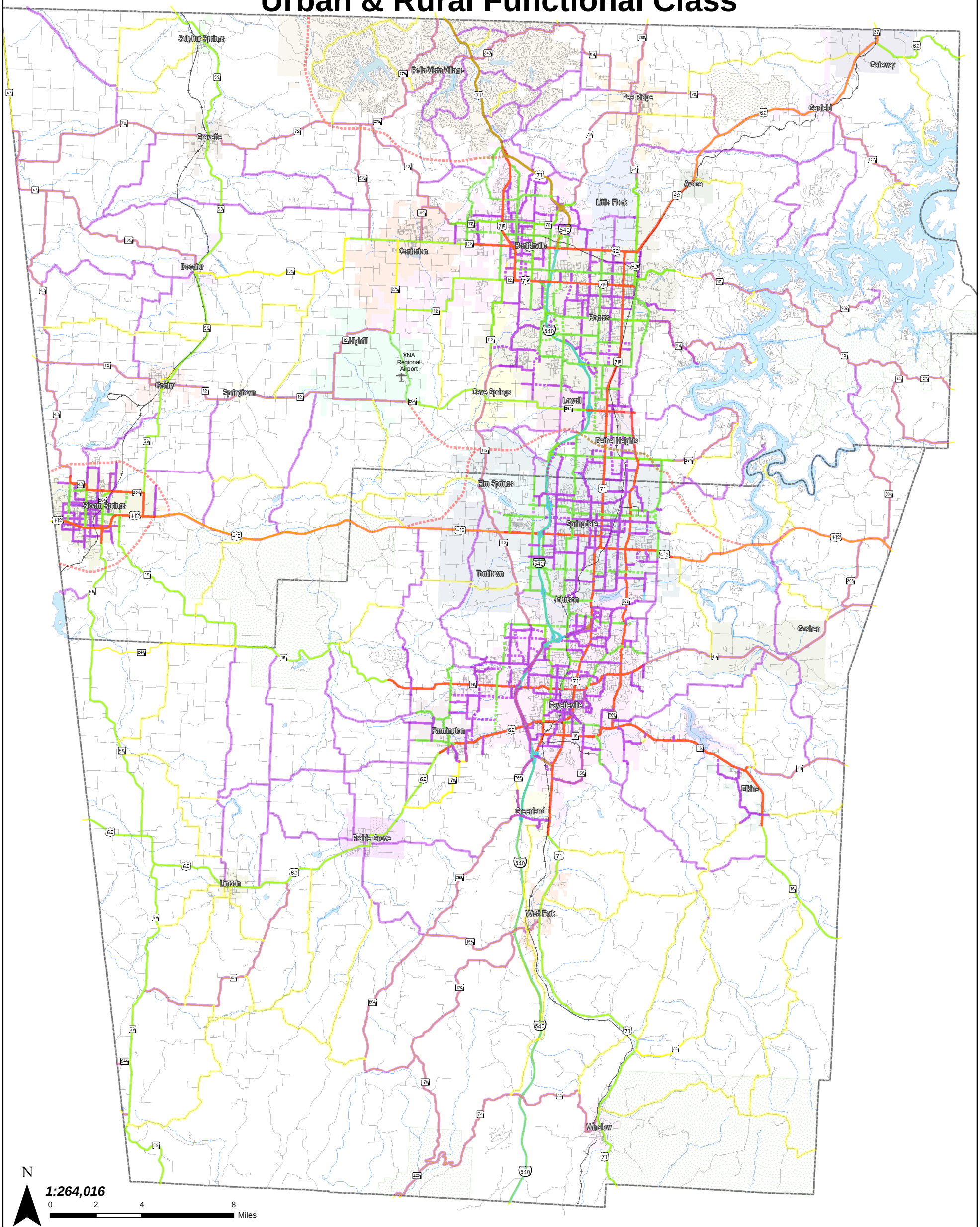
28. "Rush hour is the worst part of NWA traffic. At any other time (except for big happenings on the UofA Campus) there isn't much of a traffic problem. Rush hour morning traffic feels like an issue with parents taking kids to school. During the school year, my commute is 25 minutes longer than during the summer. There is also significant 18-Wheelers traffic that adds to the congestion. Afternoon rush hour would be improved with better and more exits. The backup from exits causes significant slow-downs to cars continuing in either direction."

29. "The success of NWA in short term (5 years) can easily be doubled by making 540 through the metro areas into a 6 lane interstate. And the easiest design wise would be to add a concrete barrier down the middle and extending the lanes to the barrier. If you need examples just look in between Springfield and Branson or over in Tulsa."

APPENDIX C:

- Map of the Functionally Classified Roads System in Benton and Washington Counties

Urban & Rural Functional Class



- XNA
- Railroad
- Road
- Highway
- Interstate
- River
- City Limit
- County Boundary
- Lake
- Ozark National Forest
- Civil War Battleground
- National Forest Boundary

Urban & Rural Functional Class

Rural Functional Class

- Interstate Highways Rural
- Major Collector Rural
- Minor Arterial Rural
- Minor Collector Rural
- Other Principal Arterials Rural
- Proposed Major Collector Rural
- Proposed Minor Arterial Rural
- Proposed Other Principal Arterials Rural

Urban Functional Class

- Collector SS
- Collector Urban
- Interstate Highways Urban
- Minor Arterial SS
- Minor Arterial Urban
- Other Freeways Expressways Urban
- Other Freeways-Expressways Urban
- Other Principal Arterials SS
- Other Principal Arterials Urban
- Proposed Collector Urban
- Proposed Minor Arterial SS
- Proposed Minor Arterial Urban
- Proposed Other Freeway-Expressway Urban
- Proposed Other Principal Arterial Urban
- Proposed Other Principal Arterials Urban

APPENDIX D:

- Access Management Standards Model Ordinance
- 2035 Northwest Arkansas Heritage Trail Plan
- Sustainable Mobility Methods, Concepts and Technologies
- Transportation Demand Management List

ACCESS MANAGEMENT STANDARDS
MODEL ORDINANCE

(A) Intent. These standards are intended to ensure that development is designed to be inherently safe, walkable, and efficient for the facilitation of "***Multi-model transportation systems".***

(B) Applicability. The standards set forth herein shall apply to land, which is proposed to be developed or redeveloped where the creation of public or private streets are required, or proposed, or in which new or existing access is created or modified.

(C) Street Design Principles.

1. **Street Standards.** All street standards shall be designed and constructed according to the Master Street Plan and Minimum Street Standards as adopted by (**insert governing jurisdiction here**). All measurements shall be from the ROW as identified on the Master Street Plan.

2. **Extensions.** All street extensions shall be constructed to Minimum Street Standards. Street extension stub-outs to adjacent properties are required to meet block layout/connectivity standards unless existing development or physical barriers prohibit such.

3. **Substandard Widths.** Developments that adjoin existing streets shall dedicate additional right-of-way to meet the Master Street Plan.

4. **Street Names.** Names of streets shall be consistent with natural alignment and extensions of existing and new streets. Names shall not be duplicate or similar to existing street names. Developers shall coordinate the naming of all new streets through the (**insert governing jurisdiction here**) during the development review process.

5. **Tangents.** A straight tangent at least one hundred (100) feet long shall separate reverse curves for Collector and Arterial streets.

6. **Pedestrian.** Pedestrian-vehicular conflict points should be controlled through warranted signalized intersections and/ or proven traffic calming design principles.

7. **Signalization.** Traffic signals shall be placed only at those intersections that meet signal warrants as defined in MUTCD latest edition. However, the governing jurisdiction shall have the final authority over all signal location.

(D) Street Block Layout/Connectivity.

1. **Block Length.** Block lengths and street intersections are directly tied to the functional hierarchy of the street pattern that exists or is proposed.

   (a) Principal and Minor Arterial Streets. Signalized intersections should be located at a minimum of one every 2,640 feet (half a mile) along principal and minor arterials and shall be based on traffic warrants.

   (b) Collectors. Intersections should be located at a minimum of one every 1,320 feet (quarter of a mile) along collector streets.

   (c) Locals. Intersections should occur at a minimum of one every 800 feet.

   (d) Residential. Intersections should occur at a minimum of one every 660 feet.

   (e) Waivers/ Variances. The approval authority may change block length standards when terrain, topographical features, existing barriers or streets, size or shape of the lot, or other unusual conditions justify a departure from the adopted standard.

2. **Topography.** Local streets should be designed to relate to the existing topography and minimize the area of disturbance.

3. **Dead-End Streets.** Dead-end streets are discouraged and should only be used in situations where they are needed for design and development efficiency, reduction of necessary street paving, or where proximity to floodplains, creeks, difficult topography or existing barriers warrant their use. All dead-end streets should end in a cul-de-sac with a radius of 50’ or an alternative design as authorized in the most recent edition of the Arkansas Fire Prevention Code.

(E) Access Management. Safe and adequate vehicular, bicycle, and pedestrian access shall be provided to all parcels. Local streets and driveways shall not detract from the safety and efficiency of bordering arterial routes. Property that fronts onto two public streets shall place a higher priority on accessing the street with the lower functional classification, i.e., local and collector streets.

1. Driveways (public and private) (See appendix 1 for graphical representation)

(a) Minimum distance from intersection or driveways. For purposes of determining driveway or street access separation, the separation distance shall be measured from the ROW as shown on the Master Street Plan. Driveways shall be no closer than one hundred fifty (150) feet measured from the Master Street Plan ROW of intersecting collector or lower classification streets to the center line of the drive, and no closer than two hundred fifty (250) feet measured from the Master Street Plan ROW of an intersection involving a major or minor arterial to the center line of the drive.

(b) Offset. Either the centerline of opposing nonresidential driveways shall align, or shall be offset no less than one hundred (100) feet edge to edge. This condition shall not apply where a permanent median exists without break for these driveways.

(c) Number of driveways permitted. Principal and Minor Arterial Streets: Where a street with a lower functional classification exists that can be accessed, driveways shall access onto those streets. When allowed, driveways along arterial streets shall be shared between two or more lots. Where a driveway must access the arterial street, it shall be located a minimum of two hundred fifty (250) feet from an intersection or driveway edge to edge.

Collector Streets: Driveways shall be located a minimum of one hundred fifty (150) feet from an intersection or driveway. When allowed, driveways along collector streets shall be shared between two or more lots.

Number of Driveways Permitted	
Length of Street Frontage	**Maximum Number of Driveways**
0 - 500 ft.	1

501 - 1000 ft.	2
1001 - 1500 ft.	3
More than 1500 ft.	4

(d) Distance between Driveways. Unless otherwise specified by ordinance, the maximum number of curb cuts for each property shall be determined by length of road frontage and the maximum posted speed limit of the road.

Distance between Driveways	
Travel Speed Permitted	**Minimum Distance between Driveways**
30 mph	100
35 mph	150
40 mph	200
45 mph	250
50 mph	300
55 mph	350

(e) Curb radius. To ensure safe turn movements, turning radii for commercial drive curb cuts should be a least twenty five (25) feet for curb cuts along streets designated on the Master Street Plan. Exceptions may be granted through a waiver/ variance request to the (**governing jurisdiction**) for shorter radii in the downtown area and for larger radii needed where there may be a need to accommodate truck traffic.

(f) Residential and subdivision access. No residential lot shall be permitted direct access to a collector, minor, or major arterial street. All residential subdivision development contiguous to a collector, minor, or major arterial street shall orient frontage to a local, residential or alley and back the project, without access to the said major streets. All subdivisions with thirty (30) or more lots shall have two access points or designed according to the current Arkansas Fire Prevention Code.

(g) Waiver / variance In order to protect the ingress and egress access rights to a street of an abutting property owner, a waiver/ variance request to the driveway minimums may be granted by the approving authority to allow a driveway at the

safest functional location along the property street frontage. Joint shared driveways shall be required with an adjoining parcel. If a parcel on the corner of an arterial or collector street provides such short frontage along a major street that there is no safe ingress/egress functional location on that street, the (**governing jurisdiction**) may deny or limit the driveway to ingress or egress only.

(h) Driveway Width. Commercial, industrial, and multi-family driveway widths shall meet the following guidelines:

(1) One-way in or out. If the driveway is a one- way in or one-way out drive, then the driveway shall be a minimum width of twenty (20) feet and shall have appropriate signage designating the driveway as a one-way connection.

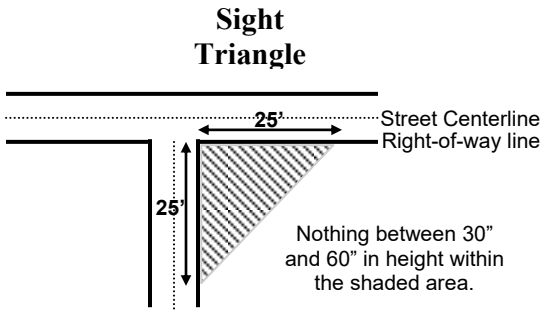
(2) Two-way. For two-way access, each lane shall have a width of twelve (12) feet and a maximum of three lanes shall be allowed. Whenever more than two lanes are proposed, the governing jurisdiction may require entrance and exit lanes to be divided by a raised median. All median designs shall be approved by the governing jurisdiction.

(3) Minor or Major Arterials. Driveways that enter a minor or major arterial at traffic signals must have at least two (2) outbound lanes (one for each turning direction) of at least 12 feet in width, and one in-bound lane with a 14-foot width.

(i) Driveway Grades. Driveway grades shall conform to the recommendations of the Center for Urban Transportation Research as shown in the table titled “Maximum Drive Grades.”

Maximum Drive Grades	
Roadway	**Driveway Grade**
Major Arterial	5 %
Minor Arterial	6 %
Collector	7 %
Local	10 %

(j) Sight Triangle. Driveway approaches must be designed and located to provide an exiting vehicle with an unobstructed



view. Any plantings or structures in the site triangle must not exceed 30" in height as shown below. The site triangle distance maybe increased for higher classification streets or as required by the governing jurisdiction.

(k) Throat Length. The length of driveways or "Throat Length" shall be designed in accordance with the anticipated storage length for entering and exiting vehicles to prevent vehicles from backing into the flow of traffic on the public street or causing unsafe conflicts with on-site circulation. General standards appear in the table below titled "Generally Adequate Driveway Throat Lengths", but may vary according to the projected volume of the individual driveway. These measures generally are acceptable for the principle access to a property and are not intended for minor driveways. The figure titled "Driveway Throat Length," depicts an example of adequate throat length.

Driveway Throat Length

Generally Adequate Driveway Throat Lengths	
Development Type	**Driveway Throat Length**
Shopping Centers > 200,000 GLA* (Signalized) (800 spaces)	200'
Smaller Developments < 200,000 GLA* (Signalized)	75'-95'
Un-signalized Driveways	40'-60'

(l) Driveway Approach to Property Line. The driveway approach shall extend to the property line and/or Master Street plan right-of-way from the paved street and shall be paved with concrete in accordance with the Standard Street Specifications.

(m) Driveways beyond the Property Line. Except in agricultural and residential estate zoning districts, all driveways shall be paved from the property line and/or master street plan right-of-way with asphalt, concrete, brick or stone pavers, or other solid surface and shall extend twenty (20) feet (length) into the property unless no parking is provided between the property line and structure.

(n) Driveways beyond 20 Feet into the Property. Driveways beyond 20 feet into the property may be paved or unpaved and shall be clearly defined by landscaping or edging.

(o) Unpaved Driveway Maintenance Requirements. All unpaved driveways shall be maintained with adequate gravel, grasses, or other plants and/or landscaping materials to keep the area from becoming rutted, muddy and/or soil from being blown or washed away. (enforced through the storm water management ordinance or other ordinances)

(p) Driveway Grading and Drainage. The driveway shall be graded in such a way to dispose of surface water into appropriate structures.

(F) Freeway Interchanges with Arterials

1. **Land Use.** The most appropriate use of interchange area land (interims of the regional economy) should be encouraged, consistent with maintaining an efficient and safe traffic facility.

2. **Lot Depth.** Land near interchanges should have sufficient depth to provide access to interior tracts, and developments with shallow frontages should be discouraged.

3. **Access Points.** Land use should be of a type that requires only a minimum number of access points and intersections along the arterial in the vicinity of ramp entrances and terminals.

4. **Frontage.** The design of interchange traffic facilities should be coordinated with the simultaneous development of a comprehensive plan for the interchange area and that the practice of acquiring property access rights be expanded in critical cross-route problem areas.

5. **Frontage Roads.** Frontage roads along freeways should intersect arterials near interchanges at an appropriate distance away from the ramp terminal intersection (see table below). In addition, a continuous system of frontage roads can provide additional property access and reduce reliance on arterial road access.

6. **Individual Access Management Plans –** Individual jurisdictions' access management plans related to freeway interchanges shall be agreed upon by AHTD, the local jurisdiction, and the MPO.

Suggested access spacing near interchanges

2-Lane Cross Routes

Access Type	Area Type		
	Fully Developed Urban (45 mph)	Suburban (45 mph)	Rural (55 mph)
First Access	750	990	1,320
First Major Signalized Intersection	1,320	1,320	1,320

4-Lane Cross Routes

Access Type	Area Type		
	Fully Developed Urban (35 mph)	Suburban (45 mph)	Rural (55 mph)
First Access from Off-Ramp	750	990	1,320
First Median Opening	990	1,320	1,320
First Access Before On-Ramp	990	1,320	1,320
First Major Signalized Intersection	2,640	2,640	2,640

(G) Acceleration and Deceleration Lanes. Site plans for all commercial development and redevelopment, residential subdivisions, and multifamily dwellings on collector, and arterial streets will be analyzed by the City for

critical traffic conditions for both the initial opening and full development of the site. Deceleration lanes are required for single and combined uses that generate right turn driveway volumes of thirty (30) or more vehicles in the peak hour, as determined using standard Institute of Transportation Engineers (ITE) trip generation rates for the subject land use(s).

Additional development, requiring a building permit that would generate right turn driveway volumes of thirty (30) or more vehicles in the peak hour shall require the installation of an approved deceleration lane. Four hundred (400) feet minimum spacing between drives measured centerline to centerline or from the ROW intersecting lines of public streets to the centerline of a curb cut, is required when deceleration lanes are required. Construction of driveways along acceleration lanes, deceleration lanes, and tapers are prohibited due to the potential for vehicular weaving conflicts.

(H) Joint and Cross Access Major traffic generators, adjacent commercial or office properties classified as major traffic generators (i.e., shopping plazas, office parks, etc.), shall provide joint and cross access for vehicles and pedestrian circulation between sites. A system of joint use driveways and cross access easements shall be established wherever feasible in commercial zoning districts along streets designated on the City Master Street Plan to allow circulation between sites.

1. A continuous service drive or cross access corridor extending the entire length of each property served to provide for driveway separation consistent with the curb-cut standards.

2. A design speed of 10 mph and sufficient width to accommodate two-way travel aisles designed to accommodate automobiles, service vehicles, and loading vehicles;

3. Stub-outs and other design features to make it visually obvious that the abutting properties may be tied in to provide cross-access via a service drive;

4. A unified access and circulation system plan that includes coordinated or shared parking areas is encouraged wherever feasible.

(I) Non-Conforming Access Features. Permitted access connections in place as of the date of the adoption of this ordinance that do not conform with the standards herein shall be designated as nonconforming features

and shall be brought into compliance with applicable standards under the following conditions:

1. When new access connection permits are requested;

2. Alterations exceeding 50% of the existing gross floor area;

3. 25% increase in driveway trip generations; or

4. As roadway modifications occur.

(J) Discontinued Use. If the principal activity on a property with nonconforming access features is discontinued for a consecutive period of 180 days then that property must thereafter be brought into conformity with all applicable connection spacing and design requirements, unless otherwise exempted by the approving authority. For uses that are vacant or discontinued upon the effective date of this code, the 180-day period begins on the effective date of this code.

Access Management Definitions

Definitions not expressly prescribed herein are to be construed in accordance with the customary usage in municipal planning and engineering practices. Whenever used in this regulation, the word "may" is permissive, while the word "shall" is to be interpreted in its mandatory sense. For the purpose of interpreting this regulation, certain words used herein are defined as follows:

A

AASHTO: American Association of State Highway and Transportation Officials.

Access: A way or means of approach to provide vehicular or pedestrian entrance or exit to a property.

Access Connection: Any driveway, street, turnout or other means of providing for the movement of vehicles to or from the public roadway system.

Access Management: The process of providing and managing access to land development while preserving the regional flow of traffic in terms of safety, capacity, and speed.

AHTD: Arkansas Highway and Transportation Department.

Alley: A minor public right-of-way used for utility installations and vehicular access to the back or the side of properties abutting a street.

B

Block: A parcel of land, intended to be used for urban purposes, which is entirely surrounded by public streets, highways, railroad rights-of-way, public walks, parks, drainage channels, or a combination thereof.

C

Cul-de-sac: A local street with only one outlet and having an appropriate terminal for the safe and convenient reversal of traffic movement.

Commission: The word "Commission" or "Planning Commission" shall be the official City Planning Commission/ Planning Board of the ***(*governing jurisdiction*)***.

Cross Access: A service drive providing vehicular access between two or more contiguous sites so the driver need not enter the public street system.

Curb Cut: A curb cut is a ramp leading smoothly down from a sidewalk to a street, rather than abruptly ending with a curb and dropping roughly 4–6 inches (10–15 cm).

D

Dead End Street: A Street having one end open to traffic and being permanently terminated at the opposite end.

Dedication: Land and improvements offered to the city and accepted by the city for public use, control and maintenance.

Development: Any change in improved and unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials as defined by the governing jurisdiction.

Development plan: A drawing showing all proposed improvements to a piece of property including streets, parking lots, buildings, drives, signs, utilities, drainage, grading by size and location.

Driveway: A driveway is a break in access at street grade to serve as an access point to one or more structures, and is owned and maintained by an individual or group edge to edge.

E

Easement: A grant by the property owner of the use, for a specific purpose or purposes, of land by the public, a corporation, or certain persons.

Engineer: A person duly authorized under the provisions of the Arkansas Engineering Registration Act to practice the profession of engineering in the State of Arkansas.

Expressway: An expressway is a divided highway for high-speed traffic with controlled access.

F

Frontage Road: A public or private drive, which generally parallels a public street between the right-of-way and the front building setback line. The frontage road provides access to private properties while separating them from the arterial street. (see also Service Roads)

Functional Area of Intersection: Manual of Uniform Minimum Standard for Design, construction, and Maintenance - A manual produced by the Arkansas Department of Transportation which provides for uniform standards and criteria for transportation facilities for both state and local roads.

G

General Plan: The adopted comprehensive plan that provides long-range development policies for the area subject to urbanization in the foreseeable future and which includes, among other things, the future land use plan and master street plan.

J

Joint Access (or Shared Access): A driveway connecting two or more contiguous sites to the public street system.

L

Lot: A parcel of land, legally defined in a recorded deed or a recorded plat, fronting on a public dedicated right-of-way or other approved private drive. The lot shall not be divided by any public highway or alley, including any part thereof subject to any easement for any purpose other than a public highway or alley, but excluding any part thereof severed from another lot where the severance creates any nonconformity of use or structure. Said lot shall establish one building site and comply with all subdivision rules and regulations of the City.

Lot, Corner: A lot located at the intersection of and abutting on two or more streets.

M

Manual of Uniform Traffic Control Devices (MUTCD): A Federal document adopted by the Arkansas Department of Transportation that provides standards for traffic control devices.

Master Street Plan: The plan made and adopted by the Planning Commission and accepted by the City Council classifying certain streets within the planning area jurisdiction as arterial or collector streets.

Median: A *median* is a grass or raised divider in the center of a road that separates opposing traffic and discourages or prevents vehicles from crossing the divider.

P

Parcel: A division of land composed of one or more lots in contiguous ownership.

Parking space: An area of definite length and width, exclusive of drives, aisles or entrances, giving access thereto, and fully accessible for the storage or parking of permitted vehicles.

Pavement Width: The portion of a street available for vehicular traffic; where curbs are laid, it is the distance from back of curb to back of curb.

R

Reasonable Access: The minimum number of access connections, direct or indirect, necessary to provide safe access to and from the thoroughfare, as consistent with the purpose and intent of this code and any applicable plans and policies of the (city/county).

Right-of-Way: The usage of the term "right-of-way" for land platting purposes shall mean that every right-of-way hereafter established and shown on a final plat is to be separate and distinct from the lots or parcels adjoining such right-of-way and not included within the dimensions or areas of such lots or parcels. Rights-of-way intended for streets, crosswalks, water mains, sanitary sewers, storm drains, or any other use involving maintenance by a public agency or public utility company shall be dedicated to public use by the maker of the plat on which such right-of-way is established.

S

Service Road: A public or private street or road, auxiliary to and normally located parallel to a controlled access facility that maintains local road continuity and provides access to parcels adjacent to the controlled access facility.

Significant Change in Trip Generation: A change in the use of the property, including land, structures or facilities, or an expansion of the size of the structures or facilities causing an increase in the trip generation of the property exceeding 10 percent more trip generation (either peak or daily) and 100 vehicles per day more than the existing use for all roads under local jurisdiction; or exceeding 25 percent more trip generation (either peak or daily) and 100 vehicles per day more than the existing use for all roads under state jurisdiction.

Street: A public or private right-of-way, however designated, which provides vehicular access to adjacent areas.

Street, Arterial: Arterial streets serve to interconnect and support the freeway system. Arterial streets link major commercial, residential, industrial areas. Arterial streets are typically spaced 1 mile apart to assure accessibility and reduce the incidence of traffic using collectors or local streets in lieu of a well placed arterial street. The main function is to carry high volumes of traffic within the community and major activity centers within the region. Each arterial street is designated on the Master Street Plan for the City as either a super, major or minor arterial.

Street, Collector: Collector streets provide both access and circulation within residential, commercial, and industrial areas. Collector streets are located along neighborhood borders and collect traffic from residential and commercial areas and channel vehicles to minor and major arterials. Collector streets are designated on the Master Street Plan and/or General Plan for the City.

Street, Frontage: A minor street which is generally parallel to and adjacent to a major highway or railroad right-of-way and which provides access to abutting properties and protection from through traffic.

Street, Local: Local and residential streets have the sole function of providing access to adjacent land. Residential and local streets serve traffic within neighborhoods and should carry low volumes of traffic at slower speeds.

Street, Minor Residential: The term "minor residential" street shall mean a street which has a single entry/exit, serves no more than twenty-four (24) dwelling units and shall be the lowest in the functional classification of streets. The intended purpose of a minor residential street is to serve local non-through traffic in a residential setting.

Street Right-of-Way Width: The shortest distance between the lines which delineate the right-of-way of a street as it runs from abutting property line to abutting property line.

Stub-out (Stub-Street): A portion of a street or cross access drive used as an extension to an abutting property that may be developed in the future.

T

Temporary Access: Provision of direct access to the controlled access facility until that time when adjacent properties develop, in accordance with a joint access agreement or frontage road plan.

V

Vacation: Legal abandonment of a platted street right-of-way or easement.

Variance: Permission from the Board of adjustment to depart from the requirements of these regulations.

W

Waiver: Permission from the governing jurisdiction/ approval authority to depart from the requirements of these regulations.

Tract No._____
Page 1

TYPICAL RIGHT OF WAY AND EASEMENT GRANT

That for and in consideration of One Dollar ($1.00) and other good and valuable considerations to the undersigned **Name Here** Grantor(s), cash in hand paid, the receipt of which is hereby acknowledged, said Grantor does hereby grant, bargain, sell and convey unto the City of (city/ town name here), Arkansas, Grantee, their successors and assigns, a permanent easement to lay, construct, remove, enlarge, maintain, inspect and repair a City sewer line, with public right of ingress and egress to and from the same, on over, across and under the following described real estate to-wit:

PROPERTY DESCRIPTION:

RIGHT OF WAY OR EASEMENT DESCRIPTION:

Grantees shall have and are hereby granted the right of constructing, reconstructing, locating, relocating, inspecting, patrolling, expanding existing facilities as may be required in the future, and maintaining said sewer line. Grantees shall have and are hereby granted the further right at all time to remove from said lands all vegetation, undergrowth, trees, and parts thereof, or other obstructions, which in the opinion of the Grantees, restrict access, constitutes a hazard, or endangers the safety of said sewer easement, or their appurtenances and/or the public, and/or for the purpose of installing additional facilities.

The Grantor or his successors shall not cause to be constructed any buildings, structures or other improvement (other than fences, driveways, and paved parking areas) within the above described easement, and no trees shall be planted by Grantor or his successors on said easement. Grantor or his successors shall not be entitled to any compensation for fences, growing crops, structures which may be removed or disturbed within this easement by virtue of Grantees' exercise of the rights under this agreement.

Grantees agree to repair any damage to Grantor's driveways, sidewalks, parking areas, lawn or pastures that result from the exercise of rights and privileges contained within the easement described herein. Said damage to driveways, sidewalks, parking areas, lawn or pastures shall be restored by Grantees as close as is reasonable to the original condition.

It is further understood that Grantee's easement shall be exclusive and the Grantor or his successors shall convey no parallel rights to any person, utility or corporation on, across or under said easement without the written permission of Grantees.

TO HAVE AND TO HOLD the above described easement unto said grantees, its successors and assigns, forever or until said right of way if finally abandoned.

Grantor also agrees to forever warrant and defend the above described easement unto said grantees against all legal claims.

IN WITNESS WHEREOF, the hand and seal or Grantor is hereunto set this _____day of _____, _____.

_____

Authorized Agent

A C K N O W L E D G E M E N T

STATE OF ARKANSAS }
COUNTY OF BENTON }

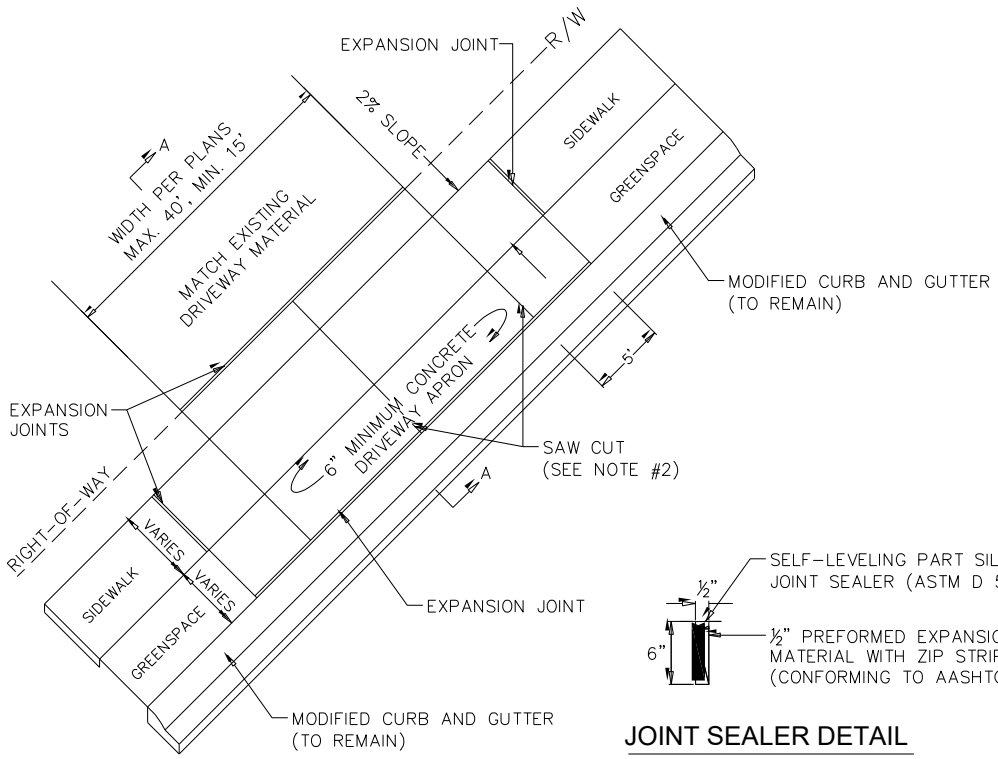
BE IT REMEMBERED, that on this date, before me, a Notary Public within and for said County and State, duly commissioned and acting, personally appeared **Representative**, authorized agent of **Name Here**, to me well known as the person or persons who executed the foregoing easement grant, and that had executed the same for consideration and purpose therein mentioned and set forth.

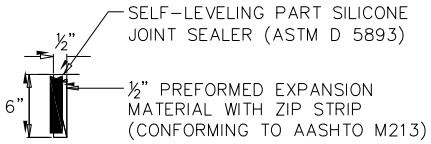
WITNESS my hand and seal on this _____ day of _____, _____.

_____
Notary Public

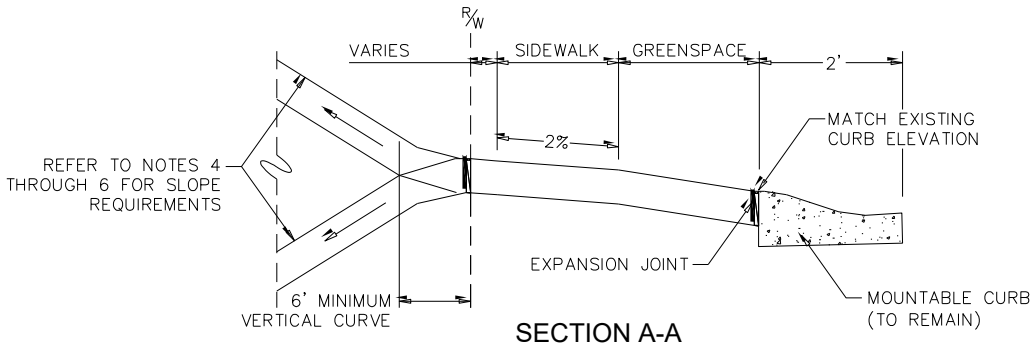
My Commission Expires: _____

Appendix A





JOINT SEALER DETAIL



SECTION A-A

Northwest Arkansas Heritage Trail Plan

“A regional network of bicycle and pedestrian facilities that connects Northwest Arkansas citizens and visitors to our rich heritage, our recreational and cultural assets, a healthier lifestyle, and to each other.”

The Northwest Arkansas Heritage Trail Plan is part of the 2035 Regional Long Range Transportation Plan.

The 2035 Regional Long Range Transportation Plan was prepared by the Northwest Arkansas Regional Planning Commission in cooperation with the Arkansas State Highway and Transportation Department and the Federal Highway Administration.

The 2035 Long Range Transportation Plan was adopted by a unanimous vote of the Northwest Arkansas Transportation Study (NARTS) Policy Committee on April 7, 2011.

Version II of the NWA Heritage Trail Plan was in the 2030 Long Range Transportation Plan, adopted by a unanimous vote of the Northwest Arkansas Transportation Study (NARTS) Policy Committee on April 20, 2006.

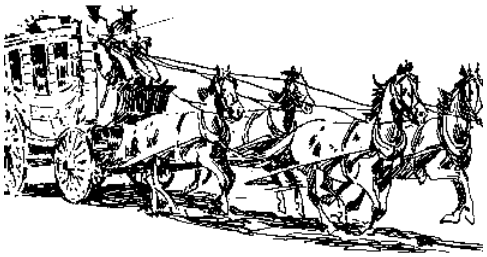
Version I of the NWA Heritage Trail Plan was adopted as Amendment Five to the 2025 Regional Transportation Plan for NW Arkansas by a unanimous vote of the NARTS Policy Committee on October 28, 2002.

The NARTS Policy Committee consists of the highest elected official of each jurisdiction in the NARTS area or their appointed representative.

Historic Background and Significance of the Regional Routes

Trail of Tears

The term "Trail of Tears" signifies the various routes used for the forced removal of five civilized Native American Indian tribes from their homelands in the east, to the Indian Territory, today's eastern Oklahoma. The removal took place from 1837 to 1839. Eleven of the Cherokee removal parties traveled through Northwest Arkansas on the "State Road" that ran from Springfield to Fort Smith through Fayetteville. The road followed the general route of what would later be called the Telegraph Road, entering the state just north of the Pea Ridge Park and tracking southwest toward Fayetteville. These parties turned west, some in the Bentonville area, and some in the Springdale/Fayetteville area toward their final destination of Tahlequah, Oklahoma. One party entered NW Arkansas in the Hindsville area, and travelled through south Fayetteville and Cane Hill. Another party came up from the Fort Smith area and entered Indian Territory near Evansville. Based on the diaries of party leaders we know some of the specific dates and camp locations of the traveling Cherokees. The Richard Taylor contingent camped at the Elk Horn Tavern site in today's Pea Ridge Military Park on March 18, 1839. Then according to a party leader's diary: "Traveled 15 miles to Cross Hollows, ate dinner at Homeslys, and came on 5 miles to Fitzgerald's". On March 21, 1839, the diary entry records "Thursday 21, cloudy and cool, passed through Fayetteville…got a mean meal at the Brick Tavern"



Butterfield Stage Coach Route

In 1858 John Butterfield began operating the longest stagecoach run in the history of the world. Butterfield's mail coaches ran from Tipton, Missouri to San Francisco, right through Northwest Arkansas. The mileage of the route was approximately 2,800 miles. Coaches were to run each way twice a week. Having 25 days to make each run, the coaches traveled day and night to meet this deadline. There were stage stops every 20 miles or so to change teams. The first westbound Butterfield Stage stopped at Callaghan's Station in present day Rogers on September 18, 1858, a Saturday morning. It then ran south through Cross Hollows on the way to Fitzgerald's Station in modern day Springdale (then Shiloh). The stage arrived in Fayetteville at 11:00 a.m. that Saturday morning and left at 10 minutes till noon on the way south toward the rugged Boston Mountains on the way to Van Buren and Fort Smith. Of the route from Fayetteville to Fort Smith it was said by one of the first riders, "I might say the road was steep, rugged, jagged, rough, and mountainous and then wish for more impressive words". This first westbound stage arrived in San Francisco on October 10, 1858, one day ahead of schedule. The Butterfield Stagecoach ran from 1858 till 1861.

Civil War Troop Movements

The Battle of Pea Ridge

On February 13, 1862 the Missouri State Guard under General Price retreated from Springfield, Missouri due to an unexpected winter campaign initiated by General Curtis of the Union Army. In the midst of fierce winter storms, 8000 Confederate troops with an almost endless wagon train trudged down the Telegraph Road to join their rebel counterparts in Arkansas. The Union Army gave a relentless pursuit resulting in the first Civil War battle in Arkansas on February 17, 1862 at Little Sugar Creek on the Telegraph Road. The Confederate troops finally made it to Cross Hollows for their first night's rest since leaving Springfield. The Arkansas Confederate commander at Camp Cross

Hollows, General McCulloch, advised a further retreat to the Boston Mountains near Strickler in southern Washington County. Here they were joined by General Van Dorn's troops from Van Buren and amassed an army of approximately 16,000 men, the largest concentration of Confederate troops west of the Mississippi. The Union Army of the Southwest, which consisted of approximately 10,500 men, had settled into a defensive position along Little Sugar Creek and McKissick Creek in northern Benton County. Van Dorn ordered his men to move against the Union Army on March 4th, 1862. Van Dorn's army, along with its massive supply train, marched up the Telegraph Road to Fayetteville and then up the Elm Springs Road to Bentonville amidst another fierce winter storm. Some of the cold, weary, Confederate troops fell out along the way but most continued on to meet their fate at one of the largest Civil War battles west of the Mississippi, the Battle of Pea Ridge.

The Battle of Prairie Grove

Following the Battle of Pea Ridge the two armies that fought there moved east, essentially abandoning Arkansas. Two new armies were organized, the Confederate Trans-Mississippi Army under General Thomas C. Hindman and the Union Army of the Frontier under General John M. Schofield. By the fall of 1862 the Confederates were concentrated in the Fort Smith area while the Union Army was split in two with half of it on Flint Creek at what is now Siloam Springs, Arkansas and the other half at Springfield, Missouri.

In November of 1862, Confederate cavalry was foraging around Cane Hill, Arkansas. General Blunt moved his troops down the Military Road/Line Road that connected Fort Scott, Kansas and Fort Smith, Arkansas. At Cincinnati he turned east to Rhea's Mill and then south to Cane Hill where he attacked the rebel cavalry. After the battle, Blunt decided to stay in Cane Hill. On December 1 the entire Confederate army, about 12,000 men began crossing the Arkansas River and December 3 they began moving north on Telegraph Road and then Cove Creek Road, hoping to destroy Blunt's 5,000 Union troops at Cane Hill. When Blunt learned of the Confederate advance he sent a telegraph to General Francis J. Herron, the Union commander in Springfield. In one of the great marches of the Civil War, Herron's troops marched south on Telegraph Road, covering about 130 miles in three and a half days. On December 6, 1862, the two armies clashed at Prairie Grove on the Fayetteville-Cane Hill Road in the last major battle to occur in northwest Arkansas.

The routes associated with these historic events make up the primary network of the Northwest Arkansas Heritage Trail Plan.

Plan Overview:

Washington and Benton Counties offer a unique opportunity for recreational and non-automotive travel throughout the area. Our region includes national forests, state parks, recreational areas, cultural assets, and significant historic sites.

The NWA Heritage Trail Plan is a part of a regional network of bicycle and pedestrian facilities that connects NW Arkansas citizens and visitors to our rich heritage, our recreational and cultural assets, a healthier lifestyle, and to each other.

By implementing a region-wide network of bike and pedestrian facilities, the public has access to healthy and safe alternatives to automotive travel. This system also provides opportunities to experience the historic and natural environments of the area. As a result, the overall quality of life, economy, and health of the region is being enhanced.

Travel by bicycle and walking are becoming increasingly important to American lifestyles. Facilities to encourage these activities must be attractive, user friendly, and safe.

Scope:

This plan is a part of a regional network for proposed bicycle and pedestrian facilities within the two counties of Northwest Arkansas. The entire network can be seen, at a minimum, as a bicycle route with improvements, providing safety for bicyclists. Within the more populated areas, where pedestrian traffic is anticipated, the improvements also accommodate safe pedestrian travel. This regional system is designed to connect the emerging master trail plans of the region's cities. By tying into the regional and local trails plans , the NWA Heritage Trail Plan provides linkage to recreational sites, parks, historic sites, museums, schools, work centers and retail shopping.

The entire regional trail network is an extensive system that includes off road and with road bicycle and pedestrian facilities. The Heritage Trail Plan is primarily a with road component of the regional system that utilizes historic road in the area. It can also be promoted as an auto tour and is in fact a component of a larger statewide Heritage Trail. The research of historic routes is ongoing. As routes are added or altered by the Arkansas Department of Parks and Tourism or the National Park Service, these changes will be reflected on the NWA Heritage Trail Plan.

Goals:

- Develop a regional network of bicycle and pedestrian facilities utilizing historic roads and linking to the full regional trail plan.
- Create travel and recreational opportunities by providing access to the region's attractions.
- Enhance economic development opportunities through the promotion of heritage-based tourism.
- Promote awareness among local residents of the region's abundant resources for recreational, historic, and cultural interests.
- Promote the health benefits associated with outdoor activities.
- Work with local jurisdictions and AHTD to promote discussion of new public funding sources to support the development and continuing maintenance of the regional trail network.

Objectives:

- Improve existing facilities to make them more accessible, usable, and enjoyable
  - Improve maintenance
  - Promote volunteerism
  - Clear, concise and unified signage
- Develop new facilities to provide safe travel for bicycles and pedestrians.
  - Link to existing trails
  - Create loop trails
  - Provide connections between communities, parks, and other key destinations.
  - Establish desired design guidelines for access, safety, and enjoyment
- Ensure that individual trail plans and the NWA Heritage Trail Plan are consistent with each other.
- Promote shared use of resources by using public lands in the best manner possible
  - Shared transportation corridors
  - Multiple-use paths
  - Facilities within existing public right-of-way
- Provide bicycle and pedestrian access to scenic vistas, historic sites, and points of interest.
- Provide for viewing stations, rest areas, turnouts, and interpretative signs.
- Build public awareness and support for bicycle and pedestrian facilities.
  - Proper road signs
  - Create descriptive brochures
  - Posting maps and trailhead bulletin boards
  - Publishing individual route guides
  - Planning promotional events
- Pursue federal, state and private grants and resources to assist local jurisdictions in implementing the plan.
  - Grants-in-aid project
  - Federal transportation bill

    - Donations/trail sponsors
    - Adopt-a-trail programs and volunteer workday
- Incorporate bicycle and pedestrian routes into regional tourism marketing and promotion.
    - Chambers of Commerce
    - Trade shows
    - Convention and visitors bureaus
    - Museums and schools
- Promote safety and education programs for bicyclists, pedestrians, and motorists

<u>Bicycle and Pedestrian Facility Cross Sections</u>:

There is not a single cross section that fits all the needs of the NWA Heritage Trail Plan. Currently, parts of the Plan range from unpaved county roads to major arterials in central commercial districts. Also, many of the jurisdictions will be developing their own master trail plan and the Heritage Trail Plan should work in conjunction with the cities' own plans. In considering cross sections, it is good to remember the purpose of the Plan, which is to facilitate bicycle and pedestrian traffic in the safest and most user-friendly way possible. Also, any transportation improvement that utilizes federal money must meet ASHTO guidelines.

On-Road Bicycle Facilities:

- Bicycle lanes on streets with curbs should be at least 5 feet in width
- On rural roads with no curbs, an 8 foot shoulder makes an ideal bike route and also serves the needs of motorists with mechanical problems to pull completely off the road
- On rural roads where an 8 foot shoulder is not possible a 5 foot shoulder should be the minimum considered for bicycle safety

Pedestrian Facilities:

- Sidewalks should be at least 6 foot wide.

Multiuse Facilities: (parallel to the roadway or off road)

- A multiuse facility shared by bicycles and pedestrians should be at least 10 feet wide.

Special Case Accommodation for Bicycles:

- When a multi-use facility parallels a road, or when ROW problems make a 5 foot bike lane impossible, accommodation should still be made for bicycles in the road

way. A minimum consideration for bicycle safety is to have a road width where a motorist can safely pass a bicycle without having to cross into the on-coming traffic lane. This Plan specifically recommends at least a 14 foot outside lane for minimum bicycle safety.

How to Use This Plan:

1. **As a Guide for Trail Planning and Development:**

This plan shows the historic connections necessary for connectivity between the individual trial plans of the region's cities.

2. **As Justification For Funding Requests:**

Administrators of grant-in-aid programs, foundations, philanthropic organizations and other funding sources look favorably on projects that are part of a published and adopted regional plan. Cities and trail advocacy groups should therefore use the plan as they seek support and assistance in their trail development and improvement efforts.

Northwest Arkansas Heritage Trail Plan

Points of Interest Along The Route

Butterfield Stage Coach Stops
Callaghan's Station, Rogers
Fitzgerald's Station, Springdale
Old Courthouse, Fayetteville
Parks Station, south of Hogeye

Trail of Tears Sites
Elkhorn Tavern
Cross Hollows
Springdale Marker
Fayetteville Marker

Civil War Sites
Pea Ridge National Military Park
Prairie Grove State Park
Pott's Hill
Cross Hollows
Dunigan's Farm
Camp Mudtown
Camp Elm Springs
Camp Osage Prairie
Camp Stephens
McKissick's Springs – Centerton
Eagle Hotel – Bentonville
Confederate Monument – Bentonville
Ben McCulloch Monument – City of Pea Ridge
Headquarters House – Fayetteville
Confederate Cemetery- Fayetteville
National Cemetery - Fayetteville

Downtowns
Bentonville
Rogers
Springdale
Fayetteville
Elm Springs
Cave Springs
Centerton
Pea Ridge
Avoca
Goshen
Greenland
West Fork
Farmington
Winslow

Recreational Areas
Lake Wedington
Lake Sequoyah
Prairie Creek
Horseshoe Bend
Hickory Creek
Beaver Lake State Park
Hobbs State Management Area
Devil's Den State Park

Museums
Peel House
Shiloh Museum
Rogers Historical Museum
U of A Museum
Lowell Historical Museum

Trail Systems
Bentonville Downtown
Lake Bella Vista
Lake Fayetteville
Fayetteville Historic Walk

Area Attractions
War Eagle Mill
Jones Center for Families
Rodeo of the Ozarks

Colleges
U of A
NWA Community College
NWA Technical Institute

Sustainable Mobility Concepts, Technologies, Best Management Practices:		
Sustainable Transportation Technology or Policy	**Brief Description**	**Web links**
Access management / Enforcement	regulation of interchanges, intersections, driveways and median openings to a roadway	http://en.wikipedia.org/wiki/Access_management
Accessibility	In transportation, accessibility refers to the ease of reaching destinations	http://en.wikipedia.org/wiki/Accessibility
Auto Train	Amtrack transports you and your car by train	http://en.wikipedia.org/wiki/Auto_Train
Bicycle Boulevards	Designed Boulevards accommodating bicycles	http://en.wikipedia.org/wiki/Bicycle_boulevard
Bicycles/Bike Lanes	Encouraging Bicycle commuting with lanes and trails	http://www.fhwa.dot.gov/environment/bikeped/
Bike sharing systems	Community bicycle program	http://en.wikipedia.org/wiki/Community_bicycle_program
Biodiesel	non-petroleum-based diesel fuel	http://en.wikipedia.org/wiki/Biodiesel
Biogas/CNG	Fuel produced by the biological breakdown of organic matter in the absence of oxygen	http://en.wikipedia.org/wiki/Compressed_natural_gas
Bottleneck Reduction	Cost effective ways to make improvements to alleviate traffic bottlenecks	http://www.oti.dot.gov/btlneck_reduction/index.htm
Bus Rapid Transit	Advanced express buses operated on dedicated lanes considered a fixed guideway system	http://en.wikipedia.org/wiki/Bus_rapid_transit
Bus Transit	Conventional Bus Transportation	http://en.wikipedia.org/wiki/Bus
Car pooling	Carpooling uses private or jointly hired vehicles, for private shared journeys	http://en.wikipedia.org/wiki/Carpool
Car Restricted Zones /Living Streets	needs of car drivers are secondary to the needs of users of the street as a whole	http://en.wikipedia.org/wiki/Living_street
Car sharing	a model of car rental where people rent cars for short periods of time	http://en.wikipedia.org/wiki/Car_sharing
City road pricing	Paying for the use of a road	http://www.vtpi.org/tdm/tdm35.htm
Complete Streets	Streets designed for multiple modes of transportation	http://www.completestreets.org/
Cybertran	Group Rapid Transit/ recommended by Amory Lovins	http://www.cybertran.com/
Diverging Diamond Interchanges	Sepcial Interchange configuration saves time, fuel, and money in construction.	http://www.youtube.com/watch?v=2kcIkWiXUuM&feature=related
Electric Bikes	One person transit. Generally battery power supplements human power	http://www.electric-bikes.com/
Electric Vehicles	Vehicles that use electric batteries	http://en.wikipedia.org/wiki/Electric_vehicle
Flexible Work Hours	Alternative to the traditional 9 to 5 scheduling	http://www.dol.gov/dol/topic/workhours/flexibleschedules.htm
Fused Grid Development	Development pattern that encourages pedestrian/bike mobility while retaining cul-de-sac type living	http://www.fusedgrid.ca/
Greenways/Linear Parks	Long and narrow parks that can accommodate trails	http://www.epa.gov/med/grosseile_site/indicators/greenways.html
Guaranteed Ride Home	Local governments provide guaranteed ride home	http://www.commuterpage.com/ridehome.htm
Heavy Rail/Rapid Transit	Usually an electric railway with the capacity for a heavy volume of traffic	http://www.apta.com/links/transit_by_mode/heavyrail.cfm
High speed rail	Above 90 mph by US and about 124 mph in Europe	http://en.wikipedia.org/wiki/High-speed_trains
Hybrid Fuel System for Natural Gas/Diesel Trucks and Buses	Cost effective use of Natural Gas and Diesel	http://www.drivers.com/article/715/
Hybrid Vehicles	Electric and gasoline powered hybrid cars	http://www.epa.gov/OMS/climate/420f07048.htm
Hydrogen - fuel cell vehicles	Hydrogen as a fuel alternative with use of fuel cells	http://www.epa.gov/fuelcell/basicinfo.htm
Hypercar	lightweight, efficient fuel cell automobiles	http://www.rmi.org/sitepages/pid191.php
Hythane	Blend of 20% Hydrogen and 80% natural gas	http://www.hythane.com/
Integrated pricing strategies	Pricing to encourage sustainable mobility practices	http://www.trb.org/TRBNet/ProjectDisplay.asp?ProjectID=1134
Integrated ticketing	Same tickets for transfers to different modes of public transit	http://en.wikipedia.org/wiki/Integrated_ticketing
Light Rail	a form of rail transportation	http://en.wikipedia.org/wiki/Light_rail
Liquid Petroleum Gas (LPG)	Liquid Petroleum Gas: non-toxic, non-corrosive	http://en.wikipedia.org/wiki/Liquid_petroleum_gas
Mixed Use Development	Mixed uses in urban zones	http://en.wikipedia.org/wiki/Mixed-use_development
Multi modal navigation tools	Coordination of information and modes of travel	http://www.vtpi.org/tdm/tdm113.htm
Neighborhood Electric Vehicles	Vehicles designed for low-speed use in neighborhoods and urban areas.	http://en.wikipedia.org/wiki/Neighborhood_electric_vehicle
Parking Management	parking management strategies to promote sustainability	www.vtpi.org/park_man.pdf
Passenger Rail	There are many types of rail transit systems. See web article	http://en.wikipedia.org/wiki/Passenger_rail_terminology
Pedestrian Areas	Pedestrian friendly urban design	http://www.epa.gov/smartgrowth/publications.htm#essentials
Personal Rapid Transit [PRT]	personal cars or cabs on ultralight monorail	http://en.wikipedia.org/wiki/Personal_rapid_transit
Procurement & tendering of clean fuels and vehicles	Public purchase of clean fuels and vehicles e.g. buses, police vehicles	http://www.epa.gov/oms/fuels.htm
Robocars	Robotic car transportation	http://www.templetons.com/brad/robocars/
Roundabouts (modern traffic circles)	Intersections that allow continuous flow with reduced crashes	http://safety.fhwa.dot.gov/intersection/roundabouts/
School Bus Public Transit System	Integrating School Buses into Public Transit	http://www.trb.org/news/blurb_detail.asp?id=2562
Scooters/Scooter lanes	Lanes dedicated to scooters only	http://www.youtube.com/watch?v=gsUSc3OIVEg
Shared Space (Woonerf)	A "Woonerf" is a Dutch term loosely meaning "Street for living."	http://en.wikipedia.org/wiki/Shared_space
Skyride	Human powered monorail technology	http://www.skyridetechnology.com/
Smart Jitney	computer organized jitney services	http://www.communitysolution.org/rideshare.html
TaxiBus	Uses Intelligent Grouping Transportation (IGT) to efficiently route paratransit	http://www.worldchanging.com/archives/004398.html
The Shweeb	Theme park ride in New Zealand	http://www.truveo.com/Rotorua-Shweeb/id/3229917862
Traffic calming / Speed reduction	calming automobile traffic in residential and pedestrian commercial areas	http://www.fhwa.dot.gov/environment/tcalm/index.htm
Train container shipping (Increased)	Train carries truck containers or whole truck by rail transit - piggyback	http://www.freightrailworks.org/
Truck only lanes	Highways and lanes for trucks only	http://www.tfhrc.gov/pubrds/05sep/02.htm

Transportation Demand Management (TDM) Strategies from the Victoria Transport Policy Institute

These chapters describe specific TDM strategies. They are divided into major categories according to how they affect travel.	
Improved Transport Options	
Address Security Concerns	Strategies for improving personal security.
Alternative Work Schedules	Flextime, Compressed Work Week (CWW), and staggered shifts.
Bus Rapid Transit	Bus Rapid Transit (BRT) systems provide high quality bus service on busy urban corridors.
Cycling Improvements	Strategies for improving bicycle transport.
Bike/Transit Integration	Ways to integrate bicycling and public transit.
Carsharing	Vehicle rental services that substitute for private vehicle ownership.
Flextime	Flexible daily work schedules.
Guaranteed Ride Home	An occasional subsidized ride home for commuters who use alternative modes.
Individual Actions for Efficient Transport	Actions that individuals can take to increase transport system efficiency.
Light Rail Transit	Light Rail Transit (LRT) systems provide convenient local transit service on busy urban corridors.
Nonmotorized Planning	Planning for walking, cycling, and their variants.
Nonmotorized Facility Management	Best practices for managing nonmotorized facilities such as walkways, sidewalks and paths.
Park & Ride	Providing convenient parking at transit and rideshare stations.
Pedestrian Improvements	Strategies for improving walking conditions.
Pedways	Indoor urban walking networks that connect buildings and transportation terminals.
Public Bike Systems	Automated bicycle rental systems designed to provide efficient mobility for short, utilitarian urban trips.
Ridesharing	Encouraging carpooling and vanpooling.
Shuttle Services	Shuttle buses, jitneys and free transit zones.
Small Wheeled Transport	Accommodating wheeled luggage, skates, scooters and handcarts.
Transit Station Improvements	Describes ways to improve public transit stop and station waiting conditions.

Taxi Service Improvements	Strategies for improving taxi services.
Telework (Telecommuting, Distance-Learning, etc.)	Use of telecommunications as a substitute for physical travel.
Traffic Calming	Roadway designs that reduce vehicle traffic speeds and volumes.
Transit Improvements	Strategies for improving public transit services.
Transit Examples	Describes successful transit programs.
Universal Design (Barrier Free Planning)	Transport systems that accommodate all users, including people with disabilities and other special needs
Incentives To Use Alternative Modes and Reduce Driving	
Carbon Taxes	Special taxes based on fuel carbon content intended to encourage energy conservation and climate change emission reductions.
Commuter Financial Incentives	Parking cash out, travel allowance, transit and rideshare benefits.
Congestion Pricing	Variable road pricing used to reduce peak-period vehicle trips.
Distance-Based Pricing	Vehicle fees and taxes based on a vehicle's mileage.
Fuel Taxes	Increasing fuel taxes to achieve TDM objectives.
HOV (High Occupant Vehicle) Priority	Strategies that give transit and rideshare vehicles priority over other traffic.
Multi-Modal Navigation Tools	Describes wayfinding resources and other multi-modal navigation tools.
Parking Pricing	Charging motorists directly for parking.
Pay-As-You-Drive Insurance	Converting vehicle insurance premiums into distance-based fees.
Road Pricing	Congestion pricing, value pricing, road tolls and HOT lanes.
Road Space Reallocation	Roadway design and management practices that favor efficient modes.
Speed Reductions	Strategies to reduce traffic speeds.
Transit Encouragement	Strategies for encouraging public transit use.
Vehicle Use Restrictions	Limiting vehicle traffic at a particular time and place.
Walking And Cycling Encouragement	Strategies for encouraging nonmotorized transportation.
Parking and Land Use Management	
Bicycle Parking	Bicycle racks, lockers and changing facilities.

Car-Free Planning	Strategies to reduce automobile travel at particular times and places, and create pedestrian oriented streets.
Strong Commercial Centers	Creating vibrant downtowns, business districts, urban villages, and other mixed-use activity centers.
Connectivity	Creating more connected roadway and path networks.
Land Use Density and Clustering	Locating common destinations close together to increase accessibility and transport diversity.
Location Efficient Development	Development that maximizes accessibility and affordability.
New Urbanism	Accessible, livable community design.
Parking Cost, Pricing and Revenue Calculator	Excel spreadsheet calculates parking facility costs, prices and revenue.
Parking Management	Strategies for more efficient use of parking.
Parking Management: Strategies, Evaluation and Planning - *Comprehensive*	This report provides comprehensive guidance on parking management (PDF format).
Parking Pricing	Charging motorists directly for using parking facilities.
Parking Solutions	Comprehensive menu of solutions to parking problems.
Parking Evaluation	Guidelines for evaluating parking problems and solutions.
Shared Parking	Sharing parking facilities among multiple users.
Smart Growth	Land use practices to create more accessibile, efficient and livable communities.
Smart Growth Reforms	Policy and planning reforms that encourage more accessible land use development.
Smart Growth Reforms - *Comprehensive*	This report provides detailed information on Smart Growth policy and planning reforms. (PDF Format)
Streetscape Improvements	Various ways to improve urban street design.
Transit Oriented Development (TOD)	Using transit stations as a catalyst to create more livable communities.
Land Use Impacts on Transport	Describes how land use factors such as density, mix and regional accessibility affect travel behavior.
Land Use Impacts on Transport - *Comprehensive*	This comprehensive report provides detailed information on how land use factors affect travel behavior. (PDF Format)
Policy And Institutional Reforms	
Asset Management	Policies and programs to preserve the value of assets such as

	roadways and parking facilities.
Car-Free Planning	Strategies to reduce driving at particular times and places.
Change Management	Ways to build support for institutional change.
Comprehensive Market Reforms	Policy changes that result in more efficient transport pricing.
Context Sensitive Design	Flexible design requirements to reflect community values.
Contingency-Based Planning	Planning that deals with uncertainly by identifying solutions to potential future problems.
Institutional Reforms	Creating organizations that support efficient transport.
Least Cost Planning	Creating an unbiased framework for transport planning.
Operations and Management Programs	Programs that encourage more efficient use of existing roadway systems.
Prioritizing Transportation	Principles for prioritizing transportation activities and investments.
Regulatory Reform	Policy changes to encourage transport service competition, innovation and efficiency.
TDM Programs and Program Support	
Access Management	Improved coordination between roadway design and land use.
Aviation Transport Management	Applying TDM to air transport.
Campus Transport Management	Transport management for colleges, universities and other large facilities.
Data Collection and Surveys	Data collection for TDM program planning and evaluation.
Commute Trip Reduction	Programs that encourage more efficient commuting.
Emergency Response Transport Management	Discusses transport management under emergency and disaster conditions.
Freight Transport Management	Strategies to improve the efficiency of freight and commercial transport.
Financing Options	Describes various ways to fund transport programs that support TDM objectives.
Intelligent Transportation	Describes the use of new information technologies to improve transportation system performance and efficiency.
School Transport Management	Transport management for schools.
Special Event Transport Management	Transportation management for major events, construction projects and emergencies.
Developing Country TDM	Implementing transportation demand management in developing

	regions.
TDM Marketing	Information and encouragement programs to promote TDM.
TDM Programs	Developing an institutional framework for implementing TDM.
Tourist Transport Management	Transportation management for tourist and leisure travel.
Transportation Management Associations (TMA)	Member-controlled organizations that provide transportation services in a particular area.
TDM Planning and Evaluation	
These chapters provide information on TDM planning and evaluation techniques.	
Accessibility	Describes the concept of “accessibility,” how it is evaluated, and ways to improve it.
Evaluating Accessibility - *Comprehensive*	This report discusses the concept of "accessibility," how it can be evaluated and improved, and ways to apply these concepts in transport and land use planning. (PDF Format).
Automobile Dependency	Describes transport and land use patterns that increase automobile use and reduce transport options.
Basic Access	Describes the concepts of “Basic Access” and “Basic Mobility” and how they can be evaluated.
Comprehensive Transport Planning	Planning reforms for more comprehensive and accurate transportation decision-making.
Transportation Demand	Discusses *Transport Demand*, which refers to the amount and type of travel people would choose under specific price and service quality conditions.
Economic Development Impacts	Examines how TDM affects economic productivity, employment, business activity and wealth.
Equity Evaluation	Discusses concepts of equity and how to evaluate TDM equity impacts.
Equity Evaluation - *Comprehensive*	This comprehensive report discusses concepts of transportation equity and how to evaluate the equity impacts of specific transport planning decisions. (PDF Format)
Evaluating TDM Criticism	Evaluates various criticisms of TDM.
Evaluating TDM	Describes methods for evaluating the costs and benefits of TDM policies and programs.
Evaluating Transport Options	Describes the benefits of having a diverse transportation system, and methods for evaluating the value of specific options.
Health and Fitness	Discusses ways to improve public fitness and health by more active transport.

Land Use Evaluation	Discusses ways to evaluate the land use impacts of transport planning decisions.
Land Use Evaluation - *Comprehensive*	This comprehensive report examines how transportation decisions affect land use patterns, and the economic, social and environmental impacts that result. (PDF Format)
Multi-Modal Level-Of-Service Indicators	Describes Level-of-Service (LOS) rating systems suitable for evaluating the quality of various modes from users' perspective.
Market Principles	Discusses market principles and the degree to which TDM strategies reflect these principles.
Measuring Transportation	Discusses various ways to measure transport performance.
Modeling Improvements	Discusses ways to improve transport models.
Nonmotorized Transport Evaluation	Describes techniques for evaluating walking and cycling for planning purposes.
Performance Evaluation	Discusses specific performance indicators for measuring progress toward specific objectives.
Planning and Implementation	Discusses various issues to consider when planning and implementing Transportation Demand Management programs.
Pricing Evaluation	Factors to consider when evaluating TDM strategies that change transport prices.
Pricing Methods	Describes and compares methods of collecting road tolls, parking fees and mileage charges.
Rebound Effects	Discusses “rebound effects” and their implications for transport planning.
Resilience and Security	Explores the concepts of resilience and security and their implications for transport planning.
Safety Impact Evaluation	Evaluates how TDM strategies impact traffic safety, security and public health.
Transit Evaluation	Describes how to evaluate public transit services.
Evaluating Public Transit Benefits and Costs - *Comprehensive*	This comprehensive report describes how to evaluate the full benefits and costs of public transit services for planning purposes. (PDF Format)
Sustainable Transport and TDM	Discusses how TDM can help achieve sustainable transport planning ojectives.

APPENDIX E:

- Transportation Improvement Program (TIP) – Fiscal years 2010-2013 – Northwest Arkansas Regional Transportation Study

- List of Bridges Qualifying for Bridge Replacement Funds

TRANSPORTATION IMPROVEMENT PROGRAM

FISCAL YEARS 2010-2013

Northwest Arkansas Regional Transportation Study

PARTICIPATING AGENCIES

Avoca
Bella Vista
Bentonville
Bethel Heights
Cave Springs
Centerton
Decatur
Elkins
Elm Springs
Farmington
Fayetteville
Garfield
Gateway
Gentry
Goshen
Gravette
Greenland
Highfill
Johnson
Lincoln
Little Flock
Lowell
Pea Ridge
Prairie Grove
Rogers
Siloam Springs
Springdale
Springtown
Sulphur Springs
Tontitown
West Fork
Ozark Regional Transit, Inc.
Razorback Transit
University of Arkansas
Benton County
Washington County

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
NORTHWEST ARKANSAS REGIONAL PLANNING COMMISSION
IN COOPERATION WITH:
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
And
FEDERAL TRANSIT ADMINISTRATION

NARTS Transportation and Improvement Program (TIP) 2010-2013

State and Federal Assistance Projects-- Washington and Benton Counties-- Fiscal Year 2010

TIP AREA	JOB NO	COUNTY	RTE	LEN	JOB_NAME	TYPEWORK	FISCAL YEAR	TOTAL	MATCH	RESPONSIBLE AGENCY	BR	Earmark	ENH	HSIP	402_SAFETY	IM	SRTS	LOCAL	STATE_LOCAL	NHS	REC_TR	RRP	STATE MATCH	100% STATE	STP	STP_LT_200K	STP_GT_200K	FTA-5307	FTA-5309	FTA-5310	FTA-5311	FTA-5316	FTA-5317	FFY_TRANSIT APPR	FTA_EARMARK_ID
								(x $1,000)			(x $1,000)																									
NARTS	090069	Benton	NEW		Northwest Arkansas Regional Airport Access (F)	New Location	2010	35,000	Local	Local		10,651						24,349																		
NARTS	090174	Benton	102	1.79	Hwy. 102B-Greenhouse Rd. (Centerton) (S)	Widening	2010	12,000	Local	State								2,000							10,000									
NARTS	090228	Benton	CR		War Eagle Bridge Rehab. (Benton Co.) (S)	New Location	2010	494	Local	State		395						99																	
NARTS	090232	Benton	CS	0.32	East Monroe Ave. Extension (Sel. Secs.) (Lowell) (S)	New Location	2010	2,100	Local	State								1,100								1,000								
NARTS	090236	Benton	540		I-540/Hwy. 62/102 Interch Interim Impvts. (Bentonville) (F)	Interchange	2010	6,598	Local	State		1,278						1,000		4,000			320												
NARTS	090254	Benton	CS		Shell Road Str. & Apprs. (Bentonville) (S)	Str. & Apprs.	2010	1,404	Local	State	1,000							404																	
NARTS	040272	Washington	CS	2.2	Johnson Road Reconst. (Springdale) P.E.	Widnening	2010	14,586	Local	Local		10,669						2,917								1,000								
NARTS	040418	Washington	112	1.17	Hwy. 180-Garland Ave. (Hwy. 112) (Fayetteville) (S)	Widening	2010	1,250	Local	State								250								1,000								
NARTS	040485	Washington	540		I-540/Hwy. 62/180 Interchg Interim Impvts. (Fayetteville) (F)	Interchange	2010	5,000	State	State										4,000			1,000												
NARTS	040489	Washington	112	0.75	Hwy. 112 Spur-North (Fayetteville) (S)	Widening	2010	3,000	Local	State								1,500							1,500									
NARTS	040490	Washington	265	1.25	South City Limits-Hwy. 412 (Springdale) (S)	Widening	2010	4,700	Local	State								2,350							2,350									
NARTS	040496	Washington	CS	1	Hwy. 112-Hwy. 71B (Cato Springs Rd.) (Fayetteville) (S)	Reconstruction	2010	3,596	Local	Local		2,877						719																	
NARTS	040517	Washington	265	2.19	Hwy. 45-E. Joyce Blvd. (Fayetteville) (S)	Widening	2010	15,400	Local	State								7,700							7,700									
NARTS	040524	Washington	062	4.2	Hwy. 62 Bypass (Gr. & Strs.) (Prairie Grove) (S)	New Location	2010	15,000	State	State													3,000		12,000									
NARTS	040535	Washington	CS		Fulbright Expwy./Hwy. 71B Flyover (Fayetteville) (S)	Str. & Apprs.	2010	6,452	Local	Local		5,162						1,290																	
NARTS	040536	Washington	CS		Fulbright Expwy./Futrall Dr. Roundabout (Fayetteville) (S)	Inters Impvts	2010	2,966	Local	Local		2,373						593																	
							Totals:	129,546	---	---	1,000	33,405	0	0	0	0	0	46,271	0	8,000	0	0	4,320	0	33,550	3,000	0	0	0	0	0	0	0		

NARTS Transportation and Improvement Program (TIP) 2010-2013

State and Federal Assistance Transit Projects-- Washington and Benton Counties-- Fiscal Year 2010

TIP AREA	JOB NO	COUNTY	RTE	LEN	JOB_NAME	TYPEWORK	FISCAL YEAR	TOTAL	MATCH	RESPONSIBLE AGENCY	BR	Earmark	ENH	HSIP	402_SAFETY	IM	SRTS	LOCAL	STATE_LOCAL	NHS	REC_TR	RRP	STATE MATCH	100% STATE	STP	STP_LT_200K	STP_GT_200K	FTA-5307	FTA-5309	FTA-5310	FTA-5311	FTA-5316	FTA-5317	FFY_TRANSIT APPR	FTA_EARMARK_ID
								(x $1,000)			(x $1,000)																									
NARTS	040FTA	Benton-Washington			Environmental, Security & Bus Upgrades	Transit	2010	713	Local - UofA	Local - UofA								143											570						2009	E2009-BUSP-043
NARTS	NART01	Benton-Washington			Operating Assistance	Transit	2010	1,506	Local - ORT	Local - ORT								753											753						2009	
NARTS	NART02	Benton-Washington			Capital - Preventive Maintenance	Transit	2010	511	Local - ORT	Local - ORT								102											409						2009	
NARTS	NART03	Benton-Washington			Operating Assistance	Transit	2010	1,302	Local - UofA	Local - UofA								651											651						2009	
NARTS	NART04	Benton-Washington			Capital - Preventive Maintenance	Transit	2010	375	Local - UofA	Local - UofA								75											300						2009	
							Totals:	4,407	---	---	0	0	0	0	0	0	0	1,724	0	0	0	0	0	0	0	0	0	2,113	570	0	0	0	0		

NARTS Transportation and Improvement Program (TIP) 2010-2013

State and Federal Assistance Projects-- Washington and Benton Counties-- Fiscal Year 2011

TIP AREA	JOB NO	COUNTY	RTE	LEN	JOB_NAME	TYPEWORK	FISCAL YEAR	TOTAL	MATCH	RESPONSIBLE AGENCY	BR	Earmark	ENH	HSIP	402_SAFETY	IM	SRTS	LOCAL	STATE_LOCAL	NHS	REC_TR	RRP	STATE MATCH	100% STATE	STP	STP_LT_200K	STP_GT_200K	FTA-5307	FTA-5309	FTA-5310	FTA-5311	FTA-5316	FTA-5317	FFY_TRANSIT APPR	FTA_EARMARK_ID
								(x $1,000)			(x $1,000)																									
NARTS	090218	Benton	CS		8th Street Improvements (Bentonville) (S)	Widening	2011	38,586	Local	Local		30,869						7,717																		
NARTS	090224	Benton	071		Bella Vista Bypass (Phase I) (F)	New Location	2011	33,584	State	State		15,032											6,552		12,000										
NARTS	090260	Benton	71		Hwy. 71/NE J St. Inchng. (Bentonville) (F)	Interchange	2011	37,676	Local	Local								37,676																	
NARTS	001966	Benton-Washington	412		Springdale Northern Bypass (Phase I) (F)	New Location	2011	11,521	State	State		1,217								8,000			2,304											
NARTS	012007	Benton-Washington	265	1.55	Randall Wobbe Lane-Hwy. 264 (Springdale) (S)	Widening	2011	5,000	Local	State								2,500							2,500									
NARTS	012X01	Benton-Washington	540		Major Widening and/or Interchange Improvements (F)	Capacity Imprvmnts	2011	15,890	State	State		5,335								8,000			2,555											
NARTS	040024	Washington			White River Bridge Rehab. (Elkins) (S)	Str. & Apprs.	2011	2,500	State	State	2,000												500											
NARTS	040486	Washington	016	2.68	College Ave.-Stone Bridge Rd. (Fayetteville) (S)	Widening	2011	10,000	Local	State								5,000							5,000									
							Totals:	154,757	---	---	2,000	52,453	0	0	0	0	0	52,893	0	16,000	0	0	11,911	0	19,500	0	0	0	0	0	0	0	0		

NARTS Transportation and Improvement Program (TIP) 2010-2013

State and Federal Assistance Transit Projects-- Washington and Benton Counties-- Fiscal Year 2011

TIP AREA	JOB NO	COUNTY	RTE	LEN	JOB_NAME	TYPEWORK	FISCAL YEAR	TOTAL	MATCH	RESPONSIBLE AGENCY	BR	Earmark	ENH	HSIP	402_SAFETY	IM	SRTS	LOCAL	STATE_LOCAL	NHS	REC_TR	RRP	STATE MATCH	100% STATE	STP	STP_LT_200K	STP_GT_200K	FTA-5307	FTA-5309	FTA-5310	FTA-5311	FTA-5316	FTA-5317	FFY_TRANSIT APPR	FTA_EARMARK_ID
								(x $1,000)			(x $1,000)																									
NARTS	NART01	Benton-Washington			Operating Assistance	Transit	2011	1,558	Local - ORT	Local - ORT								779											779						2010	
NARTS	NART02	Benton-Washington			Capital - Preventive Maintenance	Transit	2011	529	Local - ORT	Local - ORT								106											423						2010	
NARTS	NART03	Benton-Washington			Operating Assistance	Transit	2011	1,348	Local - UofA	Local - UofA								674											674						2010	
NARTS	NART04	Benton-Washington			Capital - Preventive Maintenance	Transit	2011	388	Local - UofA	Local - UofA								78											310						2010	
							Totals:	3,823	---	---	0	0	0	0	0	0	0	1,637	0	0	0	0	0	0	0	0	0	2,186	0	0	0	0	0		

NARTS Transportation and Improvement Program (TIP) 2010-2013

State and Federal Assistance Projects-- Washington and Benton Counties-- Fiscal Year 2012

TIP AREA	JOB NO	COUNTY	RTE	LEN	JOB_NAME	TYPEWORK	FISCAL YEAR	TOTAL	MATCH	RESPONSIBLE AGENCY	BR	Earmark	ENH	HSIP	402_SAFETY	IM	SRTS	LOCAL	STATE_LOCAL	NHS	REC_TR	RRP	STATE MATCH	100% STATE	STP	STP_LT_200K	STP_GT_200K	FTA-5307	FTA-5309	FTA-5310	FTA-5311	FTA-5316	FTA-5317	FFY_TRANSIT APPR	FTA_EARMARK_ID
								(x $1,000)			(x $1,000)																									
NARTS	090065	Benton	062	6.43	Avoca-North Garfield (S)	Widening	2012	28,000	State	State													5,600		22,400										
NARTS	090251	Benton	012	2.7	Hwy. 71B-Shell Rd. (Hwy. 12) (Bentonville) (S)	Capacity Imprvmnts	2012	20,400	Local	State								10,400						10,000											
NARTS	090BR2	Benton	016		Illinois River Str. & Apprs. (S)	Str. & Apprs.	2012	5,000	State	State	4,000												1,000												
NARTS	012111	Benton-Washington	540	24.45	Hwy. 112/265-Hwy. 62/102 Cable Median Barrier (F)	Safety Improvements	2012	6,500		State					6,500																				
NARTS	040518	Washington	265	2.04	E. Joyce Blvd.-City Limits (Fayetteville) (S)	Widening	2012	15,000	State	State													3,000		12,000										
NARTS	040527	Washington	540		I-540/Don Tyson Pkwy. Intchng. (Springdale) (F)	Interchange	2012	26,951	Local	Local								26,951																		
NARTS	040BR1	Washington	016		West & Middle Forks of White River Strs. & Apprs. (Fayetteville) (S)	Str. & Apprs.	2012	11,500	State	State	9,200												2,300												
NARTS	040BR2	Washington	170		Branch of Illinois River Str. & Apprs. (S)	Str. & Apprs.	2012	750	State	State	600												150												
NARTS	040X01	Washington	540		Bobby Hopper Tunnel-Winslow (S)	Safety Improvements	2012	900		State					900																				
							Totals:	115,001	---	---	13,800	0	0	0	7,400	0	0	37,351	0	0	0	0	12,050	10,000	34,400	0	0	0	0	0	0	0	0		

NARTS Transportation and Improvement Program (TIP) 2010-2013

State and Federal Assistance Transit Projects-- Washington and Benton Counties-- Fiscal Year 2012

TIP AREA	JOB NO	COUNTY	RTE	LEN	JOB_NAME	TYPEWORK	FISCAL YEAR	TOTAL	MATCH	RESPONSIBLE AGENCY	BR	Earmark	ENH	HSIP	402_SAFETY	IM	SRTS	LOCAL	STATE_LOCAL	NHS	REC_TR	RRP	STATE MATCH	100% STATE	STP	STP_LT_200K	STP_GT_200K	FTA-5307	FTA-5309	FTA-5310	FTA-5311	FTA-5316	FTA-5317	FFY_TRANSIT APPR	FTA_EARMARK_ID
								(x $1,000)			(x $1,000)																									
NARTS	NART01	Benton-Washington			Operating Assistance	Transit	2012	1,614	Local - ORT	Local - ORT								807										807						2011	
NARTS	NART02	Benton-Washington			Capital - Preventive Maintenance	Transit	2012	548	Local - ORT	Local - ORT								110										438						2011	
NARTS	NART03	Benton-Washington			Operating Assistance	Transit	2012	1,394	Local - UofA	Local - UofA								697										697						2011	
NARTS	NART04	Benton-Washington			Capital - Preventive Maintenance	Transit	2012	402	Local - UofA	Local - UofA								80										322						2011	
							Totals:	3,958	---	---	0	0	0	0	0	0	0	1,694	0	0	0	0	0	0	0	0	0	2,264	0	0	0	0	0		

NARTS Transportation and Improvement Program (TIP) 2010-2013

State and Federal Assistance Projects-- Washington and Benton Counties-- Fiscal Year 2013

TIP AREA	JOB NO	COUNTY	RTE	LEN	JOB_NAME	TYPEWORK	FISCAL YEAR	TOTAL	MATCH	RESPONSIBLE AGENCY	BR	Earmark	ENH	HSIP	402_SAFETY	IM	SRTS	LOCAL	STATE_LOCAL	NHS	REC_TR	RRP	STATE MATCH	100% STATE	STP	STP_LT_200K	STP_GT_200K	FTA-5307	FTA-5309	FTA-5310	FTA-5311	FTA-5316	FTA-5317	FFY_TRANSIT APPR	FTA_EARMARK_ID
								(x $1,000)			(x $1,000)																									
NARTS	090X02	Benton	264	1.4	Hwy. 71B-Hwy. 265 (S)	Widening	2013	11,000	State	State													2,200		8,800										
NARTS	090X03	Benton			District 9 Improvements	To Be Determined	2013	5,000	State	State													1,000		4,000										
NARTS	012X02	Benton-Washington	540		Widening and/or Interchange Improvements (F)	Capacity Imprvmnts	2013	20,000	State	State										16,000			4,000												
							Totals:	36,000	---	---	0	0	0	0	0	0	0	0	0	16,000	0	0	7,200	0	12,800	0	0	0	0	0	0	0	0		

NARTS Transportation and Improvement Program (TIP) 2010-2013

State and Federal Assistance Transit Projects-- Washington and Benton Counties-- Fiscal Year 2013

TIP AREA	JOB NO	COUNTY	RTE	LEN	JOB_NAME	TYPEWORK	FISCAL YEAR	TOTAL	MATCH	RESPONSIBLE AGENCY	BR	Earmark	ENH	HSIP	402_SAFETY	IM	SRTS	LOCAL	STATE_LOCAL	NHS	REC_TR	RRP	STATE MATCH	100% STATE	STP	STP_LT_200K	STP_GT_200K	FTA-5307	FTA-5309	FTA-5310	FTA-5311	FTA-5316	FTA-5317	FFY_TRANSIT APPR	FTA_EARMARK_ID
								(x $1,000)			(x $1,000)																									
NARTS	NART01	Benton-Washington			Operating Assistance	Transit	2013	1,670	Local - ORT	Local - ORT								835										835						2012	
NARTS	NART02	Benton-Washington			Capital - Preventive Maintenance	Transit	2013	567	Local - ORT	Local - ORT								113										454						2012	
NARTS	NART03	Benton-Washington			Operating Assistance	Transit	2013	1,444	Local - UofA	Local - UofA								722										722						2012	
NARTS	NART04	Benton-Washington			Capital - Preventive Maintenance	Transit	2013	416	Local - UofA	Local - UofA								83										333						2012	
							Totals:	4,097	---	---	0	0	0	0	0	0	0	1,753	0	0	0	0	0	0	0	0	0	2,344	0	0	0	0	0		

NARTS Transportation and Improvement Program (TIP) 2010-2013

STATEWIDE PROJECTS -- Fiscal Year 2010

TIP AREA	JOB NO	COUNTY	RTE	LEN	JOB_NAME	TYPEWORK	FISCAL YEAR	TOTAL	MATCH	RESPONSIBLE AGENCY	BR	Earmark	ENH	HSIP	402_SAFETY	IM	SRTS	LOCAL	STATE_LOCAL	NHS	REC_TR	RRP	STATE MATCH	100% STATE	STP	STP_LT_200K	STP_GT_200K	FTA-5307	FTA-5309	FTA-5310	FTA-5311	FTA-5316	FTA-5317	FFY_TRANSIT APPR	FTA_EARMARK_ID
								(x $1,000)			(x $1,000)																									
All MPOs	XX2010-02	Statewide	VAR		Various Resurf / Restoration / Rehab / Reconst	4-R	2010	16,000	State	State						10,800				1,600			2,000		1,600										
All MPOs	XX2010-03	Statewide	VAR		Various Bridge Rehab / Replacement	Str. & Apprs.	2010	2,000	State/Local	State/Local	1,600												400												
All MPOs	XX2010-04	Statewide	VAR		Bridge Painting / Guard Rail / Scour Control / Inspection	Miscellaneous	2010	2,000	State/Local	State	1,600												400												
All MPOs	XX2010-05	Statewide	VAR		Various Safety Type Improvements	Safety	2010	1,000	State	State				900									100												
All MPOs	XX2010-06	Statewide	VAR		RR Xing Protect Devices / Surfacing / Hazard Elim	Safety	2010	2,400	State/RR	State/RR												2,160	240											
All MPOs	XX2010-07	Statewide	VAR		Various Enhancement Type Projects	Enhancement	2010	10,000	State/Local	State/Local			8,000						2,000															
All MPOs	XX2010-08	Statewide	VAR		Various Safe Routes to School Projects	Enhancement	2010	1,400	N/A	State/Local							1,400																	
All MPOs	XX2010-10	Statewide	VAR		Various Trail Projects	Enhancement	2010	1,000	Local	Local								200			800													
All MPOs	XX2010-11	Statewide	CR		Var Resurf / Restore / Rehab / Reconst / BR Repl / BR Rehab on County Roads	4-R / Strs. & Apprs.	2010	7,888	State/Local	State								1,578						5,967										
All MPOs	XX2010-12	Statewide	CR		Various Bridge Rehab / Replacement on County Roads	Str. & Apprs.	2010	5,525	Local	State	3,700	720						1,105																
All MPOs	XX2010-13	Statewide	VAR		Right-of-Way / Utilities / CENG	Various	2010	80,600	State	State	5,600		2,000	4,680		2,700			500	21,440			14,800		28,880										
All MPOs (except CARTS & WMATS)	XX2010-17	Various	VAR		Various Signals and Intersection Improvements	Safety & Traffic Eng.	2010	6,803	State/Local	State									1,361							2,000								
							Totals:	136,616	---	---	12,500	720	10,000	5,580	0	13,500	1,400	2,883	3,861	23,040	800	2,160	17,940	0	36,447	2,000	0	0	0	0	0	0	0		

NARTS Transportation and Improvement Program (TIP) 2010-2013

STATEWIDE PROJECTS -- Fiscal Year 2010

TIP AREA	JOB NO	COUNTY	RTE	LEN	JOB_NAME	TYPEWORK	FISCAL YEAR	TOTAL	MATCH	RESPONSIBLE AGENCY	BR	Earmark	ENH	HSIP	402_SAFETY	IM	SRTS	LOCAL	STATE_LOCAL	NHS	REC_TR	RRP	STATE MATCH	100% STATE	STP	STP_LT_200K	STP_GT_200K	FTA-5307	FTA-5309	FTA-5310	FTA-5311	FTA-5316	FTA-5317	FFY_TRANSIT APPR	FTA_EARMARK_ID
								(x $1,000)			(x $1,000)																								
BI-STATE / HSA / JATS / NARTS / PBATS / TUTS	216FTA	Statewide			Job Access Reverse Commute Urbanized Areas < 200,000	Transit	2010	1,186	Var Agencies	Var Agencies								593														593		2009	
BI-STATE / HSA / JATS / NARTS / PBATS / TUTS	217FTA	Statewide			New Freedom Urbanized Areas <200,000	Transit	2010	606	Var Agencies	Var Agencies								303														303	2009	
All MPOs	309FTA	Statewide			Bus and Bus Facilities	Transit	2010	1,188	Var Agencies	Var Agencies								238											950					2009	E2009-BUSP-046
All MPOs	310FTA	Statewide			Elderly and Disabled Persons	Transit	2010	1,768	Var Agencies	Var Agencies								354												1,414				2009	
All MPOs	311FTA	Statewide			Non-Urbanized	Transit	2010	12,758	Local	Local								2,552													10,206			2009	
All MPOs	316FTA	Statewide			Job Access Reverse Commute Non-Urbanized Areas	Transit	2010	1,734	Var Agencies	Var Agencies								867														867		2009	
Rural Areas	317FTA	Statewide			New Freedom Non Urbanized Areas	Transit	2010	856	Var Agencies	Var Agencies								428															428	2009	
							Totals:	20,095	---	---	0	0	0	0	0	0	0	5,334	0	0	0	0	0	0	0	0	0	0	950	1,414	10,206	1,460	731		

NARTS Transportation and Improvement Program (TIP) 2010-2013

STATEWIDE PROJECTS -- Fiscal Year 2011

TIP AREA	JOB NO	COUNTY	RTE	LEN	JOB_NAME	TYPEWORK	FISCAL YEAR	TOTAL	MATCH	RESPONSIBLE AGENCY	BR	Earmark	ENH	HSIP	402_SAFETY	IM	SRTS	LOCAL	STATE_LOCAL	NHS	REC_TR	RRP	STATE MATCH	100% STATE	STP	STP_LT_200K	STP_GT_200K	FTA-5307	FTA-5309	FTA-5310	FTA-5311	FTA-5316	FTA-5317	FFY_TRANSIT APPR	FTA_EARMARK_ID
								(x $1,000)			(x $1,000)																									
All MPOs	XX2011-02	Statewide	VAR		Various Resurf / Restoration / Rehab / Reconst	4-R	2011	16,000	State	State						10,800				1,600			2,000		1,600										
All MPOs	XX2011-03	Statewide	VAR		Various Bridge Rehab / Replacement	Str. & Apprs.	2011	2,000	State/Local	State/Local	1,600												400												
All MPOs	XX2011-04	Statewide	VAR		Bridge Painting / Guard Rail / Scour Control / Inspection	Miscellaneous	2011	2,000	State/Local	State	1,600												400												
All MPOs	XX2011-05	Statewide	VAR		Various Safety Type Improvements	Safety	2011	5,000	State	State				900	4,000								100												
All MPOs	XX2011-06	Statewide	VAR		RR Xing Protect Devices / Surfacing / Hazard Elim	Safety	2011	4,222	State/RR	State/RR												3,800	422												
All MPOs	XX2011-07	Statewide	VAR		Various Enhancement Type Projects	Enhancement	2011	10,000	State/Local	State/Local			8,000						2,000																
All MPOs	XX2011-08	Statewide	VAR		Various Safe Routes to School Projects	Enhancement	2011	1,400	N/A	State/Local							1,400																		
All MPOs	XX2011-10	Statewide	VAR		Various Trail Projects	Enhancement	2011	1,000	Local	Local								200			800														
All MPOs	XX2011-11	Statewide	CR		Var Resurf / Restore / Rehab / Reconst / BR Repl / BR Rehab on County Roads	4-R / Strs. & Apprs.	2011	7,459	State/Local	State								1,492						5,967											
All MPOs	XX2011-12	Statewide	CR		Various Bridge Rehab / Replacement on County Roads	Str. & Apprs.	2011	4,625	Local	State	3,700							925																	
All MPOs	XX2011-13	Statewide	VAR		Right-of-Way / Utilities / CENG	Various	2011	83,400	State	State	6,000		2,000	4,770		2,700			500	22,160			15,350		29,920										
All MPOs (except CARTS & WMATS)	XX2011-17	Various	VAR		Various Signals and Intersection Improvements	Safety & Traffic Eng.	2011	2,500	State/Local	State									500							2,000									
							Totals:	139,606	---	---	12,900	0	10,000	5,670	4,000	13,500	1,400	2,617	3,000	23,760	800	3,800	18,672	0	37,487	2,000	0	0	0	0	0	0	0		

NARTS Transportation and Improvement Program (TIP) 2010-2013

STATEWIDE PROJECTS -- Fiscal Year 2011

TIP AREA	JOB NO	COUNTY	RTE	LEN	JOB_NAME	TYPEWORK	FISCAL YEAR	TOTAL	MATCH	RESPONSIBLE AGENCY	BR	Earmark	ENH	HSIP	402_SAFETY	IM	SRTS	LOCAL	STATE_LOCAL	NHS	REC_TR	RRP	STATE MATCH	100% STATE	STP	STP_LT_200K	STP_GT_200K	FTA-5307	FTA-5309	FTA-5310	FTA-5311	FTA-5316	FTA-5317	FFY_TRANSIT APPR	FTA_EARMARK_ID
								(x $1,000)			(x $1,000)																									
BI-STATE / HSA / JATS / NARTS / PBATS / TUTS	216FTA	Statewide			Job Access Reverse Commute Urbanized Areas < 200,000	Transit	2011	1,186	Var Agencies	Var Agencies								593															593		2010	
BI-STATE / HSA / JATS / NARTS / PBATS / TUTS	217FTA	Statewide			New Freedom Urbanized Areas <200,000	Transit	2011	606	Var Agencies	Var Agencies								303														303	2010	
All MPOs	309FTA	Statewide			Bus and Bus Facilities	Transit	2011	3,750	Local	Local								750											3,000						2010	
All MPOs	310FTA	Statewide			Elderly and Disabled Persons	Transit	2011	1,768	Var Agencies	Var Agencies								354												1,414					2010	
All MPOs	311FTA	Statewide			Non-Urbanized	Transit	2011	12,758	Local	Local								2,552													10,206				2010	
All MPOs	316FTA	Statewide			Job Access Reverse Commute Non-Urbanized Areas	Transit	2011	1,734	Var Agencies	Var Agencies								867														867		2010	
Rural Areas	317FTA	Statewide			New Freedom Non Urbanized Areas	Transit	2011	856	Var Agencies	Var Agencies								428															428	2010	
							Totals:	22,657	---	---	0	0	0	0	0	0	0	5,846	0	0	0	0	0	0	0	0	0	0	3,000	1,414	10,206	1,460	731		

NARTS Transportation and Improvement Program (TIP) 2010-2013

STATEWIDE PROJECTS -- Fiscal Year 2012

TIP AREA	JOB NO	COUNTY	RTE	LEN	JOB_NAME	TYPEWORK	FISCAL YEAR	TOTAL	MATCH	RESPONSIBLE AGENCY	BR	Earmark	ENH	HSIP	402_SAFETY	IM	SRTS	LOCAL	STATE_LOCAL	NHS	REC_TR	RRP	STATE MATCH	100% STATE	STP	STP_LT_200K	STP_GT_200K	FTA-5307	FTA-5309	FTA-5310	FTA-5311	FTA-5316	FTA-5317	FFY_TRANSIT APPR	FTA_EARMARK_ID
								(x $1,000)			(x $1,000)																									
All MPOs	XX2012-02	Statewide	VAR		Various Resurf / Restoration / Rehab / Reconst	4-R	2012	16,000	State	State						10,800				1,600			2,000		1,600										
All MPOs	XX2012-03	Statewide	VAR		Various Bridge Rehab / Replacement	Str. & Apprs.	2012	2,000	State/Local	State/Local	1,600												400												
All MPOs	XX2012-04	Statewide	VAR		Bridge Painting / Guard Rail / Scour Control / Inspection	Miscellaneous	2012	2,000	State/Local	State	1,600												400												
All MPOs	XX2012-05	Statewide	VAR		Various Safety Type Improvements	Safety	2012	3,000	State	State				2,700									300												
All MPOs	XX2012-06	Statewide	VAR		RR Xing Protect Devices / Surfacing / Hazard Elim	Safety	2012	4,389	State/RR	State/RR												3,950	439											
All MPOs	XX2012-07	Statewide	VAR		Various Enhancement Type Projects	Enhancement	2012	10,000	State/Local	State/Local			8,000						2,000															
All MPOs	XX2012-08	Statewide	VAR		Various Safe Routes to School Projects	Enhancement	2012	1,500	N/A	State/Local							1,500																	
All MPOs	XX2012-10	Statewide	VAR		Various Trail Projects	Enhancement	2012	1,000	Local	Local								200			800													
All MPOs	XX2012-11	Statewide	CR		Var Resurf / Restore / Rehab / Reconst / BR Repl / BR Rehab on County Roads	4-R / Strs. & Apprs.	2012	7,459	State/Local	State								1,492						5,967										
All MPOs	XX2012-12	Statewide	CR		Various Bridge Rehab / Replacement on County Roads	Str. & Apprs.	2012	4,625	Local	State	3,700							925																
All MPOs	XX2012-13	Statewide	VAR		Right-of-Way / Utilities / CENG	Various	2012	87,300	State	State	8,000		2,000	4,860		2,700			500	22,560			16,120		30,560									
All MPOs (except CARTS & WMATS)	XX2012-17	Various	VAR		Various Signals and Intersection Improvements	Safety & Traffic Eng.	2012	2,500	State/Local	State									500							2,000								
							Totals:	141,773	---	---	14,900	0	10,000	7,560	0	13,500	1,500	2,617	3,000	24,160	800	3,950	19,659	0	38,127	2,000	0	0	0	0	0	0	0		

NARTS Transportation and Improvement Program (TIP) 2010-2013

STATEWIDE PROJECTS -- Fiscal Year 2012

TIP AREA	JOB NO	COUNTY	RTE	LEN	JOB_NAME	TYPEWORK	FISCAL YEAR	TOTAL	MATCH	RESPONSIBLE AGENCY	BR	Earmark	ENH	HSIP	402_SAFETY	IM	SRTS	LOCAL	STATE_LOCAL	NHS	REC_TR	RRP	STATE MATCH	100% STATE	STP	STP_LT_200K	STP_GT_200K	FTA-5307	FTA-5309	FTA-5310	FTA-5311	FTA-5316	FTA-5317	FFY_TRANSIT APPR	FTA_EARMARK_ID
								(x $1,000)			(x $1,000)																									
BI-STATE / HSA / JATS / NARTS / PBATS / TUTS	216FTA	Statewide			Job Access Reverse Commute Urbanized Areas < 200,000	Transit	2012	1,228	Var Agencies	Var Agencies								614														614		2011	
BI-STATE / HSA / JATS / NARTS / PBATS / TUTS	217FTA	Statewide			New Freedom Urbanized Areas <200,000	Transit	2012	628	Var Agencies	Var Agencies								314														314	2011	
All MPOs	309FTA	Statewide			Bus and Bus Facilities	Transit	2012	3,750	Local	Local								750											3,000						2011	
All MPOs	310FTA	Statewide			Elderly and Disabled Persons	Transit	2012	1,829	Var Agencies	Var Agencies								366												1,463					2011	
All MPOs	311FTA	Statewide			Non-Urbanized	Transit	2012	13,205	Local	Local								2,641													10,564				2011	
All MPOs	316FTA	Statewide			Job Access Reverse Commute Non-Urbanized Areas	Transit	2012	1,794	Var Agencies	Var Agencies								897														897		2011	
Rural Areas	317FTA	Statewide			New Freedom Non Urbanized Areas	Transit	2012	886	Var Agencies	Var Agencies								443															443	2011	
							Totals:	23,320	---	---	0	0	0	0	0	0	0	6,025	0	0	0	0	0	0	0	0	0	0	3,000	1,463	10,564	1,511	757		

NARTS Transportation and Improvement Program (TIP) 2010-2013

STATEWIDE PROJECTS -- Fiscal Year 2013

TIP AREA	JOB NO	COUNTY	RTE	LEN	JOB_NAME	TYPEWORK	FISCAL YEAR	TOTAL	MATCH	RESPONSIBLE AGENCY	BR	Earmark	ENH	HSIP	402_SAFETY	IM	SRTS	LOCAL	STATE_LOCAL	NHS	REC_TR	RRP	STATE MATCH	100% STATE	STP	STP_LT_200K	STP_GT_200K	FTA-5307	FTA-5309	FTA-5310	FTA-5311	FTA-5316	FTA-5317	FFY_TRANSIT APPR	FTA_EARMARK_ID
								(x $1,000)			(x $1,000)																									
All MPOs	XX2013-02	Statewide	VAR		Various Resurf / Restoration / Rehab / Reconst	4-R	2013	16,050	State/Local	State						10,800		10		1,600			2,000		1,600	40									
All MPOs	XX2013-03	Statewide	VAR		Various Bridge Rehab / Replacement	Str. & Apprs.	2013	2,000	State/Local	State/Local	1,600												400												
All MPOs	XX2013-04	Statewide	VAR		Bridge Painting / Guard Rail / Scour Control / Inspection	Miscellaneous	2013	2,000	State/Local	State	1,600												400												
All MPOs	XX2013-05	Statewide	VAR		Various Safety Type Improvements	Safety	2013	13,320	State	State				8,388	4,000								932												
All MPOs	XX2013-06	Statewide	VAR		RR Xing Protect Devices / Surfacing / Hazard Elim	Safety	2013	4,567	State/RR	State/RR												4,110	457											
All MPOs	XX2013-07	Statewide	VAR		Various Enhancement Type Projects	Enhancement	2013	10,000	State/Local	State/Local			8,000						2,000																
All MPOs	XX2013-08	Statewide	VAR		Various Safe Routes to School Projects	Enhancement	2013	1,500	N/A	State/Local							1,500																		
All MPOs	XX2013-10	Statewide	VAR		Various Trail Projects	Enhancement	2013	1,000	Local	Local								200			800													
All MPOs	XX2013-11	Statewide	CR		Var Resurf / Restore / Rehab / Reconst / BR Repl / BR Rehab on County Roads	4-R / Strs. & Apprs.	2013	7,459	State/Local	State								1,492						5,967											
All MPOs	XX2013-12	Statewide	CR		Various Bridge Rehab / Replacement on County Roads	Str. & Apprs.	2013	4,625	Local	State	3,700							925																
All MPOs	XX2013-13	Statewide	VAR		Right-of-Way / Utilities / CENG	Various	2013	93,900	State	State	12,000		2,000	5,040		2,700			500	23,040			17,420		31,200									
All MPOs (except CARTS & WMATS)	XX2013-17	Statewide	VAR		Various Signals and Intersection Improvements	Safety & Traffic Eng.	2013	2,500	State/Local	State									500							2,000								
							Totals:	158,921	---	---	18,900	0	10,000	13,428	4,000	13,500	1,500	2,627	3,000	24,640	800	4,110	21,609	0	38,767	2,040	0	0	0	0	0	0	0		

NARTS Transportation and Improvement Program (TIP) 2010-2013

STATEWIDE PROJECTS -- Fiscal Year 2013

TIP AREA	JOB NO	COUNTY	RTE	LEN	JOB_NAME	TYPEWORK	FISCAL YEAR	TOTAL	MATCH	RESPONSIBLE AGENCY	BR	Earmark	ENH	HSIP	402_SAFETY	IM	SRTS	LOCAL	STATE_LOCAL	NHS	REC_TR	RRP	STATE MATCH	100% STATE	STP	STP_LT_200K	STP_GT_200K	FTA-5307	FTA-5309	FTA-5310	FTA-5311	FTA-5316	FTA-5317	FFY_TRANSIT APPR	FTA_EARMARK_ID
								(x $1,000)			(x $1,000)																									
BI-STATE / HSA / JATS / NARTS / PBATS / TUTS	216FTA	Statewide			Job Access Reverse Commute Urbanized Areas < 200,000	Transit	2013	1,272	Var Agencies	Var Agencies								636														636		2012	
BI-STATE / HSA / JATS / NARTS / PBATS / TUTS	217FTA	Statewide			New Freedom Urbanized Areas <200,000	Transit	2013	650	Var Agencies	Var Agencies								325														325	2012	
All MPOs	309FTA	Statewide			Bus and Bus Facilities	Transit	2013	3,750	Local	Local								750											3,000						2012	
All MPOs	310FTA	Statewide			Elderly and Disabled Persons	Transit	2013	1,893	Var Agencies	Var Agencies								379												1,514					2012	
All MPOs	311FTA	Statewide			Non-Urbanized	Transit	2013	13,666	Local	Local								2,733													10,933				2012	
All MPOs	316FTA	Statewide			Job Access Reverse Commute Non-Urbanized Areas	Transit	2013	1,856	Var Agencies	Var Agencies								928														928		2012	
Rural Areas	317FTA	Statewide			New Freedom Non Urbanized Areas	Transit	2013	918	Var Agencies	Var Agencies								459															459	2012	
							Totals:	24,005	---	---	0	0	0	0	0	0	0	6,210	0	0	0	0	0	0	0	0	0	0	3,000	1,514	10,933	1,564	784		

Bridges Qualifying for Bridge Replacement Funds:

Bridge No.	Roadway	County	Feature Intersected
17349	CO RD 67 ZONE I	Washington	ILLINOIS RIVER
17367	CO RD 195/HARVEY OWL	Washington	WEST FORK WHITE RIVER
10631	CO RD 196 ZONE L	Benton	ILLINOIS RIVER
01705	Hwy 59	Benton	CHALYBEATE CREEK
01703	Hwy 59	Benton	KCS RR & BUTLER CREEK
01704	Hwy 59	Benton	OZARK LAKE
02849	Hwy 72	Benton	LITTLE SUGAR CR
10593	CO RD 3 ZONE L	Benton	ILLINOIS RIVER
10591	CO RD 2 ZONE L	Benton	ILLINOIS RIVER
17320	CO RD J 35	Washington	W FORK WHITE RIVER
02497	Hwy 16	Benton	ILLINOIS RIVER
17807	CO RD 98	Benton	WAR EAGLE CREEK
01701	CO RD 1782	Benton	WILDCAT CREEK
10600	CO RD 21-O	Benton	SPAVINAW CREEK
10666	CO RD C 700	Benton	LIMEKILN CREEK
20294	EVENING STAR RD	Benton	OSAGE CREEK
02065	Hwy 62	Washington	MUDDY FORK RIVER
10622	CO RD 71 ZONE K	Benton	OSAGE CREEK
17806	CO RD 8	Benton	FLINT CREEK
18795	AUBREY LONG RD/CR	Benton	EAST FLINT CREEK
17385	GEORGE ANDERSON RD	Washington	CLEAR CREEK
18577	CO RD R 24	Benton	COON CREEK
19023	RED BIRD LANE	Benton	BUTLER CREEK
03072	Hwy 43	Benton	FLINT CREEK
17323	CO RD 38-A	Washington	W F WHITE RIVER
10670	CO RD 831-G	Benton	CREEK
18394	DOUBLE SPGS RD	Washington	FARMINGTON BRANCH
10615	CO RD 60 ZONE E	Benton	PUPPY CREEK
10626	CO RD 103	Benton	CREEK
02930	Hwy 59	Washington	BALLARD CREEK
02996	Hwy 59	Benton	FLINT CREEK
17319	MCKNIGHT ST	Washington	CREEK
10618	CO RD 67 ZONE C	Benton	LIMEKILN CREEK
19529	SO GARLAND STREET	Washington	TOWN CREEK
18572	CO RD E 60	Benton	SPRINGCREEK
19521	WEST WATER STREET	Washington	DITCH
17339	CO RD F 62	Washington	ILLINOIS RIVER
19864	CO RD 64/ STONEWELL R	Washington	MUDDY FK ILLINOIS
17381	CO RD 448 ZONE H	Washington	BUSH CREEK
17324	CO RD 39 ZONE J	Washington	WF WHITE RIVER
19916	COUNTRY CLUB ROAD	Benton	SAGER CREEK

01999	Hwy 59	Benton	WOLF CREEK
17307	CO RD H 15	Washington	BALLARD CREEK
19653	LAKE ATALANTA ROAD	Benton	SO FK OF PRAIRIE CREEK
17334	STOKENBURY RD	Washington	CREEK
20706	N HORSEBARN RD	Benton	BRANCH OSAGE CREEK
19600	SO MCKNIGHT STREET	Washington	BRANCH
19861	CO RD 8	Washington	CREEK
18681	CO RD 877-E	Washington	HAMSTRING CREEK
17325	CO RD 44 ZONE B	Washington	WHITE RIVER
17332	DEAD HORSE MTN	Washington	W FORK OF WHITE RIVER
10664	CO RD C 700	Benton	WINTON SPRINGS CR
20295	N. 56TH ST.	Benton	SPRING CREEK
10637	S 26TH ST	Benton	OSAGE CREEK
18324	DOUBLE SPRINGS RD	Washington	GOOSE CREEK
17805	CO RD 18	Benton	SO PRONG SPAVINAW CR
18814	CO RD 285 - I	Washington	COVE CREEK
10663	CO RD 615-D	Benton	HICKORY CREEK
17353	CO RD 70	Washington	BLUE SPRINGS PARK RD
10638	CO RD 279-J	Benton	LITTLE OSAGE CREEK
01997	Hwy 12	Benton	LITTLE FLINT
21190	CO RD 8-I	Washington	MOORE CREEK
17300	CO RD I 8	Washington	LURCH CREEK
21481	CO RD 01214	Benton	HONEY CREEK
20214	CO RD 842-K	Washington	HAMSTRING CREEK
17368	CO RD 214-I	Washington	ILLINOIS RIVER
19547	S JOHNSON ST.	Washington	DITCH
04196	Hwy 264	Benton	LITTLE OSAGE CREEK
17298	CO RD 8 ZONE I	Washington	CREEK
17302	CO RD 9 - G	Washington	CINCINNATI CREEK
17338	CO RD 62 ZONE F	Washington	ILLINOIS RIV REL
02064	Hwy 62	Washington	BOB KIDD CREEK
18321	CO RD 669	Washington	BEATTY BRANCH
18332	CO RD 43	Washington	GREASY CREEK
M1057	Hwy 59	Benton	SPRING BRANCH
01563	Hwy 62	Washington	MOORE CREEK
01940	MAPLE STREET	Washington	FRISCO RAILROAD
B1423	Hwy 71	Washington	BARNETT CREEK
18886	CO RD 25	Washington	WEDINGTON CREEK
17356	CO RD 78	Washington	MOORE CREEK
18568	CO RD 1185/D; WOODHAV	Benton	CREEK
02538	Hwy 94	Benton	LITTLE SUGAR CREEK
M2202	Hwy 170	Washington	LITTLE RED RIVER
20308	CO RD 833 - G	Benton	LITTLE SUGAR CREEK
17316	CO RD 30 ZONE A	Washington	DYE CREEK

18862	CO RD 45 ZONE A	Washington	LONDON CREEK
01785	CO RD 1782	Benton	OSAGE CREEK
20179	CO RD 98 -F/DAUGHERTY	Washington	MUDDY FORK
18320	CO RD 84	Washington	CLABBER CREEK
03242	Hwy 74	Washington	WHITE RIVER
18669	CO RD 302-B	Washington	CREEK
03636	Hwy 12	Benton	BEAVER LAKE
02879	Hwy 12	Benton	FLINT CREEK
17390	CO RD 623 ZONE F	Washington	ILLINOIS RIVER
17405	CO RD 848,ZONE K	Washington	ILLINOIS RIVER
M3119	Hwy 180	Washington	SUBLET CREEK
19866	CO RD 124-A	Washington	MIDDLE FK WHITE RIV
20529	CO RD 6-G	Washington	WEDINGTON CREEK
10647	CO RD 405-P	Benton	BEATY CREEK