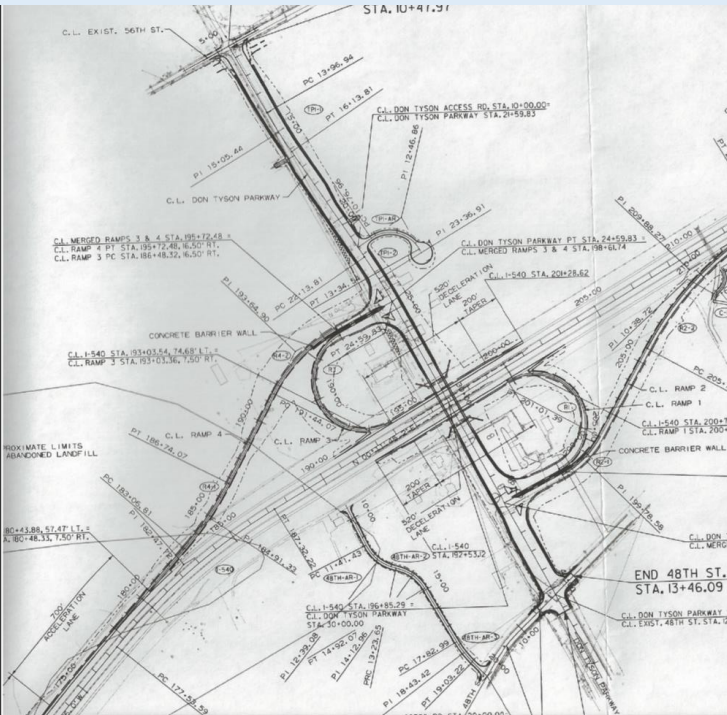


Northwest Arkansas Regional Planning Commission Congestion Management Process (CMP) Update

Regional Objectives for Congestion Management, CMP Network, Performance Measures, and Data Collection/System Performance



NWARPC CONGESTION MANAGEMENT PROCESS

Moving Ahead for Progress in the 21st Century Act (MAP-21) requires a Transportation Management Area (TMA) to develop and implement a Congestion Management Process (CMP).

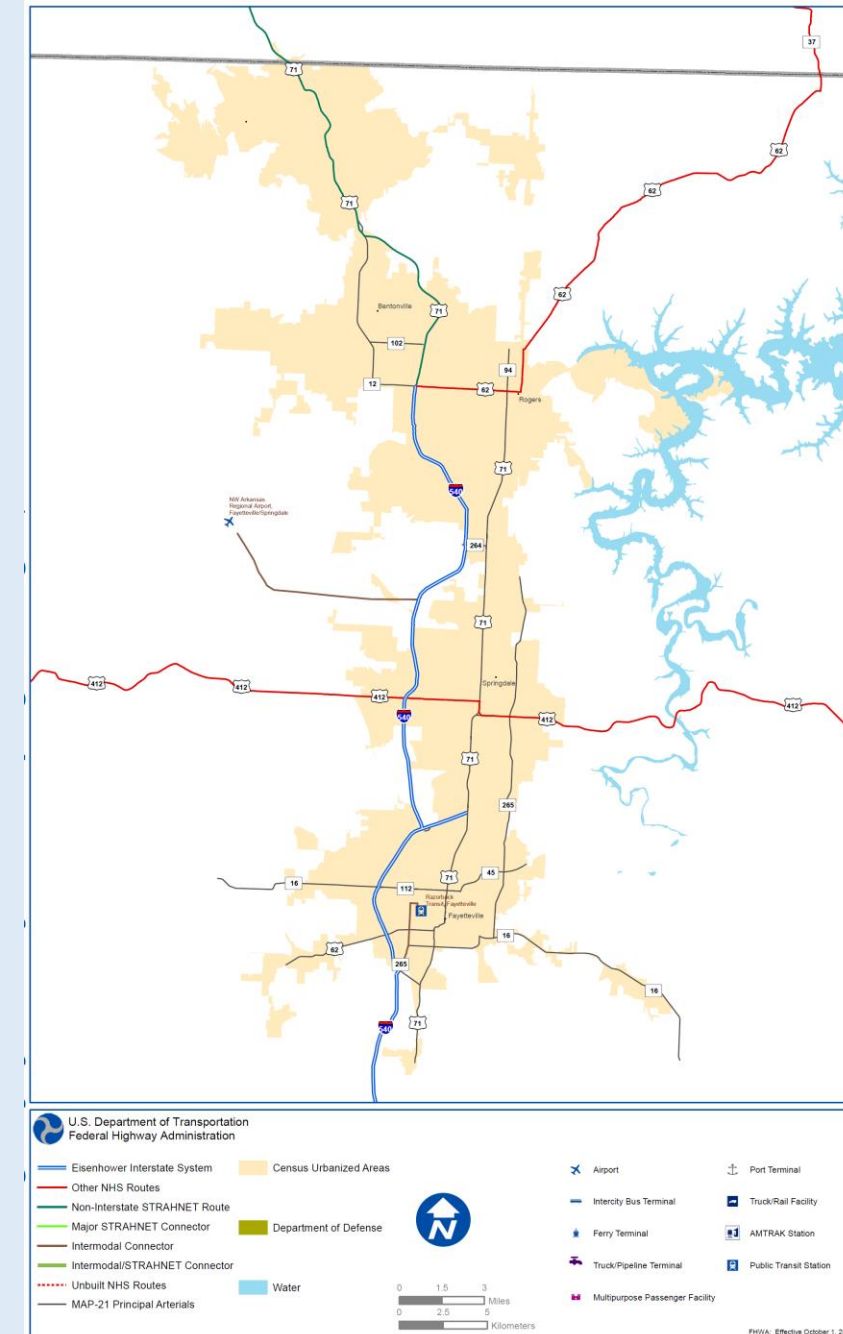
1. Develop Regional Objectives for Congestion Management
2. Define the CMP Network
3. Develop Performance Measures
4. Collect Data/Monitor System Performance
5. Analyze Congestion Problems and Needs
6. Identify and Assess CMP Strategies
7. Program and Implement CMP Strategies
8. Evaluate Strategy Effectiveness

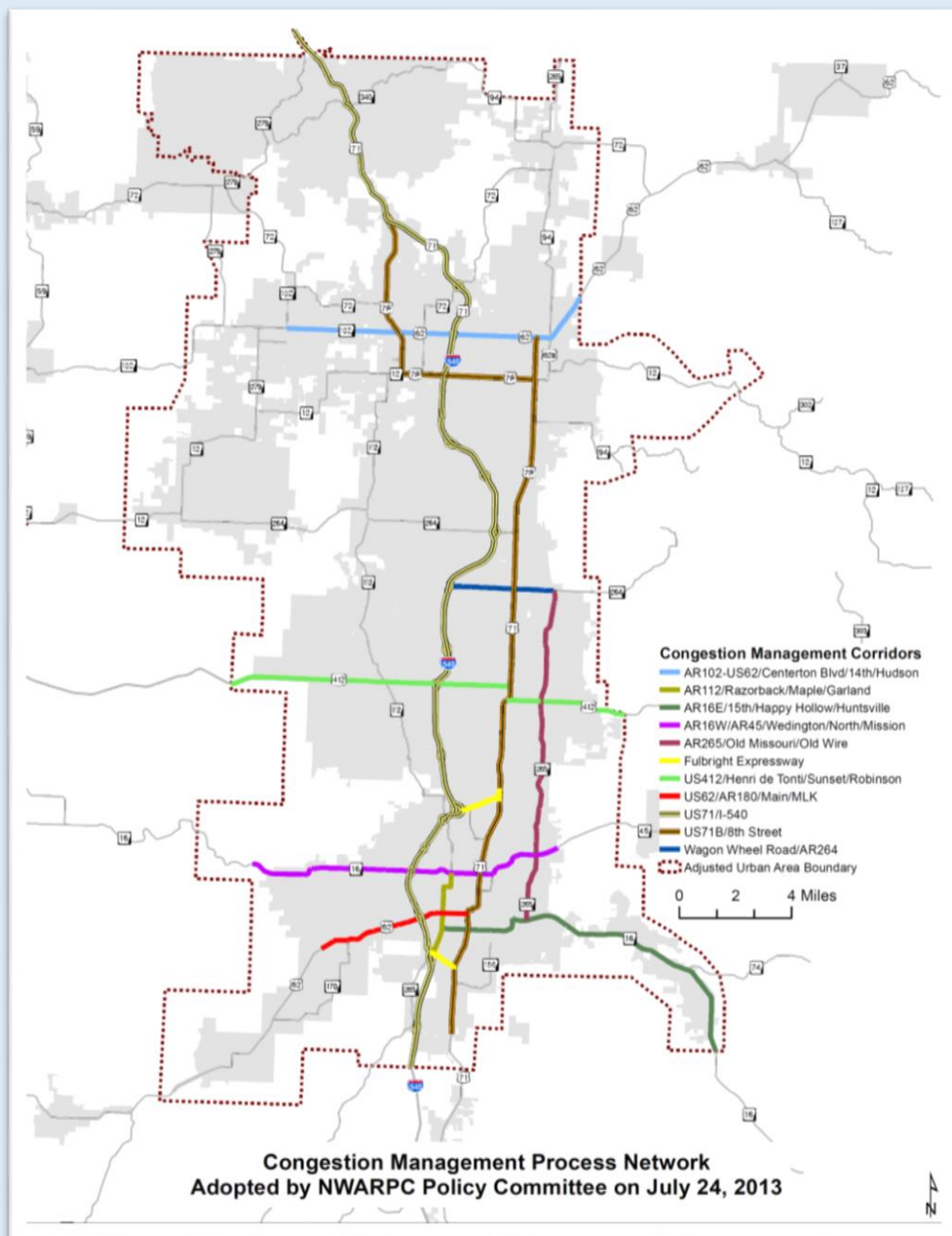
NWARPC REGIONAL OBJECTIVES

- Objective One: Develop procedures for evaluating the relative congestion of facilities;
- Objective Two: Develop procedures to determine if congestion mitigation strategies should be implemented for a particular facility;
- Objective Three: Develop a procedure or procedures for evaluating the effectiveness of congestion mitigation strategies implemented.

NWARPC CONGESTION MANAGEMENT PROCESS NETWORK

- The adopted NWARPC CMP network is approximately 160 centerline miles for data collection, congestion analysis, and system performance and reliability.
- The adopted NWARPC CMP Network contains all roadways as shown on the October 2012 National Highway System Map plus several additional facilities as approved by the NWARPC Policy Board.





Northwest Arkansas Congestion Management Process Facilities

Note: Facilities Described from North to South and from West to East

US71/I-540						
Segment	From	To	Length	Operating Conditions	Facility Type	Posted Speed
US71	UA Boundary - Jane MO	US71B - Bentonville		Interrupted	Urban Street	45 to 55
US71	US71B - Bentonville	US62 - Rogers		Uninterrupted	Freeway	70
I-540	US62 - Rogers	US71B - Fulbright North Fayetteville		Uninterrupted	Freeway	70
I-540	US71 - Fulbright North Fayetteville	US71B - Fulbright South Fayetteville		Uninterrupted	Freeway	65
I-540	US71 - Fulbright South Fayetteville	UA Boundary - Greenland		Uninterrupted	Freeway	70
US71B/Walton Blvd./Walnut/8th Street/Thompson/College/School						
Segment	From	To	Length	Operating Conditions	Facility Type	Posted Speed
US71B/Walton Blvd	US71/Walton Blvd - Bentonville	I-540/US62 - Rogers		Interrupted	Urban Street	45
US71B/Walnut	I-540/US71B/Walnut Street - Rogers	US71B/8th Street - Rogers		Interrupted	Urban Street	45
US71B/8th/Thompson	US62/Hudson - Rogers	US412/Sunset - Springdale		Interrupted	Urban Street	45
US71B/Thompson/College	US412/Sunset - Springdale	Joyce Blvd - Fayetteville		Interrupted	Urban Street	45
US71B/College	Joyce Blvd - Fayetteville	North Street - Fayetteville		Interrupted	Urban Street	45
US71B/College/School	North Street - Fayetteville	US71B Fulbright South - Fayetteville		Interrupted	Urban Street	45
US71B/School	US71B Fulbright South - Fayetteville	Wilson - Greenland		Interrupted	Urban Street	45
Fulbright Expressway						
Segment	From	To	Length	Operating Conditions	Facility Type	Posted Speed
US71B Fulbright North	I-540 - Fayetteville	US71B/College - Fayetteville		Uninterrupted	Freeway	60
US71B Fulbright South	I-540 - Fayetteville	US71B/School - Fayetteville		Uninterrupted	Freeway	65
AR265/Old Missouri/Old Wire						
Segment	From	To	Length	Operating Conditions	Facility Type	Posted Speed
AR265 Old Wire/Old Missouri	AR264/Wagon Wheel - Springdale	US412/Robinson - Springdale		Interrupted	Urban Street	45
AR265 Old Missouri/Crossover	US412/Robinson - Springdale	AR45/Mission - Fayetteville		Interrupted	Urban Street	45
AR265/Crossover	AR45/Mission - Fayetteville	AR16E/Fayetteville		Interrupted	Urban Street	45
AR102-US62/Centerton Blvd/14th/Hudson						
Segment	From	To	Length	Operating Conditions	Facility Type	Posted Speed
AR102/US62/Centerton/14th/Hudson	AR102/Main - Centerton	I-540		Interrupted	Urban Street	45
AR102/US62/Centerton/14th/Hudson	I-540	UA Boundary		Interrupted	Urban Street	45
AR264/Wagon Wheel Road						
Segment	From	To	Length	Operating Conditions	Facility Type	Posted Speed
Wagon Wheel Road	I-540	AR265/Old Wire		Interrupted	Urban Street	45
US412/Henri De Tonti/Sunset/Robinson						
Segment	From	To	Length	Operating Conditions	Facility Type	Posted Speed
US412/Henri De Tonti/Sunset/Robinson	Wildcat Creek/Taylor - Tontitown	I-540 - Springdale		Interrupted	Urban Street	45
US412/Henri De Tonti/Sunset/Robinson	I-540 - Springdale	US71B - Springdale		Interrupted	Urban Street	45
US412/Robinson	US71B/Thompson	Tulip Tree Drive - Springdale		Interrupted	Urban Street	45
AR16W/AR45/Wedington/North/Mission						
Segment	From	To	Length	Operating Conditions	Facility Type	Posted Speed
AR16W/AR45/Wedington/North/Mission	Red Fox Drive - Fayetteville	I-540 - Fayetteville		Interrupted	Urban Street	45
AR16W/AR45/Wedington/North/Mission	I-540 - Fayetteville	US71B/College - Fayetteville		Interrupted	Urban Street	35
AR16W/AR45/Wedington/North/Mission	US71B/College	Aspen Drive - Fayetteville		Interrupted	Urban Street	35
US62/AR180/Main/MLK						
Segment	From	To	Length	Operating Conditions	Facility Type	Posted Speed
US62/AR180/Main/MLK	Double Springs Road - Farmington	I-540		Interrupted	Urban Street	45
US62/AR180/Main/MLK	I-540 - Fayetteville	US71B/School - Fayetteville		Interrupted	Urban Street	45
AR16E/15th/Happy Hollow/Huntsville						
Segment	From	To	Length	Operating Conditions	Facility Type	Posted Speed
AR16E/15th/Happy Hollow/Huntsville	AR112/Razorback Road	AR265/Crossover		Interrupted	Urban Street	40
AR16E/15th/Happy Hollow/Huntsville	AR265/Crossover	UA Boundary		Interrupted	Urban Street	40
AR112/Razorback/Maple/Garland						
Segment	From	To	Length	Operating Conditions	Facility Type	Posted Speed
AR112/Razorback/Maple/Garland	AR112 Spur/Wedington - Fayetteville	AR180/MLK		Interrupted	Urban Street	40
AR112/Razorback/Maple/Garland	AR180 MLK - Fayetteville	I-540		Interrupted	Urban Street	40

CONGESTION MEASURES - NWARPC AVERAGE TRAVEL TIME DATA

- Policy Committee approved consultant services to acquire average travel time data (2012) (e.g. Inrix, Navteq/Nokia) and develop the NWARPC CMP methodology and associated documentation for the CMP report.
- Travel time Congestion and Reliability measures will be developed for the a.m. and p.m. peak travel times and will include:
 - Delay Rate Per Mile
 - Travel Time Index – Observed to Posted Speed – Observed to 85th Percentile Speed
 - Planning Time Index
- The average travel speed will be used to compare the a.m. and p.m. peak period travel speeds to posted speed limit and/or 85 percentile speed. The delay in speed, based on the data, will then be used to identify congested freeway and arterial facilities. This type of data and analysis is currently being used in Kansas City and Austin and is being considered by Oklahoma City as part of their CMP process.

NWARPC Consultant Selection

- Staff drafted and presented the Letters of Interest and Scope of Work to the CMP Committee on June 11, 2013 with a submittal LOI deadline of July 29, 2013 at 4 pm.
- Three firms submitted LOI'S – Alliance, Cambridge Systematics, and CoPLAN LLC.
- The CMP LOI Committee met on August 1, 2013 and scored the LOI's. All three firms were sent the RFP and two firms submitted proposals.
- The RFP deadline was August 23, 2013
- The CMP RFP Committee met on September 4, 2013 and selected CoPLAN LLC.
- The draft contract with CoPLAN LLC was sent to AHTD for review on October 17, 2013.

INTERSTATE 540 IMPROVEMENT STUDY

WASHINGTON COUNTY
AND
BENTON COUNTY

APRIL, 2006



The Interstate I-540 Improvement Study prepared by Parsons Transportation Group in 2006 considered the needed Interstate widening and focused on an analysis of nineteen interchanges

The study developed the following:

- 2024 travel demand forecast for I-540
- Identified Congestion Segments
- Calculated 2006 and 2024 Level of Service
- Recommended Interstate widening
- Analyzed nineteen interchanges



NORTHWEST
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FOR IMMEDIATE RELEASE

Researchers: Traffic Congestion Costs Northwest Arkansas \$103 million annually

ROGERS, Ark. — Oct. 9, 2012 — The nation's premiere traffic researchers announced today that Northwest Arkansas traffic congestion costs drivers about \$103 million each year.

The finding by David Schrank and Tim Lomax of the Texas A&M Transportation Institute is another example of the need for congestion-relieving road projects. Local officials say the findings by TTI illustrate the need for roadway improvements.

"Our findings show traffic congestion here is far worse than what we'd expect to see in regions of comparable size," Schrank said. "Some of the highways and streets we studied would be among the worst in the entire state of Texas."

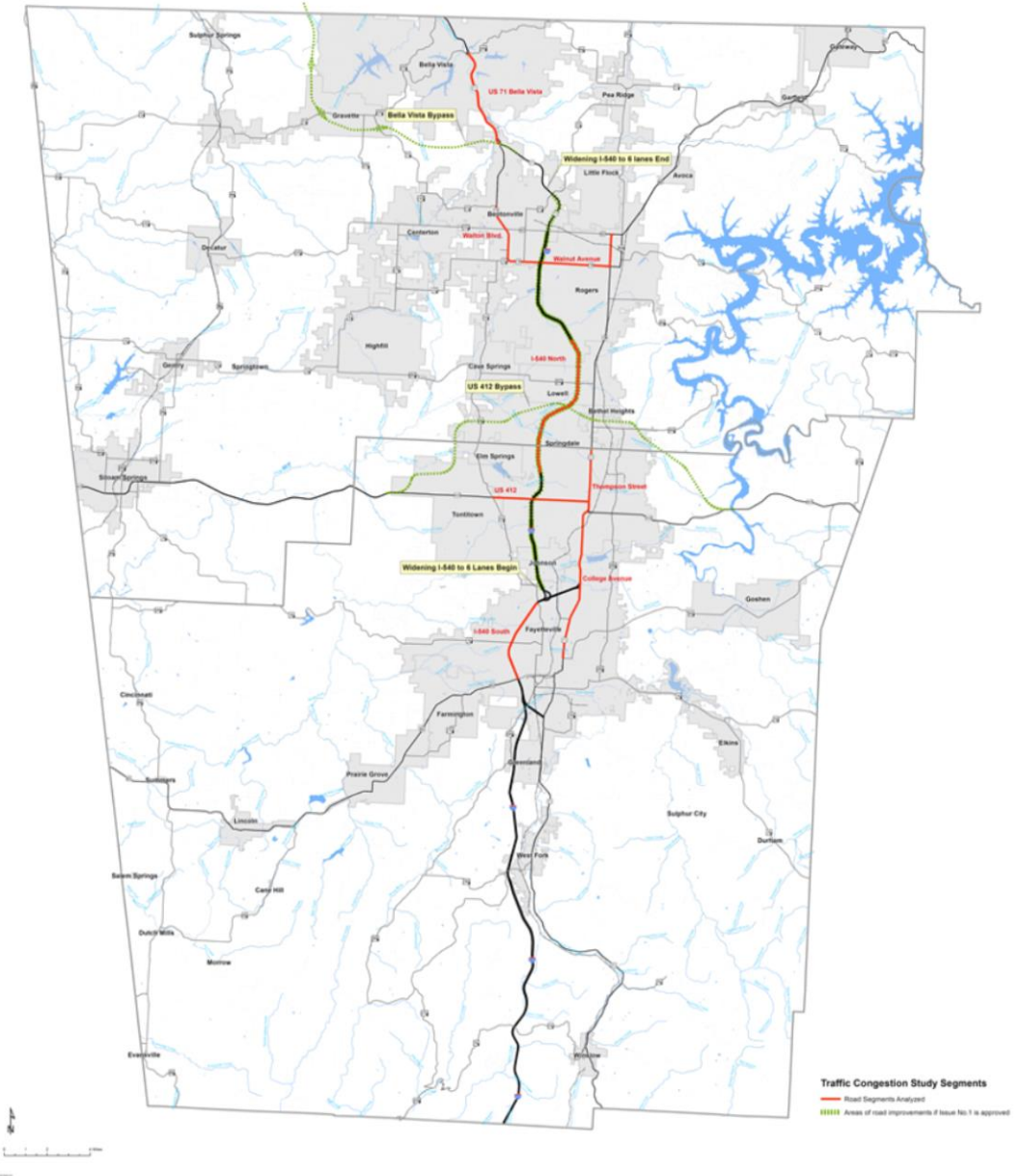
The Texas A&M Transportation Institute produces the Urban Mobility Report, the nation's most thorough assessment of congestion. TTI also produces an annual review of every Texas highway and major street for the Texas Department of Transportation.

TTI researchers David Schrank and Tim Lomax based their research of eight road segments in Northwest Arkansas on the method used in the Texas-only study, and then they estimated overall traffic congestion in Benton and Washington counties to arrive at the \$103 million figure.

"If these eight road segments we studied were in Texas, four of them would be among the worst 100 in all of Texas," Lomax said. "Regions with twice as many people as Northwest Arkansas, such as El Paso and McAllen in Texas, didn't have as many roads in what we call the Texas 100."

"Our research shows highway infrastructure investment is critical to areas like Northwest Arkansas. Removing traffic bottlenecks reduces travel time between neighborhoods, jobs and markets, and it enhances the ability to attract new companies to the region, create jobs, increase the region's economic competitiveness and improve quality of life. Companies want to know that they can move freight without major traffic delays and that their workers will have reasonable commute times."

Northwest Arkansas Traffic Congestion Study Areas



Rank	Roadway	County	From	To	Delay per Mile ¹	Travel Time Index ³	Planning Time Index ⁴	Annual Congestion Cost (\$mil) ²
1	US-412	Washington	SH-112	Thompson	136,900	1.41	8.35	12.6
2	US-71B	Benton	Central	Moberley	130,200	1.10	2.80	11.2
3	College	Washington	Lafayette	Main	107,100	1.23	4.14	10.9
4	Walnut	Benton	I-540	W. Hudson	99,600	1.08	2.70	10.6
5	US71	Benton	SH 340	N Walton	62,000	1.28	3.87	6.2
6	Thompson	Washington	Main	County Line	58,500	1.13	4.82	6.5
7	I-540	Washington	US62	SH112	24,700	1.08	1.63	2
8	I-540	Washington/ Benton	Pleasant Grove	Elm Springs	17,900	1.07	1.70	2.4
	Non-study Roadways ⁵				17,050	1.08	2.02	40.8
	Total or Average				32,200	1.10	2.35	103.2

1. Delay Per Mile—Extra travel time during the year due to congestion, divided by the corridor length. Primary measure used to rank roadway segments in this analysis.

2. Cost of congestion – Value of time delay and excess fuel consumption based on an hourly rate of \$20.50 per hour of delay.

3. Travel Time Index – A ratio of travel time in the peak period to the travel time at free-flow conditions. A value of 1.30 indicates that a 20-minute free-flow trip takes 26 minutes in the peak period.

4. Planning Time Index – Represents the total travel time that should be planned for a trip. A PTI of 2.50 means that for a 30-minute trip in light traffic, 75 minutes should be planned to reach a destination on time.

5. These roadways include freeway, major arterial and minor arterial roadway segments in Benton and Washington counties that were not analyzed in the 8 study segments.

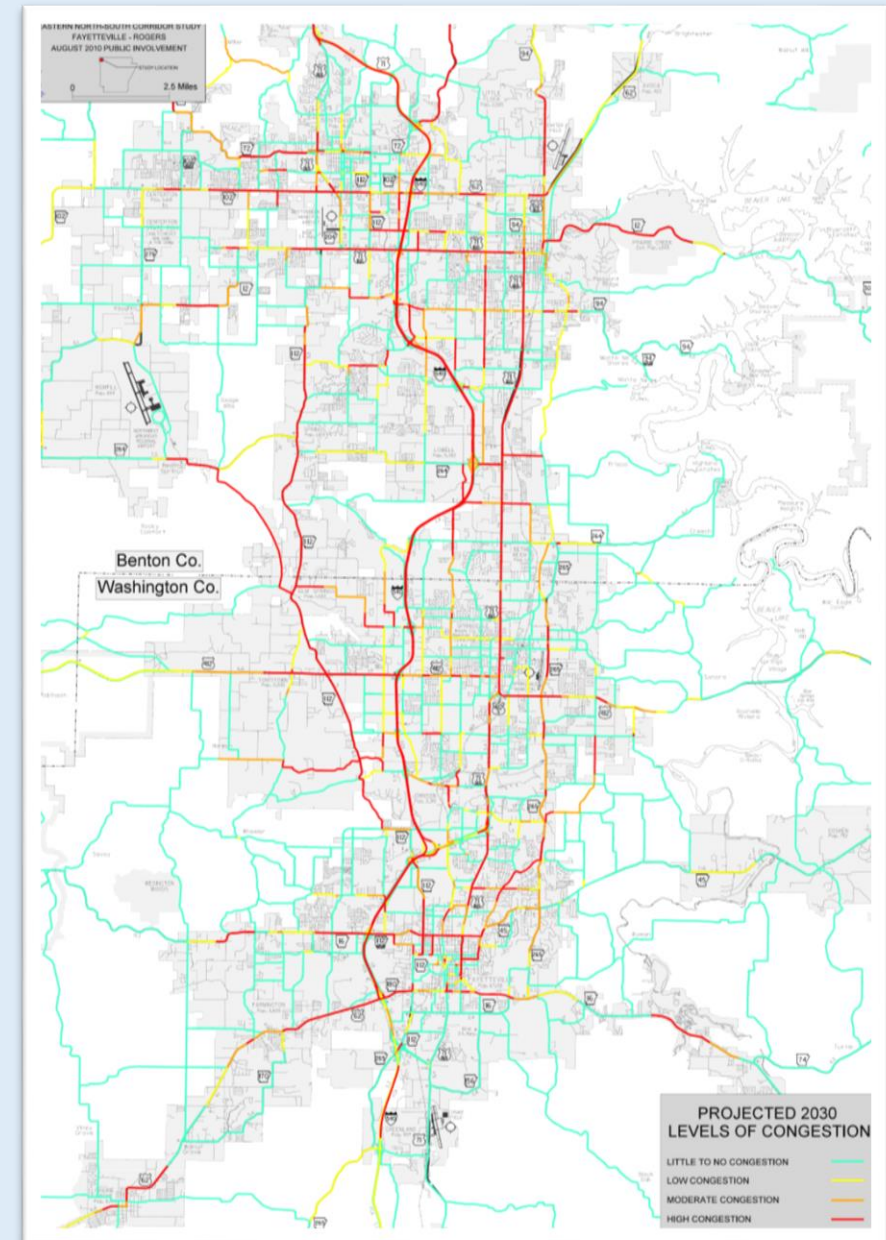
Source: Texas AM Transportation Insititute, 2012

Northwest Arkansas Eastern North-South Corridor Study

Benton and Washington Counties



July 2011



Highway 112 (Razorback Road and Maple Street)

Improvement Study



Fayetteville
Washington County
July 2010

ARKANSAS STATE HIGHWAY COMMISSION

MINUTE ORDER

Page 1 of 1 Page

District: Four
County: Washington
Category: Miscellaneous

WHEREAS, IN WASHINGTON COUNTY, Minute Order 2007-131 authorized a study to determine the appropriate cross section for improvements to Highway 112 between Highway 180 and Garland Avenue in the City of Fayetteville; and

WHEREAS, the Highway 112 (Razorback Road and Maple Street) Improvement Study has been completed and has identified the most appropriate cross section for improvements.

NOW THEREFORE, this study is adopted for use as a planning guide for scheduling future improvements in the area, and the Director is authorized to proceed with environmental studies, surveys, design, right-of-way acquisition, and construction as funds become available.

Approved: Carl A. Ruiz Chairman
W. M. [Signature] Vice-Chairman
[Signature] Member
[Signature] Member
[Signature] Member
P&R:SP:ASB:6-14-10

Form 19-456
Rev. 05/11/2010

Submitted By: Scott d. Bennett
Assistant Chief Engineer - Planning
Approved: [Signature] Director
Minute Order No. 2010 109 RH
Date Passed JUL 13 2010

**ACCESS MANAGEMENT PLAN AGREEMENT
For
HIGHWAY 265 IN FAYETTEVILLE**

- I. **PARTIES** – This agreement is made between the City of Fayetteville (the City), the Arkansas State Highway Commission (the Commission) acting through the Arkansas State Highway and Transportation Department (the Department) and the Northwest Arkansas Regional Planning Commission as the designated metropolitan planning organization for Northwest Arkansas under federal transportation regulations (the MPO). Although a very short portion of the east side of the corridor north and south of Clear Creek Drive is in the City of Springdale, Springdale is not a formal party to the agreement. However, Springdale officials have been consulted during the Plan development and will be consulted on the rare occasion that Springdale property may be impacted.
- II. **ROUTE** – This access management agreement pertains to Highway 265, also known as Crossover Road south of Clear Creek Drive and Old Missouri Road to the north, from the intersection with Township Street north to the intersection with Ivey Lane, (the Roadway). See Appendix A, Figure 1.
- III. **STATEMENT OF PURPOSE** – Highway 265 is a principal arterial on the City master street plan and serves as an intra-regional arterial roadway connecting the City to its economic region. The primary purpose for this agreement is to protect the capacity of the roadway to carry significant local and intra-regional traffic while increasing the safety for drivers, bicyclists, and pedestrians that use this facility. It is the intent of this agreement to provide access to abutting properties consistent with this objective.
- IV. **AUTHORITY** – Both the City and the Commission have specific legal authority to regulate access to public roads. In the case of the City, it is found in Arkansas Code Annotated 14-56-419. In the case of the Commission, it is found in Arkansas Code Annotated 27-65-107. The MPO is hereby granted standing in this access management agreement by the City and the Commission in recognition of its role in transportation planning within the metropolitan area.
- V. **ACCESS PLAN** – Management of access to the roadway is necessary to achieve the primary purpose of the agreement. The access management plan (the Plan) is detailed in Appendix A. The Plan is a Specific Access Management Plan in which all median breaks are specifically identified. Standards for driveways are also established to be applied during plat review



INTERSTATE 540 IMPROVEMENT STUDY

WASHINGTON COUNTY
AND
BENTON COUNTY

APRIL, 2006

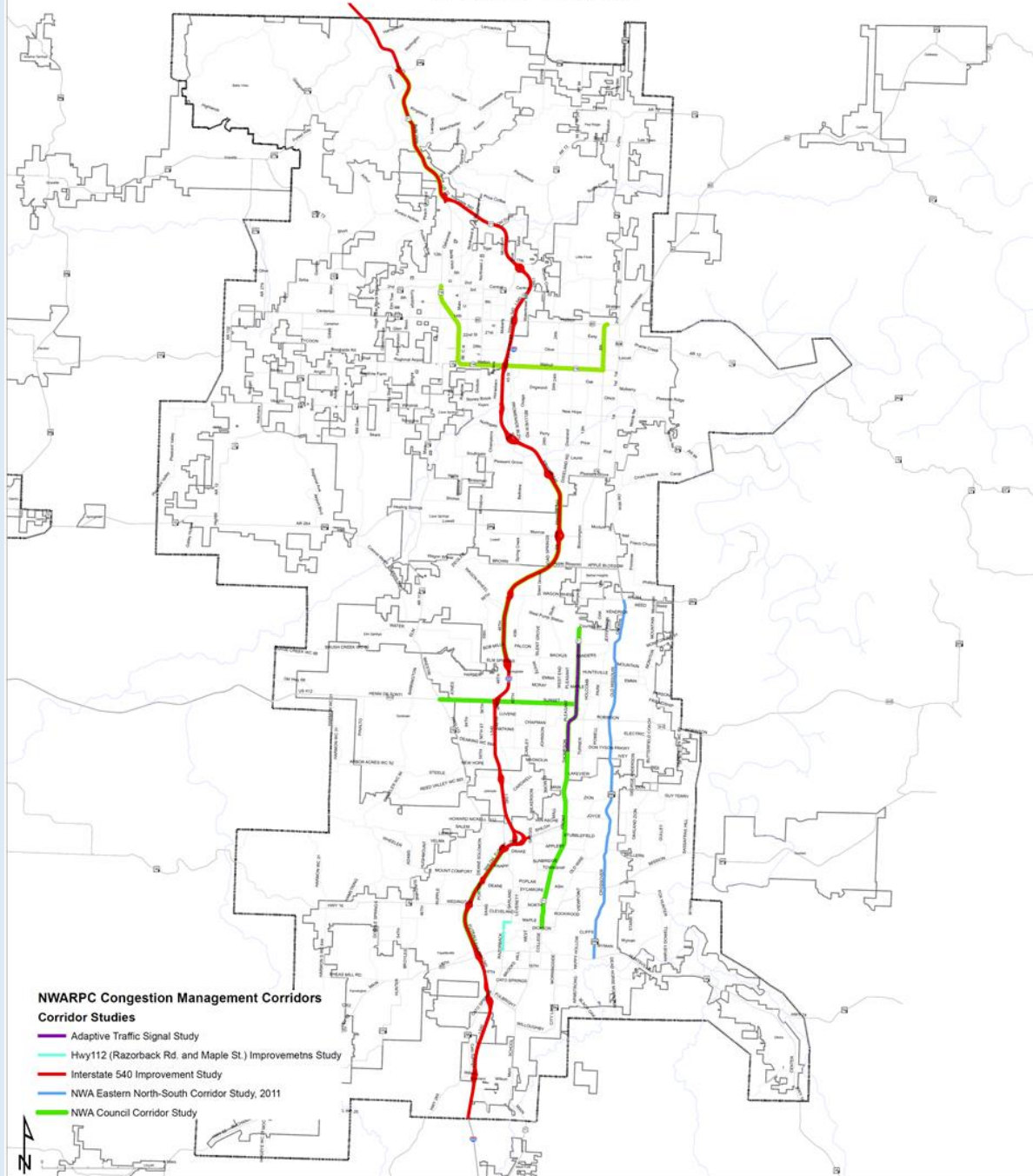


Highway 112 (Razorback Road and Maple Street) Improvement Study



Fayetteville
Washington County
July 2010

Congestion Management Process Network Corridor Studies



Northwest Arkansas Eastern North-South Corridor Study

Benton and Washington Counties



July 2011

Traffic and Transportation Study

Prepared for
City of Fayetteville
Arkansas

Prepared by
BUR BUCHER, WILLIS & RATLIFF
CORPORATION

in association with
The Louis Berger Group, Inc.
and
Crafton, Tull & Associates, Inc.

3. TRAFFIC ANALYSIS

Key Findings:

This chapter of the report discusses the impacts of existing and future traffic demand on Fayetteville's major street system, as well as recommendations for mitigating traffic impacts.

- County population and employment are projected to grow by 45 percent in the next 20 years contributing to increased traffic congestion.
- Approximately 10 percent of the major intersections in the City suffer traffic congestion.
- Approximately 25 percent of the major intersections in the City will suffer traffic congestion in 20 years.
- In the next 20 years, traffic demand will exceed roadway capacity on more than 20 miles of major streets in the City.
- 35 short range traffic improvement projects and 22 long range traffic improvement projects have been identified for construction over the next 20 years.

Table 3-3 Mitigation Strategies for Congested Intersections

Intersection	Short Range Improvement	*Long Range Improvement
Shiloh and 6th Street	Realigned and Installed Single Point Interchange	EB and WB widened to 6 lanes plus median, Added EB Right Turn Lane
Hollywood (Futrell St) and 6th Street	Realigned and Installed Single Point Interchange, Install Traffic Signal Control	EB and WB widened to 6 lanes plus median
Garland and 6th Street	No short range improvement	EB and WB widened to 6 lanes plus median
Happy Hollow Rd. and 6th Street	Install Traffic Signal Control	EB and WB widened to 4 lanes plus median
College and Rock	Street Closure	No long range improvement
Maple and West	Install Traffic Signal Control	No long range improvement
Maple and Garland	No short range improvement, Optimized Signal Timings	Divert Traffic With Realignment
Wedington and Ruppel	No short range improvement	Install Traffic Signal Control
North and Gregg	Added EB, WB and SB Thru Lanes, Added SB Right Turn Lane	EB and WB widened to 4 lanes plus median
Hission and Old Wire Rd.	Install Roundabout Control	EB and WB widened to 4 lanes plus median
Crossover and Citizen	NB and SB widened to 5 lanes	No long range improvement
Crossover and Joyce	NB and SB widened to 5 lanes, Added EB Right Turn Lane, Added WB Left Turn Lane, Added 2nd EB and NB Left Turn Lanes	Added NB and SB Right Turn Lane
Maple and Hission	Install Traffic Signal Control	No long range improvement
Rolling Hills Dr. and Old Hission Rd.	No short range improvement	Install Traffic Signal Control/Roundabout
College and Rolling Hills Dr.	Added NB and SB Right Turn Lanes	No long range improvement
Drake and Gregg	NB and SB widened to 5 lanes	Extend Drake, Install Traffic Signal Control
College and Longview	Added EB Right Turn Lane	Install Traffic Signal Control
College and Harold St.	Added WB Right Turn Lane	Install Traffic Signal Control
College and Poplar St.	No short range improvement	Install Traffic Signal Control
Poplar and Gregg	Install Traffic Signal Control	No long range improvement
Sycamore and Garland	Added WB Right Turn Lane	Install Traffic Signal Control
Joyce and Hall Ave		Added 2nd SB and WB Left Turn Lanes
Old Hission and Zion		Install Halfway Stop Control/Roundabout
Joyce and Private Drive		Install Traffic Signal Control
Deane St. and Garland		Install Traffic Signal Control
Crossover and Cliffs		Install Traffic Signal Control
15th Street and Homingside		Install Traffic Signal Control
Wedington Dr and Double Springs Rd.		No long range improvement
School and Cato Springs Rd.		No long range improvement
School and Wiloughby Rd.		Install Traffic Signal Control
6th Street and Finger		EB and WB widened to 6 lanes plus median
6th Street and Razorback		EB and WB widened to 6 lanes plus median
6th Street and School		EB widened to 6 lanes plus median, WB widened to 4 lanes plus median
College and Dickson		Added EB, NB and SB Right Turn Lanes, Added 2nd EB and NB Left Turn Lanes
College and Lafayette		Added NB and SB Right Turn Lanes
College and Township		Added SB Right Turn Lane
Maple and Leverette		Added SB Right Turn Lane
North and College		EB and WB widened to 4 lanes plus median
Wedington and Shiloh		Added SB and EB Right Turn Lanes, Added SB Left Turn Lane
Crossover and Hission		EB widened to 4 lanes plus median
Township and Crossover	Added NB and SB Right Turn Lanes	No long range improvement
Old Hission and Old Wire Rd.	Install Halfway Stop Control/Roundabout	No long range improvement

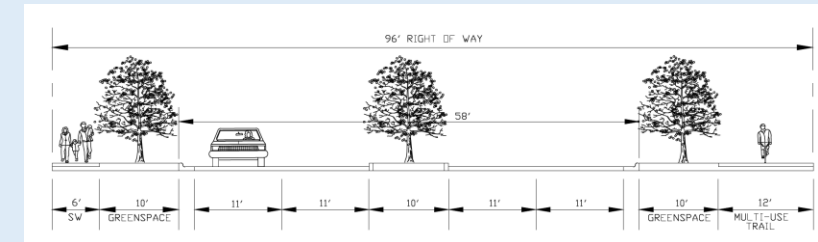
Note: Not all intersections that received improvement were identified, rather only those intersections that exemplified a LOS of unacceptable condition prior to improvement are included in the table.

* In addition to any short range improvements

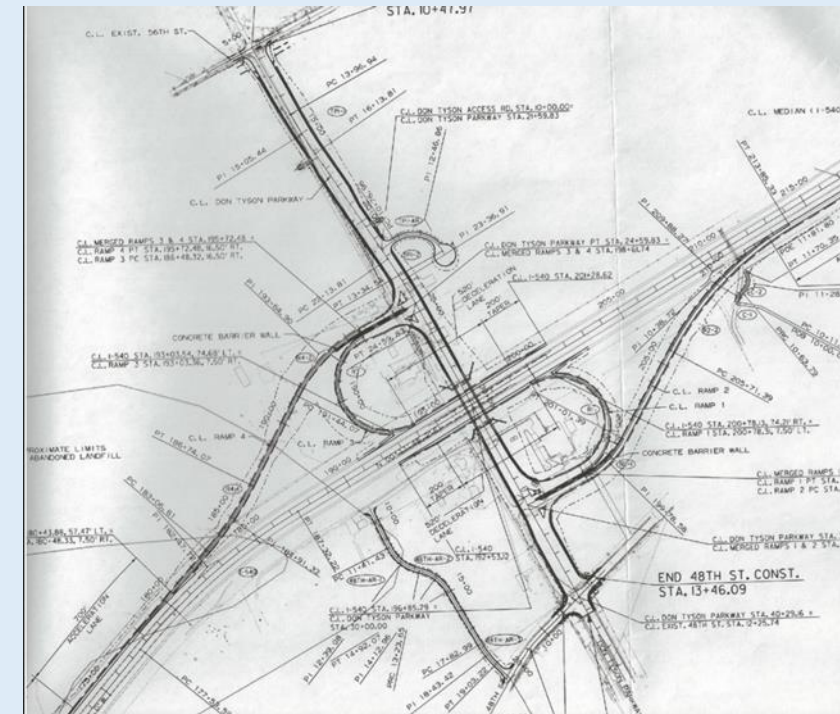
STP-A Project Selection

Projects will be evaluated and scored based on the six categories listed below:

- A. Congestion Management
- B. Regional Significance/Connectivity
- C. Safety
- D. Overall Improvement to the Transportation System
- E. Project Design
- F. Project Continuation, Partnership, Cost-Sharing

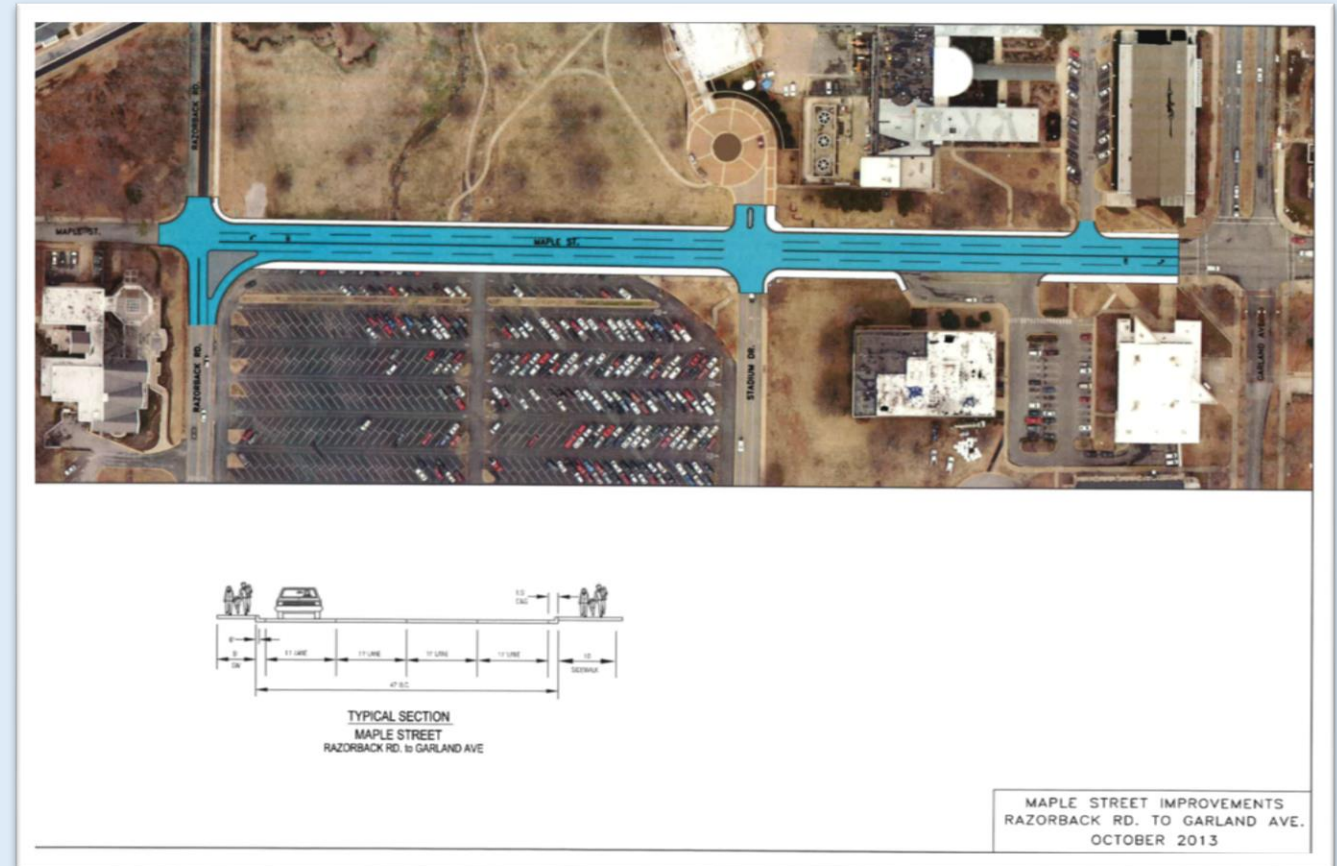
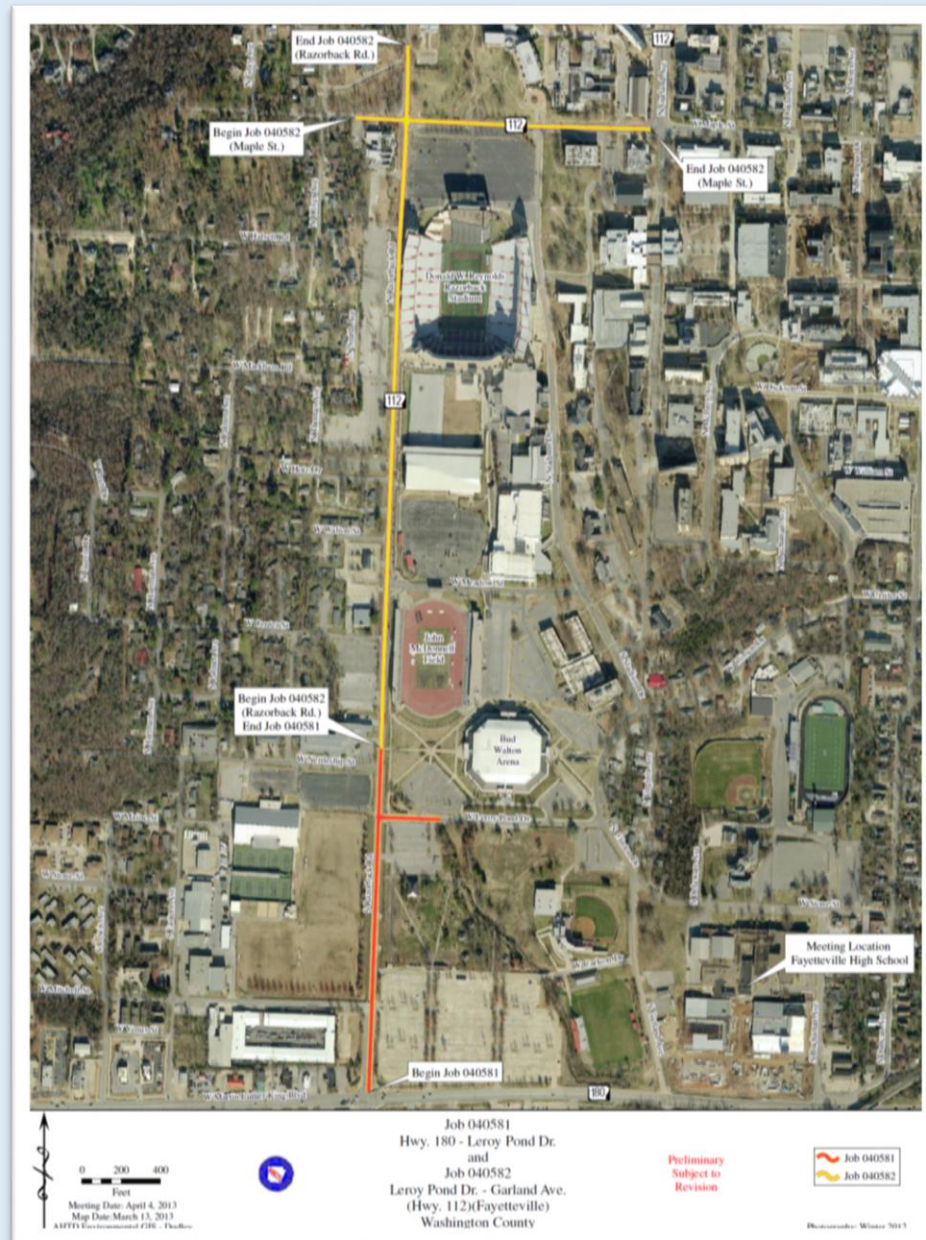


Ripple Road – FY2013 STP-A

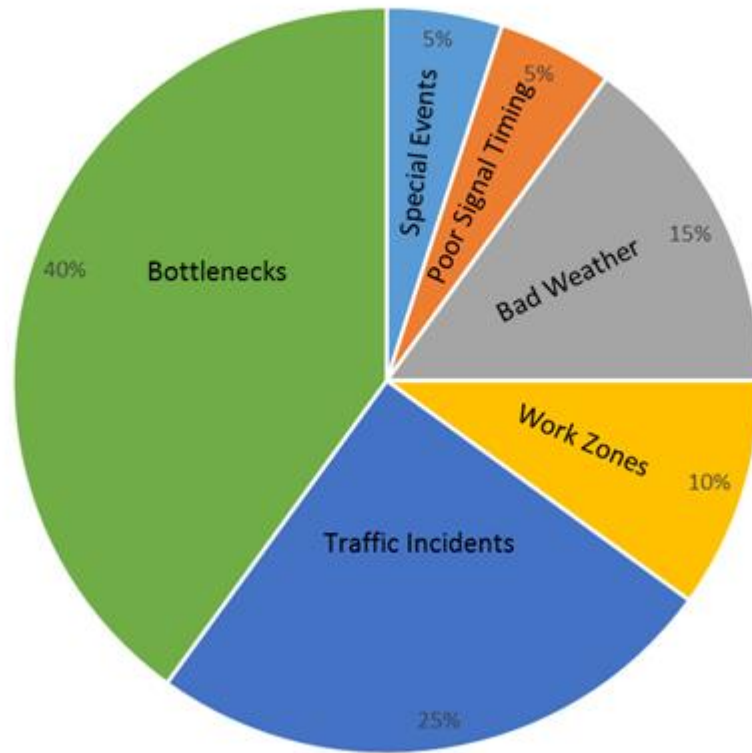


I-540 Don Tyson Interchange– FY2013 STP-A

STP-A 2013 and 2014 Funded Projects



Sources of Congestion



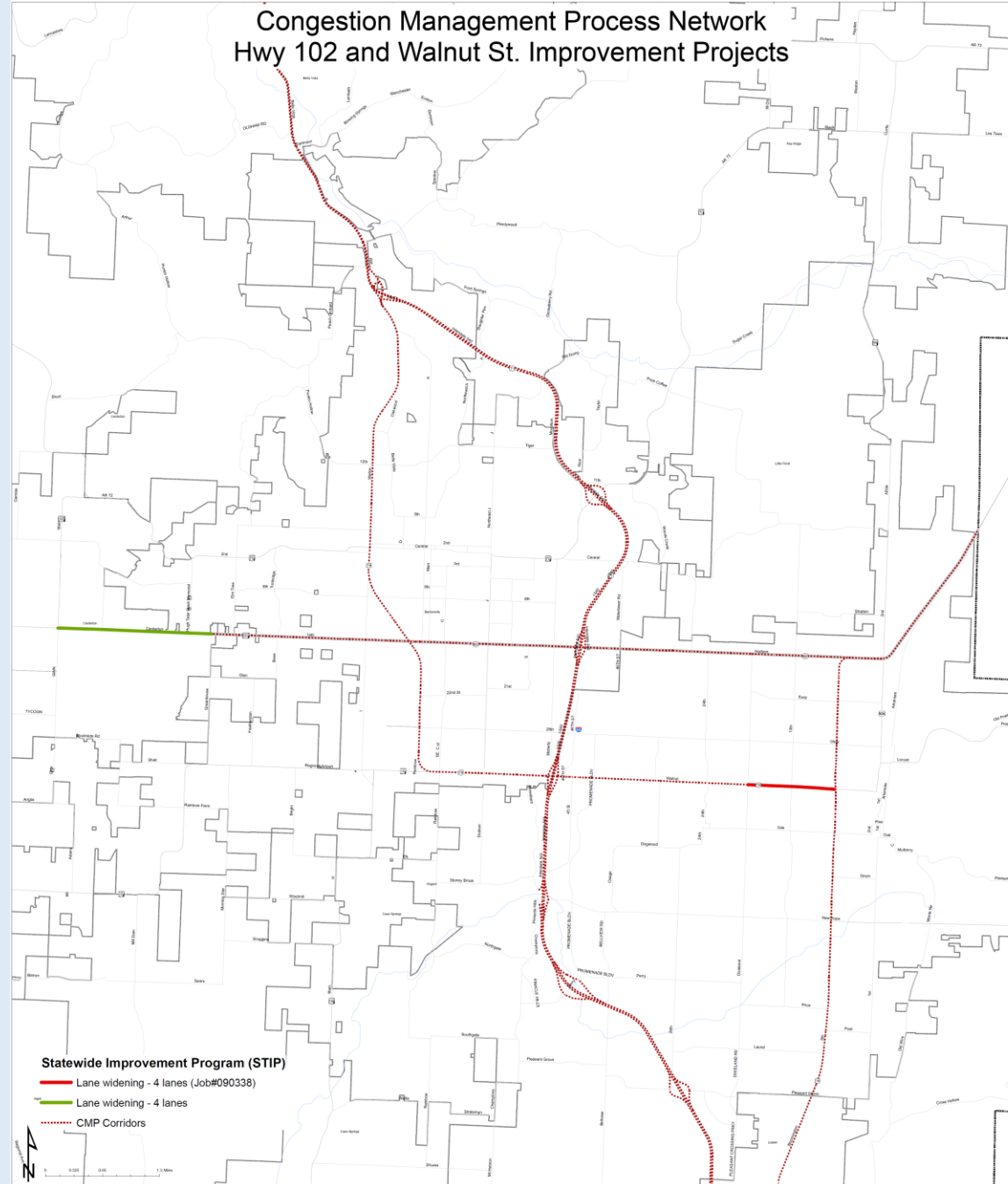
Live Traffic, Construction Zones, Traveler Information, Travel Conditions, Winter Road Conditions - AHTD Link



<http://www.idrivearkansas.com/#construction>

“Advancing Metropolitan Planning for Operations – An Objectives-Driven, performance –Based Approach” the factors that impact traffic congestion and reliability have been grouped into six categories. Of the six factors, 60% of congestion is caused by other factors other than bottlenecks.

Congestion Management Process Network Hwy 102 and Walnut St. Improvement Projects






NWARPC Congestion Management Process - January 16, 2014

Congestion Management Process Network Hwy 265 Improvements Projects

Statewide Transportation Improvement Program (STIP)

- Lane widening - 4 lanes (Job#040490)
- Lane widening - 4 lanes (Job#040517)
- Lane widening - 4 lanes (Job#040518)
- - - CMP Corridors

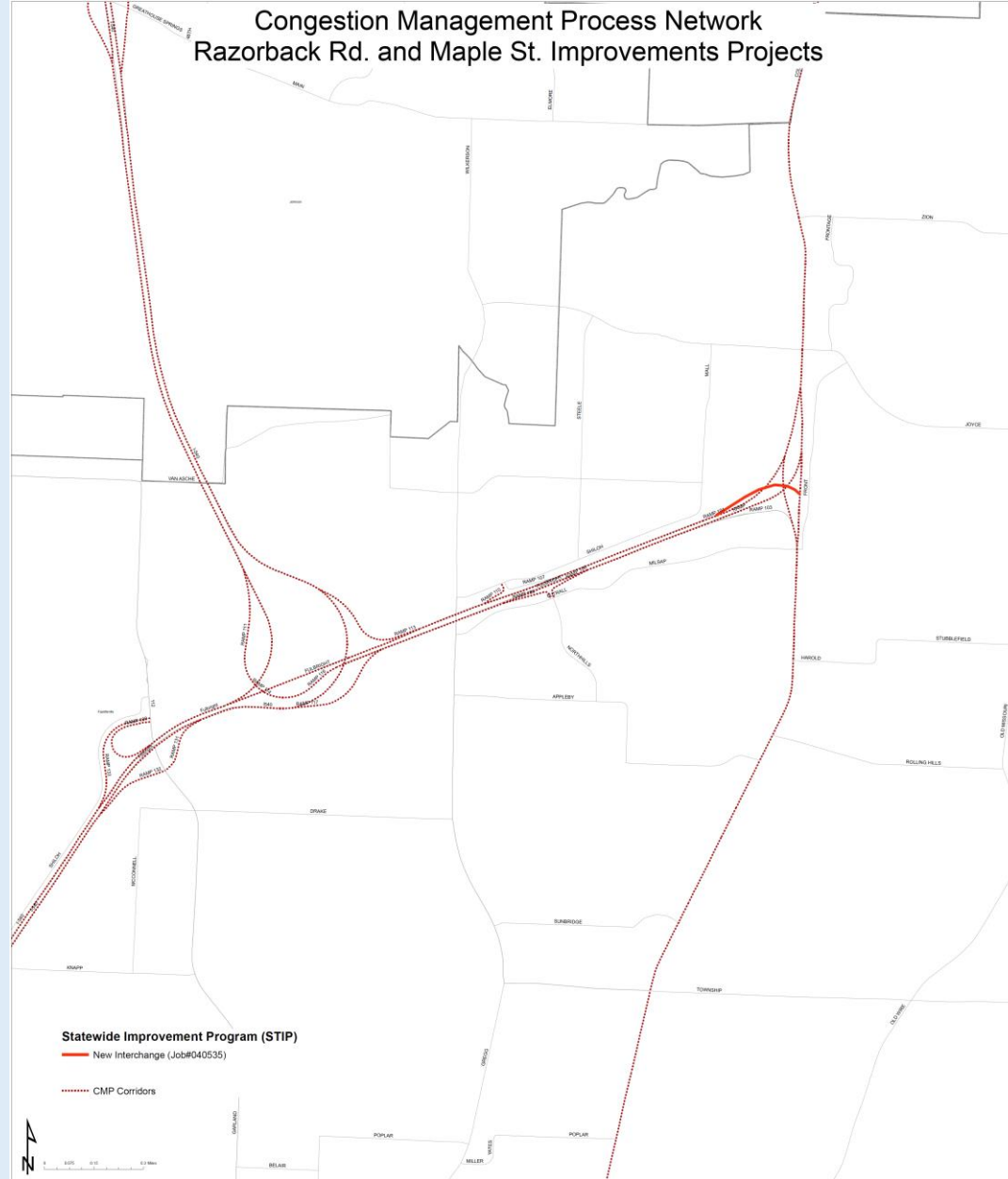
 Lane widening - 4 lanes (Job#040490)
 Lane widening - 4 lanes (Job#040517)
 Lane widening - 4 lanes (Job#040518)
 CMP Corridors

— Lane widening - 4 lanes (Job#040517)

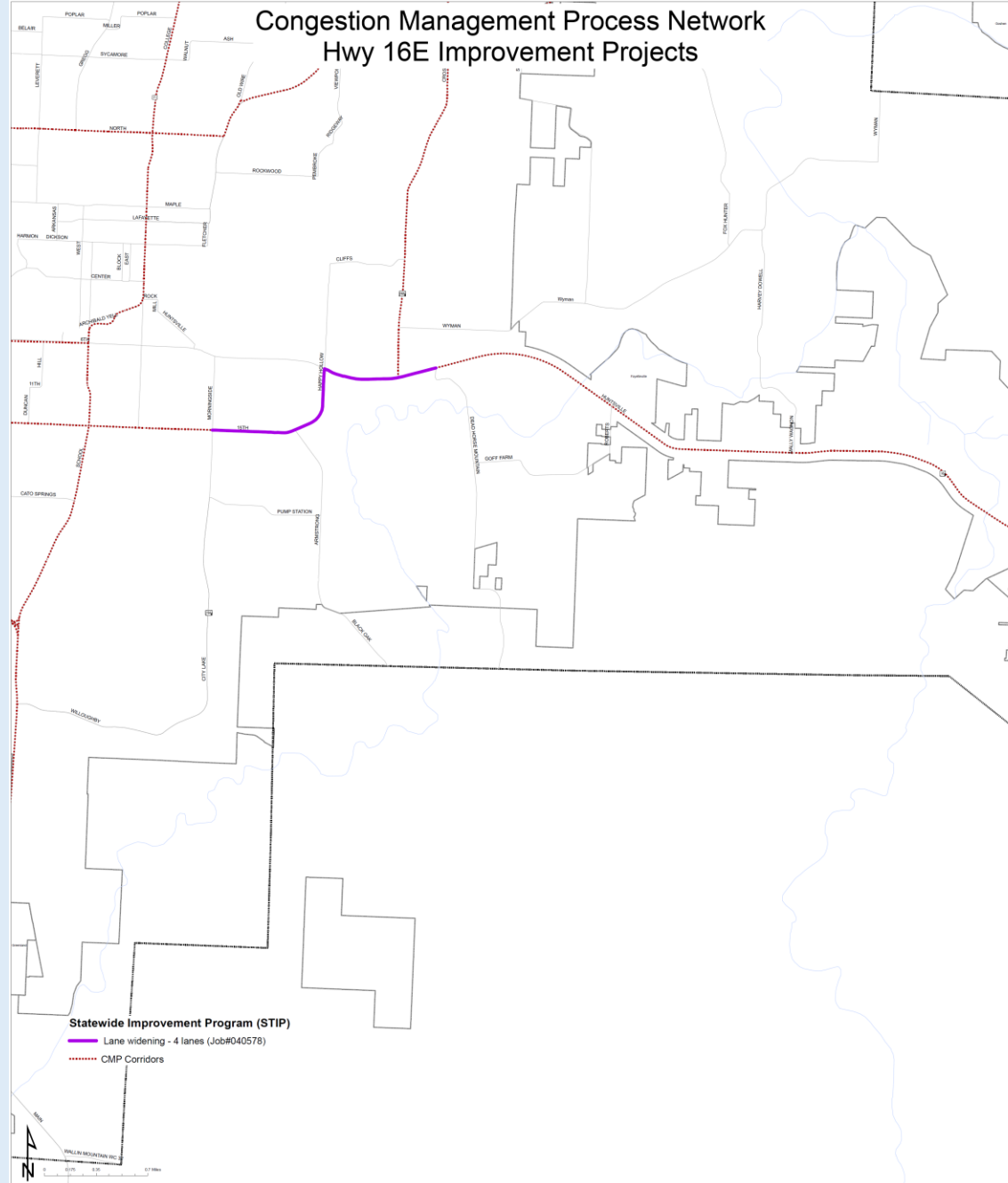
— Lane widening - 4 lanes (Job#040518)

..... CMP Corridors

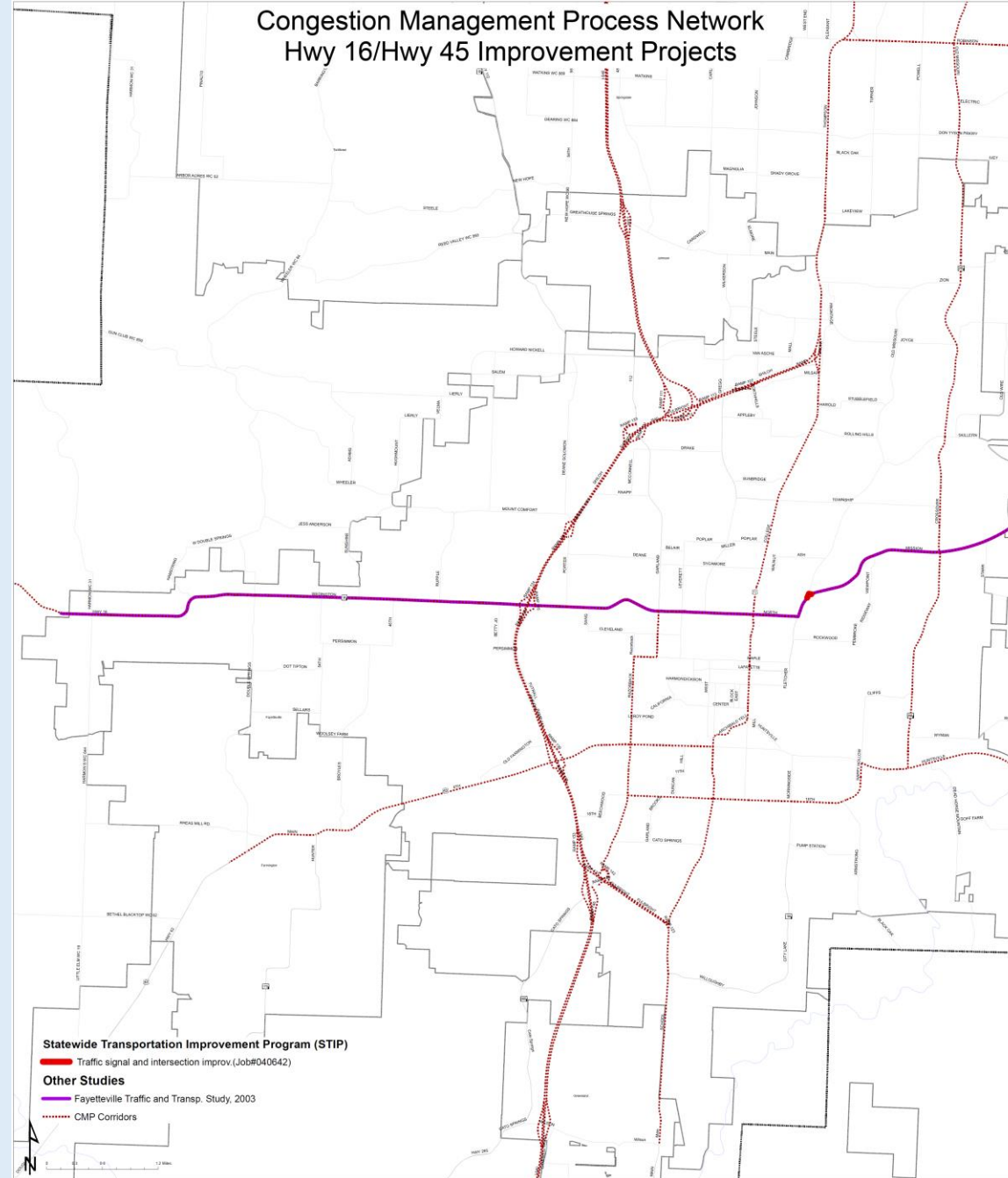
Congestion Management Process Network Razorback Rd. and Maple St. Improvements Projects



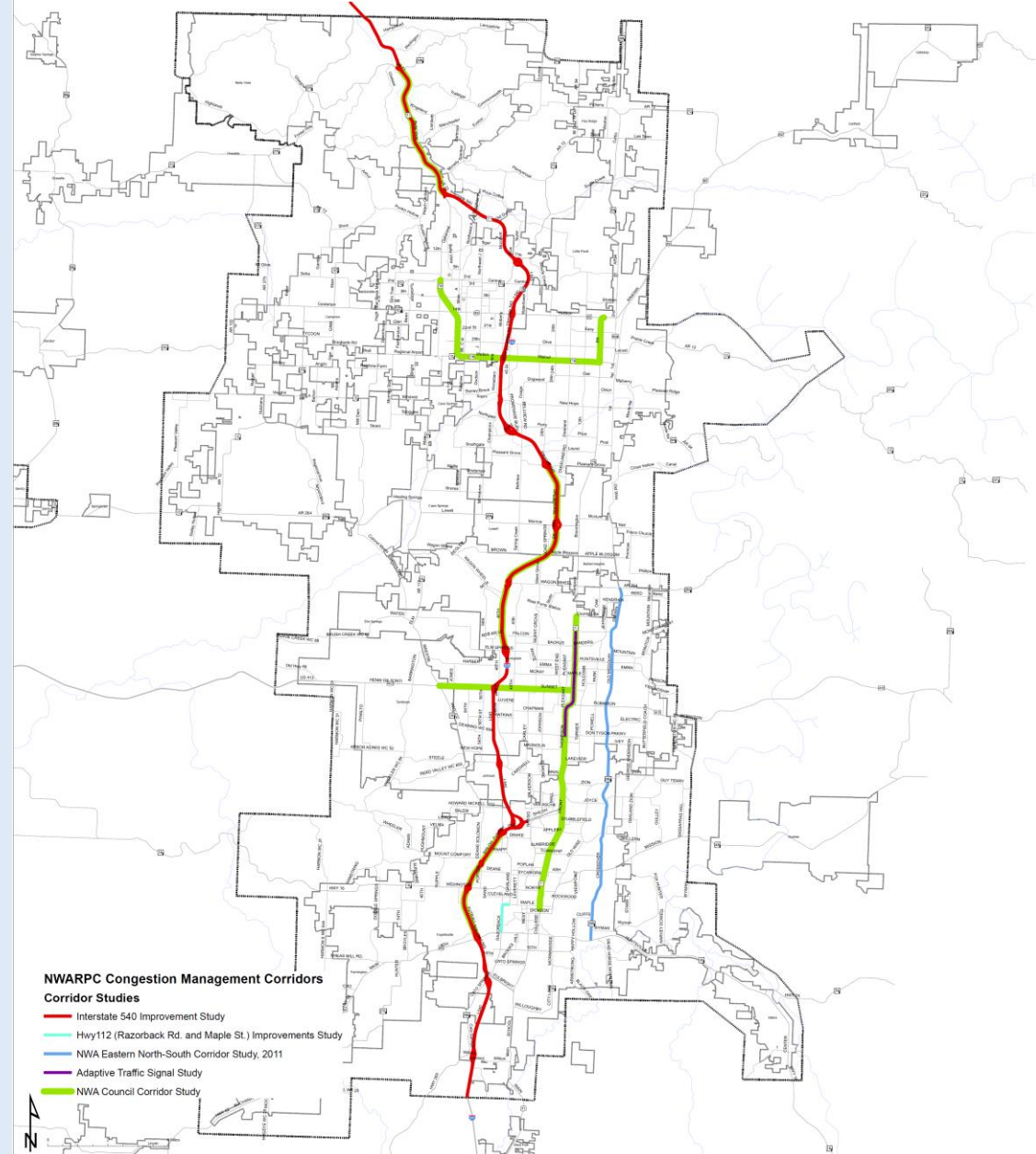
Congestion Management Process Network Hwy 16E Improvement Projects



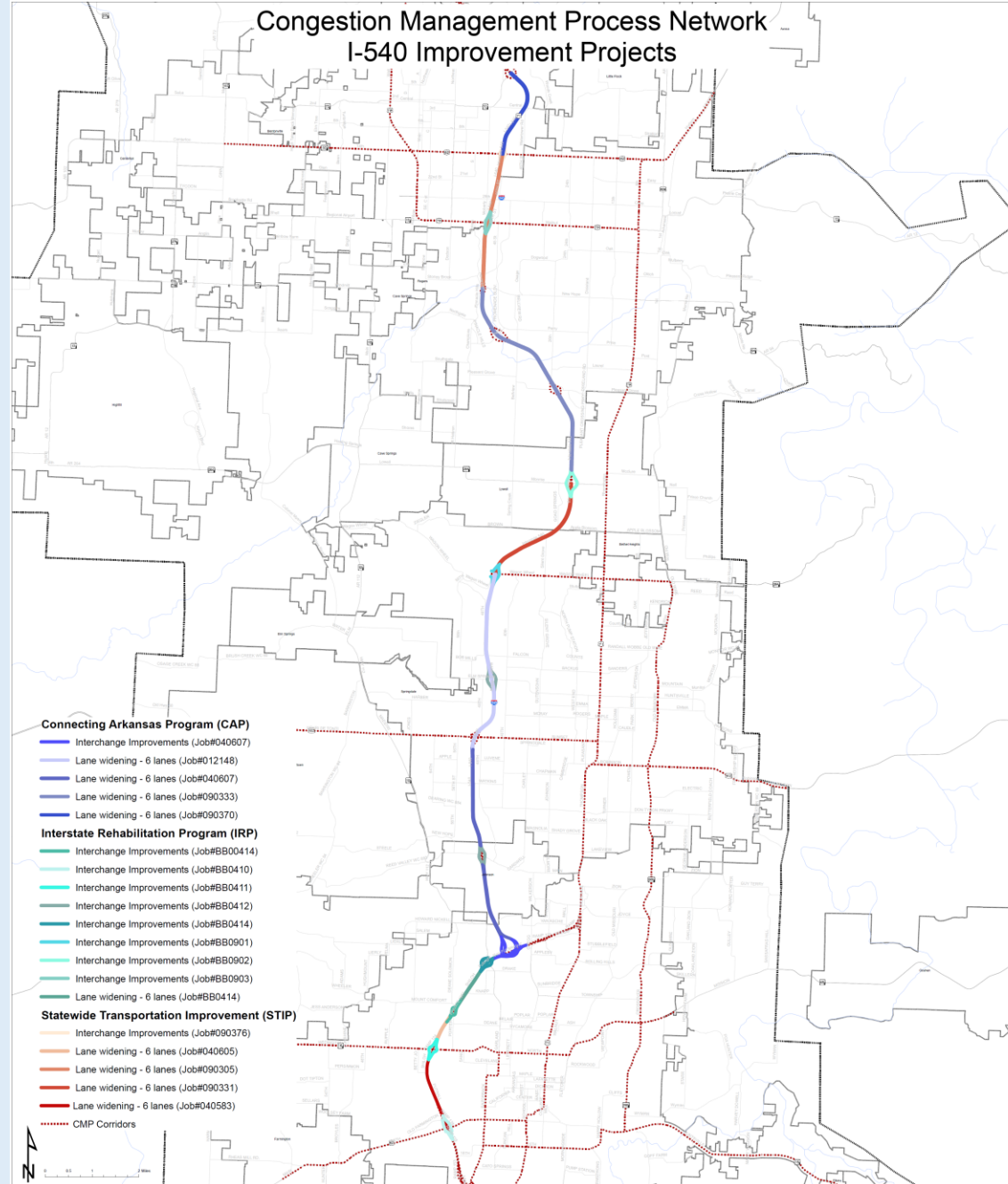
Congestion Management Process Network Hwy 16/Hwy 45 Improvement Projects



Congestion Management Process Network Corridor Studies



Congestion Management Process Network I-540 Improvement Projects



Congestion Management Process Network
Razorback Rd. and Maple St. Improvements Projects

Surface Transportation Programs - Attributable (STP-A)

- Lane widening - 4 lanes
- Lane widening - 4 lanes (Job#040581)

Corridor Study

- Hwy112 (Razorback Rd. and Maple St.) Improvement Study
- CMP Corridors

0 0.25 0.5 1.0 1.2 Miles

North Arrow