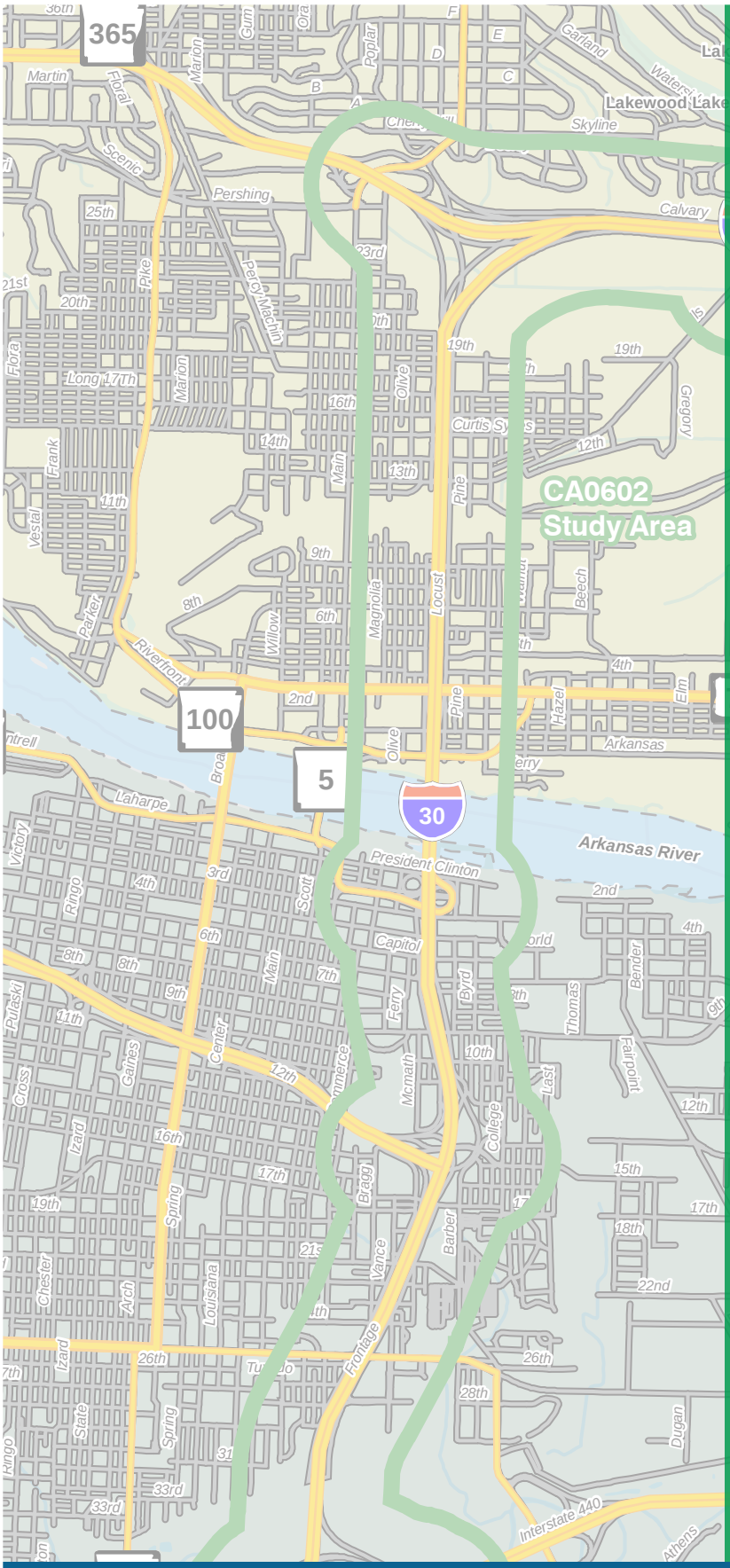

PLANNING AND ENVIRONMENTAL LINKAGES REPORT

CA0602

Interstate 530 – Highway 67

May 2015

CONNECTING ARKANSAS PROGRAM CAP

Arkansas State Highway & Transportation Department

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1.0 INTRODUCTION

In April 2014, the Arkansas State Highway and Transportation Department (AHTD) began the Interstate 30 (I-30) Planning and Environmental Linkages (PEL) Study to identify the purpose and need for improvements within the I-30 PEL study area, determine possible viable alternatives for a long-term solution and recommend alternative(s) (herein referred to as PEL Recommendation(s)) that can be carried forward seamlessly into National Environmental Policy Act (NEPA) studies.

This document presents an overview of the I-30 PEL Study, supplemented by various appendices documenting the detailed analyses completed throughout the PEL process.

- **Appendix A** includes the purpose and need statement and provides supporting information for the development of the PEL Recommendation(s), while also providing a history of previous studies in the corridor.
- **Appendix B** supplies detailed information regarding the study area's environmental constraints.
- **Appendix C** contains documentation of the robust agency coordination and public involvement efforts which have taken place since the inception of the I-30 PEL Study.
- **Appendix D** describes the process and key technical findings used to screen alternatives and define the PEL Recommendation(s).
- **Appendix E** summarizes the potential environmental impacts associated with the PEL Recommendation(s).
- **Appendix F** provides detailed information on the traffic and safety analyses conducted for existing and future scenarios that provide support for the project's purpose and need.
- **Appendix G** outlines the cultural resources survey methodology used for the I-30 PEL Study and to be used in future investigations.
- **Appendix H** provides information and guidance on moving the PEL Recommendation(s) through the NEPA phase of project development.
- **Appendix I** is the *I-30 PEL Questionnaire* which will be utilized by the Federal Highway Administration (FHWA) to determine if an effective PEL process has been followed and if the I-30 PEL Study can be used as a resource for future NEPA documentation during project-specific development.

2.0 WHAT IS A PEL STUDY?

A PEL Study represents an approach that fosters a collaborative and integrated transportation decision-making process. A PEL Study is generally executed early in the transportation planning process when decision-makers consider environmental, community, and economic goals and carry these goals through to the project development and environmental review process, and ultimately through design, construction and maintenance. The goal of the PEL is to create a seamless decision-making process that minimizes duplication of effort, promotes environmental stewardship, and reduces delay from planning through project implementation.[1]

[1] FHWA. 2008. *Planning and Environmental Linkages Implementation Resource Guide*.

PEL studies are generally more focused than regional planning efforts, but broader than traditional project-specific environmental analyses typically conducted during the NEPA process. The PEL studies, or corridor and subarea studies, can be used to produce a wide range of analyses or decisions for FHWA review, consideration, and possible adoption during the NEPA process for an individual transportation project, including:[2,3]

- Purpose and need or goals and objective statement(s);
- General travel corridor and/or general mode(s) definition;
- Preliminary screening of alternatives and elimination of unreasonable alternatives;
- Basic description of the environmental setting; and/or
- Preliminary identification of environmental impacts and environmental mitigation.

All corridor and subarea studies utilizing the PEL Study approach must adhere to certain standards and must include extensive public involvement and agency coordination to advance to the NEPA process. The regulations for a PEL Study are formalized in the *Statewide Transportation Planning; Metropolitan Transportation Planning; Final Rule* (23 CFR 450), which details how results or decisions of transportation planning studies may be used as part of the overall project development process consistent with

Why PEL?

PEL Studies foster a collaborative and integrated transportation decision-making process. The goal of the PEL is to create a seamless decision-making process that minimizes duplication of effort, promotes environmental stewardship and reduces delay from planning through project implementation.

NEPA. Appendix A to Part 450—*Linking the Transportation Planning and NEPA Processes* (23 USC 139) describes how information, analysis, and products from transportation planning can be incorporated into and relied upon in NEPA documents under existing laws. Some of the key criteria that a Federal agency must consider in deciding whether to adopt planning-level analyses or decisions in the NEPA process include:[4]

- Involvement of interested state, local, tribal, and Federal agencies;
- Public review;
- Reasonable opportunity to comment during the development of the corridor or subarea planning study;
- Documentation of relevant decisions in a form that is identifiable and available for review during the NEPA scoping process and can be appended to or referenced in the NEPA document; and
- The review by FHWA and the Federal Transit Administration (FTA), as appropriate.

[2] FHWA. 2011. *Guidance on Using Corridor and Subarea Planning to Inform NEPA*.
[3] AASHTO. 2008. *Using the Transportation Planning Process to Support the NEPA Process.*

[4] FHWA. 2008. *Planning and Environmental Linkages Implementation Resource Guide*.

To help maximize the utility of the results from subarea or corridor plans to inform NEPA, FHWA has developed a PEL Questionnaire. The questionnaire is intended to act as both a guide and summary of the planning process and ease the transition from planning to NEPA analysis.

To further guide the PEL process, a Framework and Methodology was developed at the initiation of the I-30 PEL Study, serving to formalize the scope, schedule and expectations for the Study. Moreover, it was created to foster proactive working relationships among the FHWA, AHTD, the Metropolitan Planning Organization (MPO) for central Arkansas (Metroplan) and the local governments of Little Rock, North Little Rock and Pulaski County. A copy of the I-30 PEL Framework and Methodology is included as part of the I-30 PEL Questionnaire (**Appendix I**).

3.0 WHY A PEL STUDY FOR I-30?

A feasibility study prepared jointly by AHTD and Metroplan in 2003, called the Central Arkansas Regional Transportation Study (CARTS) *Areawide Freeway Study - Phase 1 Arkansas River Crossing Study*[5], identified the need for transportation improvements for crossings of the Arkansas River. Some of the challenges identified included:

- Congestion problems (2003) during the peak traffic periods on the Main Street and Broadway Bridges, and to a greater degree, on the I-30 Bridge.
- Future anticipated congestion problems on all three river bridges, with the I-30 Bridge experiencing severe congestion.
- Negative impacts on other parts of the transportation system due to future capacity problems on I-30.
- Functional deficiencies of the I-30 Bridge (inadequate shoulders) and I-30 main lanes (weaving issues from ramps spaced too closely together) leading to safety and operational problems.

The I-30 PEL Study provides a tool for re-engaging the public and agencies in developing improvements within the study area to address these challenges. It creates a link between past, current and future transportation decisions, thus potentially minimizing any duplication of effort and time lost between studies. Additionally, the I-30 PEL Study will shorten the time needed to implement a project by allowing planning-level decisions to be carried into future, more detailed environmental studies.

Utilization of the PEL process was also driven by the identified method of delivery for the I-30 project, Design-Build (D-B)[6]. This type of project delivery allows a single contractor to perform both the design and construction of a project at the same time to ultimately deliver the project

[5] Herein referred to as the *Areawide Freeway Study – Phase 1*

[6] The type of D-B delivery to be utilized for the I-30 project is called *Fixed Price-Best Design*. This method fixes the maximum amount available to all design-build teams proposing on the project to deliver a project that meets the project goals while maximizing the amount of specific project improvements that can be built for the fixed budget. It promotes innovations that yield time savings and high quality.

faster and more efficiently. Given the streamlining nature of D-B delivery, the early identification of risks is critical to its successful implementation. The PEL process facilitates early coordination, outreach and resource evaluation, thereby enabling the identification of potential risks associated with the improvements as early as possible in project development.

Ultimately, the goal of the I-30 PEL Study is to identify a long-term transportation solution along I-30 to meet the needs of the study area. In order to produce results that will be most useful to future NEPA studies, the I-30 PEL Study:

- Engaged stakeholders (public, agencies, etc.) early and often throughout the planning process;
- Identified the transportation needs and issues within the study area;
- Identified potential solutions (alternatives) to meet the identified needs, and evaluated them for their potential mobility and safety benefits and impacts;
- Recommended a viable transportation alternative that can be carried forward into future environmental studies; and
- Documented all activities, coordination, and results related to the I-30 PEL Study.

4.0 WHAT IS THE STUDY AREA?

The I-30 PEL study area consists of a quarter-mile wide buffer along each side of I-30. The study area extends approximately 6.7 miles through portions of Little Rock and North Little Rock in central Arkansas as shown on **Figure 1.** The study area begins at I-530 to the south and extends northerly to I-40, then easterly along I-40 to its interchange with Hwy. 67. This study area was determined based on input from the public and agencies, while also building upon the *Areawide Freeway Study - Phase 1*.

The study area is located within an urban area and is generally comprised of commercial and residential properties. There are undeveloped areas, primarily regulatory floodplains, in the southern and northern portions of the study area.

Study Area Features

The Union Pacific Railroad (UPRR) crosses the study area at 4 locations
The Verizon Arena, William J. Clinton Presidential Center and Park, William Jefferson Clinton Presidential Library, and Little Rock River Market are just a few attractions located within the study area.

Adjacent to the study area is the Bill and Hillary Clinton National Airport/Adams Field, Dassault Falcon Jet, and Arkansas National Guard.

Design elements of study area include:

- 11 interchanges: 4 system-to-system and 7 service interchanges
- 8 underpasses/overpasses
- Variety of interchange types: fully directional, partial cloverleaf, diamond, split diamond and modified trumpet.
- 2-lane, one-way frontage roads that run along the majority of both sides of I-30 and I-40.
- Stop signs and signals used for traffic control at the end of entrance and exit ramps along I-30.

Figure 1. I-30 PEL Study Area



5.0 HAS THE STUDY AREA BEEN EVALUATED BEFORE?

The I-30 PEL Study builds upon the results of previous planning studies that have been completed that provide background on the study area. As previously described, the most recent and relevant to the study area is the *Areawide Freeway Study - Phase 1* as outlined below. Study details are provided in the *I-30 PEL Purpose and Need Report* (**Appendix A**):

- **Purpose:** To evaluate the Arkansas River Bridge crossing needs, including the need for an additional river crossing.
- **Bridge crossings studied:** I-30, Main Street, Broadway Street and an extension of Pike Avenue across the river.
- **Alternatives:** Evaluated 6 alternatives including four widening alternatives along I-30.
- **Findings:** Study did not make any recommendations but made observations for each alternative regarding cost-benefits, level of service and construction costs. The study observed that that widening I-30, in a similar area of study would be necessary to provide acceptable operations for all Arkansas River crossings.

Other Past Studies

- *CARTS Areawide Freeway Study, Phase 2 Areawide Study, 2003*
- *River Rail Airport Study, Phase 1, 2008*
- *River Rail Airport Study, Phase 2, 2011*
- *I-630 Fixed Guideway Alignment Study, 2010*
- *The Six Bridges Framework Plan, 6 Bridges Study, late 1990s*
- *I-630 (from I-430 to I-30) Final Environmental Impact Statement (FEIS), 1978*

Study details provided in the *I-30 PEL Purpose and Need Report* (**Appendix A**).

6.0 HOW DOES THE I-30 PEL STUDY FIT WITHIN THE PLANNING CONTEXT FOR THE STUDY AREA?

Metroplan is responsible for long-range transportation planning for central Arkansas. The 2030 long range metropolitan transportation plan (LRMTP)[7] was active at the beginning of the PEL Study in April 2014. Subsequently, a 2040 LRMTP[8] was developed during the PEL process (December 2014). The 2030 and 2040 LRMTPs and their relation to the I-30 PEL Study are described below.

2030 LRMTP

The 2030 LRMTP identified the interstate-to-interstate/highway interchanges at I-40/Hwy. 67/Hwy. 167, I-40/I-30 and I-30/I-530/I-440 as in need of reconstruction to add capacity and improve safety. It also described the segment of I-30 between the north terminal (I-30/I-40 interchange) and south terminal (I-30/I-530/I-440 interchange) as needing study because of the very high number of interstate-to-interstate/highway interchanges and interstate/highway-to-arterial interchanges in those five miles of interstate.

[7] *METRO 2030.2*, March 2010.
[8] *Imagine Central Arkansas: Blueprint for a Sustainable Region* (December 2014)

2040 LRMTP

The 2040 LRMTP includes operational improvements on I-30 (limits listed as Central Corridor) and rehabilitation improvements on I-40 (limits listed as I-30/I-40 Interchange to Hwy. 67) in the financially constrained plan (10-year project list). The financially constrained LRMTP notes that an amendment may be required upon completion of the PEL Study once the number of through lanes has been determined. No other projects within the PEL study area are identified in the 2040 LRMTP; however several rehabilitation projects leading into/out of the PEL study area are included in the financially constrained plan. Additional details on the planning context can be found in the *I-30 PEL Purpose and Need Report* (**Appendix A**).

The PEL Recommendation(s) will inform the next State Transportation Improvement Program (STIP) (2016-2019) currently in development by AHTD. Likewise, and with a view towards achieving consistency with local and regional planning efforts, the PEL Recommendation(s) will be submitted to Metroplan to inform future updates/amendments to the LRMTP financially constrained plan and to the Transportation Improvement Program (TIP), consistent with the STIP.

7.0 WHY IS THE STUDY NEEDED?

Purpose and Need

A purpose and need statement was developed for the I-30 PEL Study with agency and public input, and was used to compare transportation alternatives and determine solution that will be evaluated further in subsequent stages of project development.

A summary of the purpose and need is shown in **Table 1**. The *I-30 PEL Purpose and Need Report* (**Appendix A**) contains a detailed description of the conditions within the study area and provides data to support the need for major transportation improvements.

Table 1. I-30 Purpose and Need

Needs (Problems)	Purpose (Solutions)
Traffic Congestion	To improve mobility on I-30 and I-40 by providing comprehensive solutions that improve travel speed and travel time to downtown North Little Rock and Little Rock and accommodate the expected increase in traffic demand. I-30 provides essential access to other major statewide transportation corridors, serves local and regional travelers and connects residential, commercial and employment centers.
Roadway Safety	To improve travel safety within and across the I-30 corridor by eliminating and/or improving inadequate design features.
Structural and Functional Roadway Deficiencies	To improve I-30 roadway conditions and functional ratings.
Navigational Safety	To improve navigational safety on the Arkansas River Bridge by eliminating and/or improving inadequate design features.
Structural and Functional Bridge Deficiencies	To improve I-30 Arkansas River Bridge conditions and functional ratings.

Study Goals

In addition to the purpose and need, other project elements were established to balance transportation and environmental goals and objectives. Input sought from agencies and the public was incorporated to develop goals and guiding principles.[9] The following study goals provided guidance for the alternatives development process (listed in no particular order):

- Improve opportunity for east-west connectivity;
- Enhance mobility;
- Improve local vehicle access to and from downtown Little Rock/North Little Rock;
- Connect bicycle/pedestrian friendly facilities across I-30/I-40;
- Accommodate existing transit and future transit;
- Improve system reliability;
- Minimize roadway disruptions during construction;
- Minimize river navigation disruptions during/after construction;
- Follow through on commitment to voters to improve I-30 as part of the CAP
- Maximize cost efficiency;
- Optimize opportunities for economic development;
- Avoid and/or minimize impacts to the human and natural environment, including historic and archeological resources;
- Sustain public support for the I-30 Corridor improvements; and
- Improve safety.

Guiding principles that will influence the overall project include (listed in no particular order):

- Accelerated Project Delivery;
- Context Sensitive Solutions/Aesthetically Pleasing Facility;
- Minimize the real, perceived and visual barrier of the freeway;
- Open public participation process; and
- Support of Local, Regional and Statewide Transportation Plan.

8.0 HAVE THE PUBLIC AND AGENCIES BEEN INVOLVED IN THE DECISION-MAKING PROCESS?

Yes. The I-30 PEL Study included a robust outreach plan, such that the public, agencies and stakeholders were actively engaged throughout the entire PEL process. The *I-30 PEL Public Involvement and Agency Coordination Plan (PIACP)* (**Appendix C-1**), prepared prior to the initiation of the I-30 PEL Study, outlined the various avenues for agency, stakeholder and public involvement, as described below.

Agency Outreach

Coordination with agencies was initiated at project inception and continued throughout the PEL Study. Early in the planning process, the Study Team established the Technical Work Group (TWG) to serve as the primary means of agency coordination.

TWG participation was requested by AHTD from environmental regulatory

[9] Agency (local, state and Federal) input gathered through technical work groups; public input gathered through public meetings held on August 12, 2014 in North Little Rock and August 14, 2014 in Little Rock.

and resource agencies typically involved during a NEPA study. Four TWG meetings were held at major study milestones. PEL analyses and documents were presented to the TWG, and comments were solicited. Responses to TWG comments were completed by the Study Team, as presented in the *TWG Comment Documentation* appendix (**Appendix C-3**).

Stakeholder Outreach

In addition to conducting meetings with the TWG, the Study Team also formed the Stakeholder Advisory Group (SAG) which was established in order to ensure early and ongoing decision making throughout the Study. The Study Team also conducted one-on-one meetings with a number of key stakeholders.

Additionally, Project Partners, comprised of the mayors of Little Rock and North Little Rock, the Pulaski County Judge and Metroplan representatives, served to provide expertise and input in the spirit of proactive teamwork amongst community leaders.

Stakeholders appointed by the mayors and county judge were also engaged in the PEL Study through a visioning workshop. This all day workshop brought community stakeholders together to provide insight into the functional and aesthetic vision of the I-30/I-40 facility.

Additional outreach efforts also included regular meetings with elected officials and community groups.

Summaries of stakeholder coordination conducted during the course of the I-30 PEL Study are provided in the *I-30 PEL Additional Outreach Documentation and Visioning Workshop Documentation* appendices (**Appendices C-4** and **C-5**, respectively**)**.

Public Outreach

Four public meetings were held to provide a forum where the public could provide feedback on transportation needs and possible solutions in the study area. These meetings are summarized as follows:

Public Meeting #1: Held as a series of two meetings in August 2014. Introduced the I-30 PEL Study process and obtained input from the public on the identification of problems (needs) and goals for the I-30/I-40 facility.

Public Meeting #2: Held on November 6, 2014; presented the purpose and need, Universe of Alternatives and Level 1 Screening process and results.

Public Meeting #3: Held on January 29, 2015; presented the Level 2 Screening process and results.

Public Meeting #4: Held on April 16, 2015; presented the Level 3 screening process and PEL Recommendation(s).

All four public meetings included a 15 day official comment period from the day of the public meeting. All comments received were responded to by the Study Team and included in public meeting summaries. The summaries for all four public are included in the *I-30 PEL Public Meeting Documentation* appendix (**Appendix C-2**).

9.0 WHAT RESOURCES ARE PRESENT WITHIN THE STUDY AREA?

Environmental resources were examined as part of the I-30 PEL Study to establish a baseline context and generally describe the existing conditions within the study area. The resource information was also utilized during the alternatives screening process to broadly assess the potential impacts associated with each of the alternatives.

The existing conditions for the following social, economic and environmental resources located within the study area were analyzed and documented in the *I-30 PEL Constraints Report* (**Appendix B**):

- Infrastructure Constraints;
  - Utilities
  - Rail
  - Seawall
- Socio-economic Demographics;
- Land Use;
- Parks;
- Natural Resources;
  - Vegetation/Habitat
  - Threatened and Endangered Species
  - Waters of the U.S., including Wetlands
- Historic and Archeological Resources;
- Traffic Noise Receptors; and
- Hazardous Materials.

The information contained in the Constraints Report was used throughout the alternatives development and screening process.

10.0 HOW WERE THE ALTERNATIVES DEVELOPED?

The alternatives development process for the I-30 PEL Study built upon previous studies, and incorporated current technical analyses and input from the public and agencies. Previous planning efforts served as a starting point for developing the *Universe of Alternatives* under consideration in the I-30 PEL Study, including:

- 2003 *Areawide Freeway Study – Phase 1*;
- 2040 LRMTP;
- I-30 PEL Study travel demand modeling;
- *I-30 PEL Study Purpose and Need Report*;
- *I-30 PEL Study Alternative Screening Methodology*;
- Input from the public through I-30 PEL Study public meetings (documented in **Appendix C-2)**
- Input from the I-30 PEL Study TWG (documented in **Appendix C-3)**; and
- Coordination with individual stakeholder groups (documented in **Appendices C-4** and **C-5)**.

11.0 WHAT ALTERNATIVES WERE SCREENED?

The Universe of Alternatives for the I-30 PEL Study included 43 potential Action Alternatives and a No Action Alternative. Each of these alternatives is described in more detail within the *I-30 PEL Universe of Alternatives* (**Appendix D-1**).

The 43 Action Alternatives were grouped into categories based on the nature of the alternative. A brief description of these alternative

categories, as well as the No Action Alternative, is summarized below and a complete listing is shown in **Figures 2** through **6.**

No Action – Includes the preservation of the existing transportation network and any programmed transportation improvements that are reasonably expected to occur regardless of the outcome of the I-30 PEL Study.

Action Alternatives – Action Alternatives were developed to address the needs identified in the study area (**Section 7**). The Action Alternative categories included the following:

- **Highway Build** (14 alternatives – **Figure 2**) - Capital improvements to the I-30/I-40 main lanes, associated ramps and functional interchange areas.

Figure 2. Highway Build Alternatives



- **I-30 Arkansas River Bridge** (3 alternatives – **Figure 3**) - Capital investments to improve travel on I-30 across the Arkansas River.

Figure 3. I-30 Bridge Alternatives



- **Other Modes** (10 alternatives - **Figure 4**) - Capital and operating improvements to non-highway modes including transit, rail, bike and pedestrian.

Figure 4. Other Mode Alternatives



- **Congestion Management** (11 alternatives - **Figure 5**) - Alternatives to general purpose highway lanes that focus on reducing congestion on I-30/I-40 by either adding capacity or reducing demand.

Figure 5. Congestion Management Alternatives



- **Non-recurring Congestion** (5 alternatives - **Figure 6**) - Represents traffic incidents, bad weather, work zones and special events.

Figure 6. Non-recurring Congestion Management Alternatives



12.0 HOW WERE THE ALTERNATIVES SCREENED?

The alternative screening process is similar to a funnel with multiple levels of screening blending a varied group of strategies, corridor needs and goals into a set of refined transportation alternatives through an elaborate "filtering", or evaluation, process. Definitions of the various screening stages follow below and are shown graphically in **Figure 7**.

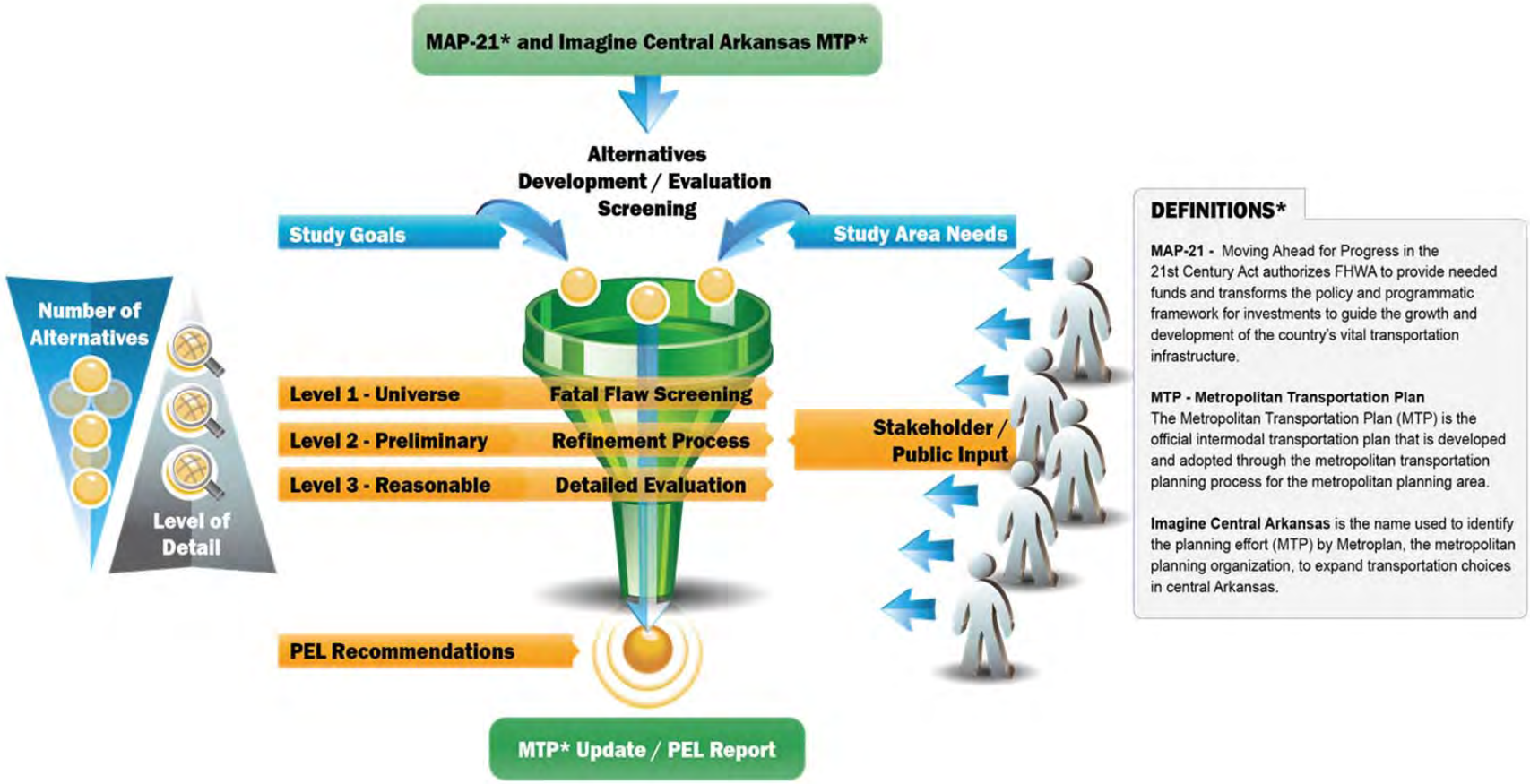
Development of alternative concepts for the I-30 PEL Study involved a three level screening and evaluation process.

Level 1- This was a fatal flaw evaluation that screened alternatives against the purpose and need and assessed alternatives for practicality. For transportation projects, generally, an alternative is **practicable** if it:

1) Meets the purpose and need;
2) Is available and capable of being done (i.e., it can be accomplished within the financial resources that could reasonably be made available, and it is feasible from the standpoint of technology and logistics); and
3) Will not create other unacceptable impacts such as severe operation or safety problems, or serious socioeconomic or environmental impacts[10].

[10] The evaluation of alternatives must consider a reasonable range of options that could fulfill the project sponsor's purpose and need. Reasonable Alternatives include those that "are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant" (Council on Environmental Quality, 1981).

Figure 7. Alternatives Screening Process



Alternatives that passed the fatal flaw screening were considered Preliminary Alternatives.

Level 2 - Further refined the Preliminary Alternatives by qualitatively assessing the alternatives against evaluation criteria established from the study goals in a two-step process.

- **Level 2A -** Preliminary Alternatives were screened individually against the study goals.

- **Level 2B** - Remaining Preliminary Alternatives were grouped and screened as multimodal *Basic Scenarios.* The alternatives that moved forward from the Level 2 Screening were considered Reasonable Alternatives.

Level 3 - Further refined the Reasonable Alternatives by quantitatively assessing the alternatives against the study goals. The Level 3 screening resulted in PEL Recommendation(s) to be advanced for further development and analysis during the subsequent NEPA study.

This three-level screening process is summarized in **Table 2** and presented in greater detail in the *Levels 1, 2 and 3 Screening Methodology and Result Memorandum(s)* (**Appendices D-3** through **D-5**).

13.0 WHAT WERE THE LEVEL 1 SCREENING RESULTS?

The following alternatives from the Universe of Alternatives were screened out from further consideration because they did not meet the purpose and need of the project, or they were deemed impractical.

- **Elevated Lanes (Roadway)** – Deemed impractical and screened out because of the high construction cost and the difficulties associated with constructability.

- **Truck Lanes/Ramps** – Screened out because it would have minimal effect due to the low percentage of trucks currently using I-30.

- **Elevated Lanes (Bridge)** – Deemed impractical and screened out because of the high construction cost and the difficulties associated with constructability.

- **Heavy Rail** – Deemed impractical and screened out because of the high construction and operating cost.

- **High Speed Rail** – Deemed impractical and screened out because of the high construction and operating cost.

The alternatives moving forward from the Level 1 Screening were called Preliminary Alternatives. This set of alternatives included 12 highway build alternatives, 2 bridge alternatives, 8 other travel mode alternatives, 10 congestion management strategies, and 5 non-recurring congestion alternatives.

More detailed information on the Level 1 Screening results is included in the *I-30 PEL Level 1 Screening Methodology and Results Memorandum* (**Appendix D-3**).

Table 2. I-30 PEL Screening Process Summary

<table>
<tr><th rowspan="2">Description</th><th rowspan="2">Level 1</th><th colspan="2">Level 2 – 2 Step Process</th><th rowspan="2">Level 3</th></tr>
<tr><th>Level 2A</th><th>Level 2B</th></tr>
<tr><td>Screening Type</td><td>Qualitative - Fatal Flaw</td><td>Primarily Qualitative (some Quantitative)</td><td>Primarily Qualitative (some Quantitative)</td><td>Primarily Quantitative (some Qualitative)</td></tr>
<tr><td>Screening Criteria</td><td>Purpose and Need; Practicality[1]</td><td>Study Goals</td><td>Study Goals</td><td>Study Goals</td></tr>
<tr><td>Screening Measures</td><td>See Level 1 Screening Methodology and Results Memorandum (Appendix D-3 – Table 1)</td><td>See Level 2 Screening Methodology and Results Memorandum (Appendix D-4, Tables 3 and 4)</td><td>See Level 2 Screening Methodology and Results Memorandum (Appendix D-4, Tables 10 and 11)</td><td>See Level 3 Screening Methodology and Results Memorandum (Appendix D-5, Tables 1-4)</td></tr>
<tr><td>Rating System</td><td>Pass/Fail</td><td colspan="2"><table><tr><th>Rating</th><th>Evaluation</th><th>Score</th></tr><tr><td>+ +</td><td>Substantial positive effects</td><td>2</td></tr><tr><td>+</td><td>Some positive effects</td><td>1</td></tr><tr><td>O</td><td>Neutral effects</td><td>0</td></tr><tr><td>–</td><td>Some negative effects</td><td>-1</td></tr><tr><td>– –</td><td>Substantial negative effects</td><td>-2</td></tr></table></td><td>Quantification by unit of measure (and when qualitative, rating system from Level 2)</td></tr>
<tr><td>Screening Process</td><td>• Universe of Alternatives screened individually against purpose and need and practicality
• Pass not required on all criteria for alternative advancement, but alternative needed to show an overall positive impact on the I-30/I-40 facility and be determined practicable.
• Resulted in Preliminary Alternatives.
• See Figure 4 for graphical representation of Level 1 Screening.</td><td>• Preliminary Alternatives screened individually against study goals.
• Ratings based on engineering, safety, cost and environmental assumptions identified by the Study Team subject matter experts.
• Resulted in Primary[2] or Complementary[3] Alternatives, and then grouped into Basic Scenarios.
• See Figure 5 for graphical representation of Basic Scenarios and Figure 6 for graphical representation of the overall Level 2 Screening.</td><td>• Basic Scenarios screened against study goals.
• Highway Capacity Manual spot main lane level of service analysis for evaluating mobility and safety measures.
• Cost analysis varied proportionately to typical section width.
• GIS spatial analysis using general footprint of Basic Scenarios for evaluating environmental measures.
• Resulted in Reasonable Alternatives.
• See Figure 6 for graphical representation of the overall Level 2 Screening.</td><td>• Reasonable Alternatives screened against study goals.
• Micro-simulation models (Vissim) for evaluating mobility and safety measures.
• More detailed schematics for evaluating cost measures.
• GIS spatial analysis of more detailed schematics for evaluating environmental measures.
• See Figure 7 for graphical representation of Level 3 Screening.
• Resulted in PEL Recommendation(s)</td></tr>
</table>

Description	Level 1	Level 2 – 2 Step Process		Level 3
		Level 2A	Level 2B	
Reasons for Alternatives Screened Out	• Did not meet purpose and need • Impractical based on cost or effectiveness	• Preliminary Alternatives did not adequately address study goals due to negative environmental impacts, costs and/or difficulties from an engineering standpoint • Alternatives scored zero or less screened out	• Basic Scenarios did not adequately address study goals due to negative environmental impacts, costs, and/or difficulties from an engineering standpoint • Basic Scenarios scored zero or less screened out	• Only the Reasonable Alternative that best addressed study goals from an overall standpoint (mobility, safety, cost and environmental) was identified as the PEL Recommendation; other remaining alternatives screened out.
Technical Report with Detailed Screening Analysis	*Level 1 Screening Methodology and Results Memorandum* (**Appendix D-3**)	*Level 2 Screening Methodology and Results Memorandum* (**Appendix D-4**)	*Level 2 Screening Methodology and Results Memorandum* (**Appendix D-4**)	*Level 3 Screening Methodology and Results Memorandum* (**Appendix D-5**)

*Source: Levels 1, 2, and 3 Screening Methodologies and Results Memorandums (**Appendices D-3** through **D-5**)*

Note:

1. *For transportation projects, generally, an alternative is **practicable** if it: 1) meets the purpose and need; 2) is available and capable of being done (i.e., it can be accomplished within the financial resources that could reasonably be made available, and it is feasible from the standpoint of technology and logistics); and 3) will not create other unacceptable impacts such as severe operation or safety problems, or serious socioeconomic or environmental impacts. The evaluation of alternatives must consider a reasonable range of options that could fulfill the project sponsor's purpose and need. Reasonable Alternatives include those that "are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant" (Council on Environmental Quality, 1981).*
2. *Primary Alternatives - Considered to have the potential to substantially address the study goals as stand-alone alternatives.*
3. *Complementary Alternatives - Alternatives that when combined with the Primary Alternatives, address the study goals.*

14.0 WHAT WERE THE LEVEL 2 SCREENING RESULTS?

Level 2A - The following alternatives were screened out from further consideration during the Level 2A Screening.

Highway Build

- **Bypass Route** – Screened out due to the moderate reduction in I-30 traffic[11], environmental impacts and lack of a dedicated funding source identified in the LRMTP.

I-30 Arkansas River Bridge

- **Rehabilitation** – Screened out due to poor scoring in categories related to structural condition, project cost and navigational impediments. Additionally, bridge rehabilitation would not address the cited concerns related to pier placement by the USACE, USCG and Arkansas Waterways Commission.

Other Modes

- **Light Rail (Street Car)** – Screened out as a result of Rock Region METRO (formerly CATA) not including light rail in their 10-year Strategic Plan and the lack of a dedicated funding source identified in the Metroplan LRMTP.

- **Commuter Rail** – Screened out as a result of Rock Region METRO not including commuter rail in any of their future planning documents and the lack of a dedicated funding source identified in the Metroplan LRMTP.

Congestion Management

- **Managed Lanes** – Screened out due to the increase in conflict points in weaving areas, the high initial cost given the lack of an existing managed lane system, the continued operational costs and potential negative impact to low-income populations given the added monetary cost for use of these lanes.

- **Reversible Lanes** – Screened out due to high initial cost, continued operational cost, increased conflict points in the weaving areas and right-of-way (ROW) requirements.

- **Hard Shoulder Running** – Screened out due to potential safety impacts resulting from interference with emergency vehicles and conflict with the Bus on Shoulder transit option, which Rock Region METRO identified as a preferential congestion management alternative for possible future implementation.

- **Land Use Policy** – Screened out because it would not result in near-term benefits to the I-30/I-40 facility, nor would it meet a study goal to "follow through on commitment to voters to improve I-30 as part of the CAP." Screening out this alternative does not mean that land use is not important to the corridor or region, but that it is not considered to be a main solution for addressing safety, mobility and associated roadway deficiencies along I-30/I-40.

[11] Metroplan's Travel Demand Model runs showed that the addition of a bypass route would reduce peak hour traffic on I-30 by approximately 3.5%.

The remaining Preliminary Alternatives were identified as either Primary[12] or Complementary Alternatives[13], and then grouped into ***Basic Scenarios*** to be evaluated in the Level 2B Screening.

Level 2B - The following Basic Scenarios were screened out from further consideration due to their low scores in the Level 2B Screening.

- **6 Main Lanes** (3 main lanes in each direction) – Screened out because it failed to substantially improve mobility and safety in the study area, and as traffic volumes continue to increase, the conditions will grow progressively worse over the next 20 years.

- **8 Main Lanes** (4 main lanes in each direction) East and West[14] Basic Scenarios – Screened out because they incurred costs and environmental impacts while not adequately addressing mobility and safety in the study area.

- **12 Main Lanes** (6 main lanes in each direction) East and West Basic Scenarios – Screened out because the Highway Capacity Manual (HCM) traffic analysis showed that the 10-lane alternatives were capable of addressing mobility and safety along the I-30/I-40 facility, and therefore the extra lanes were not needed. These scenarios also had high construction, ROW and utility costs, along with the most serious impacts to parks, water crossings, endangered species, hazardous material sites, and parcels, many of which resulted in displacements.

More detailed information regarding the results of the Level 2 Screening analysis is included in the *I-30 PEL Level 2 Screening Methodology and Results Memorandum* (**Appendix D-4**).

The Basic Scenarios moving forward from the Level 2 Screening were called Reasonable Alternatives. Three Reasonable Alternatives (8-lane C/D, 10 Main Lane, and 10-lane C/D) and the No Action Alternative were evaluated in the Level 3 Screening.

15.0 WHAT WERE THE LEVEL 3 SCREENING RESULTS?

The following Reasonable Alternatives were screened out as part of the Level 3 Screening:

- **8-lane C/D –** This alternative had the lowest cost and the least environmental impacts of the Reasonable Alternatives. The addition of the C/D system did substantially reduce crashes by separating the slower moving traffic destined for the downtown areas from the main lanes, but this alternative performed poorly in the mobility measures. By 2041, several locations would experience peak hour travel speeds below 25 mph and the southbound direction would experience LOS F congestion (worst level of congestion) for nearly the

[12] Alternatives considered to have the potential to substantially address the study goals as stand-alone alternatives.
[13] Alternatives that when combined with the Primary Alternatives, address the study goals.
[14] Each widening Basic Scenario, with the exception of the 10-lane C/D Basic Scenario, had an east and a west option. This represents the location of the bridge replacement, with staged construction of the new bridge beginning to the east or west of the existing bridge.

entire AM peak period. The afternoon peak period also had several locations with LOS F congestion lasting more than an hour.

Because this alternative did not meet the purpose and need or the study goals of the project, it was not identified as a PEL Recommendation for further study during NEPA.

- **10 Main Lanes –** This alternative was comparable to the other alternatives for the environmental measures and costs slightly less than the 10-lane C/D Alternative, though more than the 8-lane C/D Alternative. The 10 Main Lane Alternative performed well on the mobility measures, having peak hour travel speeds of 58 mph through much of the corridor. Travel time through the study area in the year 2041 was reduced to 7 minutes in the southbound direction, compared to 17 minutes for the No Action. Crashes were also reduced significantly, though not as much as the 10-lane C/D Alternative.

  From a safety and accessibility standpoint compared to the 10-lane C/D Alternative, the 10 Main Lane Alternative was not advanced as a PEL Recommendation. This is further described in **Section 16** below.

More detailed information regarding the results of the Level 3 Screening analysis is included in the *I-30 PEL Level 3 Screening Methodology and Results Memorandum* (**Appendix D-5**).

16.0 WHICH ALTERNATIVE SHOULD BE CARRIED FORWARD INTO NEPA?

Based on the results of the Level 3 Screening, the **10-lane C/D Alternative** was identified as the top alternative. This alternative performed well in all mobility measures, having average peak hour travel speeds of 59 mph through the study area, compared to 25 mph for the 8-lane C/D Alternative and 58 mph to the 10 Main Lane Alternative. The addition of the C/D lanes removed slower moving traffic destined for the downtown areas from the main lanes, thereby eliminating 70 crashes per year compared to the non-C/D alternative (10 Main Lane Alternative). Moreover, the slower speeds traveled on the C/D lanes are anticipated to result in less severe crashes than the higher speed main lanes.

The C/D lanes also serve to create a new local connection between Little Rock and North Little Rock across the Arkansas River Bridge, allowing motorists to travel between the downtown areas without entering the main lanes of the interstate. Serving as an additional crossing of the Arkansas River that is separate from main lane traffic, the C/D lanes would provide more convenient access to and between the downtown economic districts and support improved connectivity and cohesion of these financially viable commercial and tourist areas.

This qualitative assessment of the additional mobility, safety, connectivity and economic benefits of the 10-lane C/D Alternative demonstrates a substantial improvement compared to

the 10 Main Lane Alternative that outweighs the slight differences in environmental impacts and cost of the 10 Main Lane Alternative.

Slight design modifications, such as shortening the C/D road system's northern limits to increase the weaving distance between the north terminal and the C/D system, were made to this top alternative to achieve additional mobility and cost benefits. The resulting alternative, called the **10-lane Downtown C/D Alternative**, was identified as the **PEL Recommendation** to be carried forward into the NEPA process.

I-30 PEL Recommendation

10-lane Downtown C/D Alternative

The PEL Recommendation would include 3 main lanes and 2 C/D lanes in each direction. The C/D lanes for both southbound and northbound travel would extend from just south of Broadway in North Little Rock to the Cantrell Road interchange just north of 3rd Street in Little Rock. Outside the location of the C/D roads, the new facility would generally include 5 main lanes in each direction.
Other alternatives such as bus on shoulder and ramp metering were incorporated into the PEL Recommendation. The PEL Recommendation is shown in **Figure 8**, including a complete listing of the alternatives incorporated into the PEL Recommendation.

The C/D lanes of the PEL Recommendation provide more convenient access to and between downtown economic districts and support improved connectivity and cohesion of these financially viable commercial and tourist areas.

Potential environmental impacts associated with implementation of the PEL Recommendation are presented in the I-30 PEL Environmental Impacts Report (**Appendix E**).

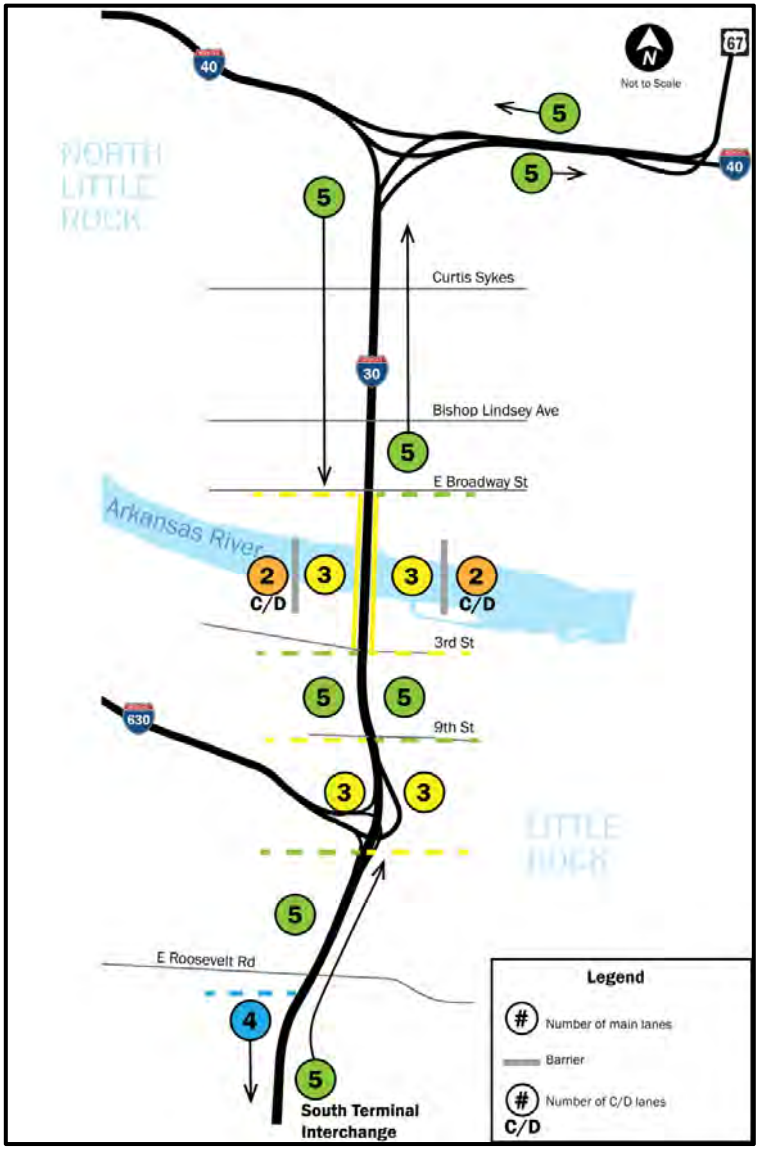
The I-30 PEL Study determined that the 10-lane Downtown C/D Alternative would best relieve traffic congestion, improve roadway safety, address structural and functional roadway deficiencies, improve navigation safety and address structural and functional bridge deficiencies in accordance with the purpose and need, as well as meet the study goals, as defined by the Study Team, agencies and public.

Project-specific determinations regarding the roadway design, exact location of ramps and interchanges, and project funding would be analyzed and decided through the NEPA process. Issues/design features to be determined during NEPA are further detailed in the *I-30 PEL NEPA Transition Report* (**Appendix H**).

The *I-30 PEL Study Planning and Environmental Linkages Study Questionnaire* (**Appendix I**) provides a summary, in the format of questions and answers, describing the steps completed and the methodology utilized during the PEL process.

Figure 8. PEL Recommendation

Lane Configurations



Alternatives Incorporated into PEL Recommendation Design:

Highway Build

- Main Lane Widening
- Collector / Distributor (C/D) Roads
- Interchange Improvements
- Ramp Consolidation / Elimination
- Intersection Improvements
- Bottleneck Removal
- Auxiliary Lanes
- Roadway Shoulder Improvements
- Frontage Road Improvements
- Main Lane Pavement Rehabilitation
- Horizontal / Vertical Curve Improvements

I-30 Bridge

- I-30 Arkansas River Bridge Replacement

Congestion Management

- Ramp Metering
- Transportation System Management (TSM)
- Wayfinding / Signage

Other Modes

- Bus on Shoulder
- Bicycle / Pedestrian

17.0 REFERENCES

AHTD. I-630 (from I-430 to I-30) Final Environmental Impact Statement, Little Rock, Arkansas, 1978.

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Metroplan. River Rail Airport Study. Phase II Final Report. 2011. URS.

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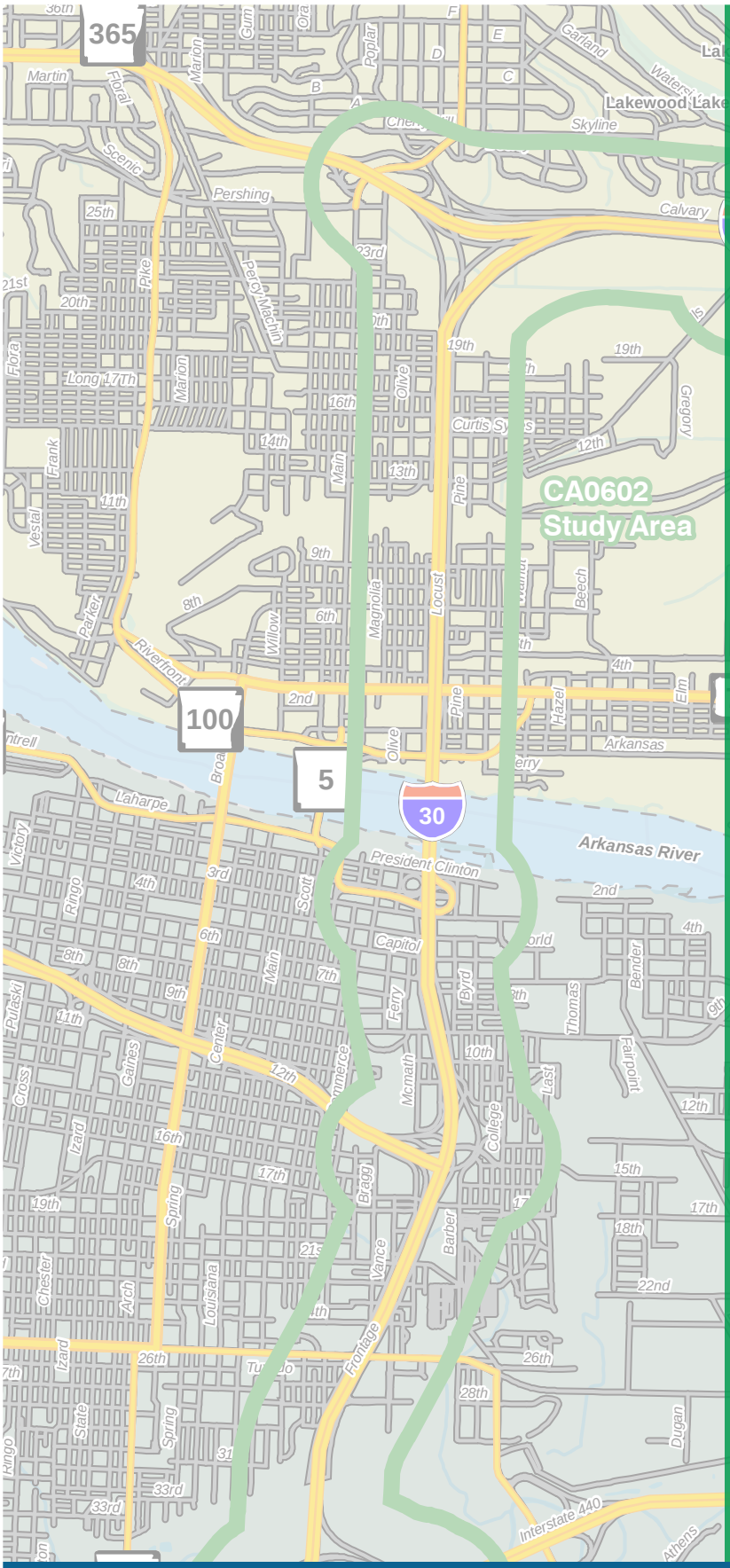
Transportation Research Board (TRB) Highway Capacity Manual (HCM). 2010.

Urban Studies & Design, University of Arkansas at Little Rock. The Six Bridges Framework Plan.

Appendix A:

Purpose and Need Report



PLANNING AND ENVIRONMENTAL LINKAGES PURPOSE AND NEED REPORT

INTERSTATE 30

CA0602

Interstate 530 – Highway 67

August 2014

CONNECTING ARKANSAS PROGRAM CAP

Arkansas State Highway & Transportation Department

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ATTACHMENTS

Attachment A Background Information
Attachment B Traffic Data
Attachment C Roadway Data
Attachment D Bridge Data
Attachment E References

1.0 INTRODUCTION

This document provides background information and data to support the purpose and need for improvements along I-30 from I-530 to I-40 and along I-40 from the I-30/I-40 interchange to United States Highway 67/167 (Hwy. 67/167). Data and analysis from previous studies, as well as an assessment of current and future conditions, are provided to assist in defining the key problems and potential solutions to address future mobility needs within the study area. The purpose and need discussed in this document is part of the Planning and Environmental Linkages (PEL) Study process.

2.0 BACKGROUND

2.1 I-30 PEL Study Area

The proposed I-30 PEL study area is located in central Arkansas, and stretches approximately 6.7 miles through Little Rock and North Little Rock. The study area begins at I-530 in the south, extends to I-40 in the north, and then east along I-40 to its interchange with Hwy. 67/167 in North Little Rock, as detailed in **Attachment A-1**.

2.2 Previous Studies and Planning Context

A number of studies have been completed that provide background on the study area. The most recent and relevant to the study area is the *Central Arkansas Regional Transportation Study Areawide Freeway Study, Phase 1 Arkansas River Crossing Study* from 2003. Other past relevant studies, summarized in **Attachment A-2,** include:

- *Central Arkansas Regional Transportation Study (CARTS), Areawide Freeway Study, Phase 1 Arkansas River Crossing Study Final Report and Phase 2 Areawide Study*, 2003;
- *River Rail Airport Study, Phase 2 Final Report*, 2011;
- *I-630 Fixed Guideway Alignment Study*, 2010;
- *The Six Bridges Framework Plan 6 Bridges Stud*y, late 1990s; and
- *I-630 (from I-430 to I-30) Final Environmental Impact Statement (FEIS)*, 1978.

2.3 Regional Planning Context

Metroplan, the Metropolitan Planning Organization (MPO) for central Arkansas is responsible for long-range transportation planning for central Arkansas. The long range metropolitan transportation plan (LRMTP) active at the beginning of the I-30 PEL Study was *METRO 2030.2* (March 2010). Subsequently, a 2040 LRMTP entitled *Imagine Central Arkansas: Blueprint for a Sustainable Region* (December 2014), was developed during the PEL process. The MPO policy on freeway system capacity improvements, as reflected in the LRMTP and other policy documents, is to build the regional freeway system to six through lanes and to meet demand over that capacity with a robust regional arterial network and public transit. The strategy behind the policy is to use finite resources to achieve transportation system balance once the regional freeway network is built out to six through lanes. Operational improvements on I-30 and rehabilitation improvements on I-40 in the study area are included in the 2040 LRMTP financially constrained plan. A description of planned improvements within the study area as well as how the proposed PEL study relates to both the 2030 LRMTP and 2040

LRMTP is presented in **Attachment A-3**. Metroplan's *Policy on Freeways and Expressways* is presented in **Attachment A-4**.

With a view towards achieving consistency with local and regional planning efforts, it is anticipated that the PEL process and its subsequent recommendations will be submitted to the MPO to inform future updates/amendments to the LRMTP financially constrained plan and to the CARTS Transportation Improvement Program (TIP), as well as to the Arkansas State Highway and Transportation Department (AHTD) to inform future Statewide Transportation Improvement Program (STIP) updates/amendments. Additionally, the PEL process and associated documents will be developed in accordance with the CARTS Agreement of Understanding between Metroplan and the local jurisdictions and transit authorities, which is included in **Attachment A-5**.

3.0 NEED FOR IMPROVEMENTS IN THE PEL STUDY AREA

The following sections provide a summary of the current and future conditions in and around the study area which support the need for improvements to the I-30 corridor, with additional supporting data provided in the referenced appendices. These needs include:

- Traffic Congestion (**Section 3.1**);
- Roadway Safety Issues (**Section 3.2**);
- Roadway Structural and Functional Deficiencies (**Section 3.3**)
- Navigational Safety Issues (**Section 3.4**)
- Structural and Functional Bridge Deficiencies (**Section 3.5**).

3.1 Traffic Congestion

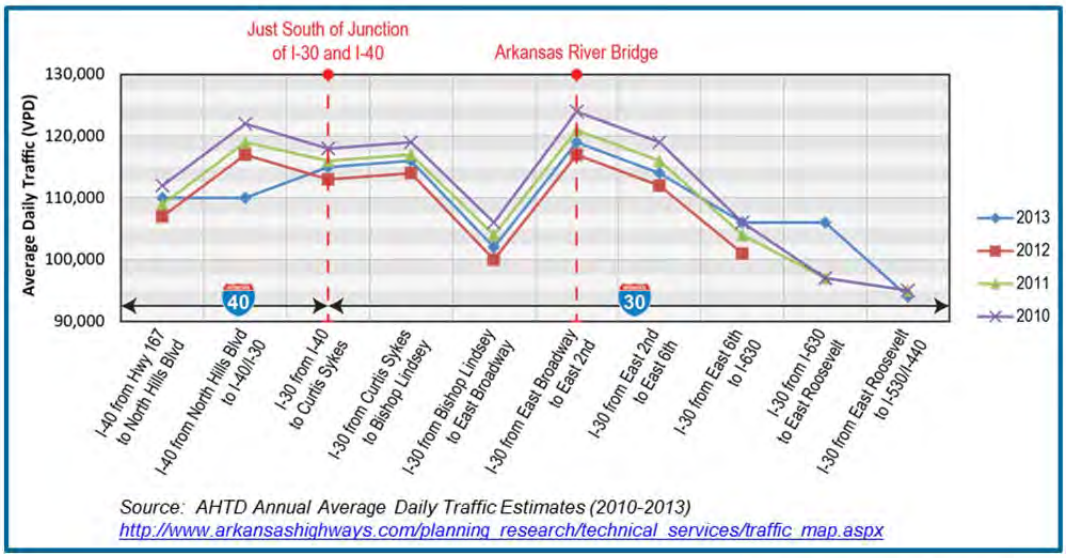
Traffic was analyzed along I-30 and I-40, with the I-30 limits extending from the I-30/I-530/I-440 interchange to the south to the I-30/I-40 interchange to the north; and the I-40 limits extending from the I-30/I-40 interchange to the west to the I-40/Hwy. 67/Hwy. 167 interchange to the east.

3.1.1 Traffic Demand

I-30 and I-40 within Little Rock and North Little Rock are the heaviest traveled roads in Arkansas, with I-30 principally serving local access to Little Rock and North Little Rock (including I-630) and I-40 serving a mix of through and local trips. I-30 and I-40 connect six interstates within the Little Rock and North Little Rock metropolitan area (I-40 northwest, I-40 northeast, I-630, I-30 southwest, I-530 and I-440) to the larger region. Metroplan maintains the regional travel demand model, which is a tool that forecasts traffic demand and travel characteristics based on future land use assumptions developed by the community.

Daily traffic demand along I-30/I-40 is depicted in **Figure 1.** In order to ensure that the trends are typical, multiple years of data (2010 - 2013) from AHTD were included in the traffic demand analysis. As shown in **Figure 1**, 2013 traffic volumes on I-30/I-40 range from 94,000 to 119,000 daily vehicles. As expected, the I-30 Bridge has the highest volume at 119,000 daily vehicles.

Figure 1. I-30/I-40 Annual Average Daily Traffic by Location (2010 – 2013)



Source: AHTD Annual Average Daily Traffic Estimates (2010-2013)
http://www.arkansashighways.com/planning_research/technical_services/traffic_map.aspx

3.1.2 Capacity and Traffic Operations

Motorist mobility and traffic operation problems were based on stakeholder and public input, field observations and technical analysis.

Stakeholder input was obtained via interviews conducted with staff from the Cities of Little Rock and North Little Rock, Metroplan and AHTD in May 2014; and public input was obtained through public meetings held on August 12th and 14th of 2014 in North Little Rock and Little Rock, respectively. Field observations were conducted in the I-30/I-40 study area by driving during the morning and afternoon peak periods in May 2014. A summary of stakeholder and public input, as well as field observations are provided in the adjacent inset boxes. A more comprehensive listing of stakeholder input and field observations are presented in **Attachments B-2** and **B-3** respectively; and feedback obtained from the public meetings is presented in **Attachment A-6**.

Stakeholder & Public Input

- *Weaving problems*
- *Peak hour mainline congestion*
- *Congestion on some arterial roadways*
- *Short ramp and acceleration/deceleration lanes*
- *Substandard interchanges*
- *Maintenance problems related to lighting*
- *Too many on-ramps and off–ramps that are spaced too closely together*
- *Heavy pedestrian/vehicle conflict at Cantrell Interchange*
- *Signage/wayfinding improvements needed*
- *Some interchanges do not have full access*
- *Discontinuous frontage roads*
- *Separation of local and through traffic*
- *Reconnect neighborhoods*
- *Reclaim land for both park and economic purposes*
- *Interstate is a barrier to bikes and pedestrians*
- *Other modes of transportation are needed*

Field Observations

- *Most congestion on mainline*
- *Congestion at a few interchange ramp and arterial cross street intersections during peak periods, as observed by long vehicle delays and queues*
- *Consistent congestion on I-30 Bridge during all AM (westbound) and PM (eastbound) peak hour movements*
- *Lanes into Little Rock generally congested in the AM and outbound lanes generally congested in PM*
- *Mainline bottlenecks observed near Curtis Sykes, Broadway, Cantrell/Clinton and I-630 due to ramps backing up onto the I-30 mainline.*

3.1.3 Causes of Congestion

Observed congestion on I-40 is primarily related to 1) the weaving of through traffic on I-40 between I-30 and Hwy. 67, 2) queuing from I-30 that spills onto I-40, 3) traffic demand, and 4) non-recurring congestion such as accidents.

Observed congestion on I-30 is primarily caused by 1) high volume merge/diverge ramps (I-630 and Hwy. 10) and inadequate merge distances, 2) number and location of ramps resulting in high weaving volumes, 3) conflicts between through and local traffic, 4) high traffic volumes that exceed available capacity, and 5) non-recurring congestion such as accidents.

3.1.4 Traffic Analysis



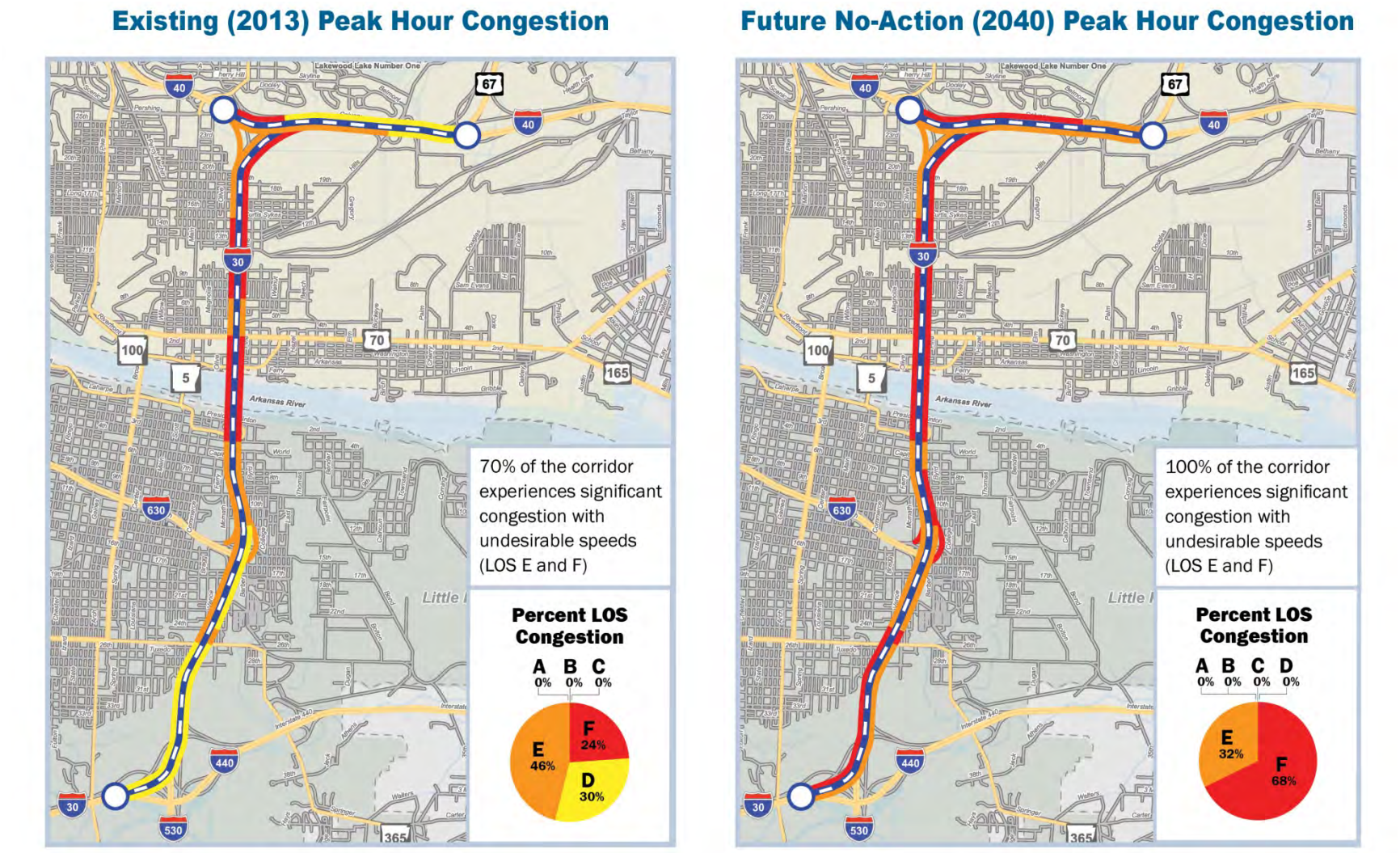
Traffic analysis will include a multi-modal comprehensive analysis of I-30/I-40 mobility and safety and the supporting transportation network for the existing traffic (2013) and projected traffic (2040) using Metroplan's Travel Demand Model (TDM). The traffic analysis will include level of service (LOS) operational analysis of the I-30/I-40 mainlines, ramps, weaving, cross roads, and frontage roads. Other mobility measures will include travel time to key destinations, travel speed, duration of congestion, vehicle miles traveled (VMT), vehicle hours traveled (VHT), and average delay per motorist.

Table 1. LOS Designations

A	**Free Flow Traffic** No Delays
B	**Light/Moderate Traffic** No Delays
C	**Steady Traffic** Minimal Delays
D	**Speeds Begin to Decline** Minimal Delays
E	**Traffic at Capacity** Significant Delays
F	**Heaviest Congestion** Considerable Delays

LOS is a standard Federal Highway Administration (FHWA) and AHTD measure of traffic flow. LOS is a letter designation that describes the quality of traffic flow on a particular type of roadway. As shown in **Table 1**, LOS is represented by the letters "A" (most favorable) through "F" (least favorable). **Figure 2** presents a summary of the LOS conditions on I-30/I-40. AHTD's desirable design year LOS is D. Under existing conditions, 70 percent of the corridor experiences severe congestion with undesirable speeds (LOS E and F). This percentage increases to 100 percent by 2040 under future No-Action conditions. Without improvements, many sections of I-30 are anticipated to operate under 20 miles per hour (mph) during peak periods. A more detailed breakdown of existing (2013) and future (2040) LOS is presented in **Attachment B-4**. As previously described, the traffic analysis will involve measures of mobility other than LOS, to be completed during subsequent phases of the PEL process. As these analyses are completed, they can be incorporated as part of the purpose and need via attachment or addendum, and will be included as part of the I-30 PEL Traffic and Safety Analysis and PEL Final Report.

Figure 2. Comparison of Existing and Future No-Action LOS for I-30/I-40



Notes: Future 2040 traffic demand grown by one percent annually based on historical trends.

3.1.5 Roadway Users

Roadway users are subdivided into 1) those with destinations within the study area, 2) those traveling through the study area, and 3) those traveling to and from I-630. Each of these users has different transportation needs within the corridor, as described below.

1) **Local Access** – Local access trips include those with destinations within the I-30 PEL study area. For local access trips providing a reliable travel time, safe merging opportunities and access to jobs and/or entertainment in Little Rock and North Little Rock is paramount.
2) **Through Trips** – Through trips include those drivers that travel from the North Terminal to the South Terminal interchanges. For through trips, congestion is related to slower travel speeds and conflicts that are caused by local traffic on I-30.
3) **Travel to/from I-630** - Trips traveling to and from I-630 are interregional trips and likely use I-630 to access downtown Little Rock. These trips are concerned with delay and safe merging and diverging to and from I-30. These drivers would like to minimize conflicts with traffic using local ramps.

The Study Team coordinated with Metroplan using the travel demand model, which determined future 2040 motorist trip characteristics for traffic on I-30 and I-40. **Table 2** shows that a high percent of the traffic using the I-30 corridor accesses local interchanges along I-30 to downtown Little Rock and North Little Rock or uses I-630.[2] When the through traffic on I-40 is removed, only a small number of trips use I-30 for through traffic. The table does not include local interchange to local interchange trips, but these trip patterns are expected to be low.

Table 2. I-30 Estimated Daily Trip Characteristics in 2040[1, 2]

Trip Type	I-30	From I-40 WB
Local Access	45%	71%
Through Trips[3]	17%	4%
Travel to I-630	38%	25%
Total Trips	**100%**[4]	**100%**[4]

Notes: [1]Metroplan 2040 Travel Demand Model; [2] Figures B-1 through B-1c in Attachment B-1 further illustrate trip characteristics along I-30. [3]Through trips are vehicle trips that start and end outside the PEL study limits (External trips are considered vehicle trips that are outside the PEL study limits); [4]Does not include local to local trips.

Details outlining the regional significance of I-30 are presented in **Attachment B-1**.

3.2 Roadway Safety

3.2.1 Existing Conditions

Crashes from 2010, 2011, and 2012 (the latest three years of available data) were reviewed along I-30 from the I-30/I-530/I-440 interchange to the south to the I-40/Hwy.

[2] Source: Metroplan 2040 Travel Demand Model.

107/JFK Boulevard interchange to the north; and along I-40 to just east of the I-40/Hwy. 67/Hwy. 167 interchange. Of the total crashes from 2010 – 2012, approximately 1/3 occurred during the PM peak period from 3:30 PM – 6:00 PM, 1/3 occurred during the daytime hours from 8:30 AM – 3:30 PM; and the remaining 1/3 occurred either during the AM peak period from 6:30 AM – 8:30 AM or during the nighttime hours from 6:00 PM to 6:30 AM. Crash rates were calculated for total collisions (all severity types) as well as fatal (K) and serious injury (A) collisions (KA Crash Rate). A detailed breakdown of the safety analysis is presented in **Attachment C-1** and a summary of the results is presented in **Table 3.**

Table 3. Crash Numbers and Rates along I-30/I-40

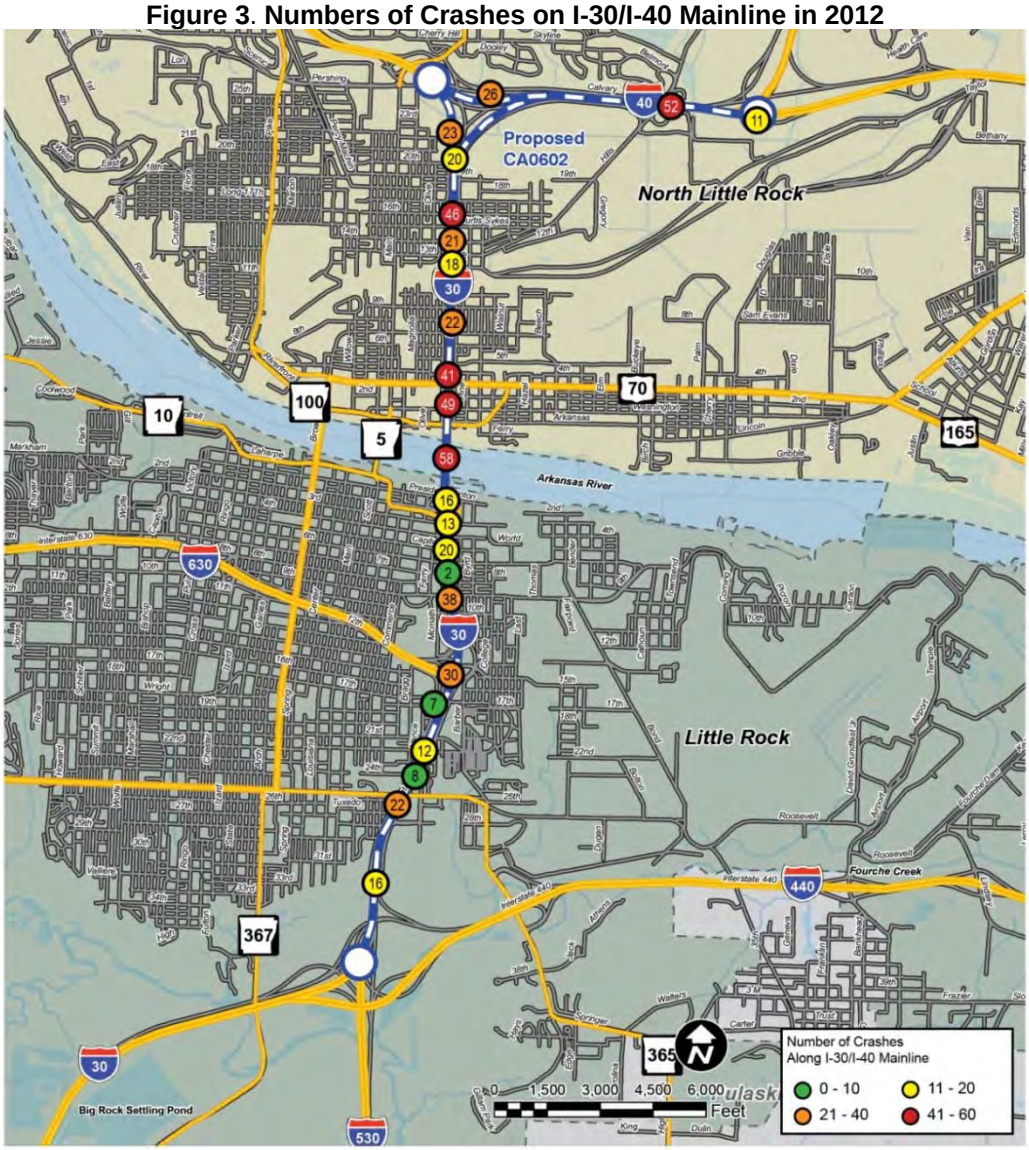
Year	# Crashes		Crash Rate per MVMT [1]		Arkansas Average Crash Rate for 6-lane Urban Interstates		Conclusions
	All Severity Types	KA [2]	All Severity Types	KA	All Severity Types	KA	
I-30 from I-530/I-440 to I-630							
2010	99	8	2.19	0.18	1.53	0.06	Total crash rates (all severity types) were slightly higher compared to other 6 or more-lane urban interstates in Arkansas. KA crash rates were generally higher than the statewide average.
2011	62	2	1.37	0.04	1.22	0.06	
2012	64	6	1.42	0.13	0.95	0.05	
I-30 from I-630 to I-40							
2010	471	9	4.74	0.09	1.53	0.06	Total crash rates (all severity types) were three to four times higher compared to other 6 or more-lane urban interstates in Arkansas. KA crash rates were also elevated reaching as high as four and a half times the statewide average.
2011	371	21	3.81	0.22	1.22	0.06	
2012	406	14	4.31	0.15	0.95	0.05	
I-40 from I-30 to Hwy. 67/Hwy. 167							
2010	66	3	0.94	0.04	1.53	0.06	Total crash rates (all severity types) were slightly lower compared to other 6 or more-lane urban interstates in Arkansas, though still higher than desired. KA crash rates were slightly higher than the statewide average.
2011	75	7	1.09	0.10	1.22	0.06	
2012	58	6	0.85	0.09	0.95	0.05	

Notes: [1] MVMT = million vehicle miles traveled; [2] KA = fatal (K) and serious injury (A) collisions
Source: AHTD and Arkansas State Police Database

As shown in **Table 3**, both the overall and the KA crash rates are much higher than the Arkansas average crash rate for 6 or more-lane urban interstates. This study area experienced 6 fatal collisions and 70 serious injury collisions from 2010-2012. These crash rates demonstrate a need for improvements along I-30/I-40. Some key locations on I-30/I-40 in the study area exhibited large clusters of crashes over the three year analysis period (2010 – 2012). For example, **Figure 3** shows that in 2012, crashes were particularly concentrated along the I-30 mainline at the following locations (south to north): along I-30 at the I-630 interchange (30 crashes), at 9th Street (38 crashes), on the Arkansas River Bridge (58 crashes), near E. Washington Avenue (49 crashes), at

East Broadway Street (41 crashes), and at Curtis Sykes Drive (46 crashes); and along the I-40 mainline at North Hills Boulevard (52 crashes). Similar crash trends were generally exhibited at these locations in 2010 and 2011, with a particularly high number of crashes experienced in 2010 along the I-30 mainline at E. Broadway Street (80 crashes) and Curtis Sykes Boulevard (76 crashes) in North Little Rock. The number and location of crashes experienced along the I-30/I-40 mainline and cross-streets/ramps within the study area for 2010 - 2012 are graphically depicted in **Attachment C-1.**

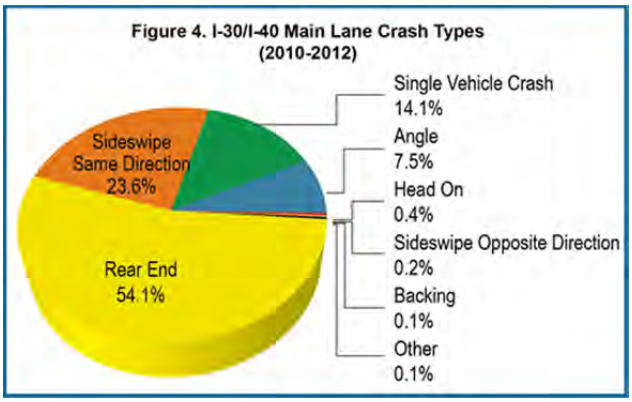
Figure 3. Numbers of Crashes on I-30/I-40 Mainline in 2012

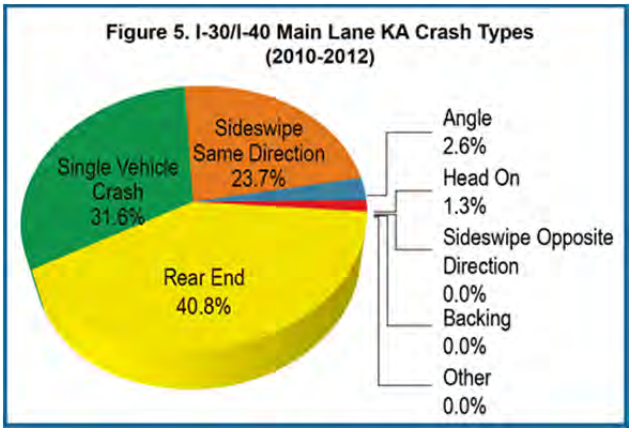


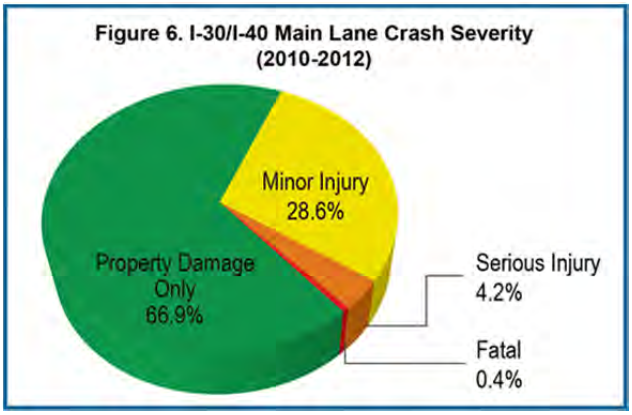
The safety analysis also evaluated the locations of only fatal and serious injury (KA) crashes, as detailed in **Attachment C-2**. The segment of I-30 between I-630 and I-40 experienced the most serious injury crashes over the three year analysis period; 43 total serious injury crashes from 2010 – 2012. In regard to fatal crashes, the interchange of I-

40/Hwy. 67/Hwy. 167 experienced two fatal collisions in 2011 and one fatal collision in 2010. All three of these crashes were rear-end type collisions, and two of the three occurred in the westbound direction. Two fatal collisions occurred along I-30 during the three years analyzed: one near 19th Street in 2012 and one at the interchange of I-30 and I-630 in 2010. Both of these collisions involved a single vehicle travelling westbound, and one collision sited alcohol as a contributing factor.

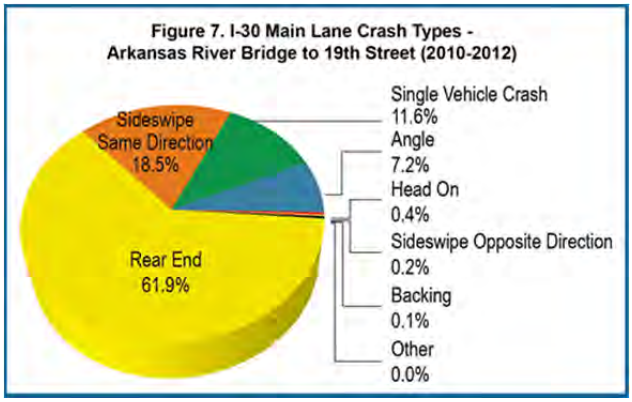
Evaluating collisions by type gives further insight into the reasons that collisions occurred. **Figure 4** depicts the types of crashes experienced along the I-30/I-40 mainline from 2010-2012, the majority of which were rear end collisions followed by sideswipe (same direction) collisions. **Figure 5** shows a similar pattern for KA crashes with rear-end collisions being most predominant. However, the KA crashes showed single vehicle crashes being the second most common followed by sideswipe (same direction) crashes. When evaluating crash severity, the majority of mainline crashes along I-30 and I-40 involved property damage or resulted in minor injuries. Serious injury and fatal crashes accounted for 4.2 percent and 0.4 percent of overall crashes, respectively, from 2010-2012, as shown in **Figure 6**.

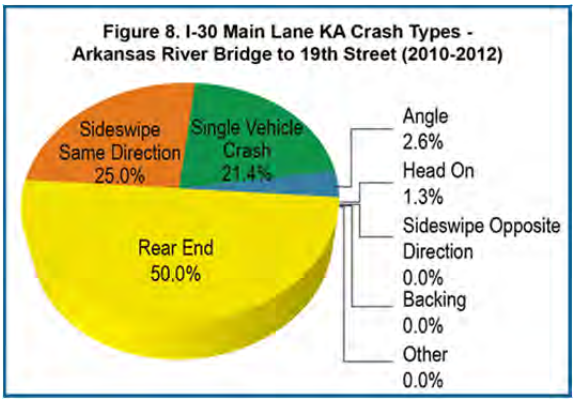






As was demonstrated in **Figure 3**, large clusters of crashes occurred along I-30 north of the river. Accordingly, crashes from the I-30 Arkansas River Bridge to 19th Street were evaluated separately by crash type and KA crash type as shown in **Figures 7** and **8**. As these figures show, this area experienced especially high percentages of rear-end collisions, most likely attributable to congestion. Sudden stops often occur due to slowing traffic and lengthy queues on the mainline, leading to rear-end collisions. Congestion also likely attributes to sideswipe (same direction) collisions, as impatient vehicles switch lanes suddenly or as merging vehicles experience difficulty finding adequate gaps in traffic for safe merging.





Wrong-Way Collisions

Each year, AHTD conducts a review of all wrong-way crashes on freeway systems within Arkansas. The reviews for 2010, 2011, and 2012 were investigated to identify any wrong-way collisions occurring within the study area. Upon investigation, no wrong-way collisions were identified within the study area in 2010. In 2011, one wrong-way collision was reported at the I-30/I-630 interchange. The driver at fault was driving westbound on the I-30 eastbound lanes and caused a sideswipe-opposite direction collision that resulted in property damage only. According to the police report, the driver most likely entered I-30 the wrong way via the Exit 140 off-ramp which connects to a frontage road that provides access to 9th Street and 12th Street. All pavement markings and signs were in place according to the Manual of Uniform Traffic Control Devices (MUTCD)[3] standards, but according to the police report, additional signs were needed and some signs were in need of replacing in order to meet AHTD standards. The collision occurred at night, therefore the unusual geometry of this ramp with the frontage road along with the reduced visibility during the night likely both contributed to this collision. In 2012, a head-on collision occurred in this same location. This driver was intoxicated, and the collision resulted in incapacitating injuries. Upon reinvestigation of this site, all signs and pavement markings were found to be in conformance to MUTCD and AHTD standards at the exit ramp. However, plans were made to increase the size of the *Do Not Enter* sign from 36"x36" to 48"x48" and to install a 54"x18" *One Way* sign on the east side of the road. In addition, plans were made to replace the *Wrong Way* signs prior to the 9th Street and 12th Street intersections to be consistent with AHTD standard sizes and to install a *Wrong Way* sign prior to the 10th Street intersection.

3.2.2 Future No-Action Conditions

To develop the future No-Action conditions, an average crash rate from the 2010-2012 crash data was applied to the projected No-Action traffic volumes. While existing crash rates may not actually remain constant into the future, the existing crash rate was used as a conservative value. Due to vehicle-to-vehicle (V2V) communication technologies

[3] The MUTCD defines the standards used by road managers nationwide to install and maintain traffic control devices on all public streets, highways, bikeways, and private roads open to public traffic. The MUTCD is published by the FHWA under 23 Code of Federal Regulations (CFR), Part 655, Subpart F. Source: http://mutcd.fhwa.dot.gov/

and other safety features in the auto industry, the actual number of crashes could be less than the projection. This analysis assumed that roadway conditions and all other factors would remain the same and that no safety measures would be implemented. In summary, a 13 percent increase in crashes was predicted for 2020 compared to 2012; and a 38 percent increase in crashes was projected by 2040 compared to 2012, as shown in **Figure 9**. Average crash rates and projected numbers of crashes under future No-Action conditions for 2020 and 2040 along I-30/I-40 are further detailed in **Attachment C-1**.

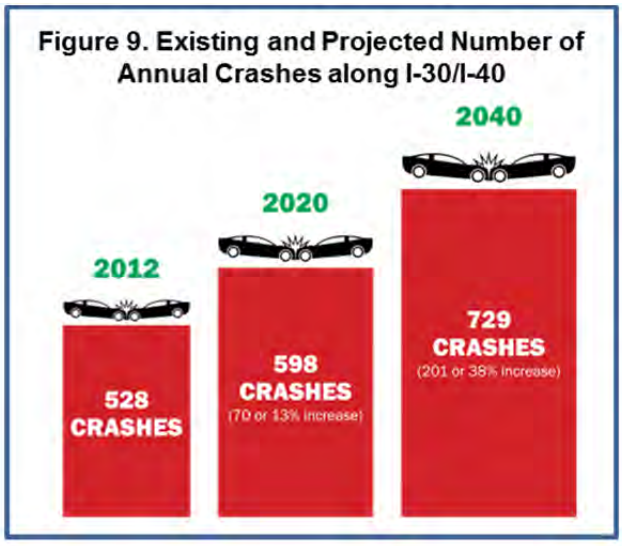


Figure 9. Existing and Projected Number of Annual Crashes along I-30/I-40

In addition to vehicular crashes, pedestrian and bicycle crashes were evaluated from 2001 to 2010, which are summarized below and detailed in **Attachment C-3**:[4]

- High concentration of pedestrian crashes at Broadway Street interchange in North Little Rock and Markham Street interchange in Little Rock (near ramp termination at Cumberland Street);
- Several bicycle crashes at the Curtis Sykes interchange area; and
- Bicycle/pedestrian fatalities: I-630 interchange (one), Broadway Street interchange (one), between the I-30/I-40 interchange and North Hills Boulevard interchange (three); and the Hwy. 67/Hwy. 167 interchange (one).

3.3 Structural and Functional Roadway Deficiencies

3.3.1 Structural Roadway Deficiencies

Cracks are usually the first noticeable sign of pavement deterioration, causing a rough ride and also allowing water to seep into the base beneath the pavement. If cracked pavement is not repaired in a timely manner, water entering the cracks causes the pavement to deteriorate more rapidly, leading to unsafe conditions for the driver.



*Note: Photo also demonstrates inadequate shoulder widths and curb and gutter immediately adjacent to travel lanes (**Section 4.3.2**)*

The 2012 existing surface conditions show moderate to severe levels of cracking along the I-40 and I-30 facilities. Details about the different types of roadway distress experienced along I-30/I-40 are provided in **Attachment C-4**. Portions of I-30/I-40 in the study area will likely require some level of pavement

[4] Source: Metroplan's *CARTS Pedestrian/Bicyclist Crash Analysis (*January 9, 2012). Pedestrian and bicycle crash data obtained from the Arkansas State Police Database.

rehabilitation within the expected timeframe of this project to meet adequate structural performance for the typical 20 year design life utilized for pavement analysis.

3.3.2 Functional Roadway Deficiencies

Functional deficiencies are features that prevent the roadway from handling the normal traffic volume expected of a major highway. Functional deficiencies within the study area include the following, which are illustrated and mapped in **Attachment C-5**:

- 8 locations with curves that do not meet design standards;
- 9 locations with inadequate shoulder widths, including 2 locations where the curb and gutter is immediately adjacent to the travel lanes[5] (see above photo in **Section 3.3.1**);
- 10 ramps lack recommended lane lengths and/or are below standard acceleration/deceleration and taper lengths; and
- 12 locations lack required spacing to safely allow weaving operations between entrance/exit ramps.

*Typically, the desired ramp spacing in an urban area is defined as two ramps per direction per mile. **

*This corridor has 33 ramps in a five mile section – **That is 70% higher than the recommended number.***

** Based on the American Association of State Highway and Transportation Officials' (AASHTO) A Policy on Geometric Design of Highways and Streets (2004)*

Additionally, one major weaving area of concern is located between the I-30/I-40 interchange and the I-40/Hwy. 67/Hwy. 167 interchange. This movement is complicated by the existence of the North Hills Boulevard interchange located within this weaving section, which is less than a mile from the adjacent interchanges.

3.4 Navigational Safety

The I-30 Bridge is one of six bridge structures that cross the McClellan-Kerr Arkansas River Navigation System (MKARNS) within a 1.4 mile stretch of the Arkansas River in the downtown areas of Little Rock and North Little Rock. Having a total length of 445 miles, the MKARNS provides a means for the transportation of commodities from Oklahoma through Arkansas to the Mississippi River. On average, 12 million tons of commodities, valued at $2-3 billion, are transported annually via this economically vital navigation system.[6] A portion of the MKARNS channel, showing the Clinton, I-30, Junction and Main Street Bridges is shown in **Figure 10**.

For bridges crossing a navigation channel, the two most important features are the vertical clearance provided from the water surface to the bottom of the bridge and the horizontal clearance between the bridge piers (vertical supports within the water). The United States Coast Guard (USCG) typically requires vertical and horizontal clearances of 52 feet and 300 feet, respectively for the section of the MKARNS within the study area. Of the six bridges, only the I-30 Bridge fails to meet the typically prescribed 300-

[5] Current design standards recommend that curb and gutter not be placed adjacent to travel lanes on high speed facilities because of potential safety issues, such a vehicle vaulting upward and losing control from hitting the curb.

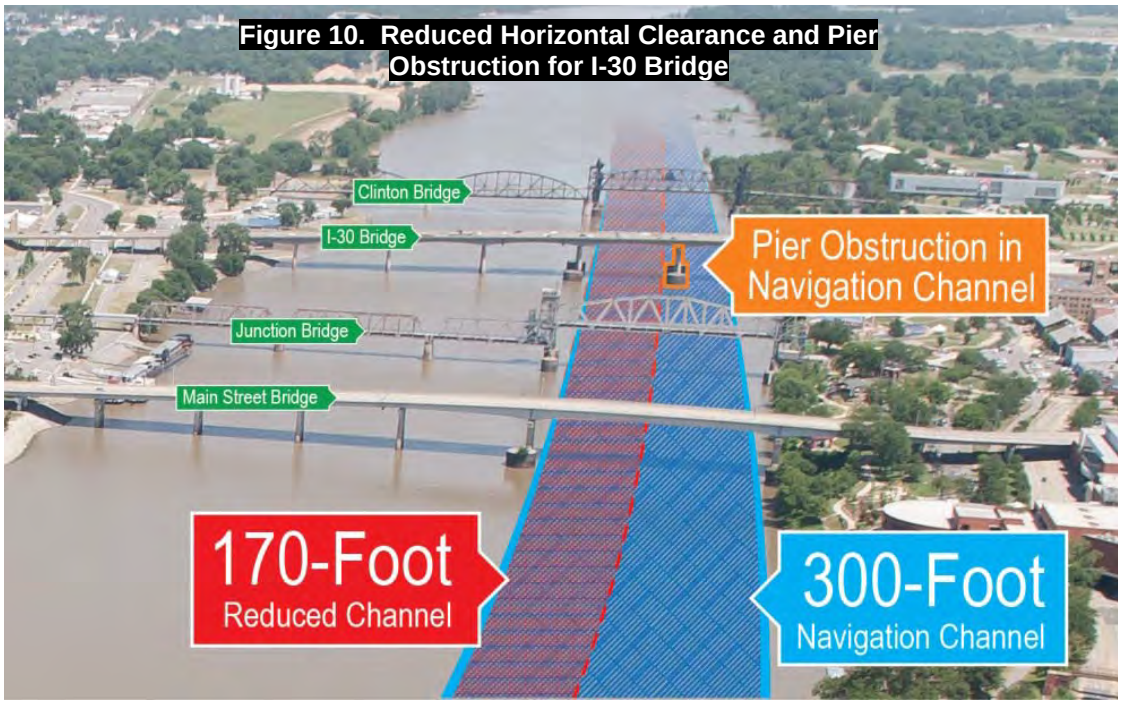
[6] Valued by the Institute for Water Resources and the National Agricultural Statistics Service; Source: United States Army Corps of Engineers (USACE) Little Rock District.

foot minimum horizontal clearance for the MKARNS within the study area, as illustrated in **Figure 10**. [7]

In addition to the substandard horizontal navigation clearance, the pier configuration of the I-30 Bridge poses an obstruction to river navigation. The five other bridge structures have an open span across the entire navigation channel. However, as shown in **Figure 10**, the I-30 Bridge has a pier within the middle of the channel which divides the channel into two navigation spans as further discussed in **Attachment D-1**. The reduced horizontal clearance and pier obstruction is cumbersome to navigate and restricts the operational speed of the barges. Barge collision data, provided by the USCG, indicates a total of five barge strikes have occurred at the I-30 Bridge site since 2001, with the two most recent of these strikes having occurred since August 2013.[8]

On August 21, 2014, the Arkansas Waterways Commission submitted a letter to the AHTD recommending that the I-30 Bridge pier that divides the navigation channel be removed and a navigation channel of 332 feet be established; and that the vertical clearance of the I-30 Bridge be no lower than the soon-to-be constructed Broadway Bridge (vertical clearance of 62.4 feet). A copy of the Arkansas Waterways Commission letter is provided in **Attachment D-2**.

Figure 10. Reduced Horizontal Clearance and Pier Obstruction for I-30 Bridge



[7] All six bridges meet the USCG vertical clearance requirements.
[8] The barge collision data provided by the USCG does not differentiate between a strike on the protection cells and the bridge itself; and therefore, there is no information available to quantify the damage the bridge sustained during each strike.

3.5 Structural and Functional Bridge Deficiencies

3.5.1 Structural Bridge Deficiencies

The 2003 *Arkansas River Crossing Study* rated the I-30 Bridge across the Arkansas River to be in fair condition. As the result of an October 2013 inspection by AHTD, the I-30 Bridge has been downgraded to Structurally Deficient[9]. The Structure Inventory and Appraisal Sheet developed following the 2013 inspection indicates that the substructure of the bridge is rated as "Poor". An AHTD memorandum outlining some of the major deficiencies identified as a result of the October 2013 inspection is presented in **Attachment D-3.**

The fact that a bridge is classified as "structurally deficient" does not imply that it is unsafe. A structurally deficient bridge, when left open to traffic, typically requires maintenance and repair to remain in service and eventual rehabilitation or replacement to address deficiencies.

Source: Federal Highway Administration, Status of the Nation's Highways, Bridges and Transit: Conditions and Performance Report to Congress, 2008

3.5.2 Functional Bridge Deficiencies



In addition to structural deficiencies of the I-30 Bridge, the width of the existing bridge is less than desirable. Although the bridge meets the minimum width requirements, the shoulders on the bridge are below current standards for new construction. The reduction in the shoulder width can lead to driver discomfort resulting in decreased speed and increased congestion. A reduced bridge width can also lead to an increase in traffic accidents because there is no additional space to maneuver around an obstacle in the roadway. Furthermore, the lack of adequate shoulders doesn't allow for the storage of disabled vehicles and the passage of emergency response, which causes further congestion after an accident.

3.6 Summary of Needs

As presented in **Sections 3.1** through **3.5**, the need for improvements to I-30 and I-40 in the study area include:

- Traffic Congestion;
- Roadway Safety Issues;
- Structural and Functional Roadway Deficiencies
- Navigational Safety Issues; and
- Structural and Functional Bridge Deficiencies.

[9] Bridges are considered structurally deficient if significant load carrying elements are found to be in poor condition due to deterioration. Source: *FHWA 2010 Status of the Nation's Highways, Bridges, and Transit: Conditions and Performance*; *AHTD Bridge Inspection, Oversight, and Maintenance Performance Audit (November 2008).*

4.0 PURPOSE AND STUDY GOALS AND OBJECTIVES

4.1 Purpose

The purpose of the proposed project is to address the transportation needs identified in **Section 3.4** by:

- Relieving Traffic Congestion;
- Improving Roadway Safety ;
- Addressing Structural and Functional Roadway Deficiencies; and
- Improving Navigation Safety; and
  Addressing Structural and Functional Bridge Deficiencies

4.2 Study Goals/Objectives

In addition to the other project elements were established to balance transportation and environmental goals and objectives. Input sought from agencies and the public was incorporated to develop goals and guiding principles.[10] A listing of the study goals/objectives is presented in the inset box and a listing of the guiding principles is provided below. Goals identified by the public and/or agencies are notated by asterisks, as described in the inset box. A more comprehensive summary of the feedback obtained from the public meetings is presented in **Attachment A-6**.

Study Goals/Objectives
(Listed in no particular order)

- *Improve opportunity for east-west connectivity***
- *Enhance mobility**
- *Improve local vehicle access to downtown Little Rock and North Little Rock**
- *Connect bicycle pedestrian friendly facilities**
- *Accommodate existing transit and future transit**
- *Minimize roadway disruptions during construction**
- *Minimize river navigation disruptions during/after construction*
- *Follow through on commitment to voters to improve I-30 as part of the CAP*
- *Optimize opportunities for economic development*
- *Avoid and/or minimize impacts to the human and natural environment*, including historic and archeological resources***
- *Sustain public and agency input and support for the I-30 corridor improvements**
- *Improve system reliability**
- *Maximize I-30 cost efficiency*
- *Improve safety**

***Notes:** * indicates a goal identified mutually by the Study Team and agencies/public; ** indicates a new goal identified by agencies/public that was incorporated into the goals and objectives or guiding principles*

Guiding principles that will influence the overall project include (listed in no particular order):

- Accelerated Project Delivery;
- Context Sensitive Solutions*/Aesthetically Pleasing Facility*;
- Minimize the real, perceived and visual barrier of the freeway**;
- Open public participation process**; and
- Support of Local, Regional and Statewide Transportation Plan.

[10] Agency (local, state and federal) input gathered through technical work groups; public input gathered through public meetings held on August 12, 2014 in North Little Rock and August 14, 2014 in Little Rock.

Attachment A: Background Information

Attachment A-1: Study Area
Attachment A-2: Previous Studies
Attachment A-3: Regional Planning Context
Attachment A-4: Metroplan Policy and Plan Statements on Freeway Capacity
Attachment A-5: CARTS Agreement
Attachment A-6: Public Meeting Feedback

Study Area

The I-30 PEL study area consists of a quarter-mile wide buffer along each side of I-30. The study area extends approximately 6.7 miles through portions of Little Rock and North Little Rock in central Arkansas as shown on **Appendix A-1, Page 2.** The study area begins at I-530 to the south and extends northerly to I-40, then easterly along I-40 to its interchange with Hwy. 67.

The I-30 project was included as part of the voter endorsed constitutional amendment passed during the November 2012 election for a 10-year, half-cent sales tax to improve highway and infrastructure throughout the state of Arkansas. Additionally, a similar study area was previously assessed as part of the CARTS *Areawide Freeway Study - Phase 1 Arkansas River Crossing Study*, completed in 2003, which concluded that widening I-30 to 10-lanes (5-lanes in each direction) would be necessary to provide an acceptable level of service for all Arkansas River crossings.

Major traffic generators for the study area are shown in the map below.



Major Traffic Generators for the study area include, but are not limited to:

- *Little Rock central business district*
- *William J. Clinton Presidential Center*
- *Bill and Hillary Clinton National Airport*
- *Julius Breckling Riverfront Park*
- *Riverfront Restaurant/Shopping Destinations*
- *Little Rock Union Station*
- *Dickey-Stephens Ballpark*
- *Verizon Arena*

There are a total of 11 interchanges (4 system-to-system and 7 service interchanges) and eight underpasses/overpasses within the study area. All but five of these crossings provide pedestrian crossing infrastructure. There are a variety of interchange types in the study area consisting of fully directional, partial cloverleaf, diamond, split diamond, and modified trumpet. An outer frontage road runs along the majority of both sides of I-30 and I-40. The frontage road consists of two-lane, one-way roads with northbound traffic on the east side of I-30 and southbound traffic on the west side. Stop signs and signals are used for traffic control at the end of entrance and exit ramps along I-30.


CA0602
Interstate 530 – Highway 67
Interstates 30/40
Sherwood
North Little Rock
Little Rock
Pulaski County
Lakewood Lake Number Three
Lake Number Two
Lakewood Lake Number One
Arkansas River
Fourche Creek
Map Key
Interstate
Highways
Small Roads
Pond/River
City Limits
CA0602 Study Area
0 1,500 3,000 4,500 6,000
Feet

Previous Studies

A number of studies have been completed that provide background on the study area. The most recent and relevant to the study area was the Central Arkansas Regional Transportation Study (CARTS) Areawide Freeway Study, Phase I: Arkansas River Crossing Study from 2003. This and other relevant studies are described below.

CARTS Areawide Freeway Study, Phase I: Arkansas River Crossing Study and Phase II: Areawide Study, 2003. The purpose of the Phase I Arkansas River Crossing Study was to evaluate the Arkansas River Bridge crossing needs, including the need for an additional river crossing. The existing vehicular bridge crossings evaluated included I-30, Main Street, and Broadway Street; and an extension of Pike Avenue across the river was also analyzed. The Phase I Study examined existing traffic conditions, crash rates, and structural conditions for all of the existing bridges; evaluated future traffic conditions (bridge and area traffic, estimated trip lengths, volumes and levels of service) for the river crossings; assessed the potential impact of transit to bridge needs; and evaluated multiple widening and interchange improvements for the bridge crossings, including conducting a cost benefits analysis for the alternatives assessed.

The Phase I Study evaluated 6 alternatives as follows:

- No-Action.
- Widen I-30 (8-lanes) and Broadway Intersection Improvements (i.e., improve intersections on the approaches to the Broadway Bridge).
- Full Widening of I-30 (10-lanes) along I-30.
- Pike Avenue Extension across the Arkansas River.
- Combination Alternative A: Widening I-30 (8-lanes) between 2nd Street and Broadway, Broadway Intersection Improvements, and installing the River Rail streetcar line on the Main Street Bridge.
- Combination Alternative B: Widening I-30 to 8-lanes, Broadway Intersection Improvements, and the Pike Avenue Extension.

The Phase I Study did not make any recommendations; however, the following observations were made based on the cost-benefit, level of service and construction cost analyses:

- Transit would result in a three percent decrease in vehicular traffic crossing the bridges, which would not alter the need for bridge crossing improvements.
- It was not cost beneficial to widen I-30 to 8-lanes, nor was Combination Alternative A cost beneficial; and neither achieved the goal for LOS D on the I-30 Bridge.
- The Pike Avenue Extension would not relieve congestion levels on I-30, which would remain at LOS F, and it had the third highest cost and second highest cost-benefit ratio.
- Combination Alternative B was the most expensive, but had the highest benefits of all alternatives analyzed.

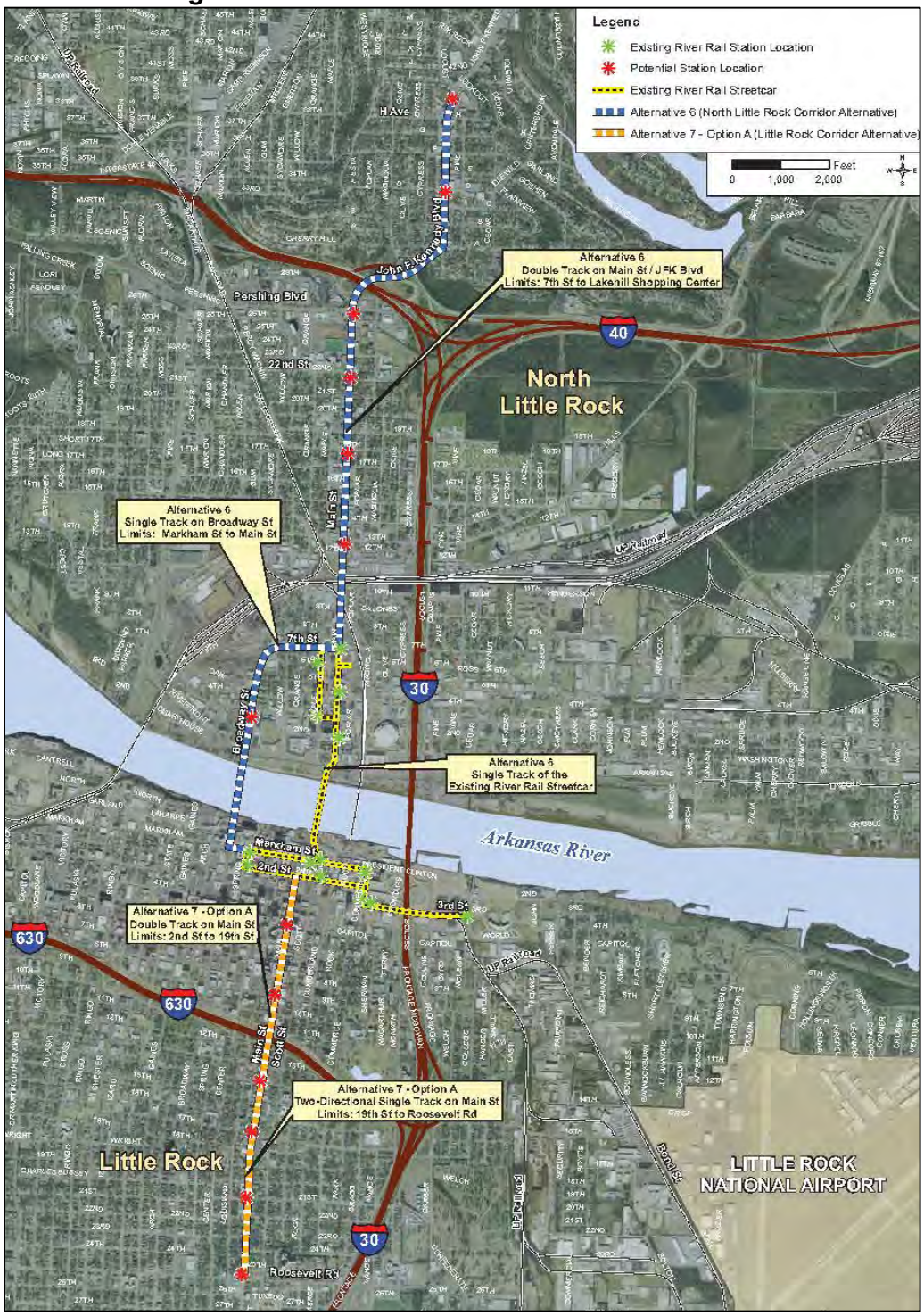
- The widening of I-30 (10-lanes) had the highest cost and lowest cost-benefit ratio, but was the only alternative to achieve the LOS D (or better) goal for I-30.

A second phase of the CARTS Areawide Freeway Study was also completed in 2003. It evaluated the entire freeway system within the CARTS boundary[1]. Existing and forecast needs over a 25 year horizon were identified; and this freeway plan included operations and management improvements that were incorporated into the regional transportation plan.

River Rail Airport Study, Phase II Final Report, 2011. The River Rail Airport Study, completed by Metroplan, was divided into two study phases. Phase I was completed in October 2009 and evaluated the extension of streetcar service between Downtown Little Rock and the Bill and Hillary Clinton National Airport, which was generally determined not feasible due to overall cost, projected ridership and a lack development potential. In 2010, Metroplan initiated Phase II which looked at other potential options for connecting streetcar service to the Bill and Hillary Clinton National Airport as well as to and from North Little Rock. The existing River Rail streetcar crosses I-30 (east-west) at 3rd street. Corridor alternatives evaluated included a single-track alignment on Broadway Street and a double-track alignment on Main Street/JFK Boulevard in North Little Rock; and an alignment along Main Street to Roosevelt Road (single track from 2nd to 19th Streets and double track from 19th Street to Roosevelt Road) in Little Rock (see **Figure A-2a)**. No Phase II River Rail extensions were proposed to cross I-30.

[1] Pulaski, Saline, Lonoke, and Faulkner Counties

Figure A-2a. River Rail Phase II Alternatives



Source: Image from River Rail Airport Study, Phase II Final Report, 2011.

I-630 Fixed Guideway Alignment Study, 2010. The purpose of the I-630 Fixed Guideway Study was to identify and preserve right-of-way for transit in the I-630 corridor. Three primary alignments and various station locations were studied. **Figure A-2b** shows the 12.3-mile-long preferred alignment with 12 initial station locations and two future station locations. Stations proposed within the vicinity of the I-30 PEL study area include a River Cities Travel Center station (Capital Avenue between Cumberland and Rock Streets) and a Clinton Presidential Library/Heifer International station (One World Avenue). The identified preferred alignment would cross I-30 at 4th Street. The study concluded that the preferred alignment was suitable and could be preserved for a future fixed guideway in central Arkansas. Contingent on federal funding being secured, next steps identified included advancing the project through the Federal Transit Administration's process for evaluating fixed guideway projects, which requires a more robust evaluation of technology, alignments, ridership and engineering. Lack of funding was identified as a key issue for moving the project forward.

Figure A-2b. I-630 Fixed Guideway Proposed Corridor Alignment and Station Locations



Source: Image from I-630 Fixed Guideway Alignment Study, 2010.

Six Bridges Framework Plan Report. The purpose of this study, completed by the University of Arkansas at Little Rock in the late 1990s, was to guide future development along the downtown riverfronts of Little Rock and North Little Rock in the area near the "six bridges" crossing the Arkansas River. Strategies were identified for promoting and directing the area's future growth, which included (but was not limited to) development of the riverfront, enhancing streets with streetscape improvements, and improving connections between downtown and the riverfronts.

I-630 (from I-430 to I-30) Final Environmental Impact Statement (EIS), 1978. This environmental document evaluated the impacts associated with a proposed new location highway, I-630, to serve as a connection between I-430 and I-30, for a distance of approximately 7.4 miles in Little Rock. The need for the project was established given the forecasted growth and development at the time for the west and southwest portions of Little Rock. Although this project primarily studied an area outside of the I-30 PEL study area, the I-630/I-30 interchange does serve as an overlapping point for these two studies. At the time, a four-level directional type interchange was recommended for the I-630 and I-30 interchange. MacArthur Park, a Section 4(f) property near the I-630/I-30 interchange was evaluated for potential impacts as part of the I-630 EIS. A buffer zone was created between I-630 and MacArthur park to maintain the park's integrity; and accordingly, it was determined that Section 4(f) regulations did not apply to the proposed I-630 improvements.

Regional Planning Context

Metroplan, the Metropolitan Planning Organization (MPO) for central Arkansas is responsible for long-range transportation planning for central Arkansas. The long range metropolitan transportation plan (LRMTP) active at the beginning of the I-30 PEL Study was *METRO 2030.2* (March 2010). Subsequently, a 2040 LRMTP entitled *Imagine Central Arkansas: Blueprint for a Sustainable Region* (December 2014), was developed during the PEL process.

2030 LRMTP

One interchange improvement project within the study area was included in the fiscally constrained plan of *METRO 2030.2*, as described below and shown in **Attachment A-3 Page 3**:

Location: I-30/I-440/I-530
Description: Modifications and improvements limited to the interchange

The 2030 LRMTP also acknowledged the interstate-to-interstate/highway interchanges at I-40/Hwy. 67/Hwy. 167, I-40/I-30 and I-30/I-530/I-440 as in need of reconstruction to add capacity and improve safety. It also described the segment of I-30 between the north terminal (I-30/I-40 interchange) and south terminal (I-30/I-530/I-440 interchange) as needing study because of the very high number of interstate-to-interstate/highway interchanges and interstate/highway-to-arterial interchanges in those five miles of interstate.

2040 LRMTP

The 2040 LRMTP includes operational improvements on I-30 (limits listed as Central Corridor) and rehabilitation improvements on I-40 (limits listed as I-30/I-40 Interchange to Hwy. 67) in the financially constrained plan (10-year project list). The financially constrained LRMTP notes that an amendment may be required upon completion of the PEL Study once the number of through lanes has been determined. The 2040 LRMTP pages referencing the proposed improvements are shown in **Attachment A-3, Page 4**.

No other projects within the PEL study area are identified in the 2040 LRMTP; however several rehabilitation projects leading into/out of the PEL study area are included in the financially constrained plan, as listed in **Table A-3a**.

Table A-3a. LRMTP Financially Constrained Projects in Proximity of the PEL Study Area

Facility	From	To	Improvement	Connection to I-30 PEL Study
I-530	I-30	Bingham Road	Rehabilitation	Project outside PEL study area, but immediately adjacent to the PEL southern terminus (south terminal or I-30/I-530/I-440 interchange). Would improve the facility leading in/out of the study area.
I-440	I-30/I-40 Interchange	Arkansas River Bridge	Rehabilitation	Project outside PEL study area, but immediately adjacent to the PEL southern terminus (south terminal or I-30/I-530/I-440 interchange). Would improve the facility leading in/out of the study area.
I-40	Hwy. 67	Hwy. 161	Rehabilitation	Project outside PEL study area, but immediately adjacent to the PEL northeast terminus (I-40/Hwy. 67/Hwy. 67 interchange). Would improve the facility leading in/out of the study area.
I-40	Hwy. 161	Lonoke/ Pulaski County Line	Rehabilitation	Project outside PEL study area, but begins where the above project terminates. Would improve the facility leading in/out of the study area.
I-440	Arkansas River Bridge	I-40	Rehabilitation	Project outside PEL study area, but begins where the above project terminates. Would improve the facility leading in/out of the study area.
I-630	I-30	Cross Street	Rehabilitation	Project outside PEL study area, but immediately adjacent to a major interchange of the study area (I-30/I-630). Would improve the facility leading in/out of the study area.
I-630	Cross Street	Dennison Street	Rehabilitation	Project outside PEL study area, but begins where the above project terminates. Would improve the facility leading in/out of the study area.
I-630	Dennison Street	Cedar Street	Rehabilitation	Project outside PEL study area, but begins where the above project terminates. Would improve the facility leading in/out of the study area.

The MPO policy on freeway system capacity improvements, as reflected in the LRMTP and other policy documents is to build the regional freeway system to six through lanes and to meet demand over that capacity with a robust regional arterial network and public transit. The strategy behind the policy is to use finite resources to achieve transportation system balance once the regional freeway network is built out to six through lanes.

With a view towards achieving consistency with local and regional planning efforts, it is anticipated that the PEL process and its subsequent recommendations will determine refinements to the next LRMTP, developed by Metroplan, and the CARTS Transportation Improvement Program (TIP) and Statewide Transportation Improvement Program (STIP)[1]. Additionally, the PEL process and associated documents will be developed in accordance with the CARTS Agreement of Understanding between Metroplan and the local jurisdictions and transit authorities, which is included in **Attachment A-5**).

[1] 2016-2019 STIP currently in development by the Arkansas State Highway and Transportation Department

Figure 15-4

Roadway Network Improvements - Year of Expenditure (YOE) - METRO 2030.2 LRP

Line #	RAN Priority	RAN Corr. #	Highway/Road	Limits	From	To	Improvements	Priority	Imp Type	Jurisdiction	Cost Est. Year	Cost Est.	2010-2013 2010 Cost	2011 Cost	2012 Cost	2013 Cost	2014-2019 Cost	2020-2030 Cost	TOTAL
1			I-630/I-430	Interchange			Modifications Phase III	COM	Reconstruction	LR	2009	6,120,316		86,308,000	7,715,699				94,023,699
2			I-40	Interchange			New Interchange	COM	New	MAU	2005	12,277,000	696,000				18,816,380		19,512,380
3			30/440/530	Interchange			Modifications	COM	Reconstruction	LR	2005	1,290,000	1,350,000						1,350,000
4			Hwy 67	Redmond Rd to Vandenburg Blvd.			Widen from 4 to 6	COM	WID	JAX	2005	27,171,193			7,049,000	4,387,000	41,644,009		53,080,009
5			I-40/Hwy 65	Interchange			Modifications	COM	Reconstruction	CON	2005	10,500,000	assumed in line item 140						0
6			Hwy 67	Interchange @ Hwy 5			Modifications	COM	Reconstruction	CAB	2005	9,702,000	798,000				14,869,799		15,667,799
7			North Belt	I-40/I-430 to I-440/Hwy 67			New 4 Lane Interstate	COM	NEW	JAX/SHW/NI	2008	200,000,000					16,478,430	685,287,704	701,766,134
8			South Loop	Mablevale Road to Alexander Road			New 2 Lane Facility	COM	NEW	LR	2005	2,722,000	assumed in line item 17						0
9			Hwy 67	Kiehl to 440			Widen from 4 to 6	COM	WID	SHW/JAX	2005	20,200,000	12,731,000						12,731,000
10			University Ave	19th to Asher Av			Widen from 4 to 6	COM	WID	LR	2005	8,474,000							0
11			Military Rd	Congo Rd to I-30			Widen from 2 to 4	COM	WID	Benton	2005	3,100,000	8,250,000						8,250,000
12			Hwy 107	N of Jacksonville Cutoff to Bayou Meto			Widen from 2 to 4	COM	WID	PULCO	2005	6,400,000							0
13			Brockington Road	Maryland to Kiehl Av			Widen from 2 to 4	COM	WID	SHW	2005	5,000,000							0
14			Graham Road	E Center to JP Wright Loop Road			Widen from 2 to 4	COM	WID	JAX	2009	9,491,926	2,026,000	7,995,824					10,021,824
15			Crystal Hill Road	Crystal Hill Rd/I-40 to Old Crystal Hill Rd			Widen from 2 to 4	COM	WID	NLR	2005	4,400,000						8,256,478	8,256,478
16							Committed Roadway Improvements				Subtotal	25,851,000	94,303,824	14,764,699	4,387,000	91,808,618	693,544,182	924,659,324	
17			South Loop	UPRR @ South Loop			New rail grade overpass	COM	NEW	LR	2005	4,800,000	6,803,690						6,803,690
18			Geyer Springs	UPRR @ Geyer Springs			New rail grade overpass	COM	NEW	LR	2005	6,439,000	734,000				9,868,752		10,602,752
19			JP Wright Loop	UPRR @ JP Wright Loop			New rail grade overpass	MT	NEW	JAX	2005	3,332,000					5,106,800		5,106,800
20			Hwy 89 Extension	North of Hwy 89 @ Hwy 365			New rail grade overpass	MT	NEW	MAY	2005	5,944,000					9,110,089		9,110,089
21			McCain/Fairfax	UPRR @ Fairfax			New rail grade overpass	MT	NEW	NLR	2005	13,635,000		1,070,000	3,434,700	11,185,000			15,689,700
22			Springer Blvd	UPRR @ Springer Blvd			New rail grade overpass	MT	NEW	LR	2005	4,684,000					7,178,946		7,178,946
23							Rail Grade Separations				Subtotal	7,537,690	1,070,000	3,434,700	11,185,000	31,264,588	0	54,491,978	
		1	Hwy 107/N. Main St./Scott St.								2005	22,176,820					33,989,369		33,989,369
		2	Chicot Rd./University Ave.								2005	14,609,670					22,391,554	1,208,448	23,600,002
		3	Hwy 65B/ Harkrider/Hwy 365								2005	9,949,245	2,555,000				4,691,591		7,246,591
		5	Hwy 10/Chester St.								2005	17,339,717				10,341,000	17,437,506	7,951,330	35,729,836
		6	Military Rd./Hwy 5/Asher	NOTE: FOR LINES 24 - 122							2005	13,088,601		2,361,000			18,048,704		20,409,704
		7	Hwy 161/Hwy 70/Broadway	Individual optimization projects are summarized							2005	20,269,463					19,847,709	3,236,915	23,084,624
		8	Hwy 36/Saltillo Rd./Clinton Rd./Pike/S. Broadway	By RAN Corridor/Critical Segment (CS) Number							2005	64,495,866				49,351,000	56,199,272	367,788	105,918,060
		9	Chenal/Financial Center Pkwy/Kanis Rd								2005	3,213,260					4,202,167		4,202,167
		10	Hwy 367								2005	2,476,798					3,796,072		3,796,072
		11	Hwy 64								2005	4,513,936					6,830,170		6,830,170
		12	Roosevelt Rd./Lindsey Rd.								2005	19,056,083				7,128,000	22,709,149		29,837,149
		13	Hwy 107/Brockington Dr.								2005	2,274,998					3,486,782		3,486,782
		14	Kanis Rd/Markham/3rd St.								2005	18,741,109					18,741,109		18,741,109
		15	Hwy 60/Hwy 65B/Industrial Blvd								2005	6,331,826					6,331,826		6,331,826
		16	Hwy 89/Sayles Rd./Batesville Pike/Tates Mill Rd.								2005	5,024,236					5,024,236	453,168	5,477,404
		CS13	Congo Rd.								2005	250,724					250,724		250,724
		CS18	Remount Rd.								2005	760,580					760,580		760,580
		CS09	Camp Robinson Rd.								2005	110,159					110,159		110,159
123							RAN Optimization Improvements				Subtotal		2,555,000	2,361,000	0	66,820,000	244,848,680	13,217,649	329,802,329
127			LUZA - Proposed Projects								2009		3,122,982	2,838,054	2,611,131	878,832			9,450,999
128			Scott Hamilton	Baseline Rd to JE Davis	Base Line Rd	JE Davis Drive	Widen	WID	LR		2009	2,991,000	2,991,000						2,991,000
129							LUZA Group Line/Previous Project				Subtotal		6,113,982	2,838,054	2,611,131	878,832	0	0	12,441,999
131	New		Conway Western Arterial Loop	I-40 So.Terminal Interchange to	I-40 S	I-40 N	New interstate interchange and new 4 la	NEW		Conway	2009	2,436,000	2,436,000						2,436,000
132	New		Conway Western Arterial Loop	I-40 So.Terminal Interchange	Hwy 365	Sturgis Rd	New 4 lane arterial	NEW		Conway	2009	5,532,000				7,376,143			7,376,143
133	New		Conway South Interchange	I-40 So.Terminal Interchange	I-40	Hwy 365	New interstate interchange and new 2 la	NEW		Conway	2009	23,000,000		13,979,000		13,700,000			27,679,000
134	New		Hwy 5	Saline Co. to Otter Creek Rd	County Line Rd	Otter Creek Rd	Widen	WID	LR		2009	12,000,000	13,643,000						13,643,000
135	New		Hwy 5 Drainage Structure				Reconstruction	BRG	BRY		2009	1,000,000		1,262,000					1,262,000
136	New		Hwy 367 UPRR Overpass		W 34th Street		Reconstruction	BRG	LR		2009	6,200,000			6,724,000				6,724,000
137	New		Hwy 10 UPRR Viaduct				Safety Improvements	SAFETY	LR		2009	1,700,000			2,254,000				2,254,000
138	New		Hwy 67 Cable Median Barrier	Jacksonville to Cabot	Vandenburg	Hwy 89	Safety Improvements	SAFETY	JAX/CAB		2009	1,500,000			1,990,000				1,990,000
139	New		I-30 Cable Median Barrier	Benton to Hwy 70	Sevier Street	Hwy 70	Safety Improvements	SAFETY	JAX/CAB		2009	1,700,000			1,700,000				1,700,000
140	New		I-40 Widening	I-40 Widening	Conway	Pulaski County	Interchange reconstruction and addition	WID		Conway	2009	36,000,000			42,420,000				42,420,000
141	New		Hwy 25 Relocation	I-40 to Hwy 25	I-40	Existing Hwy 25	New 2 lane arterial	WID		Conway	2009	9,000,000				10,002,000			10,002,000
142	New		Hwy 107	Bayou Meto to north of Arnold D	Bayou Meto	North of Arnold Drive	Widen to 4 lane	WID		JAX		8,695,313				11,593,975			11,593,975
143	New		Benton Parkway	Hwy 35 to River Street	Hwy 35	River Street		NEW		Benton		19,000,000				25,333,824			25,333,824
							NEWLY PROPOSED PROJECTS				Subtotal		16,079,000	15,241,000	55,088,000	68,005,942	0	0	154,413,942
												Grand SubTotal	58,136,672	115,813,878	75,898,530	151,276,774	367,921,886	706,761,831	1,475,809,571
												Estimated $ for Maintenance	26,735,982	32,570,966	41,730,981	81,281,820	293,299,053	17,345,888	492,964,690
												Fund Mark Comparison	11,837,693	-31,582,830	8,822,598	-38,489,588	437,481,119	1,306,047,495	1,680,184,486
												Four Yr TIP Balance\ Total Budget				401,125,854			3,155,994,057
																182,319,749			
																-49,412,128			
																351,713,726			

Table 7-7. 10-Year LRMTP Project List by Year of Expenditure *(continued)*

LRMTP Detail	Facility	From	To	Improvements	Cost
3	Hwy 10	Taylor Loop	Pleasant Valley	Major Widening (Phase I)	$15.0
32	Geyer Springs	Geyer Springs R.R. Grade Separation (L.R.) (PE) (S)		RR Xing (Railgrade Separation)	$7.5
31	Geyer Springs	Geyer Springs R.R. Grade Separation (L.R.) (PE) (S)		RR Xing (ROW/Utilities)	$2.5
30	Geyer Springs	Geyer Springs R.R. Grade Separation (L.R.) (PE) (S)		RR Xing (PE)	$0.7
TOTALS					**$236.2**
2013-2016 TIP Projects - Bicycle and Pedestrian					
39	CARTS RSN	Transportation Alternatives		Ped/Bike	$0.82
40	CARTS RSB	Transportation Alternatives		Ped/Bike	$0.83
TOTALS					**$1.65**
2013-2016 TIP Projects - Transit Capital and Operating Assistance for the CARTS Area[2]					
	Systemwide			CATA capital and operating assistance	
TOTALS					
Rail Grades And Local Projects					
63	JP Wright Loop	UPRR	JP Wright Loop	New rail grade overpass	$4.2
65	North Cabot Interchange - Hwy 38	State Hwy 367 and State Hwy 38	US Hwy 67 / 167	New Roadway and Interchange (city portion)	$10.1
66	Maumelle Interchange - Country Club Drive	I-40	Country Club Parkway	New Interchange and new 2 lane facility (city portion)	$7.2
TOTALS					**$21.5**
CAP Projects					
41*	Interstate 30	Central Corridor		Operational Improvements	$300.0
42	Interstate 30	Hwy 70 (Hot Sprnings)	Sevier Street (Benton)	Major Widening	$75.0
43	Interstate 40	Hwy 365	I-430	Major Widening	$20.0
45	Hwy 67	Jacksonville	Cabot	Major Widening	$120.0
47	Interstate 630	Baptist Hospital	University	Major Widening	$50.0
46	Hwy 70	Hot Springs	I-30 (Benton)	Major Widening	$14.8
44	Hwy 64	Vilonia Bypass	Beebe	Major Widening	$4.0
TOTALS					**$583.8**
IRP Projects					
50	Interstate 530	Bingham Rd	Grant Co Line	Rehabilitation	$9.1
52	Interstate 530	I-30	Bingham	Rehabilitation	$38.0
48	Interstate 30	Hwy 70 West		Rehabilitation	$8.9
51	Interstate 440	I-30	Arkansas River Bridge	Rehabilitation	$25.0
49	Interstate 40	I-30/I-40 Interchange	Hwy 67	Rehabilitation	$22.7

*An amendment may be required upon completion of Planning and Environmental Linkage (PEL) Study and once the number of through lanes have been determined.

Metroplan Policy and Plan Statements on Freeway Capacity

1) Metroplan Policy on Freeways and Expressways

The below text was taken directly from the *CARTS Study Area Roadway Design Standards and Implementation Procedures*:

"The Metroplan Board has adopted the following policy with regard to Freeways and Expressways in the CARTS area:

> *The metropolitan freeway system should be built to six through lanes. It is the Metroplan Board's intent that demand over that capacity be met with a robust regional arterial network and public transit.*

If the Arkansas State Highway and Transportation Department sees the need to widen metropolitan freeways beyond six through lanes, it should consult with the Metroplan Board for its concurrence. Prior to planning for widening beyond six through lanes, the Department is expected to do a thorough analysis of alternative methods of meeting travel demand in the corridor with improved arterials and public transit. A thorough analysis of the impact of the induced traffic demand on local roadways as a result of the widening beyond six through lanes would also be required. The Metroplan Board may also consider conducting an independent analysis of widening proposals over six through lanes for its use and benefit."

2) METRO 2030.2: Metropolitan Freeway System-Capacity Improvements

The below text was taken directly from *METRO 2030.2*, Chapter 17: Vision Plan:

"The freeway network within the metropolitan area should be completed and expanded to six through travel lanes by 2030. That means completing the Northbelt Freeway. It also means widening I-40 to six lanes between I-430 and Conway at Hwy. 65 and eastward into Lonoke County. It calls for extending the widening of Hwy. 67/167 beyond its planned terminus at Redmond Road in Jacksonville to the Vandenberg/LRAFB exit in the short-term and then on to Cabot and Hwy. 89 by the end of the plan period, plus extending the widening of I-30 southwest from Sevier Street in Benton to at least Hwy. 67.

Nearly all the freeway-to-freeway interchanges in the metropolitan area need some level of reconstruction to increase capacity and safety. The I-630/I-430 Interchange is one of the highest needs, but the I- 630/I-30, I-40/Hwy. 67/167, I-430/I-40, I-30/I-40 (North Terminal) and the I-30/I-530/I-440 (South Terminal) also need attention.

The recently completed Areawide Freeway Study also indicated that additional capacity may be needed at some point in the future on a) I- 30 between the North and South Terminals where five interstate highways merge and diverge within five miles, b) I-430 south of I-40 to I-630, c) I-630 from I-430 to University Avenue, d) I-30 from South

Terminal to 65th Street and e) I-440 from South Terminal to Lindsey Road (Map 17-2). At an appropriate time, these freeway segments should be studied consistent with the regional policy on freeway capacity."

Central Arkansas Regional Transportation Study
Agreement of Understanding

Between and Among

Faulkner County, Lonoke County, Pulaski County, Saline County, the City of Alexander, the City of Austin, the City of Benton, the City of Bryant, the City of Cabot, the City of Cammack Village, the City of Conway, the City of Haskell, the City of Jacksonville, the City of Little Rock, the City of Maumelle, the City of North Little Rock, the City of Shannon Hills, the City of Sherwood, the City of Vilonia, the City of Ward, the City of Wrightsville, the City of Mayflower, the Central Arkansas Transit Authority, South Central Arkansas Transit, the Arkansas State Highway and Transportation Department, and other jurisdictions or agencies that may, in the future, be admitted to this agreement

In Cooperation With

The United States Department of Transportation

To Participate In

The responsibilities and functions of a continuing, comprehensive and cooperative transportation planning process for Central Arkansas through METROPLAN, the designated Metropolitan Planning Organization (MPO) for the Little Rock/North Little Rock Metropolitan Statistical Area.

Whereas, it is the desire of the participating jurisdictions and agencies that there be a continuing, comprehensive, and cooperative (3C) transportation planning process, pursuant to United States Department of Transportation regulations and in accordance with Titles 23 and 49 of the US Code, that is responsive to the needs of the urban and urbanizing areas of central Arkansas and to changes in those areas; and

Whereas, the goal of this planning process is an approved central Arkansas regional transportation plan accepted by all participating jurisdictions and formally approved as the plan for implementation by the MPO Board;

Whereas, it is understood that this agreement does not transfer any constitutional or legislative authority possessed by the participating jurisdictions; and

Whereas, it is understood that the planning process and the relationship between the partners in the planning process is complex and evolves over time;

THEREFORE, IT IS AGREED that the designated metropolitan planning organization shall be the forum for cooperative transportation decision making for the Central Arkansas Regional Transportation Study Area pursuant to United States Department of Transportation regulations and in accordance with US Code.

The MPO may establish advisory committees and hire staff and/or consultants to assist it in its decision making. The organization, composition, responsibilities, and functions of CARTS advisory committees and MPO staff shall be at the direction of the MPO Board.

IT IS FURTHER AGREED that the specific relationships in the planning process and specific responsibilities for conducting planning studies shall be specified in the Unified Planning Work Program as adopted by the MPO and other agreements between the Arkansas State Highway and Transportation Department, the transit provider(s) and the MPO as may be deemed mutually desirable.

IT IS FURTHER AGREED that all existing master street plans, and area-wide road, highway, transit, bikeway, waterport, airport, or pedestrian plans, or any such plans for improvement of transportation facilities within the CARTS boundary shall be consistent with the approved central Arkansas regional transportation plan.

IT IS FURTHER AGREED, that in cooperation with MPO, the participating governments and agencies will take appropriate action to implement the Transportation Improvement Program as approved by the MPO. The Transportation Improvement Program shall be updated at least biennially. The MPO shall publish the approved TIP and TIP updates.

IT IS FURTHER AGREED that modifications to this Agreement must be approved by the MPO Board and submitted to each signatory jurisdiction and agency for ratification. Failure to adopt this Agreement or to ratify proposed modifications will signal that the jurisdiction or agency does not wish to participate in the regional transportation planning process.

Faulkner County BY: _____

Lonoke County BY: _____

Pulaski County BY: _____

Saline County BY: _____

City of Alexander BY: _____

City of Austin BY: _____

City of Benton BY: _____

City of Bryant BY: _____

City of Cabot BY: _____

City of Cammack Village BY: _____

City of Conway BY: _____

City of Haskell BY: _____

City of Jacksonville BY: _____

City of Little Rock BY: _____

City of Maumelle BY: _____

City of North Little Rock BY: _____

City of Shannon Hills BY: _____

City of Sherwood BY: _____

City of Vilonia BY: _____

City of Ward BY: _____

City of Wrightsville BY: _____

City of Mayflower BY: _____

Central Arkansas Transit Authority BY: _____

Arkansas State Highway and Transportation Department BY: _____

Adopted on 26th day of March, 1998

Public Meeting Feedback

In order to foster an open and collaborative process when developing the purpose and need for the I-30 PEL Study, attendees of the first public meetings (conducted on August 12, 2014 in North Little Rock and August 14, 2014 in Little Rock) were asked to provide input on problems they have experienced or would like to share, as well as their ideas for improvements or goals. As shown in the photographs below, this was accomplished by including a station at the public meetings where attendees were asked to write their ideas/concerns on post-it notes, which were then displayed on large exhibit boards for all attendees to review.





Below is a summary of the problems and goals identified by the public at the public meetings. These problems and goals have been considered as part of the purpose and need, goals and objectives, or Universe of Alternatives.

Problems

- Congestion on I-30/I-40*
- Congestion at I-630 and College Street*
- Ramping Issues*
    - Ramps too close, interchanges too close, safety issues due to ramps too close
- Weaving problems*
    - In particular, along I-40 between I-30 and Hwy. 67
- Safety Issues along the I-30/I-40 Corridor*
    - Better lighting and striping
- Safety Issues with arterial streets*
    - More stop signs and/or lights; better lighting
- Drainage Issues with arterial streets**
- Bridge replacement and/or widening*
    - I-30 bridge pier is out of alignment with other bridge piers – should be replaced
- Other modes of transportation are needed**
- Interstate is a barrier to bikes and pedestrians**

Goals

- Improve access to downtown areas*
- Divert truck traffic around the city**
- Provide fewer exit ramps*
- More flyovers needed**
- Double deck the bridge**
- Do not add lanes/consider alternative ways to alleviate congestion*
- Provide/improve bike and pedestrian facilities*
- Support current transit*
- Provide an effective public transportation system**
- Implement light rail/plan for light rail in the future by providing rail right-of-way**
- Evaluate alternative modes (High Occupancy Vehicle lanes, etc.)*
- Provide better communication to the public during the construction process*
- Do not just rehabilitate I-40 – improve interchanges and widen**
- Reconnect Riverfront Park and all green space in the corridor*
- Depress I-30 to reconnect the city above**
- Cover the interstates to create parks**
- Create an observation deck and charge a fee for the vantage point**
- Provide better East-West Connectivity*
- Create an aesthetically pleasing bridge*
- Create a bridge that aesthetically matches the other river crossings*
- Provide an additional river crossing (e.g., Chester Street Bridge)**
- Minimize impacts to historic and archeological resources/conduct robust cultural resources surveys/historic preservation*
- Improve signage along the project corridor**
- Minimize disruptions to traffic during construction*
- Reduce traffic noise using aesthetically pleasing mitigation measures*

*Issue or Goal previously identified by the Study Team

**Issue identified by the public as a problem or a Goal that will be addressed in the Alternatives Screening Process, through CSS visioning workshops, or in future analyses.

Attachment B: Traffic Data

Attachment B-1: I-30 as a Regionally Significant Roadway
Attachment B-2: Stakeholder Input
Attachment B-3: Field Observations
Attachment B-4: I-30/I-40 Existing and Future Levels of Service

I-30 as a Regionally Significant Roadway

The following summarizes the I-30 corridor in Little Rock, AR as a regionally significant roadway. This definition is based on the one provided in federal regulations (23 CFR § 450.104).

23 CFR § 450.104:

"Regionally significant project means a transportation project (other than an exempt project) that is on a facility which serves regional transportation needs (such as access to and from the area outside of the region, major activity centers in the region, major planned developments such as new retail malls, sports complexes, etc., or transportation terminals as well as most terminals themselves) and would normally be included in the modeling of a metropolitan area's transportation network, including at a minimum all principal arterial highways and all fixed guide way transit facilities that offer an alternative to regional highway travel."

Regionally Significant Roadways include:

- **Roadways on the federally-adopted National Highway System (NHS)**: I-30 is part of the NHS.
- **Roadways on the Metroplan Long Range Transportation Plan (LRTP):** I-30 is included on Metroplan's LRTP.
- **Regional Connectivity:** I-30 is the regional transportation spine that connects seven interstates within approximately 4.5 mile core of the metropolitan area.
    - North: I-40 East, I-40 West and US 67/167
    - West: I-630
    - South: I-30, I-530 and I-440
- **Traffic Demand:** According to AHTD, in 2013, I-30 carried 79.5 percent of the daily traffic of the three downtown river bridges of Broadway (21,000 ADT), Main Street (9,600 ADT) and I-30 (119,000 ADT). This represents 3.8 times more traffic on I-30 than Broadway and Main Street traffic combined.
- **Trip Characteristics**: As part of the I-30 PEL Study traffic analysis, Metroplan's 2040 daily travel demand model determined the following characteristics:

I-30 Estimated Daily Trip Characteristics in 2040[1, 2]

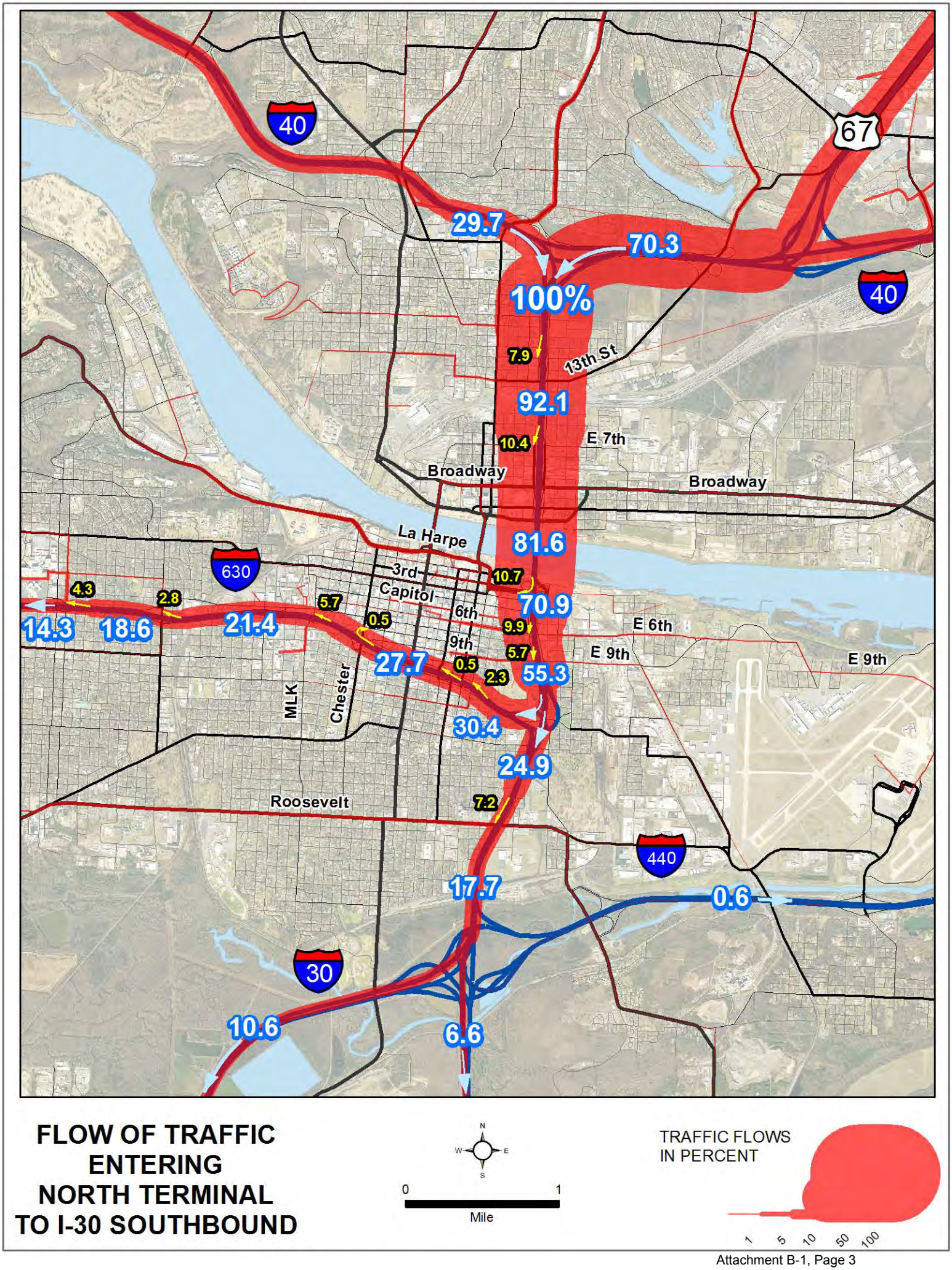
Trip Type	I-30	From I-40 WB
Local Access	45%	71%
Through Trips[3]	17%	4%
Travel to I-630	38%	25%
Total Trips	**100%**[4]	**100%**[4]

Notes: [1]Metroplan 2040 Travel Demand Model; [2] Figures B-1a through B-1c in Attachment B-1 further illustrate trip characteristics along I-30. [3]Through trips are vehicle trips that start and end outside the PEL study limits (External trips are considered vehicle trips that are outside the PEL study limits); [4]Does not include local to local trips.

Figures B-1a through **B-1c f**urther illustrate trip characteristics along I-30.

- The 2003 *Phase 1: Arkansas River Crossing Study* noted that I-30 serves longer distance trips whereas Broadway and Main Street serve more local trips when compared to each other. The Phase 1 Study identified the following trip length percentages for trips greater than 15 miles: I-30 carried 44% trips, Broadway carried 10% and Main Street carried 11%.

Figure B-1a. Flow of Traffic Entering North Terminal to I-30 SB



FLOW OF TRAFFIC ENTERING NORTH TERMINAL TO I-30 SOUTHBOUND

Figure B-1b. Flow of Traffic Entering South Terminal to I-30 NB

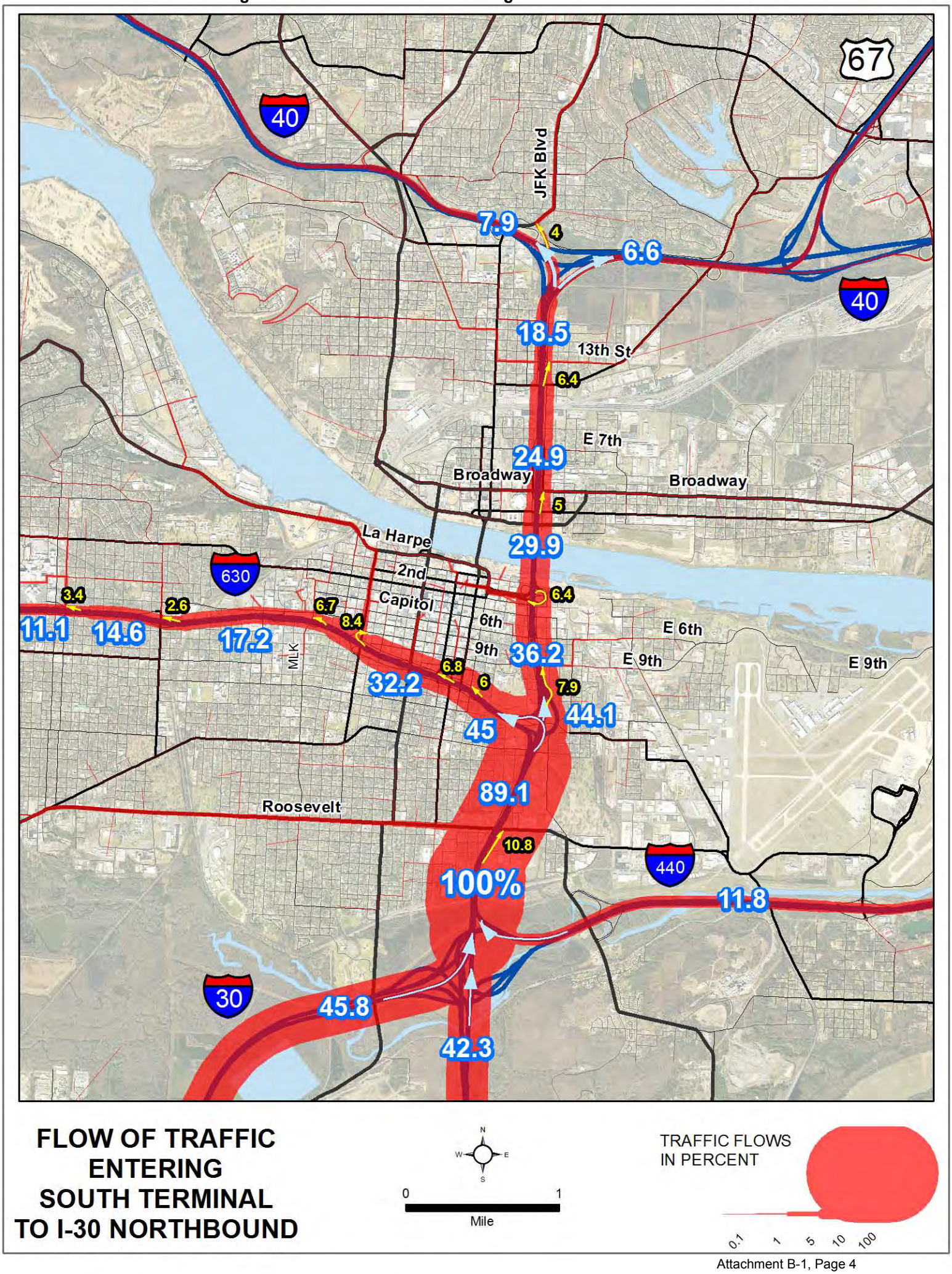
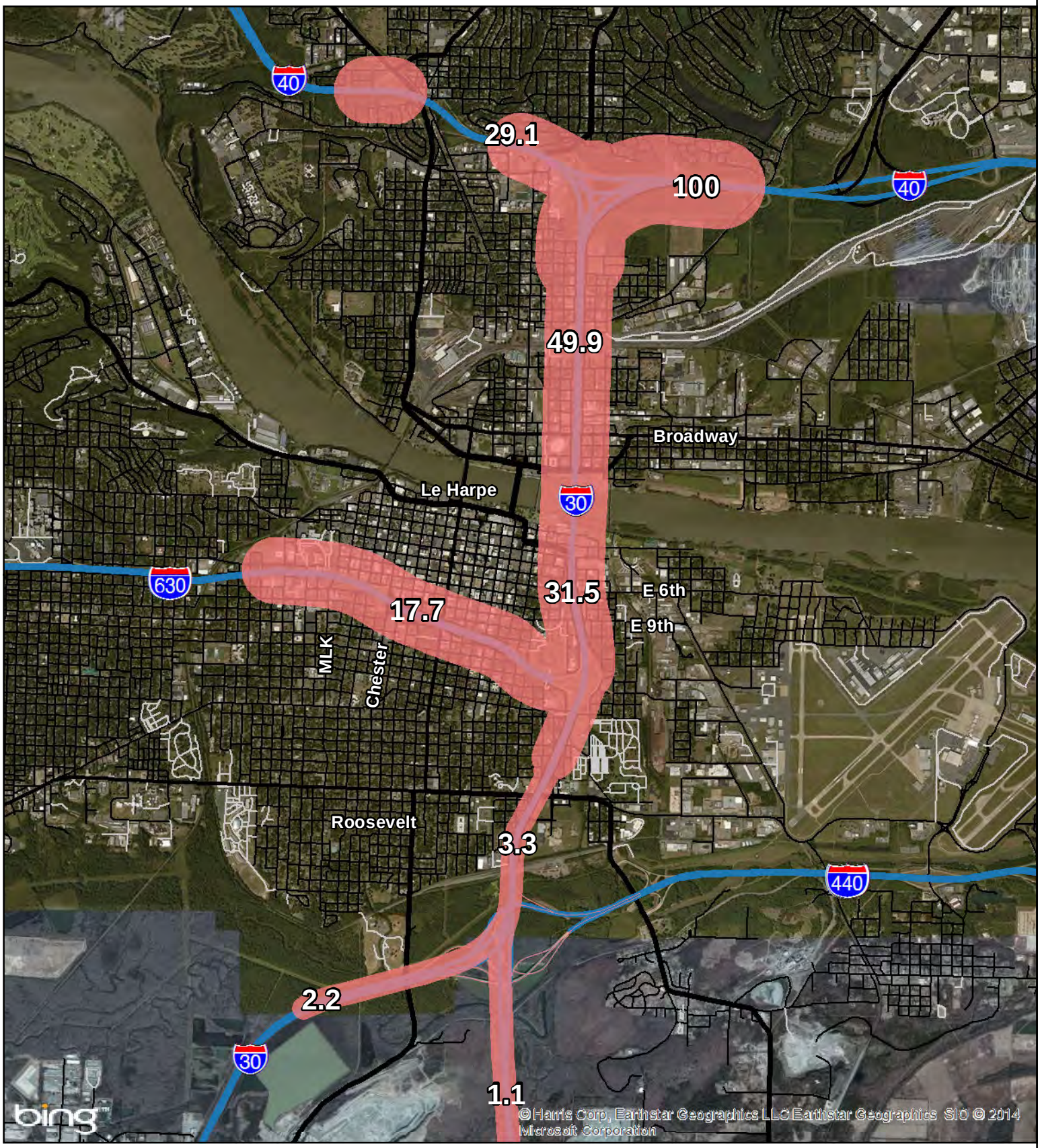


Figure B-1c. Flow of Traffic WB I-40



FLOW OF TRAFFIC WEST BOUND I-40

N
W E
S

0 0.5 1

Mile

TRAFFIC FLOWS IN PERCENT

0 1-5 5-10 10-50 50-100

Stakeholder Input

Meetings were held with the City of Little Rock, North Little Rock, Metroplan and AHTD in May 2014. The purpose of these meetings was to discuss existing traffic and safety concerns along I-30/I-40 in the study area. A summary of their comments is presented below.

Existing I-30 Issues Discussion Summary
(Little Rock, North Little Rock, Metroplan and AHTD)

1. Short ramps
2. Weaving problems
3. Cantrell (highway 10) tight circle interchange
4. I-630 EB to I-30 NB congestion
5. Hard to maintain median lighting
6. 9th St. access is preferred over 6th St.
7. 6th St. has become less important
8. Future growth north of Airport expected
9. SB on-ramp at McArthur Park is a sight distance problem
10. 6th St. between 3rd St. and 6th St. frontage road is dangerous
11. SB I-30 at Roosevelt
12. I-30 and Roosevelt is a high accident location
13. Hwy. 10 at I-30 and I-630 at I-30 are the major problems
14. Broadway is a congested parallel roadway
15. Discontinuous frontage road is a problem
16. Schools on the east side with students on the west side of I-30
17. Signal improvements were not thought to improve existing problems
18. City has a traffic operations center but there is no regional ITS infrastructure
19. Too many ramps
20. I-30 is a north/south barrier
21. Six freeways merge within six miles
22. Inadequate interchange designs and to many
23. I-30 bridge used to be 4-lanes with shoulders
24. Weaving problems on I-40 from I-30 to Hwy 67
25. Lane split – one to I-30 NB and one to JFK
26. Cantrell is on 4 sq. blocks of prime real estate
27. Heavy pedestrian crossings near Cantrell (700 peds/hr)
28. Improvements to the existing frontage roads needed
29. Cap freeway and reconnect east/west street grid
30. Broadway bridge has been designed for rail in the future
31. Signage/wayfinding improvements needed
32. N. Hills Interchange is difficult
33. Main St./ JFK Interchange is difficult with missing movements
34. Consider access to underutilized Hwy. 100 on north side of river
35. Signal improvements at Broadway may improve operations
36. NB off ramp to Broadway backs up onto I-30.
37. Consider emergency access and schools in corridor
38. AHTD is considering high friction pavement surface for ramps at Cantrell and I-630
39. Focus on locations that are 2-lane ramps necked down to 1-lane
40. Deceleration occurs in I-30 through lanes due to short deceleration lanes
41. Poor ramp geometrics at I-630
42. I-30 SB to I-530 on-ramp problems
43. AHTD considers LOS D as the goal but may consider LOS E or worse and duration of impacts
44. Separation of local and through traffic
45. Reconnecting neighborhoods
46. Reclaiming land for both park and economic purposes

Source: Individual stakeholder meetings May 20th and 21st, 2014.

Field Observations

Firsthand knowledge of I-30 and I-40 within the study area is an essential part to understanding its traffic operational strengths and shortcomings. Field observations were performed along the I-30 and I-40 facility during the peak periods. A total of four peak times were observed, as follows:

- AM Peak
  - Tuesday, May 20, 2014 from 7-9am
  - Wednesday, May 21, 2014 from 6:30-9am
- PM Peak
  - Monday, May 19, 2014 from 4-6pm
  - Tuesday, May 20, 2014 from 3:30-6pm

Exhibit B-3a presents a graphical summary of the field observations. The following text provides an overview of the field observations. Numbers next to each summary correspond to the numbers shown in **Exhibit B-3a**.

In general, most congestion appeared to occur on the mainline. Only a few intersections displayed signs of congestion during the peak periods. All AM and PM peak hour movements (WB in the morning, EB in the evening) were consistently congested on the bridge over the Arkansas River. Generally speaking, lanes heading into Little Rock were congested in the morning and outbound lanes were congested in the evening. Bottlenecks on the mainline were observed near the Curtis Sykes entrance/exit ramps, the Broadway entrance ramps, the 2nd Street entrance ramps, and the I-630 interchange.

AM Peak Observation

1) I-30 WB North of I-630 Interchange

In both morning observations, congestion I-30/I-440 was noted from the point where I-40 West and Hwy. 67 South converge until the Curtis Sykes Drive exit. I-40 East also experienced congestion between JFK Boulevard and Curtis Sykes Drive. For southbound drivers, the location of the Curtis Sykes Drive exit shortly after the I-40/I-30 interchange caused weaving for the I-40 West drivers who are trying to exit at Curtis Sykes Drive.

On both days, traffic became less congested south of Curtis Sykes Drive. However, it became congested again at the entrance from Broadway and cleared up after the 2nd Street ramps.

2) I-30 EB South of I-630 Interchange

Heavy but uncongested traffic was observed both days starting west of the I-530/I-440/I-30 interchange. After the interchange, traffic became congested. It remained

congested until just north of the I-630 interchange. An incident was noted on the shoulder where I-30 East and I-530 North merge during the second AM observation.

3) I-40 WB Off ramp to JFK Boulevard

The only intersection to have notable delay during the AM peak was at the I-40 West off ramp onto JFK Blvd. This intersection was showing backups on the first day of observation. No other notable backups occurred at this location.

PM Peak Observation

4) I-30 WB South of I-630 Interchange

Starting south of the I-630 interchange, congestion on I-30 WB was noted in both PM observations. Free flow conditions were cited as soon as traffic reached the I-530/I-440/I-30 interchange.

5) I-30 EB North of I-630 Interchange

On both days, traffic was stop-and-go between the I-630 ramp and Curtis Sykes Drive. At one point during the observation, the I-630 EB to I-30 EB on ramp was backed up all the way to mainline I-630. It was noted that the I-630 ramp transitions from two lanes down to one lane just before merging with I-30 East.

Two separate incidents (one in each of the PM observations) occurred in the same approximate location just north of the I-360/I-30 eastbound merge. One was a minor crash and the other was a stalled vehicle.

The looped on-ramp to I-30 EB from 2nd Street was also experiencing backups related to the congestion on I-30 EB. Backups on the ramp can be partially attributed to the fact that three separate on-ramps merge into one before merging with mainline traffic.

6) N Cypress Street/E. Broadway Street/N. Locust Street

During the first PM Peak, backups at the Cypress/Broadway/Locust intersection were noted from several directions. The most prominent backup was on the I-30 EB off ramp due to traffic trying to use the through lane. It appeared that the left turn lane was hardly used, while the single through lane was backed up.

On both days, delays were noted for EB through traffic on Broadway Street. Cars were observed being in the queue for up to two full signal cycles. Much of the traffic appeared to be going through the Cypress Street intersection and turning left onto Locust Street.

7) LaHarpe Boulevard and Markham Street

On the first day of observation, a near 5 minute delay was noted for south bound traffic at the LaHarpe Boulevard and Markham Street intersection. The traffic was backed up for approximately 3½ blocks. However, this congestion was not noted again after the first day. A significant number of pedestrians cross at this intersection.

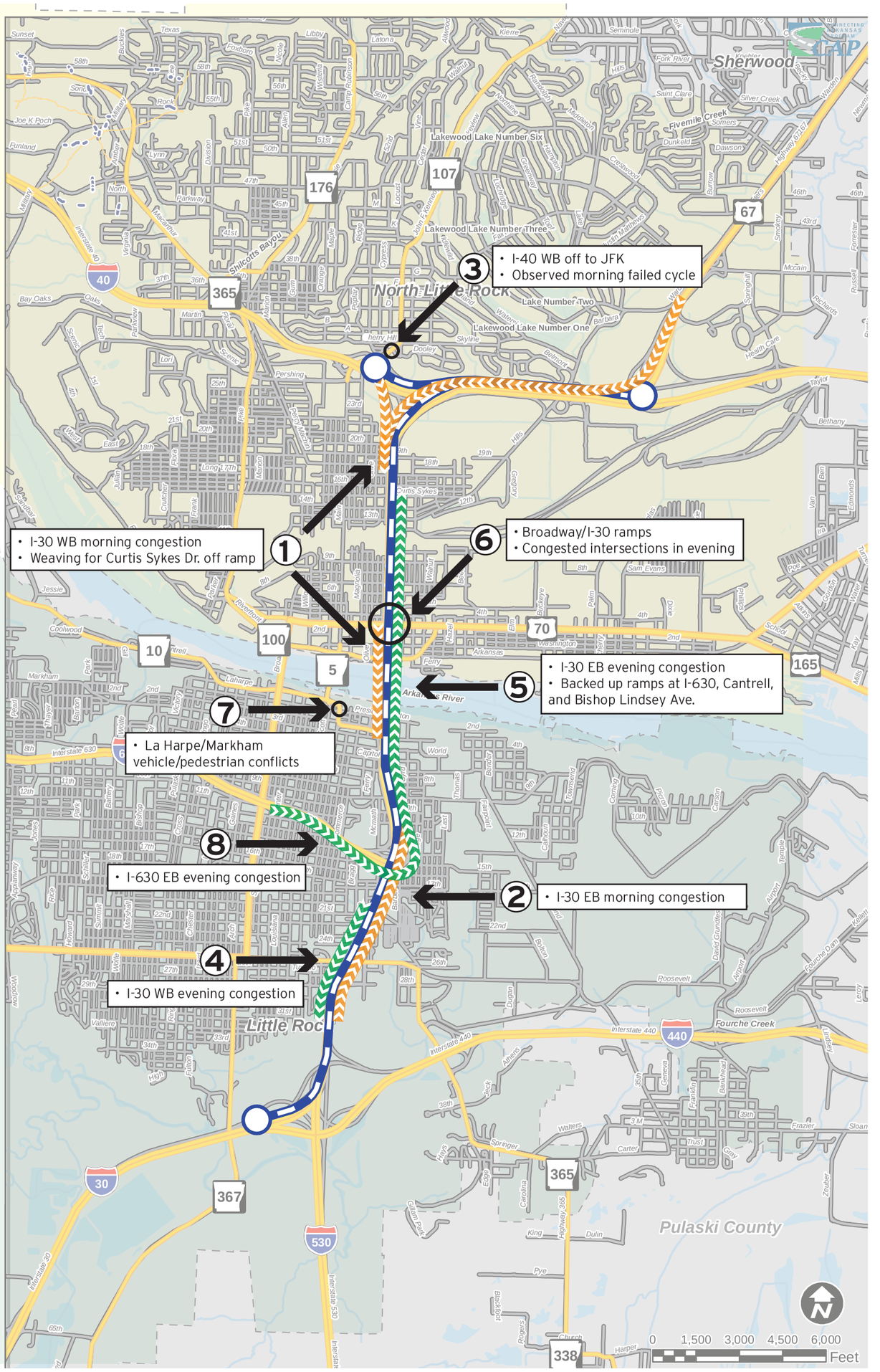
8) I-630 EB west of I-30

In the EB direction, congestion was observed from the I-630 EB to I-30 EB and WB movements that had a vehicle queue back up of approximately 1 mile. The problem appeared to be the I-30 EB congestion that backs onto the I-630 EB to I-30 EB ramp. The other part of the problem is the I-630 EB to I-30 WB ramp merges to one lane before merging onto I-30 WB. This caused backups onto I-630 EB.

Legend

AM Congestion

PM Congestion



CA0602- I-30 PEL
Interstate 530 to Highway 67
Field Observations

EXHIBIT B-3a

I-30/I-40 Existing and Future Levels of Service

Traffic was analyzed along I-30 and I-40, with the I-30 limits extending from the I-30/I-530/I-440 interchange to the south to the I-30/I-40 interchange to the north; and the I-40 limits extending from the I-30/I-40 interchange to the west to the I-40/Hwy. 67/Hwy. 167 interchange to the east.

1. Existing Conditions (2013)

Table B-4a shows the existing (2013) design hour roadway level of service (LOS).

Table B-4a. Existing (2013) Design Hour[1] Roadway LOS (Basic Mainline and Weaves)

ID	Facility	Location	Lanes	Volume	LOS	Density[2]	Speed	Analysis
9	I-40 EB	US 67 int - N Hills Blvd	4	6600	D	27.9	65.5	Basic Mainline
10	I-40 WB	US 67 int - N Hills Blvd	4	6600	D	27.9	65.5	Basic Mainline
11	I-40 EB	N Hills blvd-I-30 int	4	3492	E	35.9	51.7	Weave
12	I-40 WB	N Hills Blvd - I-30 int	4	7140	D	31.3	63	Basic Mainline
13	I-40 EB	I-30 int-JFK Blvd	4	5040	E	37.3	46	Weave
14	I-40 WB	I-30 int - JFK Blvd	2	5040	F	68.4	40.7	Basic Mainline
17	I-30 EB	I-40 int - Curtis Sykes Dr	3	6900	F	51.9	49	Basic Mainline
18	I-30 SB	I-40 int-Curtis Sykes Dr	4	6900	E	70.6	36.2	Weave
19	I-30 EB	Curtis Sykes Dr - Bishop Lindsey	3	6960	F	53.1	48.3	Basic Mainline
20	I-30 WB	Curtis Sykes Dr - Bishop Lindsey	3	6960	F	53.1	48.3	Basic Mainline
21	I-30 EB	Bishop Lindsey Ave - E Broadway St	3	6120	E	39.6	57	Basic Mainline
22	I-30 WB	Bishop Lindsey Ave - E Broadway St	3	6120	E	39.6	57	Basic Mainline
23	I-30 EB	E Broadway St - Hwy 10/La Harpe Blvd	3	7140	F	57	46.2	Basic Mainline
24	I-30 WB	E Broadway St - Hwy 10/La Harpe Blvd	3	7140	F	57	46.2	Basic Mainline
25	I-30 EB	2nd St-6th St	4	5775	E	37.7	48.3	Weave
26	I-30 WB	2nd St-6th St	4	5855	E	37.8	48.2	Weave
27	I-30 EB	9th St Off-Ramp - I-630 Off-Ramp	3	6360	E	42.8	54.8	Basic Mainline
28	I-30 WB	9th St On-Ramp - I-630 On-Ramp	3	6360	E	42.8	54.8	Basic Mainline
31	I-30 EB	I-630 int-Roosevelt	4	3976	D	32	52.8	Weave
32	I-30 WB	I-630 int-Roosevelt	4	4023	E	40.9	41.3	Weave
33	I-30 EB	24th St - Roosevelt	3	6360	E	42.8	54.8	Basic Mainline
34	I-30 WB	24th St - Roosevelt	3	6360	E	42.8	54.8	Basic Mainline
35	I-30 EB	Roosevelt Rd-I-440 int	4	4250	D	31.3	47.9	Weave
36	I-30 WB	Roosevelt Rd - I-440 int	3	5640	D	34.1	61	Basic Mainline
45	I-30 EB	6th St On-Ramp - 9th St On-Ramp	3	6360	E	42.8	54.8	Basic Mainline

Source: HCM 2010
Assumptions (DD = 60%, DHV = 0.94, k Factor = 10%, HV = 8%)
[1] Peak hour in each direction
[2] Density is the number of passenger's cars per mile per lane

Existing LOS results indicate that congestion (LOS E and F) exists primarily between I-30/JFK Boulevard interchange and I-30 and 24th/Roosevelt interchange. Outside of these limits, LOS D conditions primarily exist.

2. Future No-Action Conditions (2040)

Table B-4b shows the future (2040) No-Action design hour roadway LOS.

Table B-4b. Future (2040) No-Action Design Hour[1] Roadway LOS

ID	Facility	Location	Lanes	Volume	LOS	Density[2]	Speed	Analysis
9	I-40 EB	US 67 Interchange - N Hills Blvd	4	8,634	E	44.5	53.6	Basic Mainline
10	I-40 WB	US 67 Interchange - N Hills Blvd	4	8,634	E	44.5	53.6	Basic Mainline
11	I-40 EB	N Hills blvd - I-30 int	4	4,568	E	50.9	47.7	Weave
12	I-40 WB	N Hills Blvd - I-30 Interchange	4	9,341	F	54.1	47.8	Basic Mainline
13	I-40 EB	I-30 Interchange - JFK Blvd	4	6,593	E	55	40.8	Weave
14	I-40 WB	I-30 Interchange - JFK Blvd	2	6,593	F	6736.1	0.5	Basic Mainline
17	I-30 EB	I-40 Interchange - Curtis Sykes Dr	3	9,027	F	210.1	16	Basic Mainline
18	I-30 SB	I-40 Interchange - Curtis Sykes Dr	4	9,027	F	210.1	16	Weave
19	I-30 EB	Curtis Sykes Dr - Bishop Lindsey	3	9,105	F	86	34.4	Basic Mainline
20	I-30 WB	Curtis Sykes Dr - Bishop Lindsey	3	9,105	F	86	34.4	Basic Mainline
21	I-30 EB	Bishop Lindsey Ave - E Broadway St	3	8,006	F	298.6	11.5	Basic Mainline
22	I-30 WB	Bishop Lindsey Ave - E Broadway St	3	8,006	F	298.6	11.5	Basic Mainline
23	I-30 EB	E Broadway St - 2nd St	3	9,341	F	54.7	43.5	Basic Mainline
24	I-30 WB	E Broadway St - 2nd St	3	9,341	F	54.7	43.5	Basic Mainline
25	I-30 EB	2nd St - 6th St	4	7,555	E	103.9	29.5	Weave
26	I-30 WB	2nd St - 6th St	4	7,660	E	103.9	29.5	Weave
27	I-30 EB	9th St Off-Ramp - I-630 Off-Ramp	3	8,948	F	44.5	49.7	Basic Mainline
28	I-30 WB	9th St On-Ramp - I-630 On-Ramp	3	8,948	F	63.9	34.6	Basic Mainline
31	I-30 EB	I-630 Interchange - Roosevelt	4	5,201	E	45.6	43.1	Weave
32	I-30 WB	I-630 Interchange - Roosevelt	4	5,263	E	63	43.2	Weave
33	I-30 EB	24th St - Roosevelt	3	8,320	F	103.9	29.5	Basic Mainline
34	I-30 WB	24th St - Roosevelt	3	8,320	F	103.9	29.5	Basic Mainline
35	I-30 EB	Roosevelt Rd - I-440 Interchange	4	1,871	E	45.6	43.1	Weave
36	I-30 WB	Roosevelt Rd - I-440 Interchange	3	3,689	F	63	43.2	Basic Mainline
45	I-30 EB	6th St On-Ramp - I-630 On-Ramp	3	8,948	F	175.1	18.8	Basic Mainline

Source: HCM 2010
Assumptions (DD = 60%, DHV = 0.94, k Factor = 10%, HV = 8%)
[1]Peak hour in each direction
[2]Density is the number of passenger's cars per mile per lane

Figure 2 of the I-30 PEL Purpose and Need Technical Report shows a graphical representation of the existing and future peak-hour LOS conditions along I-30 and I-40. Under existing conditions, 70 percent of the corridor experiences congestion levels with undesirable speeds (LOS E and F), according to current AHTD standards (AHTD's desirable design year LOS is D). This percentage increases to 100 percent by 2040 under future No-Action conditions. Without improvements, many sections of I-30 are anticipated to operate under 20 miles per hour (mph) during the peak periods.

Attachment C: Roadway Data

Attachment C-1: Crash Data
Attachment C-2: Severe Injury and Fatal Crash Data
Attachment C-3: Bicycle and Pedestrian Crash Data
Attachment C-4: Structural Roadway Deficiencies
Attachment C-5: Functional Roadway Deficiencies

Crash Data

Crash Data for 2010, 2011, and 2012

Crashes from 2010, 2011, and 2012 (the latest three years of available data) were reviewed along I-30 from the I-30/I-530/I-440 interchange in the south to the I-40/Hwy. 107/JFK Boulevard interchange in the north; and along I-40 to just east of the I-40/Hwy. 67/Hwy. 167 interchange. The location and number of crashes along the main lanes and cross roads throughout the study area are plotted graphically in **Exhibits C-1a** through **C-1l**; and histograms showing the distribution of crash types and locations are shown in **Exhibits C-1m** through **C-1p**.

As shown by these exhibits, a few key locations exhibit large clusters of crashes consistently throughout the three year study period. The I-30 at East Broadway Street area is notable with consistently high numbers of crashes both along I-30 and along the crossroads (S. Cypress Street and S. Locust Street). Other areas with elevated numbers of crashes include the I-30 at Curtis Sykes Drive, Main Street at W. Pershing Boulevard along with the nearby intersection of Hwy. 107/JFK Boulevard at I-40 Access Road, and Hwy. 67/Hwy. 167 at McCain Boulevard.

Numbers of crashes and crash rates (all severity types) were calculated for each of the three years of crash data in order to evaluate the safety performance of the study corridor with similar highways in Arkansas. These crash numbers and rates are shown in **Table C-1a** below.

Table C-1a. Historical Crash Numbers and Rates along I-30/I-40

I-30, Section 230, Log Mile 138.39-139.67 (I-530/I-440 to I-630)							
Year	**Length (miles)**	**Weighted ADT**	**# Crashes**	**Crash Rate**	**AR Avg. Crash Rate**	**Type**	**Crash Rate AR Avg. Crash Rate**
2010	1.28	96,219	99	2.19	1.53	6 or more-Lane Access Control Urban Interstates in AR	1.43
2011	1.28	96,219	62	1.37	1.22	6 or more-Lane Access Control Urban Interstates in AR	1.12
2012	1.28	96,219	64	1.42	0.95	6 or more-Lane Access Control Urban Interstates in AR	1.50
I-30, Section 230, Log Mile 139.68-142.02 (I-630 to I-40)							
Year	**Length (miles)**	**Weighted ADT**	**# Crashes**	**Crash Rate**	**AR Avg Crash Rate**	**Type**	**Crash Rate AR Avg Crash Rate**
2010	2.35	115,740	471	4.74	1.53	6 or more-Lane Access Control Urban Interstates in AR	3.10
2011	2.35	113,336	371	3.81	1.22	6 or more-Lane Access Control Urban Interstates in AR	3.12
2012	2.35	109,817	406	4.31	0.95	6 or more-Lane Access Control Urban Interstates in AR	4.54
I-40, Section 330, Log Mile 153.25-154.88 (I-30 to Hwy. 67/Hwy. 167)							
Year	**Length (miles)**	**Weighted ADT**	**# Crashes**	**Crash Rate**	**AR Avg Crash Rate**	**Type**	**Crash Rate AR Avg Crash Rate**
2010	1.63	118,503	66	0.94	1.53	6 or more-Lane Access Control Urban Interstates in AR	0.61
2011	1.63	115,503	75	1.09	1.22	6 or more-Lane Access Control Urban Interstates in AR	0.89
2012	1.63	113,503	58	0.85	0.95	6 or more-Lane Access Control Urban Interstates in AR	0.90

Note: The number of crashes occurring along I-30 within the I-630 interchange were split evenly between the segment from I-530/I-440 to I-630 and the segment from I-630 to I-40. Half of the crashes occurring along I-40 within the Hwy. 67/Hwy. 167 interchange were assumed to fall within the segment from I-40 to Hwy. 67/Hwy. 167.

As exhibited in **Table C-1a**, crash rates were about three to four times the statewide average for other 6-lane urban interstates along I-30 between I-630 and I-40 in 2010 and 2011, and in 2012 it was nearly five times the statewide average for other 6 or more-lane urban interstates. For the segment of I-30 between I-440/I-530 and I-630, crash rates were slightly higher than statewide averages for other 6 or more-lane urban interstates for all three years. Crash rates were slightly below average for all three years along I-40 between I-30 and Hwy. 67/Hwy. 167. These crash rates indicate a great need for improvements along I-30, particularly the portion between I-630 and I-40. In addition to having a crash rate over three times the statewide average for other 6 or more-lane urban interstates, this segment also contains the interchange at East Broadway Street which shows the highest number of crashes for any single location within the study area. The crashes in this area were elevated both along I-30 and along the cross roads.

Future No-Action Conditions

Based on the above analysis of traffic data for 2010 – 2012, an average crash rate between the three study years was estimated for sections of the I-30 and I-40 main lanes. With the assumption that the roadway conditions would remain the same and no safety measures would be implemented, the average crash rate was assumed to remain constant through the design year. To project the number of crashes for the years 2020 and 2040, the average crash rate was applied to the future No-Build volumes. Average crash rates and projected numbers of crashes for 2020 and 2040 are shown in **Table C-1b**.

Table C-1b. Projected Crash Numbers and Rates along I-30/I-40

I-30, Section 230, Log Mile 138.39-139.67 (I-530/I-440 to I-630)							
Year	**Length (miles)**	**Average Crash Rate (MVMT)**	**Projected Weighted ADT (No Build)**	**Projected # Crashes**	**AR 2012 Avg Crash Rate**	**Type**	**Avg Crash Rate / AR 2012 Avg Crash Rate**
2020	1.28	1.66	113,646	88	0.95	6 or more-Lane Access Control Urban Interstates in AR	1.75
2040	1.28	1.66	138,670	108	0.95	6 or more-Lane Access Control Urban Interstates in AR	1.75
I-30, Section 230, Log Mile 139.68-142.02 (I-630 to I-40)							
Year	**Length (miles)**	**Average Crash Rate (MVMT)**	**Projected Weighted ADT (No Build)**	**Projected # Crashes**	**AR 2012 Avg Crash Rate**	**Type**	**Avg Crash Rate / AR 2012 Avg Crash Rate**
2020	2.35	4.29	122,023	449	0.95	6 or more-Lane Access Control Urban Interstates in AR	4.51
2040	2.35	4.29	148,891	547	0.95	6 or more-Lane Access Control Urban Interstates in AR	4.51
I-40, Section 330, Log Mile 153.25-154.88 (I-30 to Hwy. 67/Hwy. 167)							
Year	**Length (miles)**	**Average Crash Rate (MVMT)**	**Projected Weighted ADT (No Build)**	**Projected # Crashes**	**AR 2012 Avg Crash Rate**	**Type**	**Avg Crash Rate / AR 2012 Avg Crash Rate**
2020	1.63	0.96	106,194	61	0.95	6 or more-Lane Access Control Urban Interstates in AR	1.01
2040	1.63	0.96	129,577	74	0.95	6 or more-Lane Access Control Urban Interstates in AR	1.01

As exhibited in **Table C-1b**, the average crash rate along I-30 between I-530/I-440 and I-630 was nearly twice that of the statewide 2012 average for other 6 or more-lane urban interstates in 2020 and 2040; and was nearly five times the statewide 2012 average for other 6 or more-lane urban interstates along I-30 between I-630 and I-40 in 2020 and 2040. Along I-40 between I-30 and Hwy. 67/Hwy. 167, the average crash rate was about the same as that of the statewide 2012 average for other 6 or more-lane urban interstates in 2020 and 2040.

Exhibit
C-1a

CA0602
I-30/I-40, North Little Rock
2010 Main Lane Crash Locations

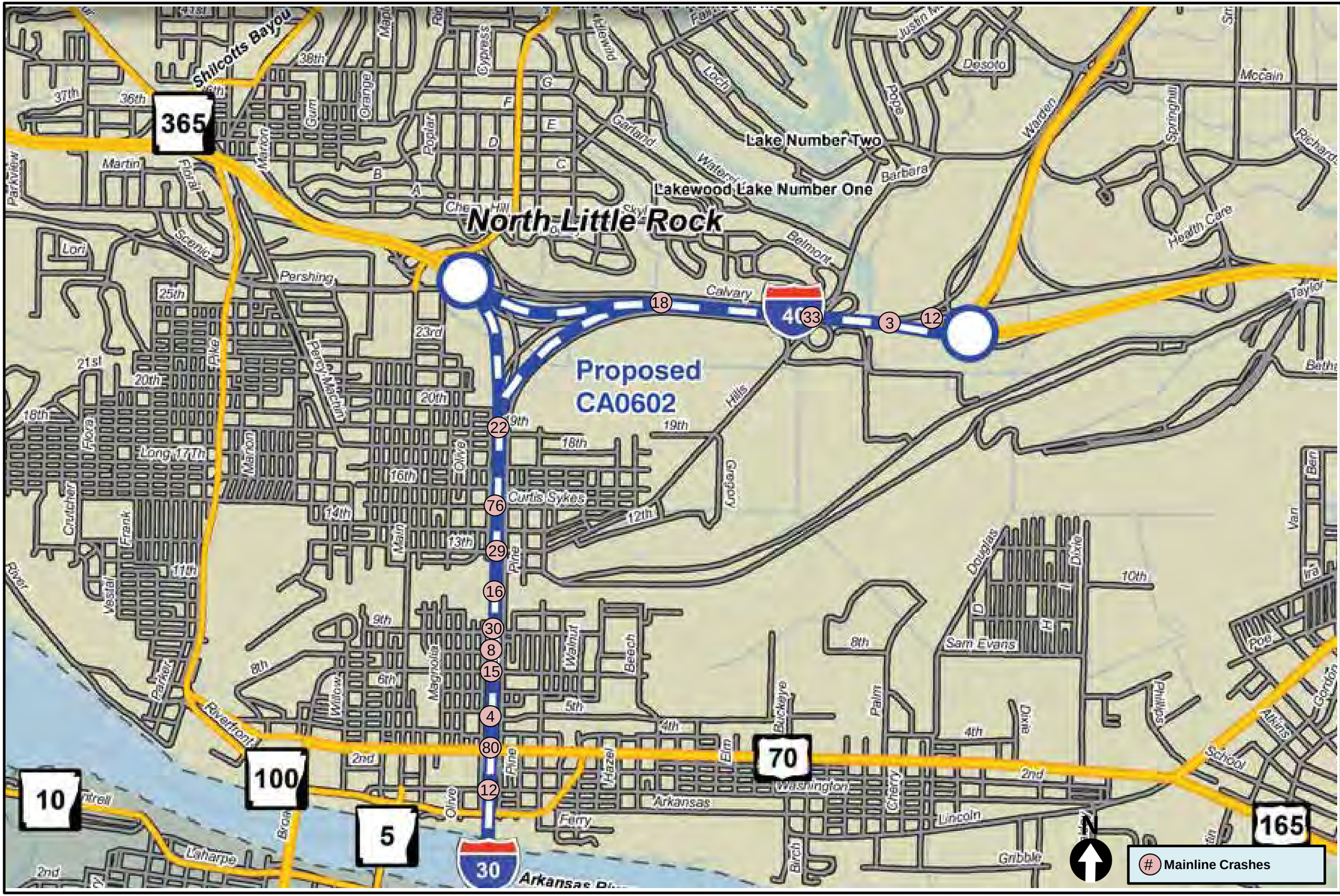
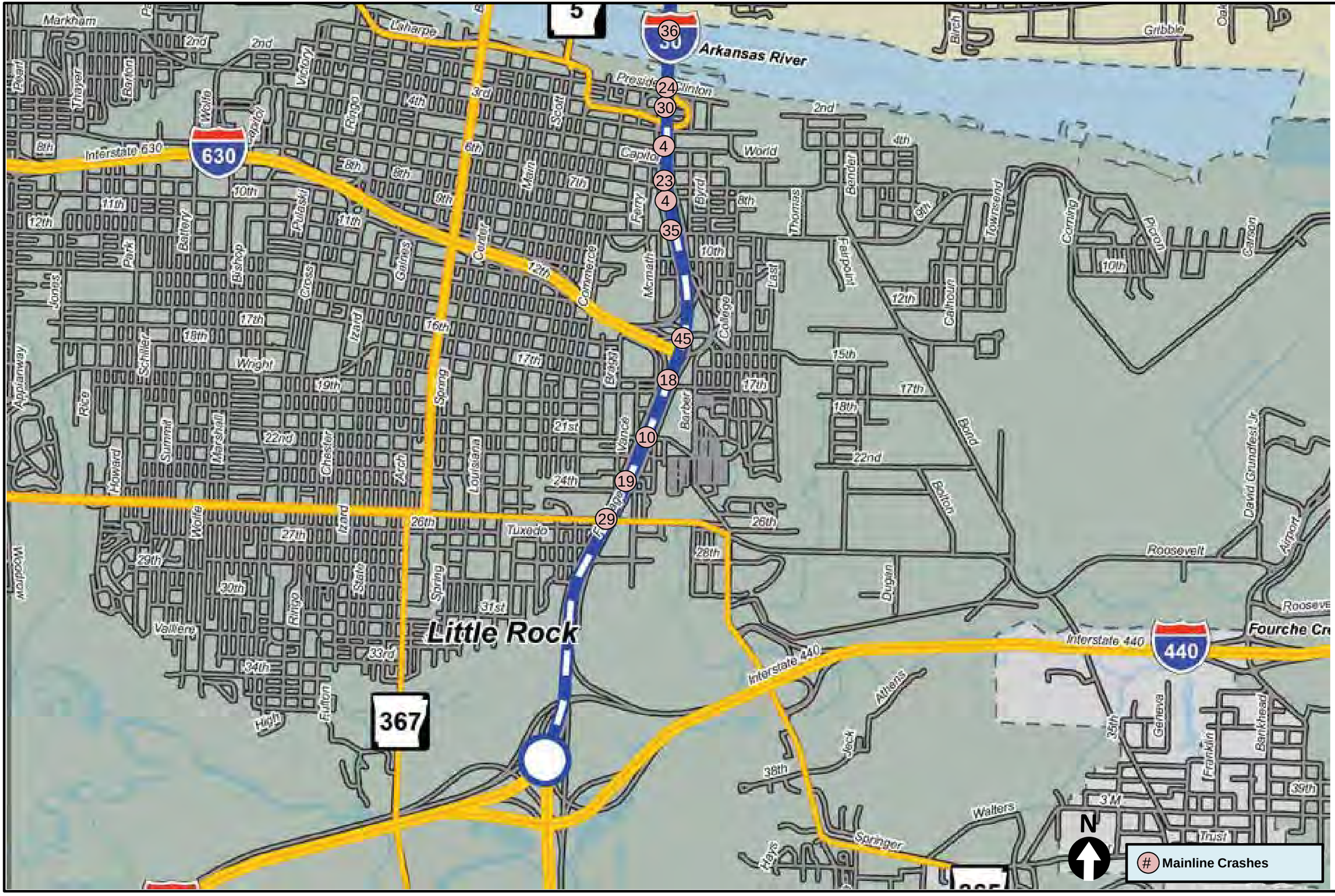


Exhibit
C-1b

CA0602
I-30/I-40, Little Rock
2010 Main Lane Crash Locations



CONNECTING ARKANSAS PROGRAM CAP

Exhibit
C-1c

CA0602
I-30/I-40, North Little Rock
2011 Main Lane Crash Locations

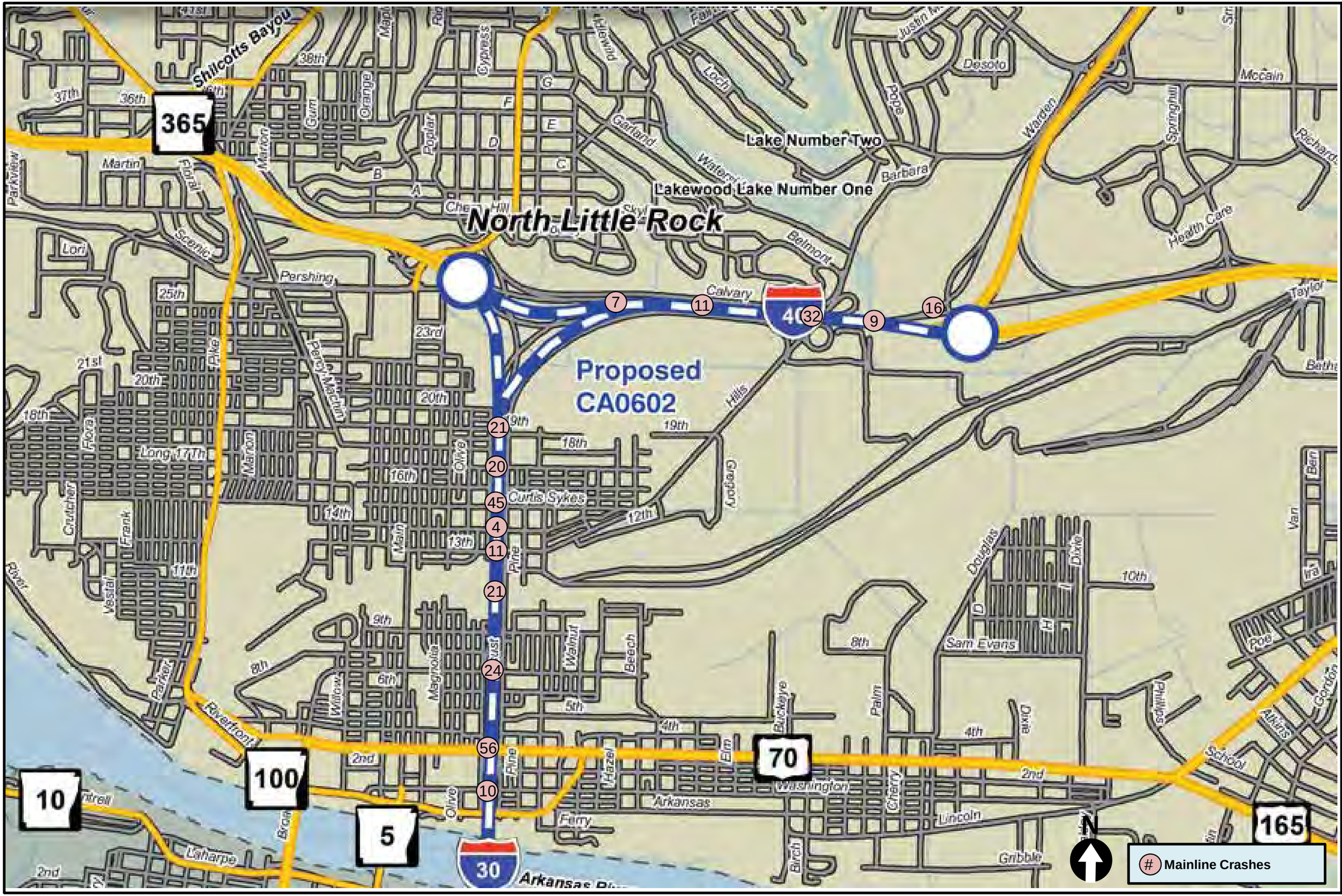


Exhibit
C-1d

CA0602
I-30/I-40, Little Rock
2011 Main Lane Crash Locations

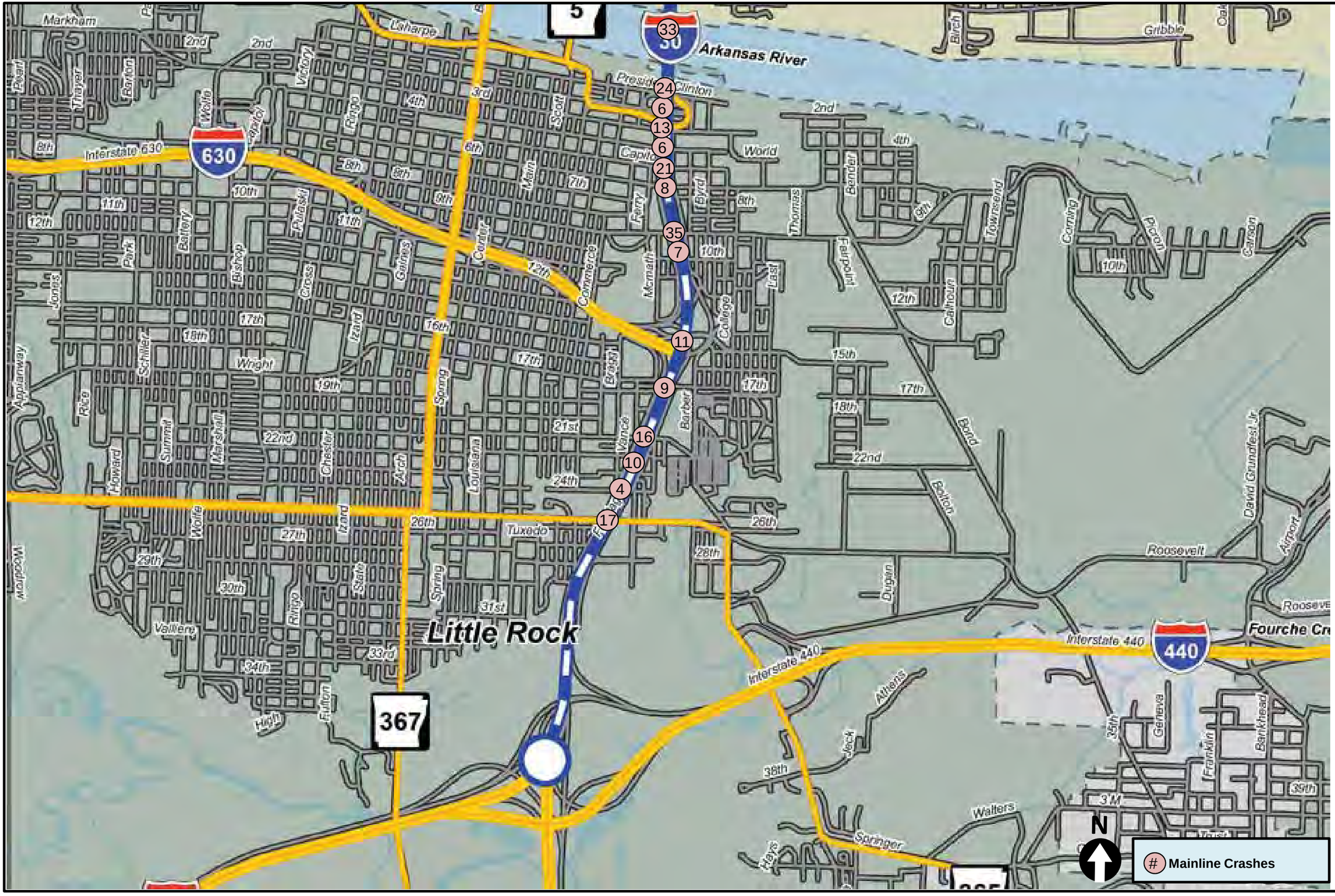


Exhibit
C-1e

CA0602
North Little Rock
I-30/I-40, North Little Rock
2012 Main Lane Crash Locations

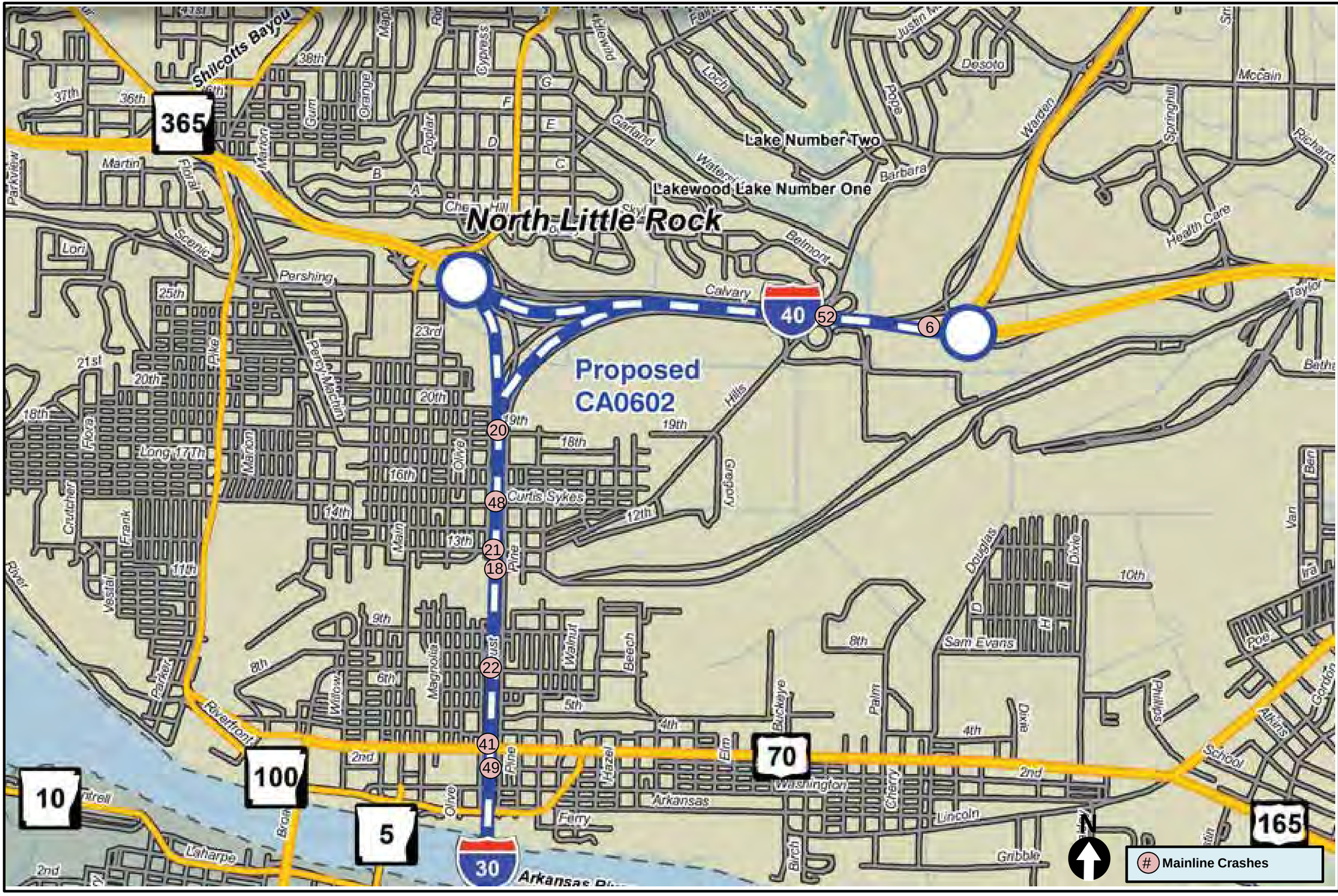


Exhibit
C-1f

CA0602
I-30/I-40, Little Rock
2012 Main Lane Crash Locations

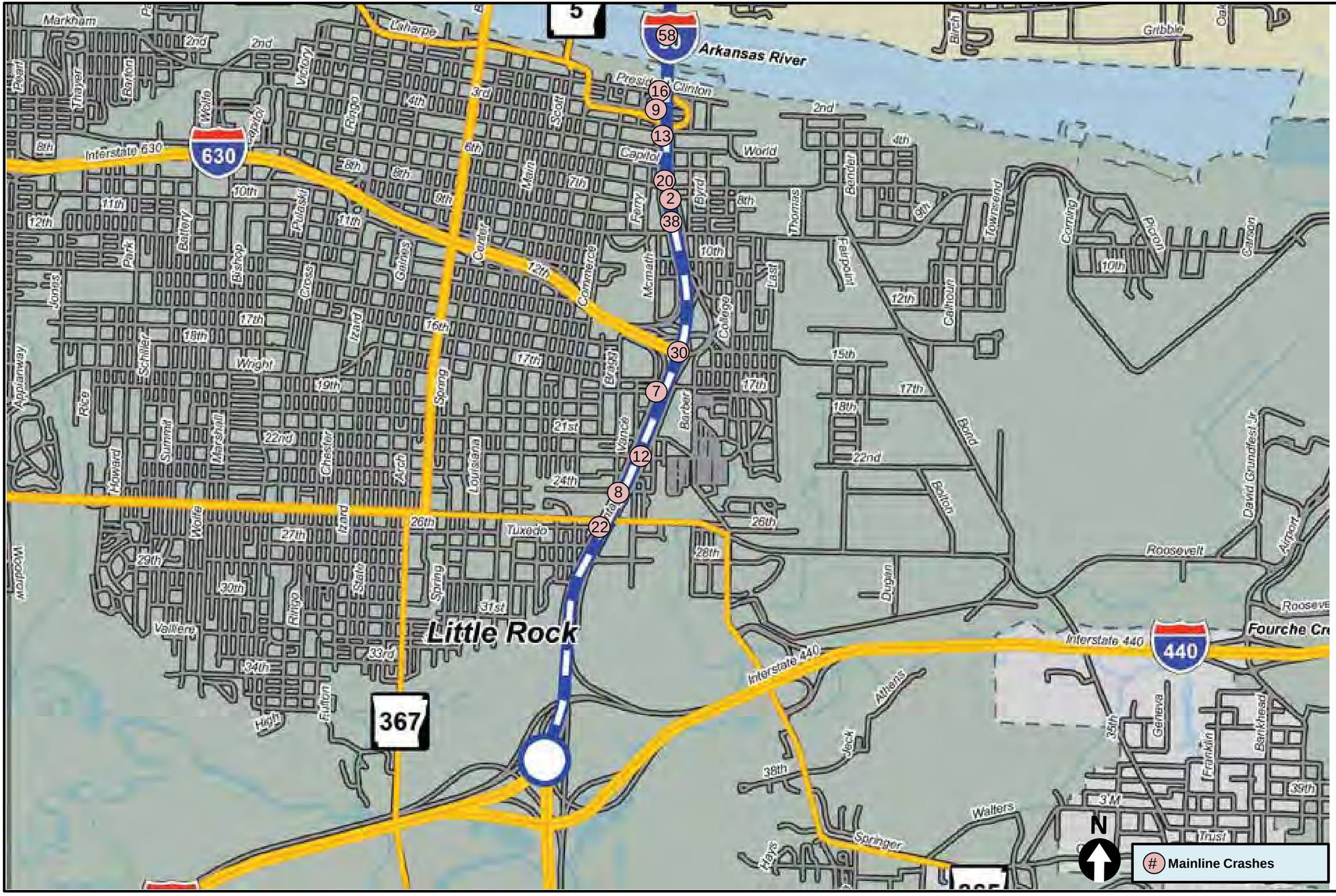
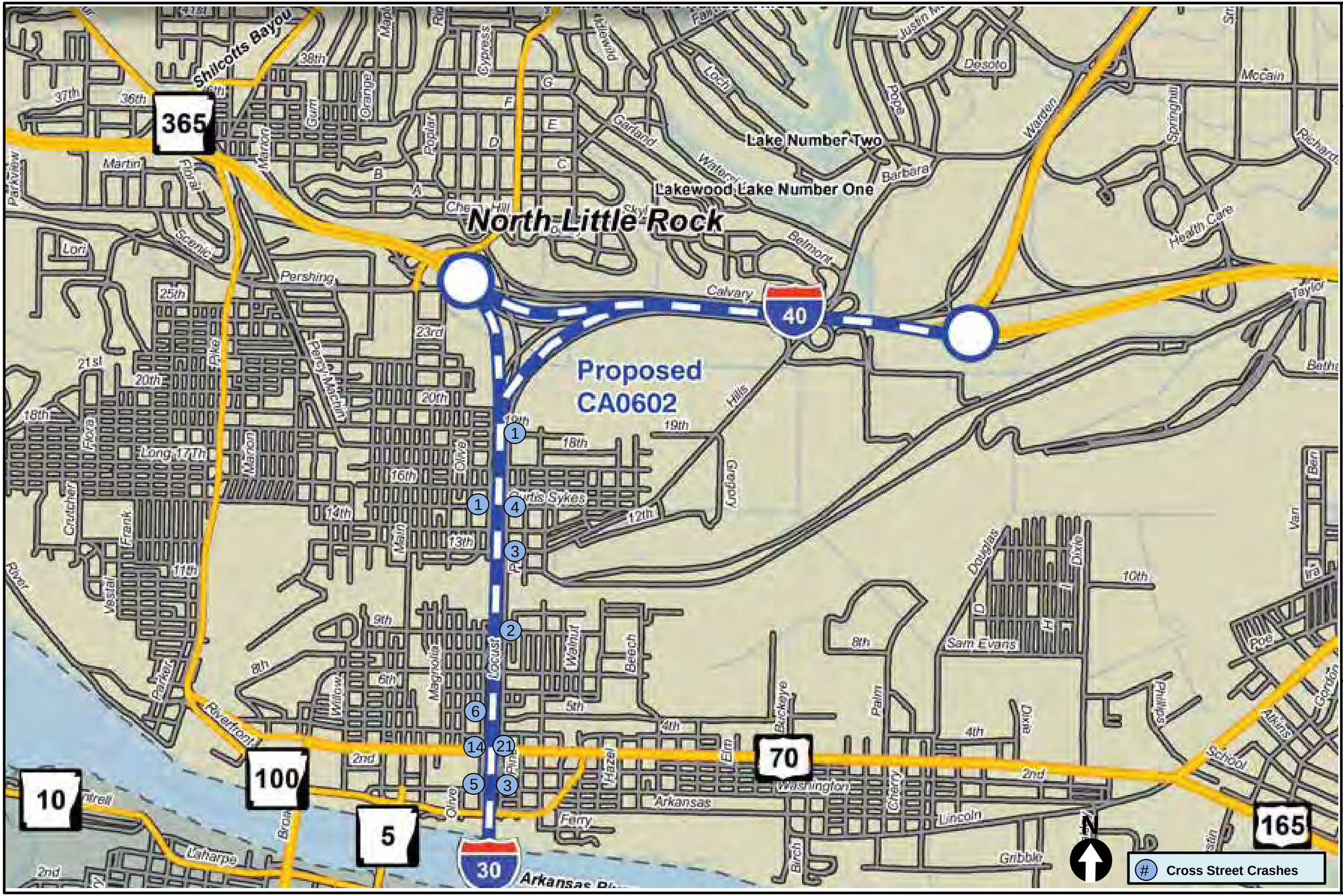


Exhibit
C-1g

CA0602
I-30/I-40, North Little Rock
2010 Cross Road Crash Locations


Shillcotts Bayou
North Little Rock
Lake Number Two
Lakewood Lake Number One
Proposed
CA0602
365
40
30
70
100
10
5
165
Martin
Pershing
Calvary
Belmont
Lori
Scenic
Parkview
Floral
Marion
Gum
Orange
Poplar
Cypress
Garland
Waters
Barbara
Pope
Desoto
Warden
Springhill
McCain
Richard
Health Care
Taylor
Bath
Hills
Gregory
Curtis Sykes
Main
Locust
Walnut
Beech
Magnolia
Willow
Parker
Riverfront
Vestal
Crutcher
Frank
Long
Flora
Olive
Pine
Hazel
Elm
Birch
Cherry
Palm
Buckeye
Oxie
Phillips
Sam Evans
Douglas
Dixie
Van Buren
Arkansas
Fourche
Ferry
Lincoln
Gribble
Washington
Schoolcraft
Gordon
Ashers
Fox
Rock
Lafayette
Broadway
Izard
Scott
Cumberland
Commerce
Cedar
Victory
Center
Spring
Maple
Ash
Chestnut
Walnut
Oak
Hickory
Pine
Cedar
Elm
Hazel

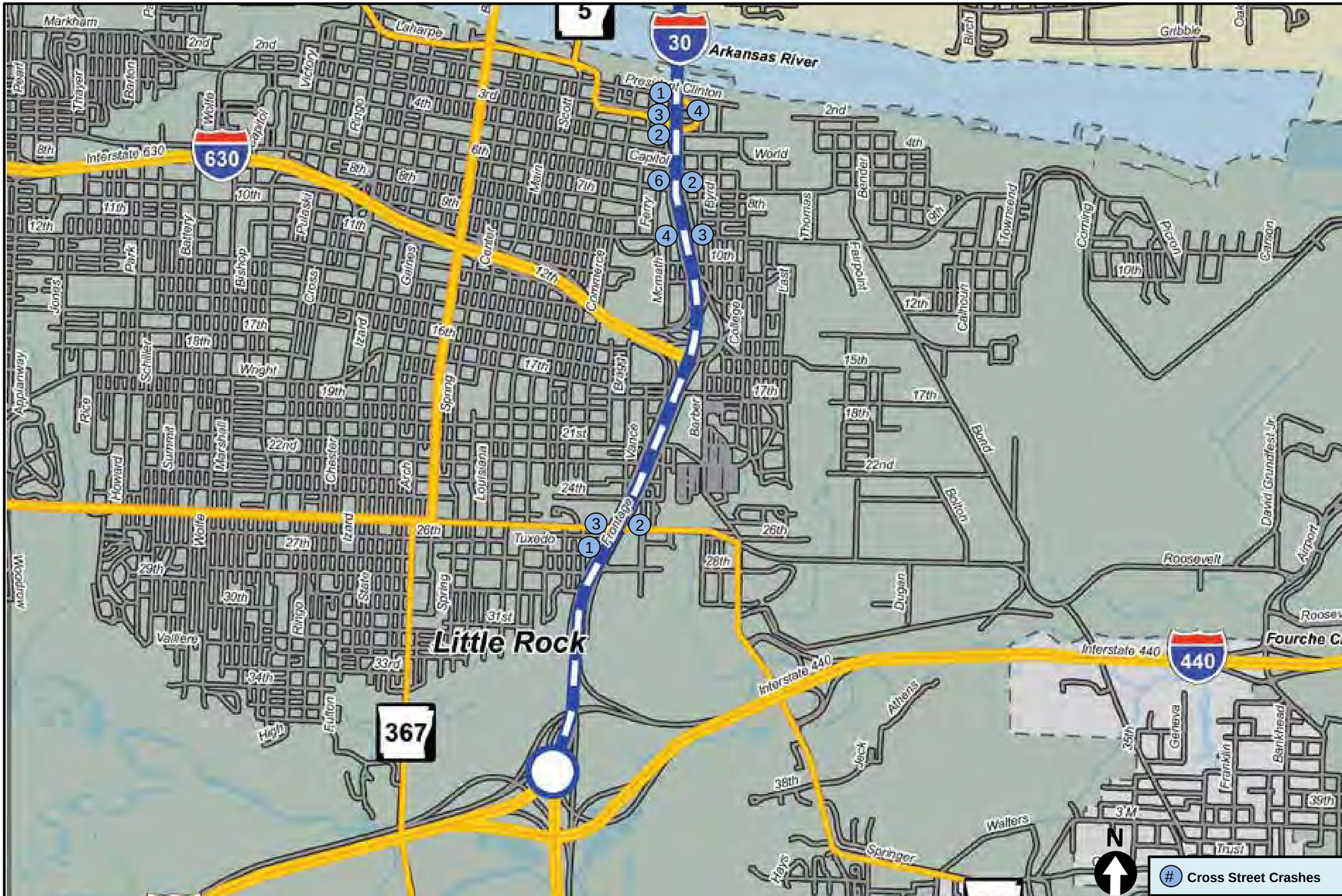


Exhibit C-1h

CA0602
I-30/I-40, Little Rock
2010 Cross Road Crash Locations

Exhibit
C-1i

CA0602
North Little Rock
I-30/I-40, North Little Rock
2011 Cross Road Crash Locations

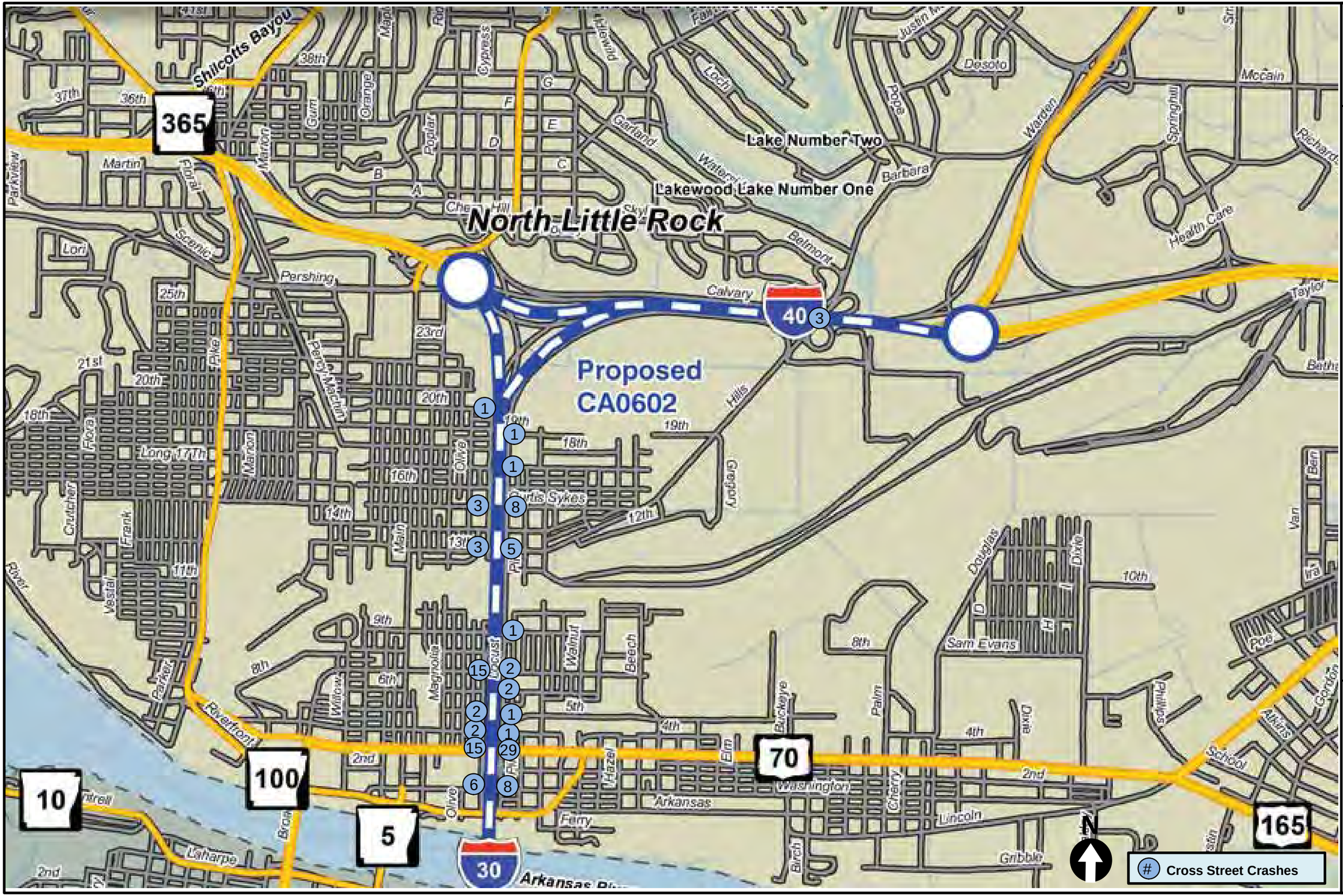


Exhibit
C-1j

CA0602
I-30/I-40, Little Rock
2011 Cross Road Crash Locations

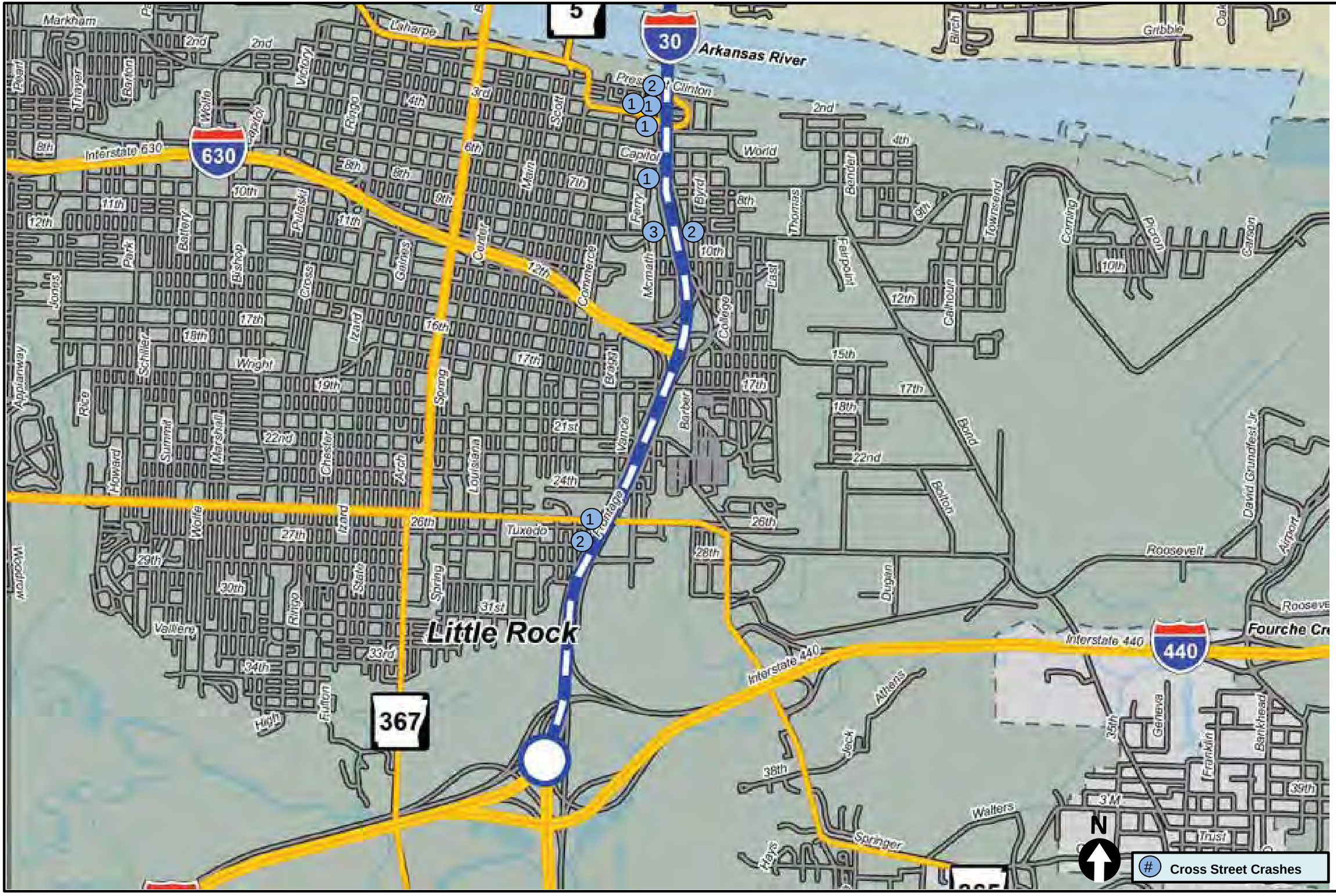


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Exhibit
C-1k

CA0602
I-30/I-40, North Little Rock
2012 Cross Road Crash Locations

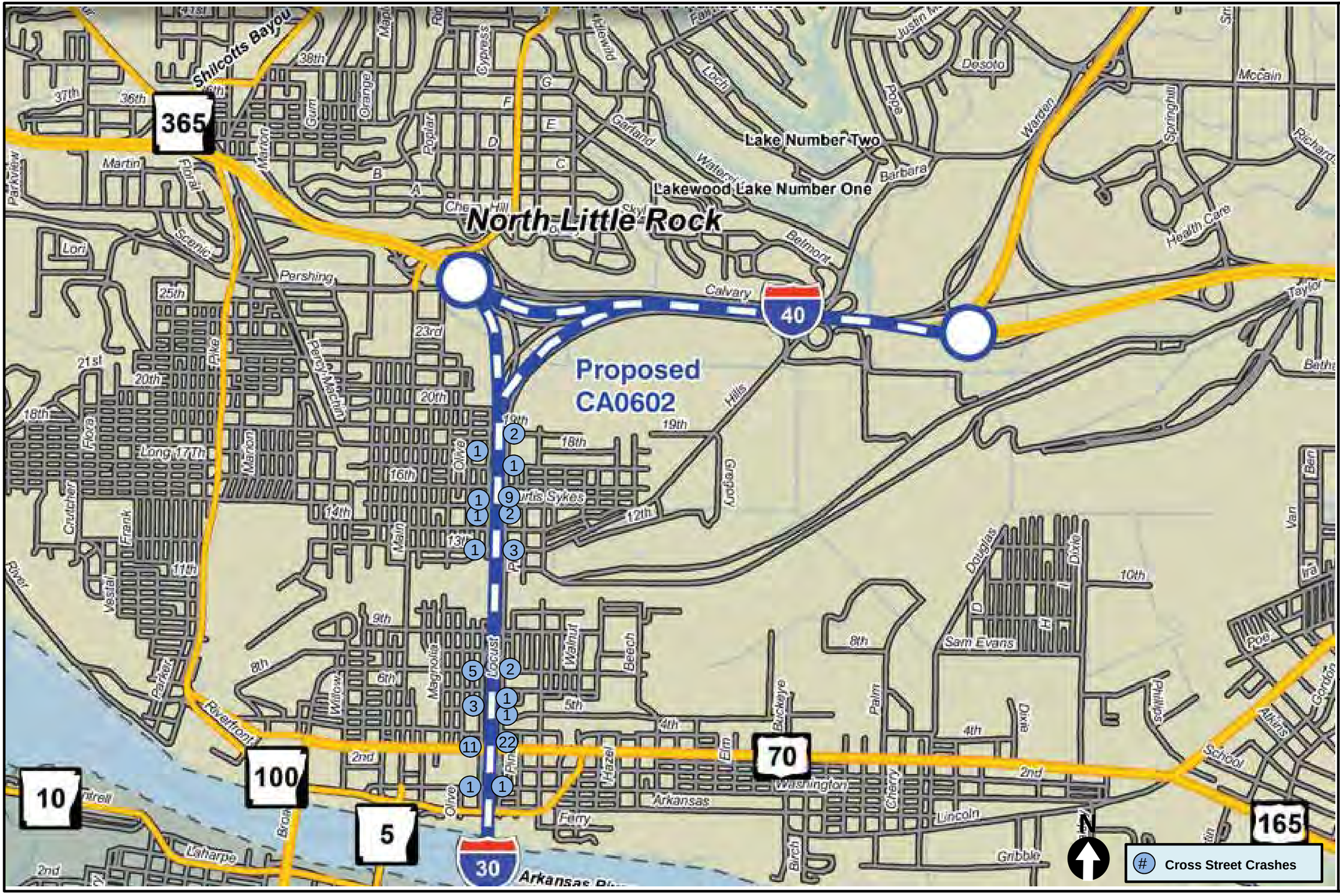


Exhibit
C-1l

CA0602
I-30/I-40, Little Rock
2012 Cross Road Crash Locations

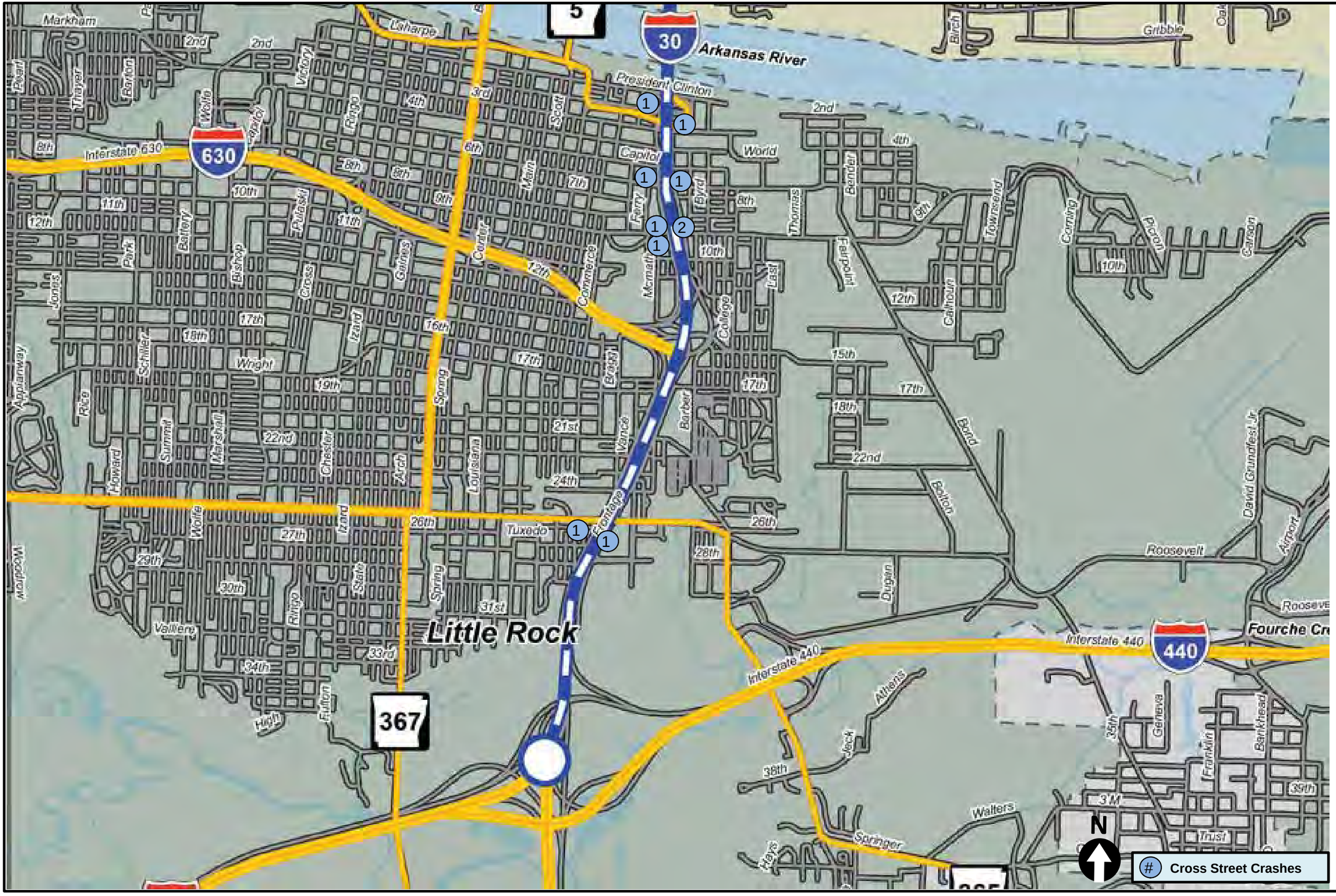
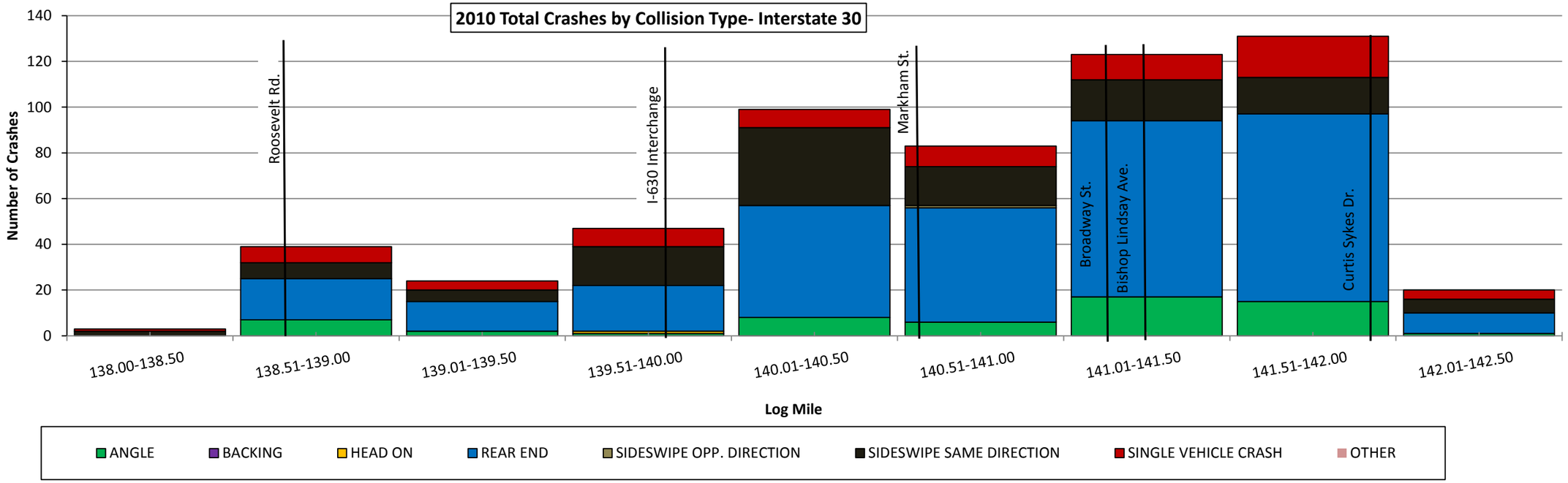


Exhibit C-1m

CA0602
I-30/I-40, Little Rock
2010 Crash Type & Location Histogram



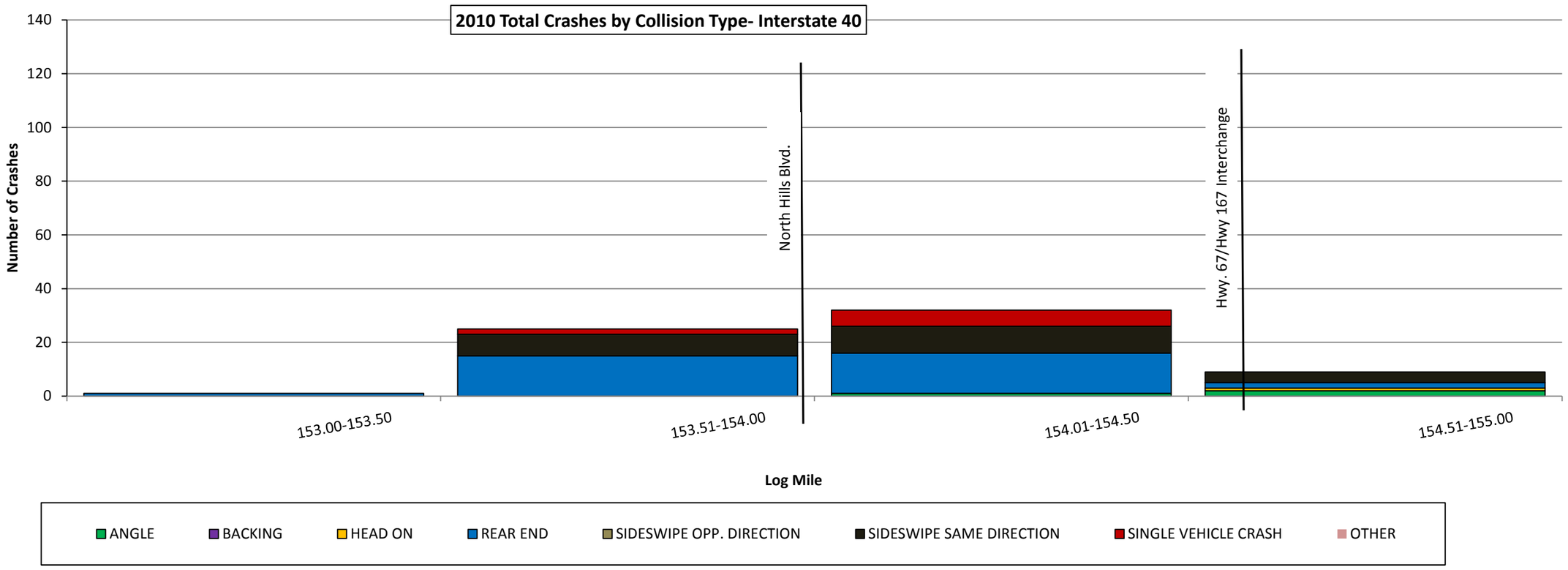


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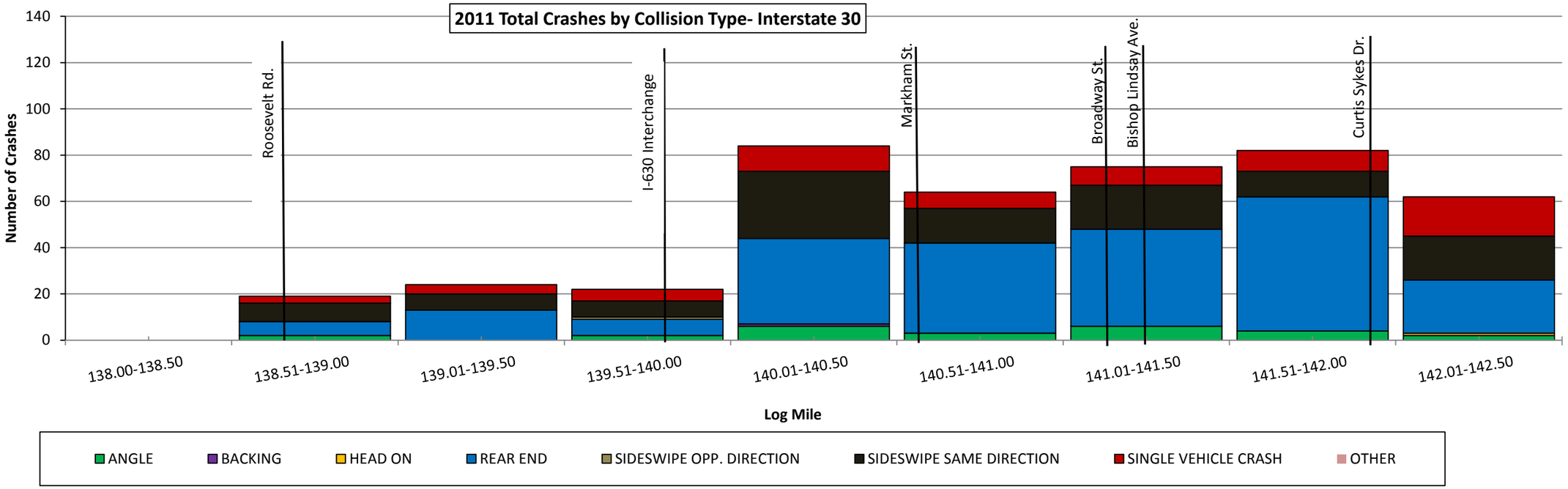
Exhibit C-1n

CA0602

I-30/I-40, Little Rock

2011 Crash Type & Location Histogram



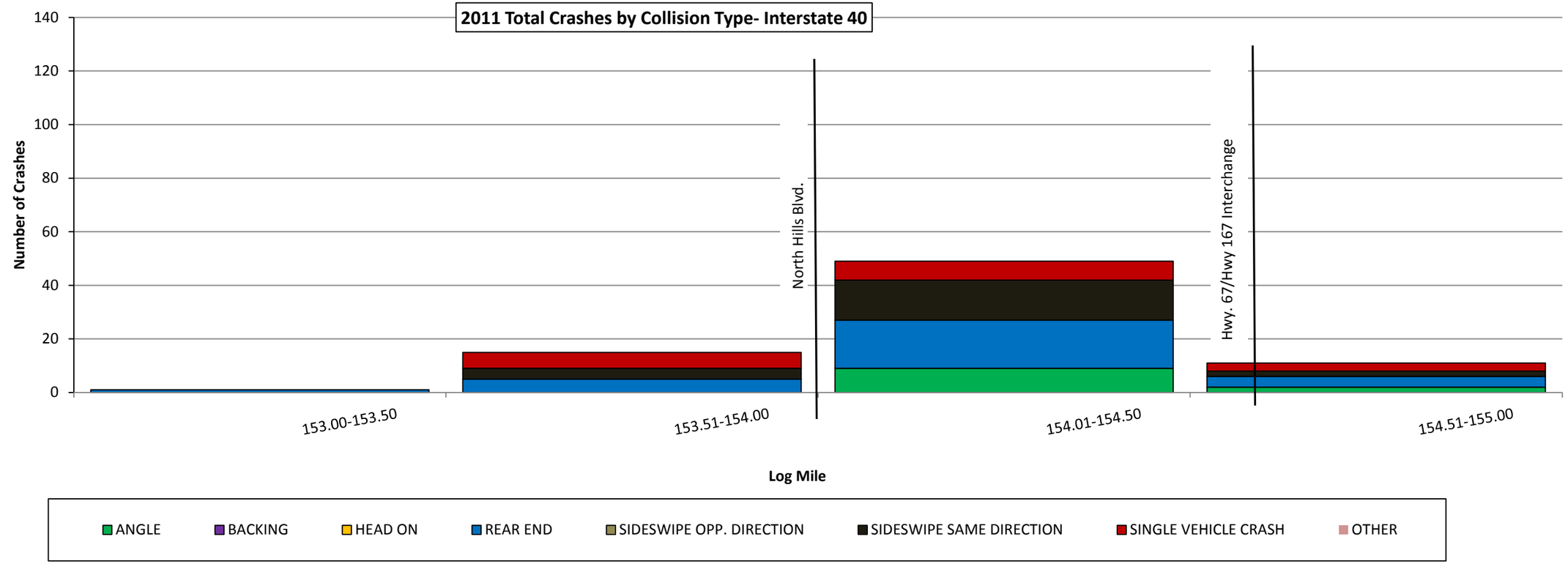
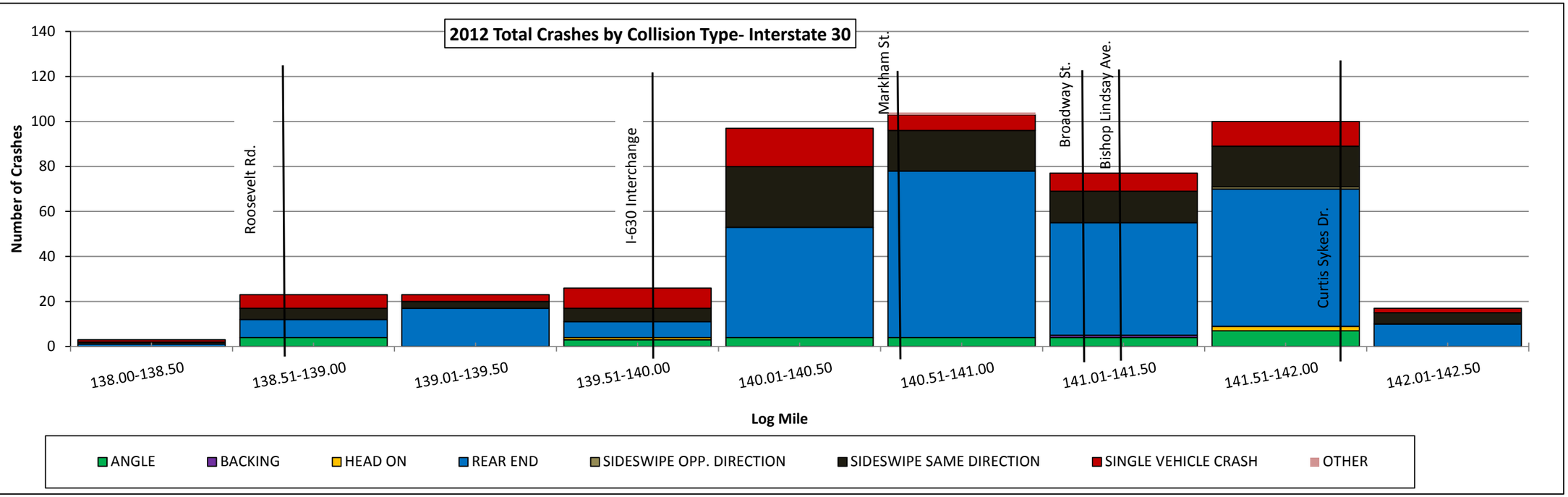
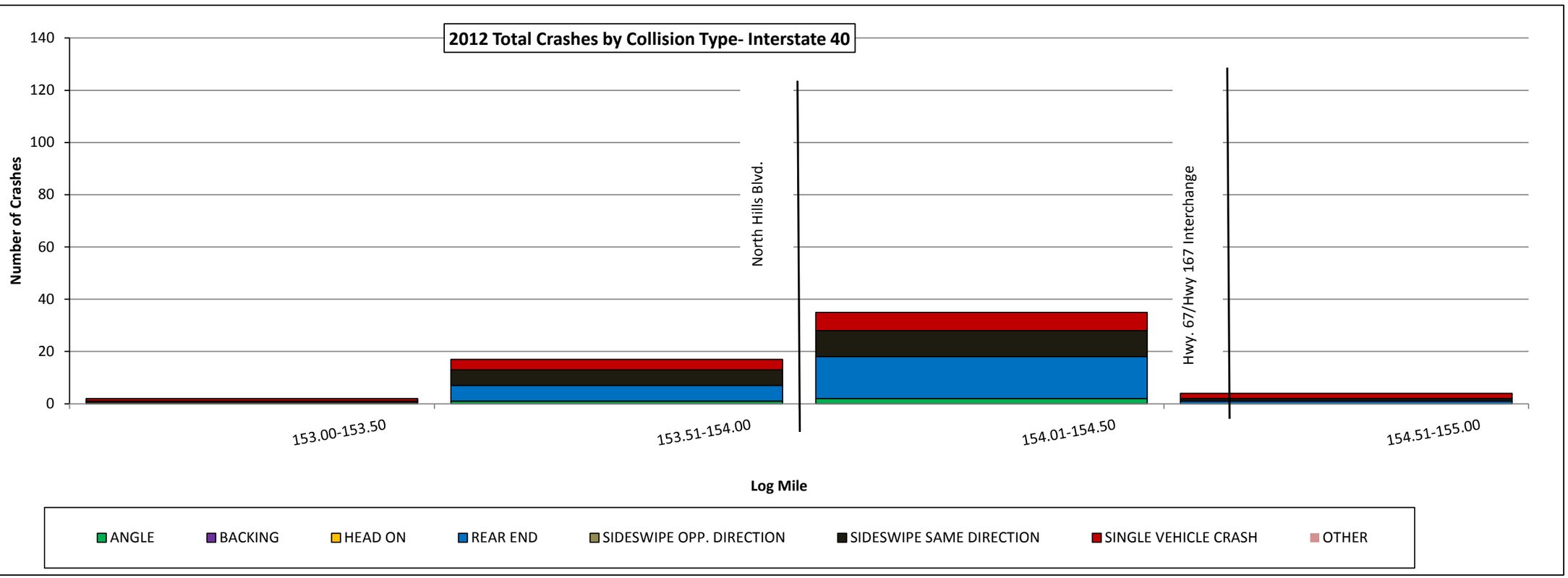


Exhibit
C-1o

CA0602
I-30/I-40, Little Rock
2012 Crash Type & Location Histogram





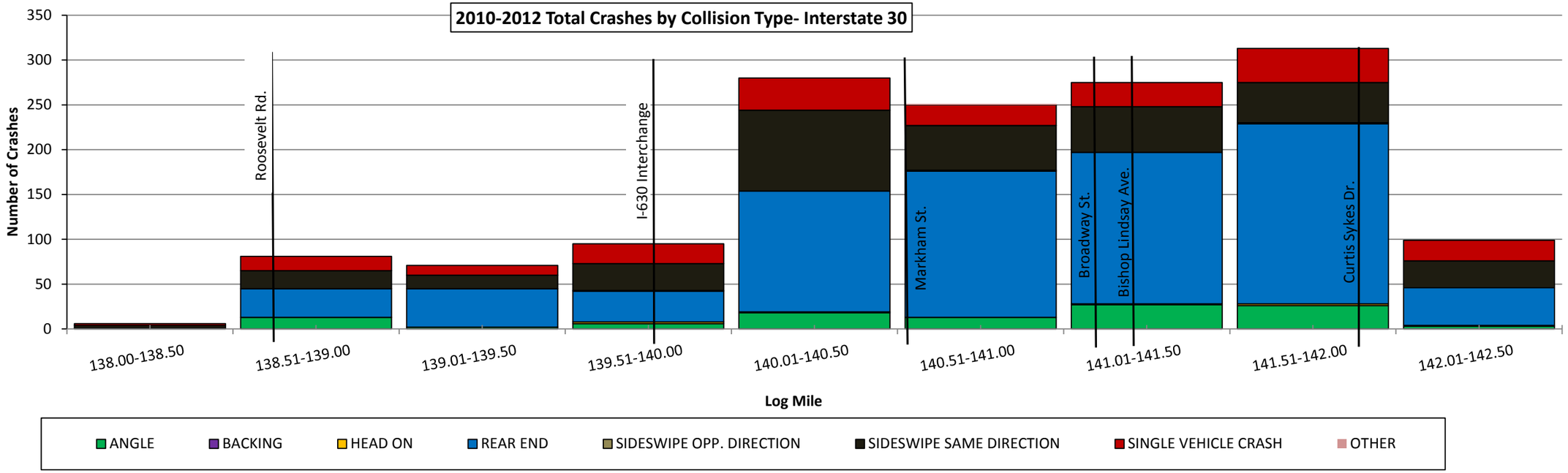
CONNECTING ARKANSAS PROGRAM CAP

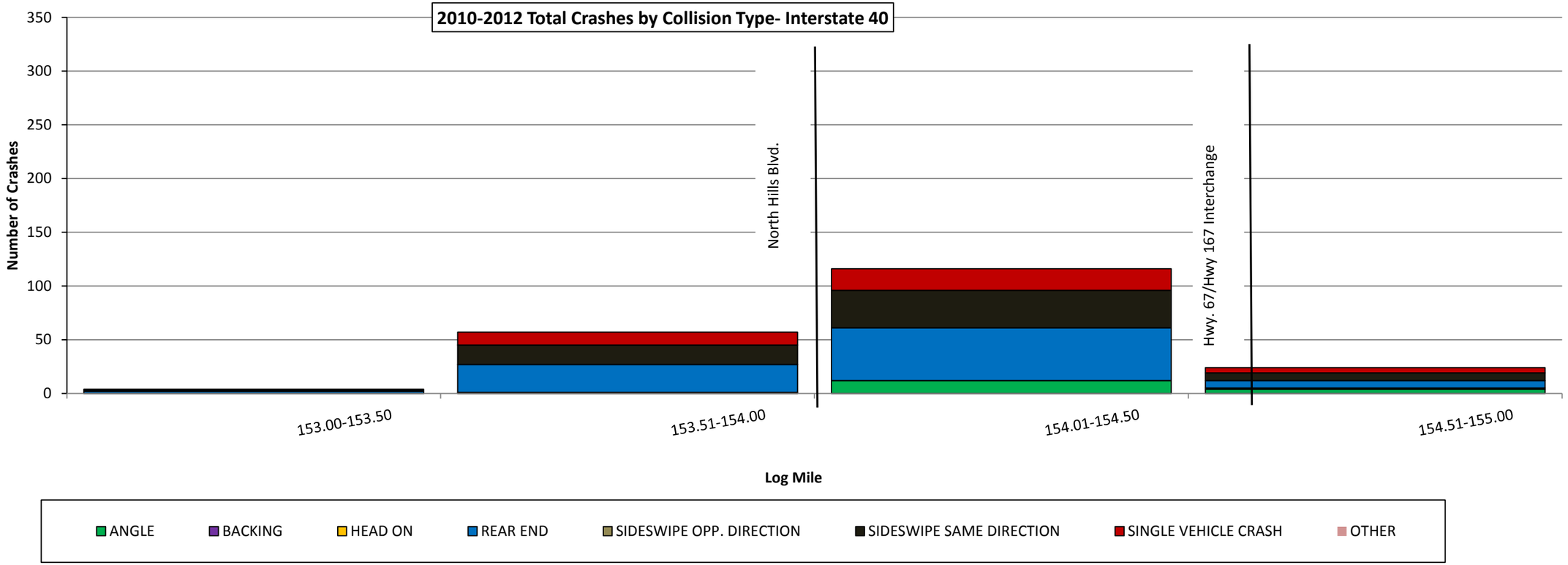
Exhibit C-1p

CA0602

I-30/I-40, Little Rock

2010-2012 Crash Type & Location Histogram





CONNECTING ARKANSAS PROGRAM CAP

Serious Injury and Fatal Crash Data

The collisions within the study area were narrowed to view the locations of only fatal and serious injury crashes, as shown in **Exhibits C-2a** through **C-2f**. These exhibits show that the same segment of I-30 between I-630 and I-40, which has the extremely high total crash rates (all severity types) year after year, also contains most of the serious injury crashes during these time periods. However, the fatal crashes are mostly concentrated in the interchange areas. The interchange of I-40/Hwy. 67/Hwy. 167 experienced two fatal collisions in 2011 and one fatal collision in 2010. All three of these crashes were rear-end type collisions, and two of these three collisions occurred in the westbound direction. Two fatal collisions occurred along I-30 during the three years analyzed. One fatal collision occurred near 19th Street in 2012, and one fatal collision occurred at the interchange of I-30 with I-630 in 2010. Both of these collisions involved a single vehicle travelling westbound, and one of these collisions sited alcohol as a contributing factor. None of the collisions on the cross streets were fatal, and only a few were serious. The locations of these serious injuries along cross streets were not consistent and did not tend to cluster in any particular area.

Crash rates were calculated for fatal (K) and serious injury (A) collisions (KA Crash Rate) for the crashes occurring along the I-30/-40 main lane. The number of fatal and serious injury crashes occurring along the I-30/I-40 main lane and the corresponding KA crash rates are summarized in **Table C-2a** below.

Table C-2a. Fatal and Serious Injury Crash Locations

Interstate 30, Section 230, Log Mile 138.39-139.67 (Interstate 530/Interstate 440 to Interstate 630)								
Year	**Length (miles)**	**Weighted ADT**	**# Fatal (K) Crashes**	**# Serious (A) Crashes**	**KA Crash Rate**	**AR Avg. KA Crash Rate**	**Type**	**KA Crash Rate/AR Avg. Crash Rate**
2010	1.28	96,219	1	7	0.18	0.06	6 or more-Lane Access Control Urban Interstates in AR	3.21
2011	1.28	96,219	0	2	0.04	0.06	6 or more-Lane Access Control Urban Interstates in AR	0.75
2012	1.28	96,219	0	6	0.13	0.05	6 or more-Lane Access Control Urban Interstates in AR	2.62
Interstate 30, Section 230, Log Mile 139.68-142.02 (Interstate 630 to Interstate 40)								
Year	**Length (miles)**	**Weighted ADT**	**# Fatal (K) Crashes**	**# Serious (A) Crashes**	**KA Crash Rate**	**AR Avg. KA Crash Rate**	**Type**	**KA Crash Rate/AR Avg. Crash Rate**
2010	2.35	115,740	0	9	0.09	0.06	6 or more-Lane Access Control Urban Interstates in AR	1.64
2011	2.35	113,336	0	21	0.22	0.06	6 or more-Lane Access Control Urban Interstates in AR	3.64
2012	2.35	109,817	1	13	0.15	0.05	6 or more-Lane Access Control Urban Interstates in AR	2.92
Interstate 40, Section 330, Log Mile 153.25-154.88 (Interstate 30 to Highway 67/Highway 167)								
Year	**Length (miles)**	**Weighted ADT**	**# Fatal (K) Crashes**	**# Serious (A) Crashes**	**KA Crash Rate**	**AR Avg. KA Crash Rate**	**Type**	**KA Crash Rate/AR Avg. Crash Rate**
2010	1.63	118,503	1	2	0.04	0.06	6 or more-Lane Access Control Urban Interstates in AR	0.77
2011	1.63	115,503	2	5	0.10	0.06	6 or more-Lane Access Control Urban Interstates in AR	1.72
2012	1.63	113,503	1	5	0.09	0.05	6 or more-Lane Access Control Urban Interstates in AR	1.75

Note: The number of crashes occurring along I-30 within the I-630 interchange were split evenly between the segment from I-530/I-440 to I-630 and the segment from I-630 to I-40. Half of the crashes occurring along I-40 within the Hwy 67/Hwy 167 interchange were assumed to fall within the segment from I-40 to Hwy. 67/Hwy. 167.

As shown in **Table C-2a**, the KA crash rate for the segment of I-30 between I-440/I-530 and I-630 in 2010 and 2012 roughly three times the statewide average for other 6 or more-lane urban interstates. The KA crash rate for the segment of I-30 between I-630 and I-40 was consistently elevated for all three years with rates of one and a half to over three and a half times the statewide average for other 6 or more-lane urban interstates. The segment of I-40 from I-30 to Hwy. 67/Hwy. 167 displayed slightly elevated KA crash rates in 2011 and 2012 as compared to the statewide average for other 6 or more-lane urban interstates.

The collisions within the study area were particularly concentrated along I-30 at East Broadway Street and at Curtis Sykes Drive. Therefore, the collisions at these two locations were investigated in further detail. Neither location reported many collisions occurring in a construction zone, so construction can be eliminated as a cause for the high number of collisions at this location. The collisions reported in these areas resulted in mostly property damage only or very low severity injuries. The types of collisions

were examined along the I-30 main lane, ramps, and intersections at Cypress Street and Locust Street for both the East Broadway Street and the Curtis Sykes Drive exits. The results are shown in **Table C-2b** below.

Table C-2b. Collision Types at East Broadway Street and at Curtis Sykes Drive

Number of Collisions 2010								
	I-30 at East Broadway Street				I-30 at Curtis Sykes Drive			
Type	**I-30 Main Lane**	**I-30 Ramps**	**East Broadway St at Cypress St**	**East Broadway St at Locust St**	**I-30 Main Lane**	**I-30 Ramps**	**Curtis Sykes Dr at Cypress St**	**Curtis Sykes Dr at Locust St**
Angle	1	6	4	9	1	2	5	5
Backing	0	0	0	1	0	0	0	0
Rear End	32	23	6	4	25	19	0	2
Sideswipe Same Direction	6	6	2	7	8	4	0	0
Single Vehicle	4	2	2	0	8	1	0	0
Number of Collisions 2011								
	I-30 at East Broadway Street				I-30 at Curtis Sykes Drive			
Type	**I-30 Main Lane**	**I-30 Ramps**	**East Broadway St at Cypress St**	**East Broadway St at Locust St**	**I-30 Main Lane**	**I-30 Ramps**	**Curtis Sykes Dr at Cypress St**	**Curtis Sykes Dr at Locust St**
Angle	5	0	6	13	0	1	1	1
Backing	0	1	1	0	0	0	0	0
Rear End	20	11	6	14	23	9	1	0
Sideswipe Same Direction	9	4	0	3	1	1	0	0
Single Vehicle	5	1	1	0	4	3	1	0
Number of Collisions 2012								
	I-30 at East Broadway Street				I-30 at Curtis Sykes Drive			
Type	**I-30 Main Lane**	**I-30 Ramps**	**East Broadway St at Cypress St [1]**	**East Broadway St at Locust St**	**I-30 Main Lane**	**I-30 Ramps**	**Curtis Sykes Dr at Cypress St**	**Curtis Sykes Dr at Locust St**
Angle	3	0	0	0	2	0	1	6
Backing	0	0	0	1	0	0	0	1
Head On	0	0	0	0	0	0	1	0
Rear End	52	10	0	0	29	4	0	2
Sideswipe Same Direction	11	6	0	0	6	2	0	0
Single Vehicle	5	2	0	1	2	0	0	2

Note: [1] Based on information obtained from the City of North Little Rock Traffic Department and North Little Rock Police Department, it is anticipated that the reduction in the number of collisions at East Broadway St. at Cypress St. in 2012 compared to 2011 and 2010 could be accounted for based on the following factors: 1) Widening/drainage improvements along the East Broadway corridor that were completed for 2012; 2) increased usage of Riverfront Drive by the citizens of North Little Rock during entertainment events to by-pass the downtown area; and 3) a reduction in the number of entertainment events at Verizon Arena.

As depicted in **Table C-2b**, crashes occurred mostly along the I-30 main lane followed by the ramps and the intersections at Locust Street, with the majority of these collisions being rear end collisions. Within the East Broadway Street area, the collisions occurring at the intersections had about as many angle collisions as rear end collisions. Within the Curtis Sykes area, angle collisions were most common at the intersections.

Exhibit
C-2a

CA0602
I-30/I-40, North Little Rock
2010 Severe and Fatal Crash Locations

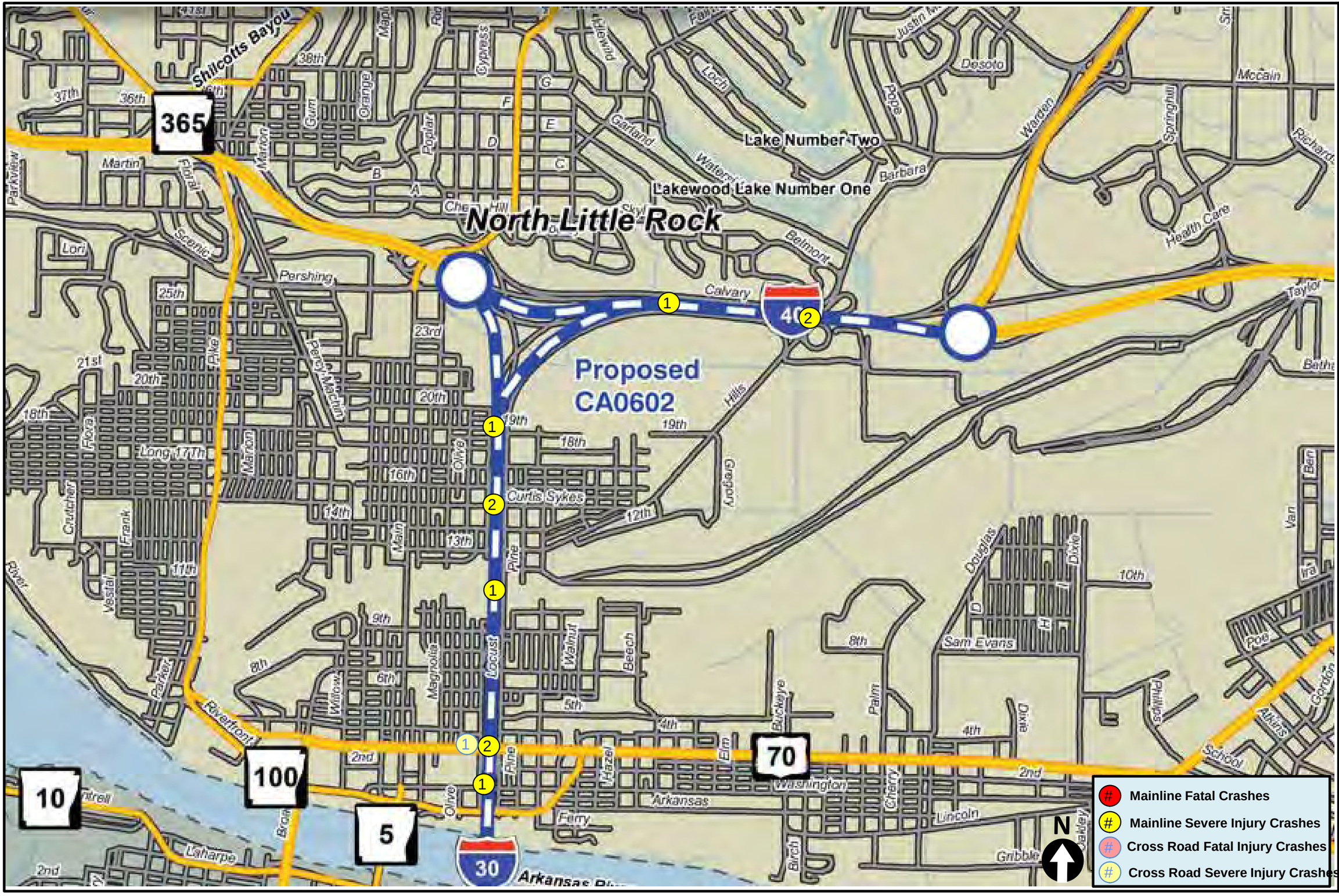


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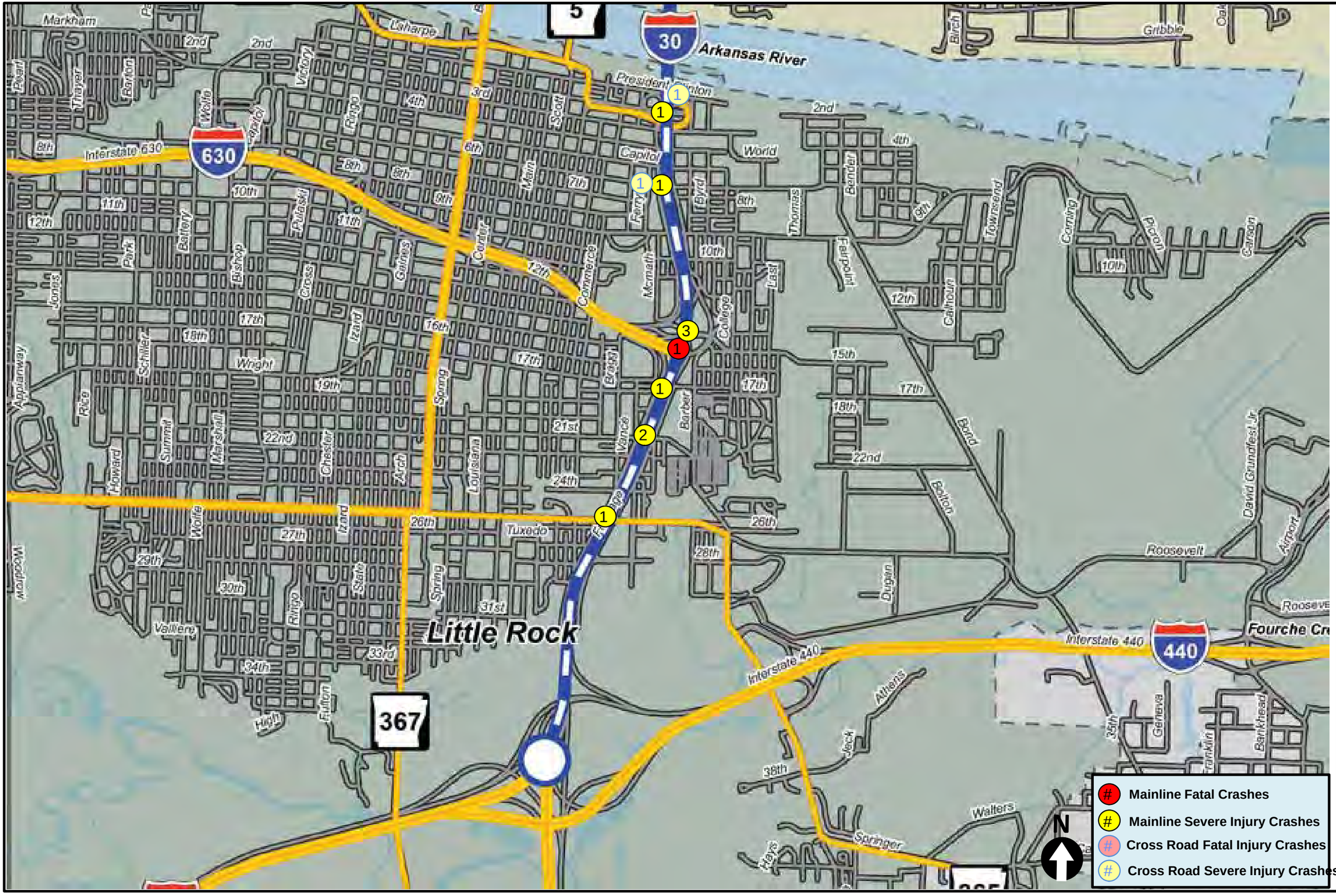
Exhibit
C-2b

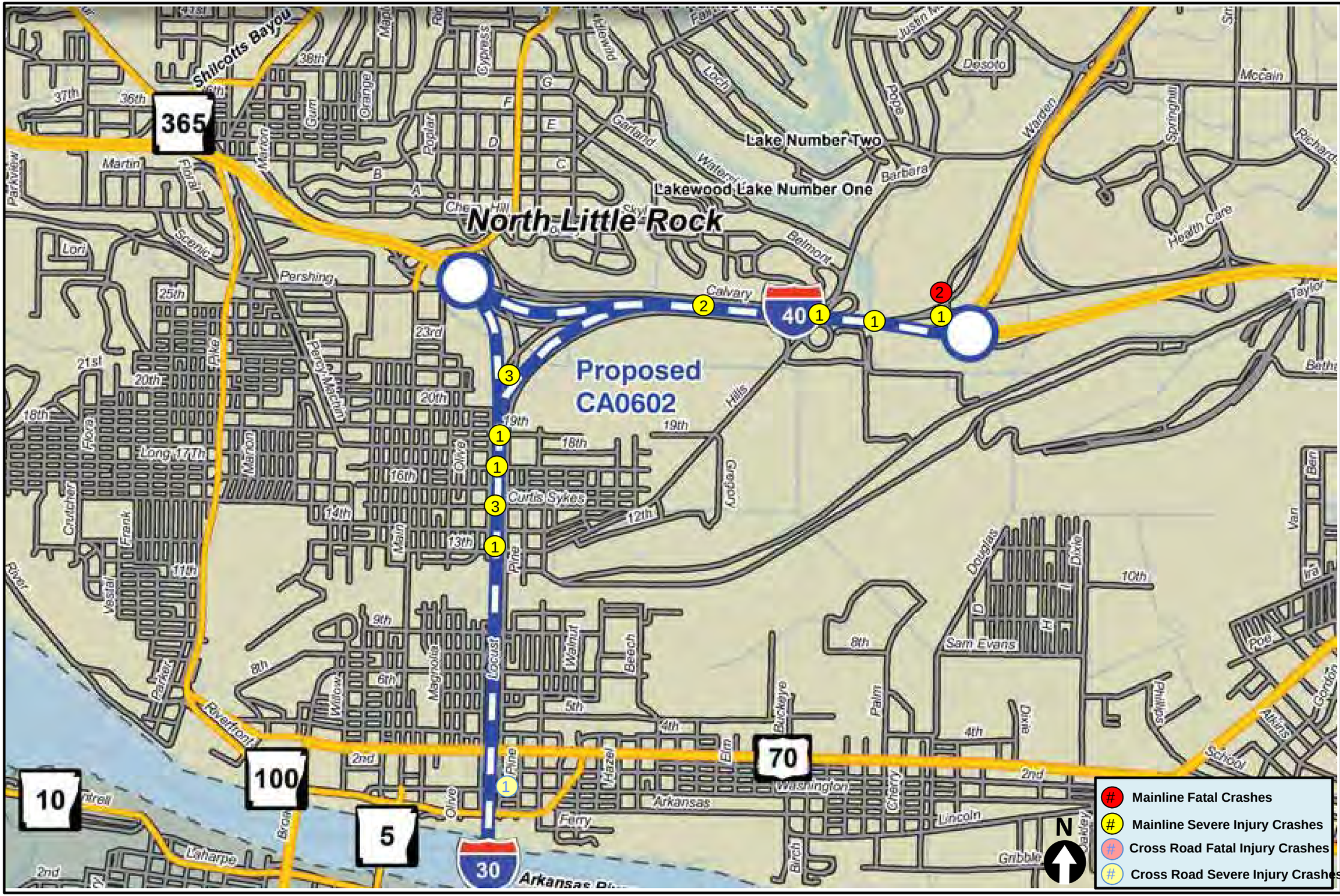
CA0602
I-30/I-40, Little Rock
2010 Severe and Fatal Crash Locations



CONNECTING ARKANSAS PROGRAM
CAP

Exhibit
C-2c

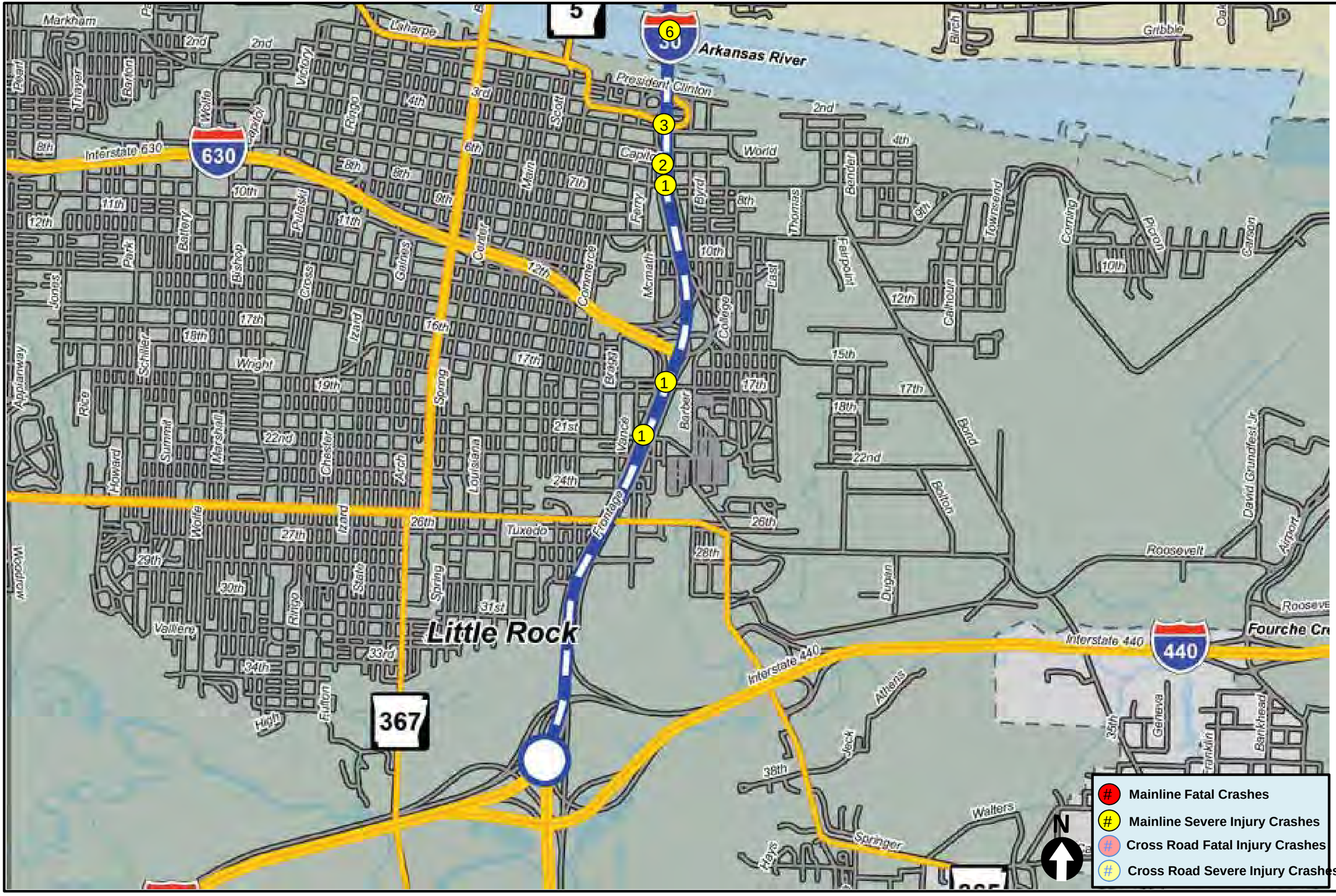
CA0602
I-30/I-40, North Little Rock
2011 Severe and Fatal Crash Locations



CONNECTING ARKANSAS PROGRAM CAP

Exhibit
C-2d

CA0602
I-30/I-40, Little Rock
2011 Severe and Fatal Crash Locations



CONNECTING ARKANSAS PROGRAM CAP

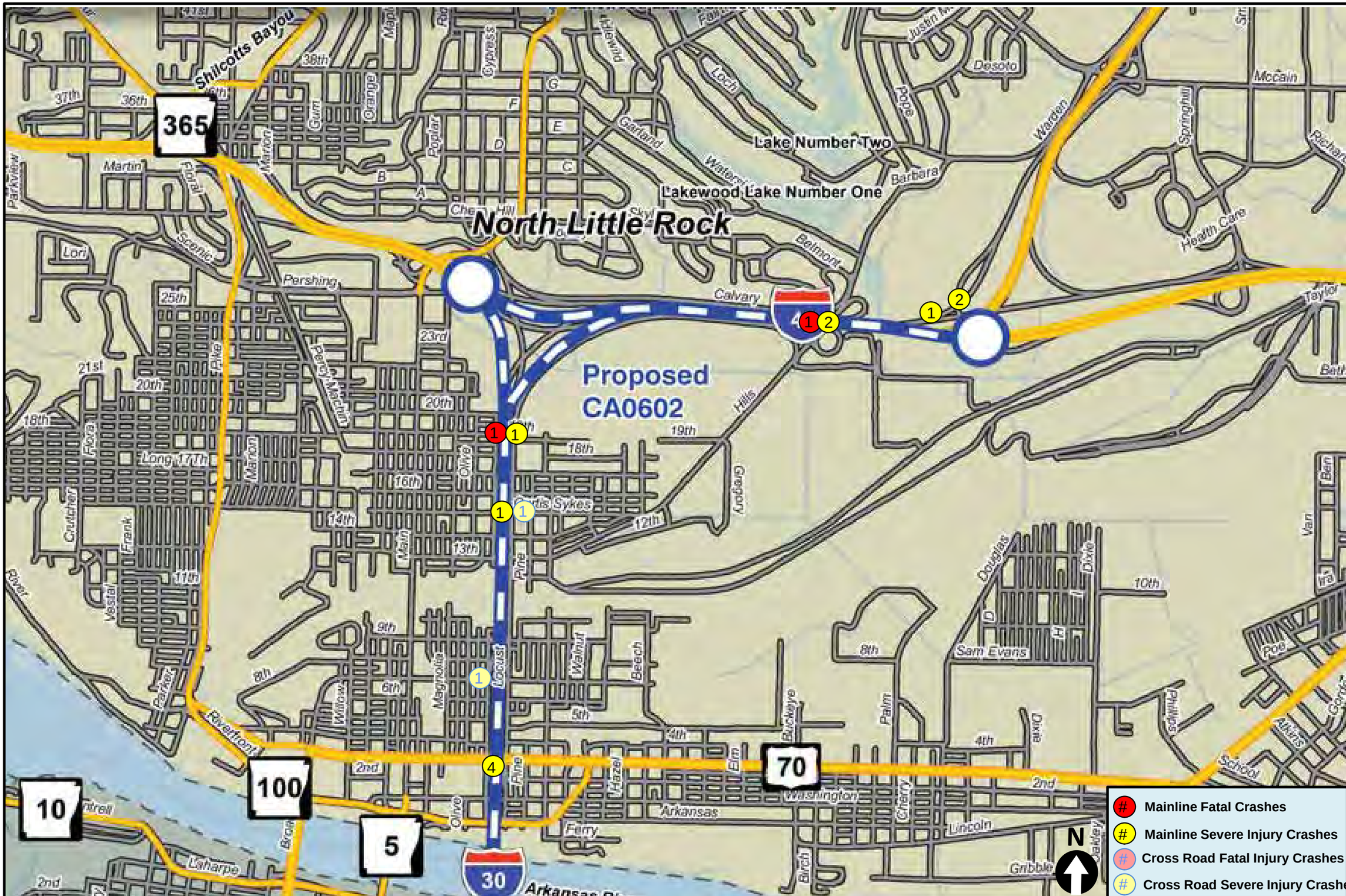


Exhibit
C-2e

CA0602
I-30/I-40, North Little Rock
2012 Severe and Fatal Crash Locations

Exhibit
C-2f

CA0602
I-30/I-40, Little Rock
2012 Severe and Fatal Crash Locations

Mainline Fatal Crashes
Mainline Severe Injury Crashes
Cross Road Fatal Injury Crashes
Cross Road Severe Injury Crashes

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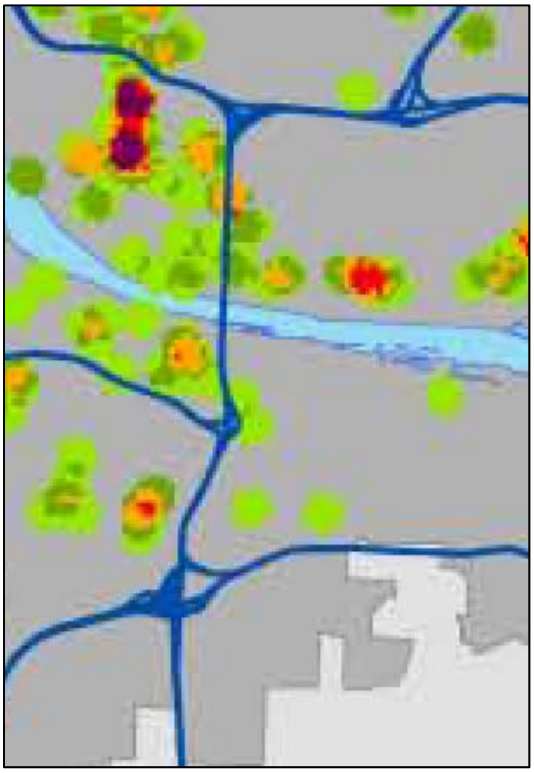
Bicycle and Pedestrian Crash Data

The following presents bicycle and pedestrian crash data along the I-30 PEL study area. Data presented below was obtained from Metroplan's CARTS Pedestrian / Bicyclist Crash Analysis dated January 9, 2012, from which pedestrian and bicycle crashes from the Arkansas State Police Database were mapped using GIS.

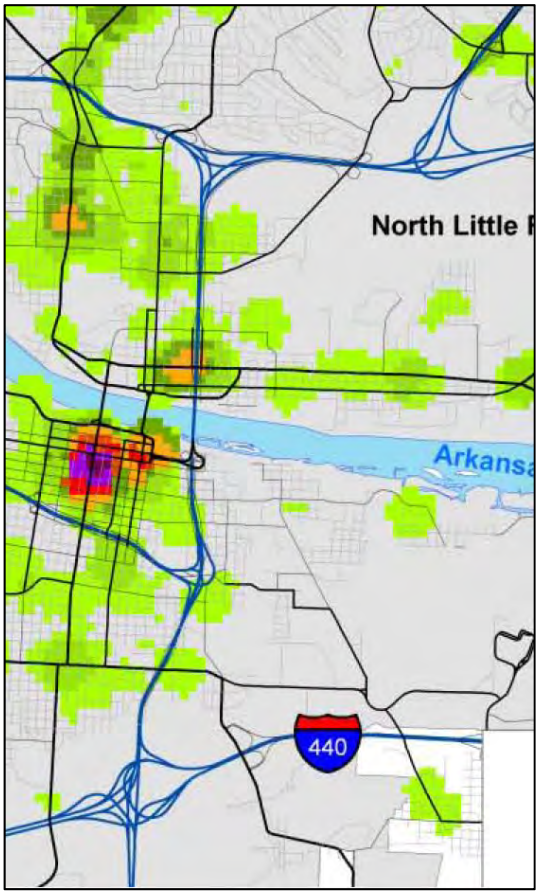
Figures C-3a and C-3b show the pedestrian and bicycle crash clusters in the study area from 2001 to 2010. As shown, there was a high concentration of pedestrian crashes at the Broadway Street interchange in North Little Rock and at the Markham Street interchange in Little Rock, especially near the ramp termination at Cumberland Street. Both of these areas attract pedestrians, especially during the evening. A lesser concentration of bicycle clusters was in the Curtis Sykes interchange area.

Figure C-3a. Bicycle Crash Clusters (2001-2010)



Source: CARTS Pedestrian/Bicyclist Crash Analysis

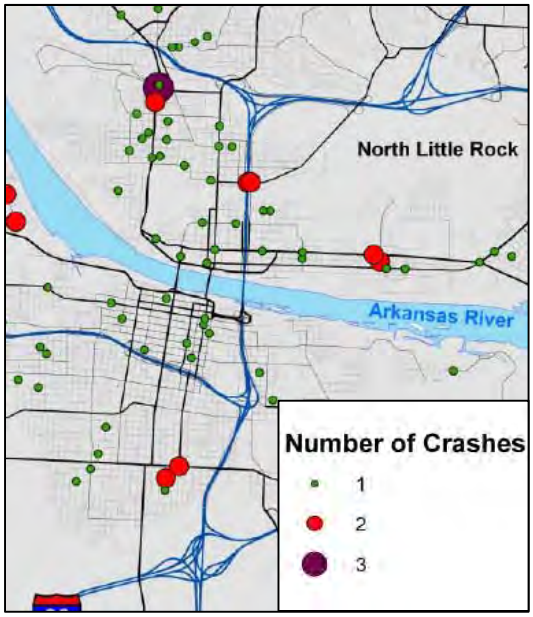
Figure C-3b. Pedestrian Crash Clusters (2001-2010)



Source: CARTS Pedestrian/Bicyclist Crash Analysis

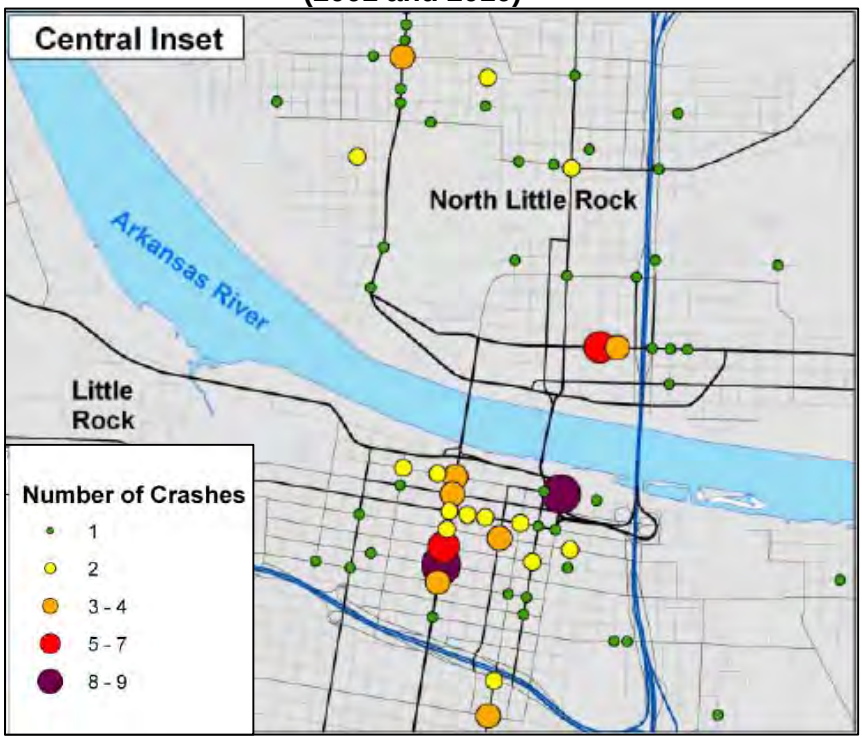
Figures C-3c and C-3d show the number of crashes for both pedestrians and vehicles. The majority of bicycle crashes in the central area are not along the corridor with the exception of the ramp intersections at 13th Street. The number of pedestrian crashes was greatest near the west ramp termini at the Markham Street interchange. From the study, the intersection of Markham Street at Cumberland Street/LaHarpe Boulevard had a total of 9 pedestrian crashes during the study period. The intersection of East Broadway Street at Magnolia Street had 5 pedestrian crashes during the study period. There were also multiple pedestrian crashes just west of the Broadway Street interchange in addition to a single pedestrian crash at the Broadway Street ramp intersection.

Figure C-1c. Bicycle Crash Intersection Analysis (2001 and 2010)



Source: CARTS Pedestrian/Bicyclist Crash Analysis

Figure C-3d. Pedestrian Crash Intersection Analysis (2001 and 2010)



Source: CARTS Pedestrian/Bicyclist Crash Analysis

Metroplan cited one pedestrian/bicycle fatality at the I-630 interchange, one fatality just north of the Broadway Street interchange, three fatalities between the North Terminal and the North Hills Boulevard interchange, and one at the Hwy. 67/Hwy. 167 interchange (http://www.metroplan.org/files/53/ped_bike2001_2010.pdf).

Structural Roadway Deficiencies

The I-30 pavement section was originally constructed in the 1960s with 10 inch jointed concrete pavement over 8 inches of aggregate material. In the early 1980s, this section was overlaid with a ½ inch stress absorbing membrane and 5.5 inches of asphalt. Likewise, the I-40 pavement section was originally constructed in the 1960s with 10 inches of concrete pavement over 9 to 11 inches of aggregate material. In the mid-1980s, the section was overlaid with 1 inch of asphalt and 6 inches of continuously reinforced concrete pavement.

Existing surface conditions for I-30 and I-40 in 2012 are noted below and depicted graphically in **Figures C-4a** through C**-4g**.

The 2012 existing surface conditions show the following along I-30 (asphalt):

- Moderate levels of alligator cracking (**Figure C-4a**);
- Moderate to severe levels of joint reflection cracking (**Figure C-4b**);
- Moderate levels of longitudinal and transverse cracking (**Figure C-4c**); and
- Moderate levels of raveling in isolated areas along I-30 (**Figure C-4d**).

The 2012 existing surface conditions show the following along I-40 (concrete):

- Moderate levels of lane/shoulder joint separation (**Figure C-4e**);
- Moderate to severe levels of patch deterioration (**Figure C-4f**); and
- Severe levels of linear cracking (**Figure C-4g**).

Data source: AHTD Pavement Management Section; Pavement performance data and pavement imagery collected via the Automatic Road Analyzer (ARAN).

Figure C-4a. Alligator Cracking on I-30



Figure C-4b. Joint Reflection Cracking on I-30



Figure C-4c. Longitudinal and Traverse Cracking on I-30



Figure C-4d. Raveling on I-30



Figure C-4e. Lane and Shoulder Joint Separation on I-40



Figure C-4f. Patch Deterioration on I-40



Figure C-4g. Linear Cracking on I-40



Functional Roadway Deficiencies

Functional deficiencies are features that prevent the roadway from handling the normal traffic volume expected of a major highway, such as narrow lane widths, lack of shoulders and sharp curves. The project study area contains many roadway features that do not meet current recommended design standards.

The existing I-30 facility contains two horizontal curves that have inadequate stopping sight distance due to the median barrier obstructing the driver's vision in the inside travel lane. The I-30 existing vertical profile also contains three sag curves as depicted in **Figure C-5a** that fall short of the recommended rate of vertical curvature for the current 60 miles per hour speed limit. In addition, there are three additional sag curves and one crest curve shown in **Figure C-5b** that are extremely close to being inadequate and may fall short of the minimum rates of vertical curvature once a more detailed level of existing topography is obtained.

The existing interstate facilities within the study corridor contain nine locations of inadequate shoulder widths, including two areas where the curb and gutter is immediately adjacent to the travel lanes as shown in **Figure C-5c**.

Most of the interchange locations do not meet the minimum one mile spacing that is recommended between urban interchanges. This corridor has 33 ramps in a five mile section, which is 70% higher than the recommended number. These interchange areas contain inadequate features, including three exit ramps lacking recommended deceleration lane lengths outside of the interstate travel lanes, seven entrance ramps lacking recommended acceleration lane lengths (**Figure C-5d**), and twelve locations between entrance and exit ramps that lack the required spacing to safely allow weaving operations (**Figure C-5e**). One major weaving area of concern is located between the I-30/I-40 interchange and the I-40/Hwy.67 interchange (**Figure C-5f**). This movement is complicated by the existence of the North Hills Boulevard interchange located within this weaving section, which is less than a mile from the adjacent interchanges.

Figures C-5g through **C-5j** map the locations of the functional roadway deficiencies described above and summarized as follows:

- 8 locations with curves that do not meet design standards (**Figure C-5g**);
- 9 locations with inadequate shoulder widths, including 2 locations where the curb and gutter is immediately adjacent to the travel lanes (**Figure C-5h**);
- 10 ramps lack recommended lane lengths and/or are below standard acceleration/deceleration and taper lengths (**Figure C-5i**); and
- 12 locations lack required spacing to safely allow weaving operations between entrance/exit ramps. (**Figure C-5j**).

Figure C-5a. Sag Curve Illustration

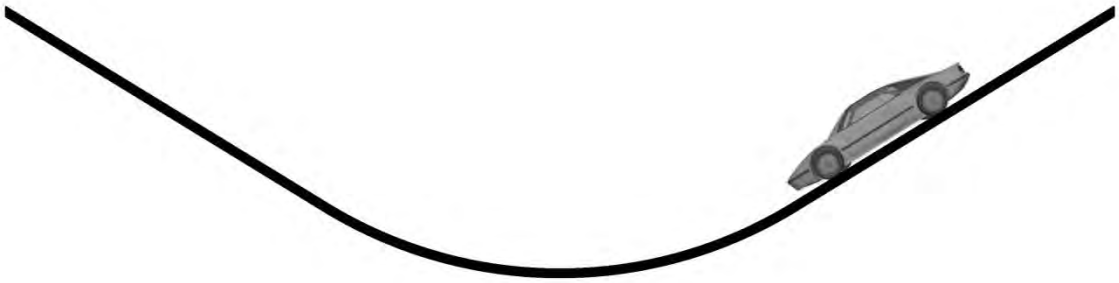


Figure C-5b. Crest Curve Illustration

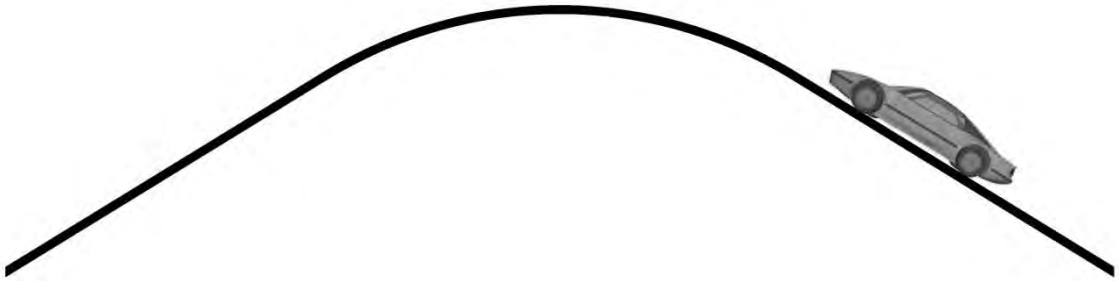


Figure C-5c. Inadequate Shoulders and Curb and Gutter Adjacent to I-30

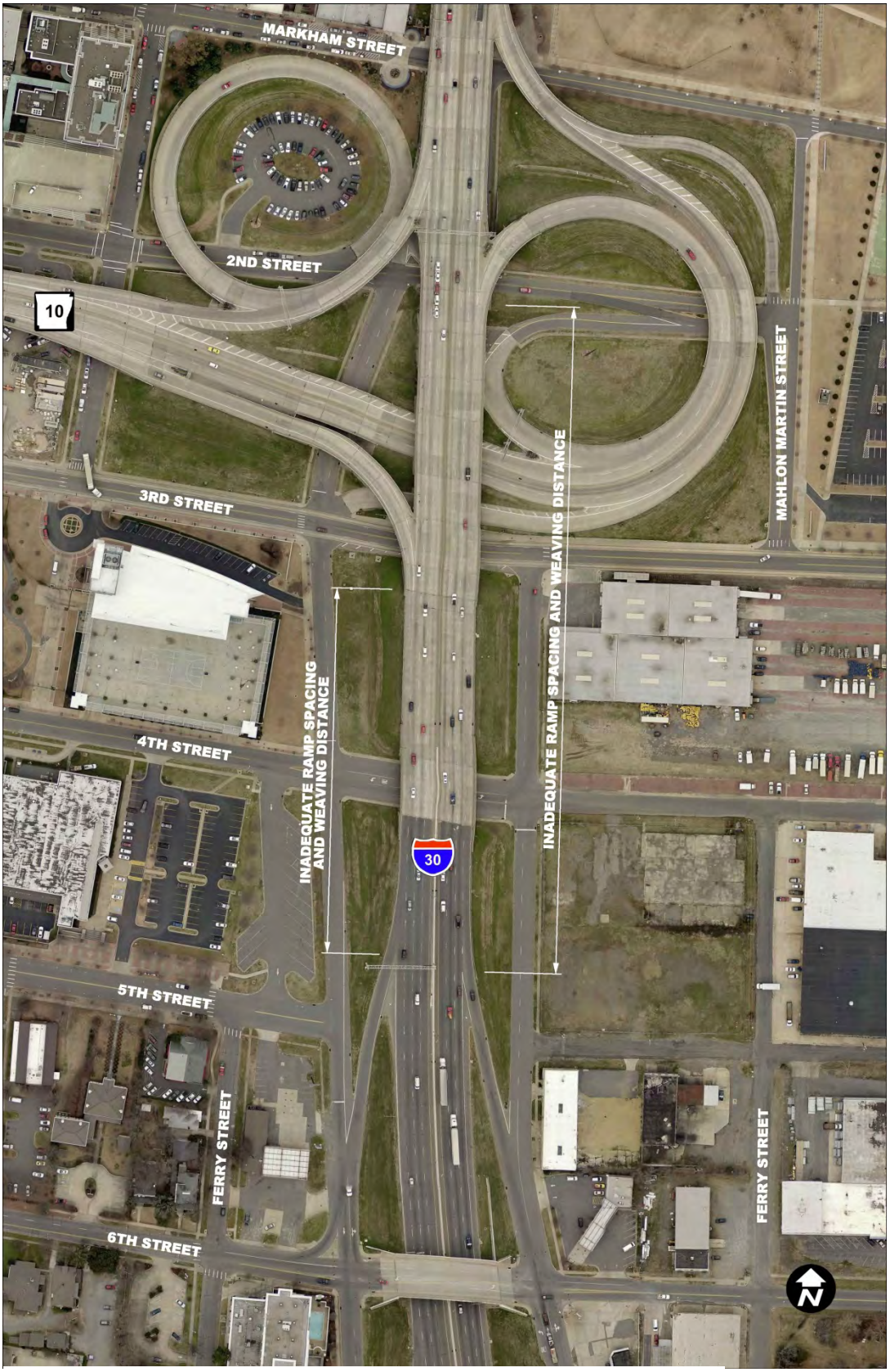


Figure C-5d. Inadequate Acceleration Distance at I-30 Entrance Ramp



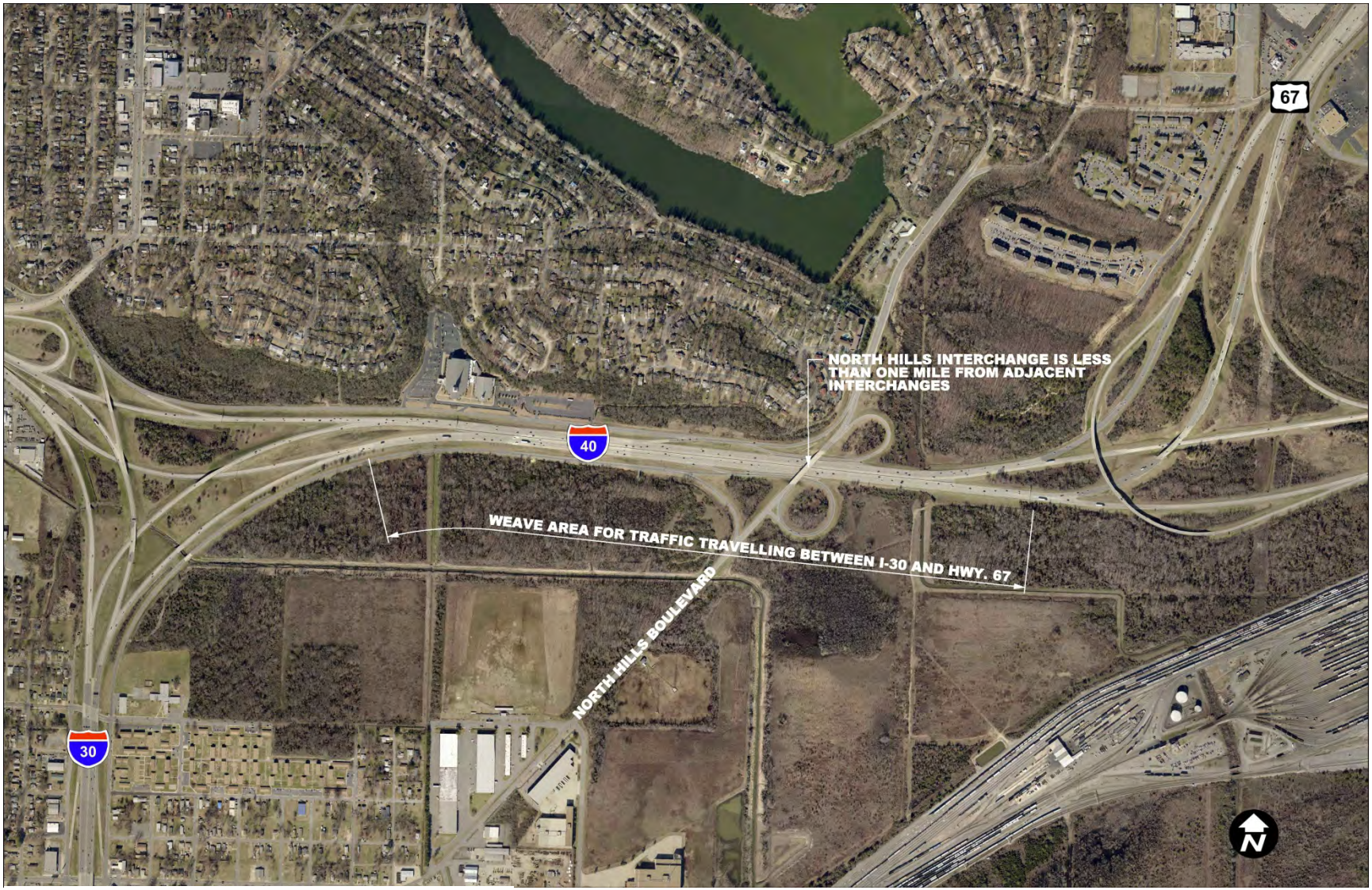
Source: 2013 Pulaski County Aerial Photograph

Figure C-5e. Inadequate Ramp Spacing and Weaving along I-30



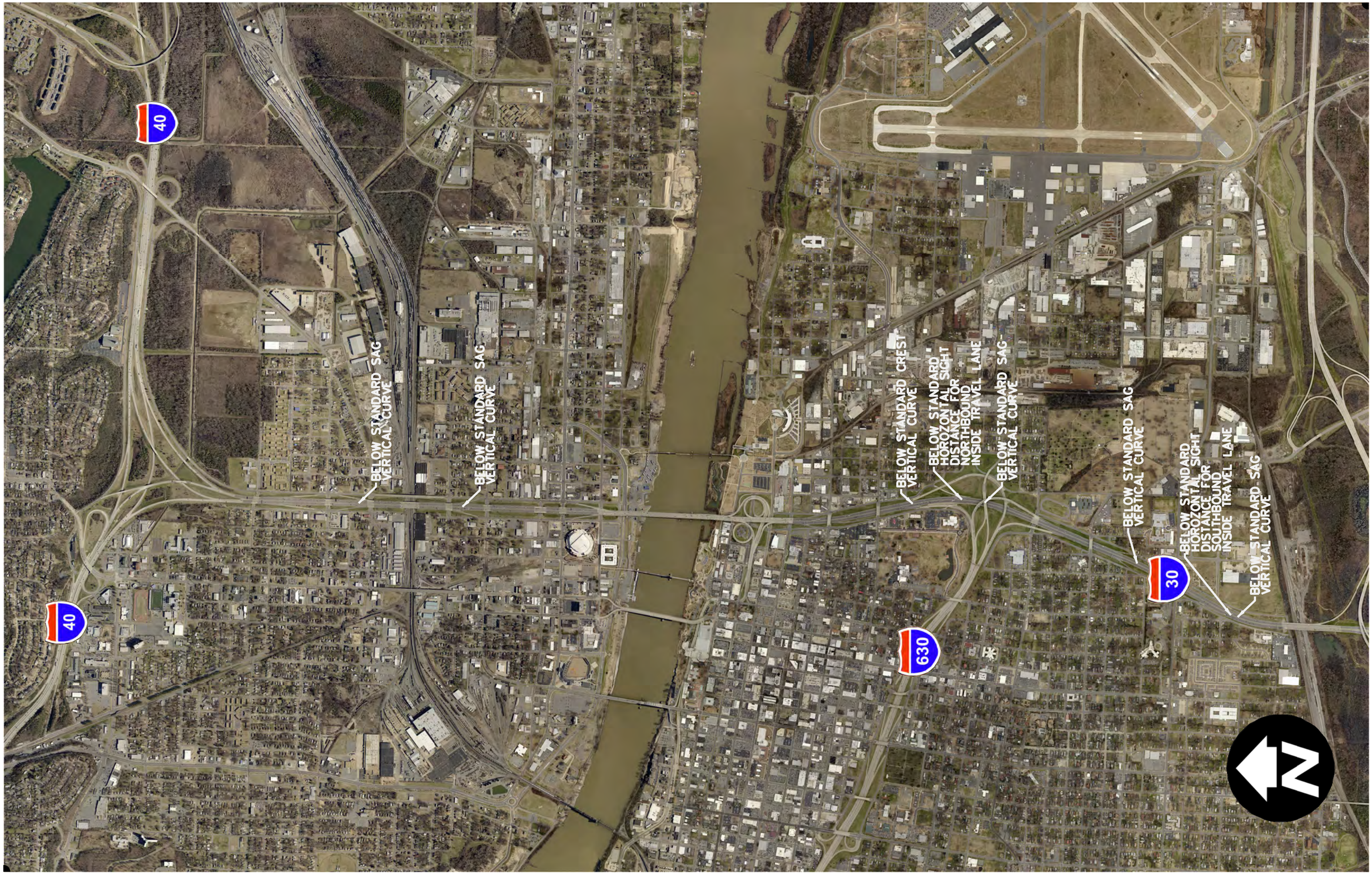
Source: 2013 Pulaski County Aerial Photograph

Figure C-5f. Weaving Problem along I-40 between I-30 and Hwy. 67



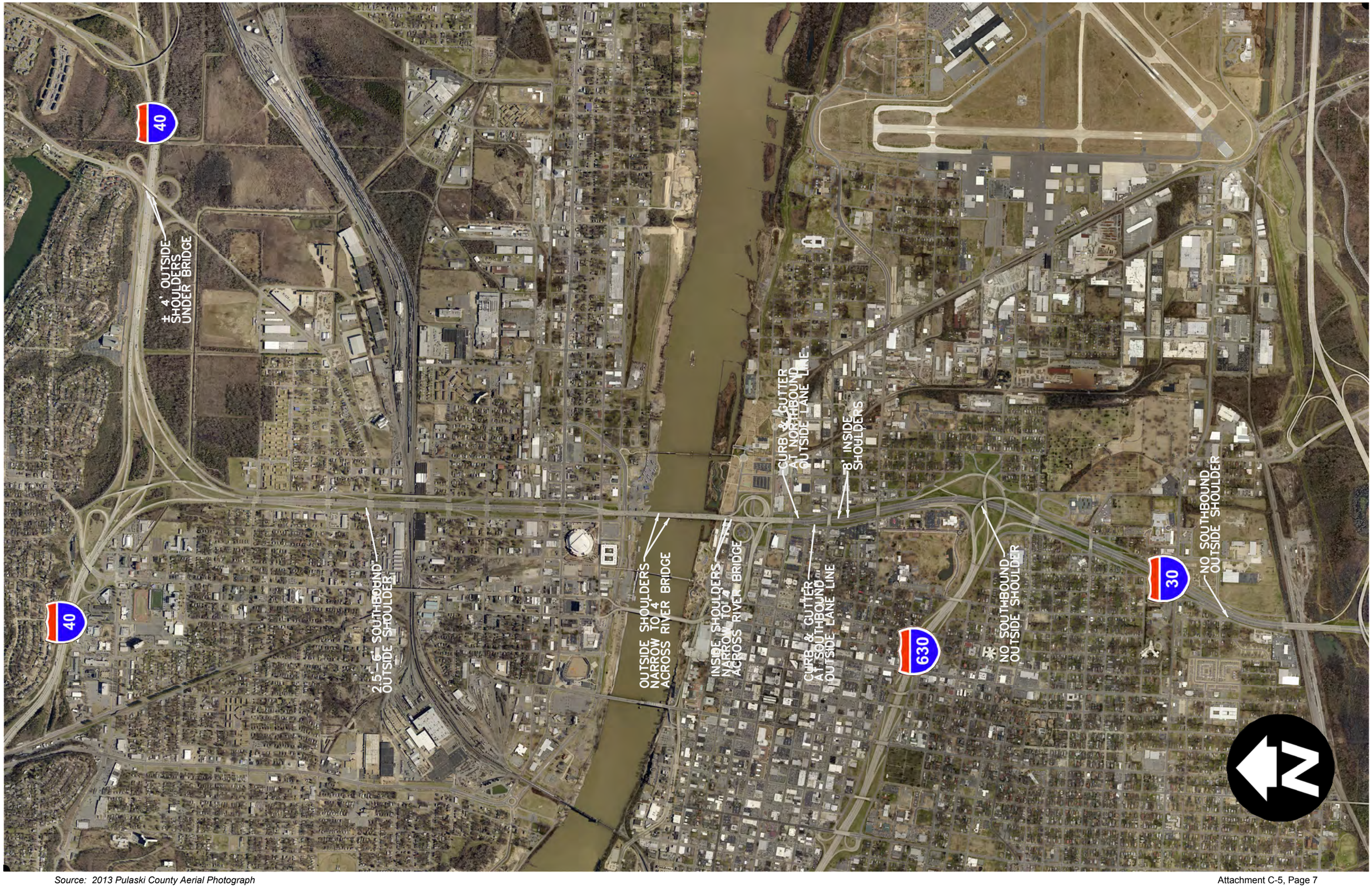
Source: 2013 Pulaski County Aerial Photograph

Figure C-5g. Locations with Curves Below Design Standards



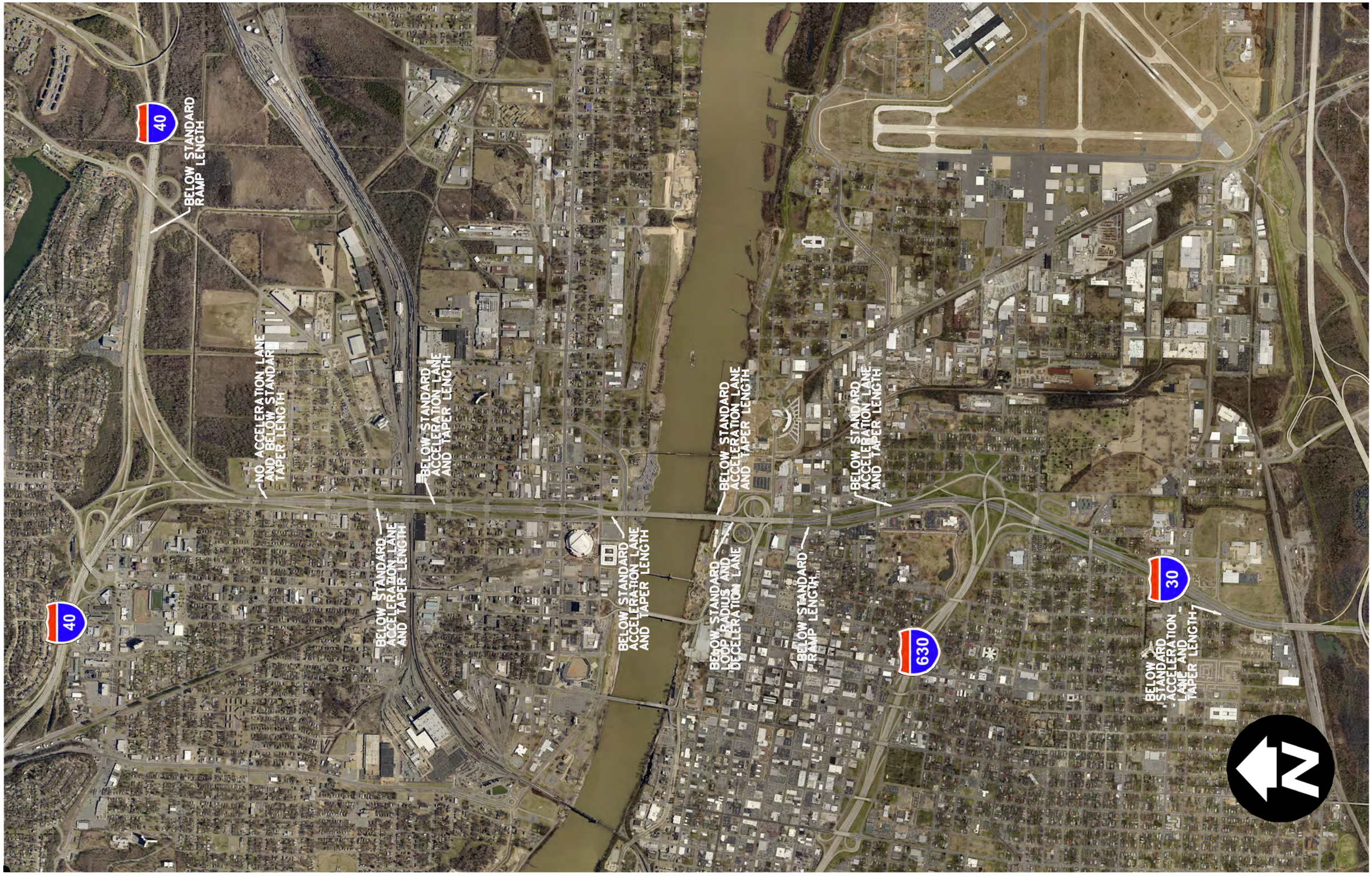
Source: 2013 Pulaski County Aerial Photograph

Figure C-5h. Locations with Inadequate Shoulder Widths



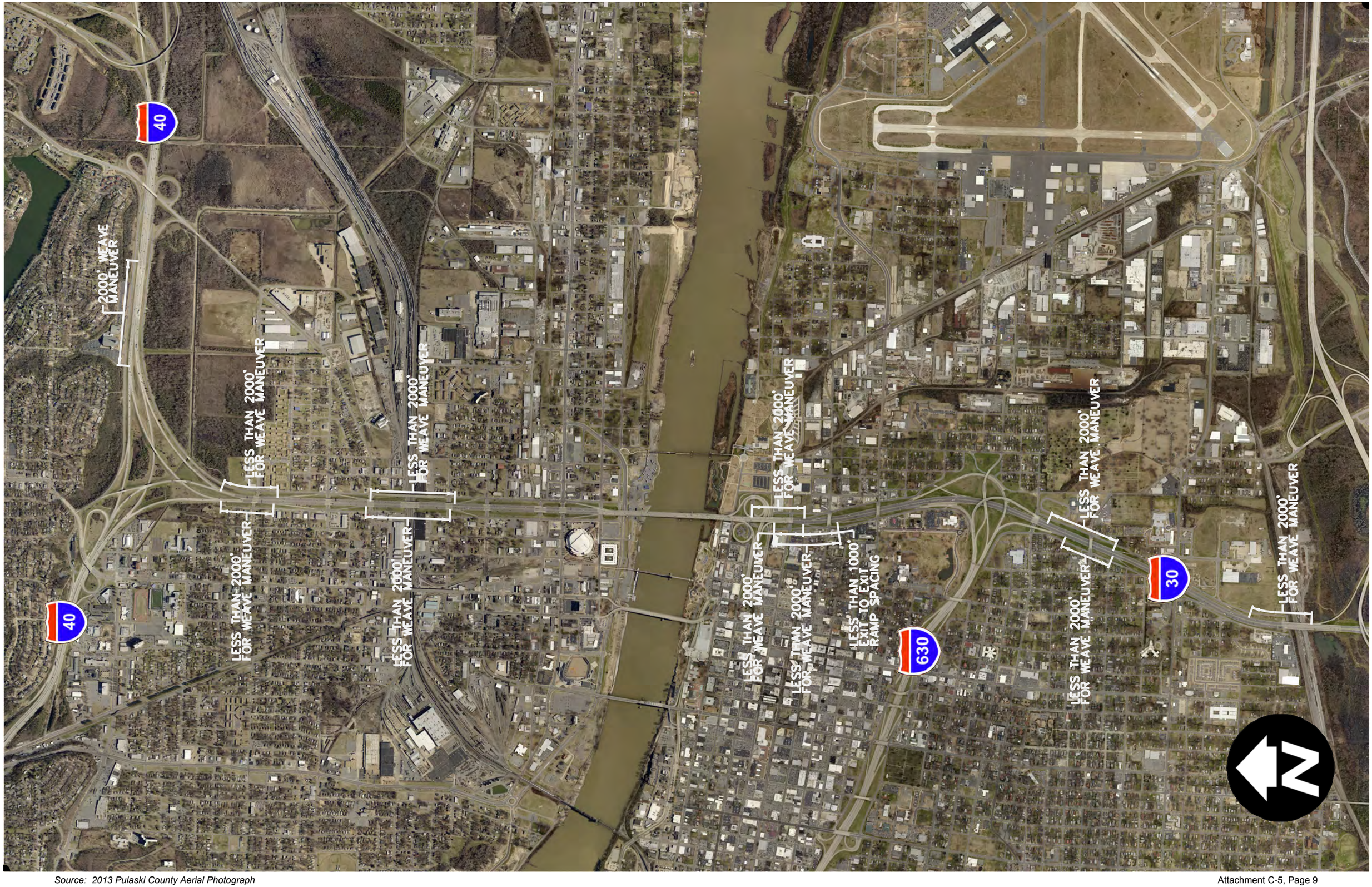
Source: 2013 Pulaski County Aerial Photograph

Figure C-5i. Locations with Inadequate Ramp Lengths



Source: 2013 Pulaski County Aerial Photograph

Figure C-5j. Locations with Inadequate Spacing for Safe Weaving Operations

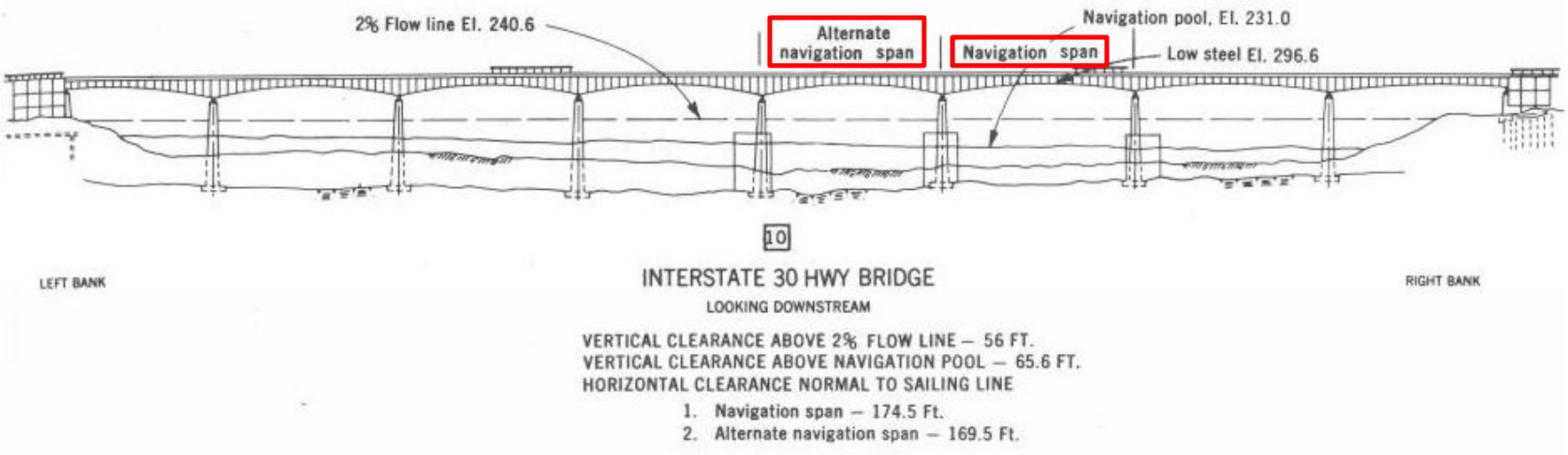


Source: 2013 Pulaski County Aerial Photograph

Attachment D: Bridge Data

Attachment D-1: I-30 Bridge Navigation Spans
Attachment D-2: Arkansas Waterways Commission Letter to AHTD
Attachment D-3: I-30 Bridge Conditions Memorandum

I-30 Bridge Navigation Spans



As shown in the above figure, taken from the USACE navigation chart, the southern span is designated as the “Navigation Span” whereas the northern span is designated as the “Alternate Navigation Span”. Based on conversations with barge operators familiar with navigating this section of the river, the “Alternate Navigation Span” is normally used due to its alignment with the adjacent bridges.

C: RALPH - REPLY FOR MY SIG.
LORIE
MIKE
KELI

RECEIVED
AUG 2[illegible] 2014
DIRECTOR'S OFFICE
ARKANSAS STATE HIGHWAY AND
TRANSPORTATION DEPARTMENT

Arkansas Waterways Commission

Mike Beebe, Governor

Gene Higginbotham, Executive Director

August 21, 2014

Mr. Scott Bennett
Director
Arkansas State Highway and Transportation Department
P.O. Box 2261
Little Rock, Arkansas 72203

RE: Proposed Interstate 30 Bridge, Arkansas River

Dear Mr. Bennett,

On behalf of the Arkansas Waterways Commission, I write to comment on the Proposed Interstate 30 Bridge Expansion (Arkansas Waterway, Mile 118.5, Little Rock, Pulaski County, Arkansas).

The Interstate 30 Bridge carries the highest amount of vehicular traffic across the Arkansas River in Metropolitan Little Rock area. To make this bridge safer for both navigation and the vehicular traffic moving across it, we would recommend the bridge pier that divides the navigation channel be removed and a navigation channel of 332 feet (horizontal width) be established. This horizontal width is the navigation channel width at the Junction Bridge (mile 118.7), which is the closest adjacent bridge. We would also recommend that the deck of the proposed Interstate 30 Bridge be no lower than that of the soon-to-be constructed Broadway Bridge (mile 119.1), which has a proposed vertical clearance of 62.4 feet above pool. Currently the Interstate 30 Bridge does not meet current AASHTO Standards and while the current pier protection system offers optimal protection for frontal collision, there remains a great potential for damage from a vessel collision from the side which is unprotected. Any design plans that would call for reinforcement to the existing pier in the navigation channel would reduce the width of the navigation channel and could possibly lead to more incidents as traffic continues to grow on the McClellan–Kerr Arkansas River Navigation System.

As construction is approved on the Interstate 30 bridge, we would request that the left descending channel remain open at all times. We would also request that any construction done to piers or the deck should be scheduled to minimize the impact to navigation.

Thank you for the opportunity to comment on this issue. If you have any questions regarding my comments, I can be reached at (501) 682-1173.

Sincerely,

Gene Higginbotham

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DEPUTY DIRECTOR AND
CHIEF ENGINEER'S
OFFICE

cc: Governor Mike Beebe
Ms. Sandra L. Otto, FHWA Arkansas Division
Mr. Eric Washburn, USCG Eighth Coast Guard District (dwb)

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

INTER OFFICE MEMORANDUM

Scott -
I concur.
— For your Approval.
Ralph

April 3, 2014

TO: Ralph J. Hall, Deputy Director and Chief Engineer

THRU: Michael D. Fugett, Assistant Chief Engineer for Design

FROM: Carl J. Fuselier, Bridge Engineer CJF

SUBJECT: Bridge over Arkansas River
Interstate 30, Pulaski County

I Concur.

A project is programmed to increase the number of lanes on Interstate 30 in Little Rock/North Little Rock, Arkansas. The existing Interstate 30 bridge over the Arkansas River is within the project limits and will need to be either replaced by a new structure or widened to accommodate the additional lanes.

The construction of the existing bridge began in 1958 and was built under several contracts. It currently has a sufficiency rating of 55.0 and is classified as structurally deficient. The structure has numerous deficiencies in addition to the following major deficiencies:

1. The webs of the steel beams in the north and south approach spans currently have fatigue cracks in forty-one locations. Maintenance Division has attempted to remediate these cracks but some have continued to progress. Once fatigue cracks appear in steel beams, experience has proven that more cracks will appear at other locations.

2. The steel bent caps for the north and south approach spans currently have cracks and section loss from corrosion. Also, there is section loss from corrosion in the steel columns for these bents.

3. Pier 20 in the river has a large horizontal crack that appears to pass completely through the foundation. The recent underwater inspection has indicated that the foundation has shifted along this crack.

4. The structure is not designed for seismic resistance.

The extensive modifications required for rehabilitating these deficiencies is not cost effective for a bridge of this age. Therefore, based on the above discussion, I recommend that the existing structure be replaced with a new structure in lieu of rehabilitating and widening the existing structure.

Additional benefits from this recommendation include the elimination of a fracture critical structure that utilizes pin and hanger assemblies and the elimination of the most restrictive bridge for navigation in the Little Rock Harbor in regards to horizontal clearance. A new structure with an appropriate span length over the navigation channel will relieve concerns of the U.S. Coast Guard and U.S. Army Corps of Engineers as expressed in letters to my office.

Attachment E: References

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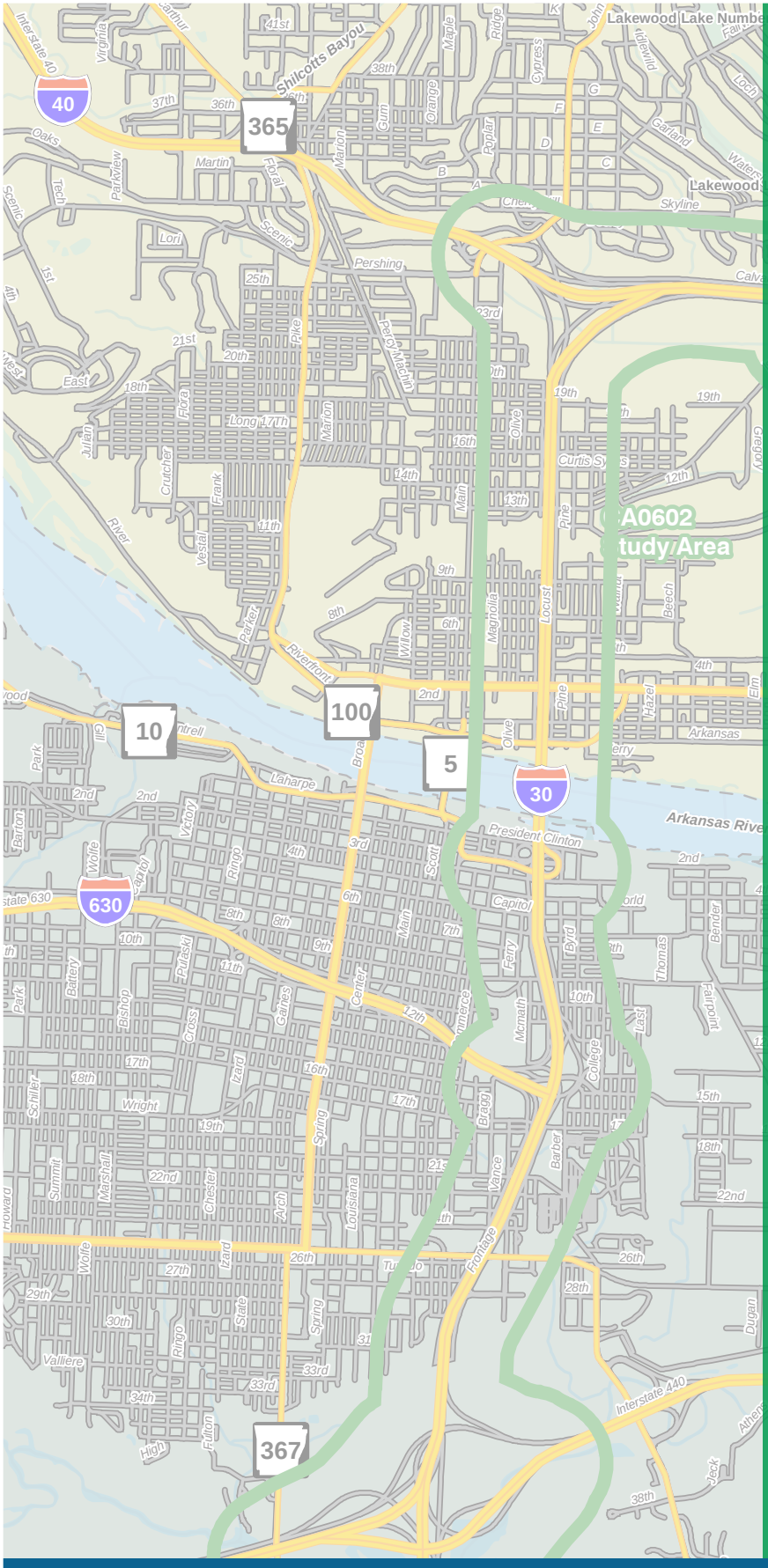
Appendix B:

Constraints Report



PLANNING AND ENVIRONMENTAL LINKAGES CONSTRAINTS REPORT

INTERSTATE 30

CA0602

Interstate 530 – Highway 67

September 2014

CONNECTING ARKANSAS PROGRAM CAP

Arkansas State Highway & Transportation Department

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Exhibit A-3: Minority Population Map
Exhibit A-4: Low Income Population Map
Exhibit A-5: LEP Population Map

Attachment B: Supporting Data and Constraints Summary
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B-3: Request for Technical Assistance to the Arkansas Historic Preservation Program
B-4: Department of Arkansas Heritage – Arkansas Historic Preservation Program Letter
B-5: Constraints Summary Table

1.0 INTRODUCTION

This report is part of planning and data collection activities of the Interstate 30 (I-30) Planning and Environmental Linkages (PEL) Study. Increased congestion, safety, and declining roadway and bridge conditions, as well as a commitment made to Arkansas voters[1], have led to a need for transportation improvements along I-30 and Interstate 40 (I-40) through Little Rock and North Little Rock in central Arkansas. The PEL process will be used to identify, evaluate and document such problems and potential transportation solutions. The purpose of the PEL process is to conduct analysis and planning activities with resource agencies and the public in order to produce transportation planning products that effectively serve the community's transportation needs. By following the PEL process, fewer negative impacts and more effective environmental stewardship and decisions may result, which can be used to inform a subsequent project-specific NEPA process.

An environmental constraints review was performed to identify existing concerns that may constrain potential alternatives within the I-30 PEL study area. This constraints report is to be used as a planning tool during the PEL process. Understanding the features and concerns of the study area will allow for the informed development and screening of potential alternatives. This report is not a comprehensive environmental analysis that would satisfy requirements under NEPA nor is it intended for use in determining municipal, state and federal permitting or other requirements. A summary of the constraints identified within the study area is presented in **Attachment B-5**.

2.0 METHODOLOGY

For purposes of collecting initial social, economic and environmental data, a study area of up to 1,320 feet from the centerline of the existing facility, including ramps, was determined. The study area and constraints identified throughout this document are shown graphically in **Attachment A, Exhibits A-1** and **A-2**.

In order to identify the environmental and infrastructure constraints associated with the study area, information was collected through on-line database searches, imagery analyses, Google Maps (http://maps.google.com), desktop geographic information system analyses, and limited field reconnaissance of the study area.

3.0 EXISTING CONDITIONS ANALYSIS

The study area is located within an urban area and is primarily comprised of commercial and residential properties. There are undeveloped areas in the southern and northern portions of the study area. The Union Pacific Railroad (UPRR) crosses the study area at several locations. The Verizon Arena, William J. Clinton Presidential Center and Park, William Jefferson Clinton Presidential Library, and Little Rock River Market are just a few attractions located within the study area. Adjacent to the study area is the Bill and Hillary Clinton National Airport/Adams Field, Dassault Falcon Jet, and Arkansas

[1] The major improvement project to widen I-30 between Interstate 530 (I-530) and I-40 was included as part of the Connecting Arkansas Program, voted on and passed by Arkansas voters in November 2012, which increased the state sales tax by a half-cent for 10 years as a means to fund identified transportation projects throughout the state.

National Guard. These and other features, as described in more detail below, are shown on the constraints maps in **Attachment A, Exhibits A-1** and **A-2**, and a summary table of the constraints is presented in **Attachment B-5**.

3.1 Infrastructure Constraints

3.1.1 Utilities

Typical overhead and underground utilities exist within the study area. A preliminary investigation of utilities identified one feature to be avoided; a transfer building for fiber optic lines throughout the state. It is located on AHTD right-of-way (ROW), southwest of the I-30 North Terminal Interchange (**Attachment A, Exhibit A-2 - Sheet 5 of 6**). Another building is scheduled to be built to the southwest of the existing building and would also need to be avoided. The largest concentration of utilities is on the Arkansas River Bridge which contains hanging utilities. Any proposed improvements would need to accommodate these utilities.

3.1.2 Rail

There are four locations where the UPRR intersects the study area. The UPRR locomotive overhaul and maintenance facility (Jenks Shop) is located west of the study area south of I-40 and their rail yard is located along the boundary of the study area near the northeast limits of the project (**Attachment A, Exhibit A-1**) .

3.1.3 Seawall

A seawall extends approximately 3,725 feet along the north bank of the Arkansas River within the study area (**Attachment A, Exhibit A-2 – Sheet 3 of 6**). Any modification to a federal levee system above and beyond ordinary operation and maintenance requires US Army Corps of Engineers (USACE) approval under 33 USC 408 (Section 408 Permit). Accordingly, impacts to the sea wall will be evaluated in accordance with USACE Section 408 regulations and policy.

3.2 Socio-economic Demographics

3.2.1 Demographic Characteristics

The study area encompasses portions of 13 census tracts (CT) as delineated by the U.S. Census Bureau (USCB). Within the 13 census tracts, 22 census block groups were identified to be partially contained by the study area as delineated by the USCB in 2010**.** Within the 22 census block groups, 715 census block areas were identified to be partially contained by the study area as delineated by the USCB in 2010**.** The census block groups and census block levels were used in the socioeconomic analyses for the study area. The census block group level was used in the analyses for low-income and Limited English Proficiency (LEP) populations. Information was obtained from the USCB, 2008-2012 American Community Survey (ACS) 5-year estimates. The 2010 Census summary file data at the census block level was used in the analysis of minority populations.

3.2.2 Environmental Justice Populations

Executive Order (EO) 12898 entitled "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" mandates that federal agencies identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs on minority and low-income populations. The FHWA Order 6640.23A defines a minority as a person who is Black (having origins in any of the black racial groups of Africa); Hispanic (of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race); Asian American (having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands); or American Indian and Alaska Native (having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition). An Environmental Justice (EJ) population is defined as an area with a minority population exceeding 50 percent of the total population. Minority populations within the census block groups that are either wholly or partially contained by the study area account for approximately 62 percent of the total population. This number falls above the defined 50 percent and qualifies as a presence of EJ populations within the study area.

Table 1 lists the demographic percentages of the minority groups present within the study area. The dominant minority group within the study area is Black or African American (55.3 percent). **Attachment A, Exhibit A-3** presents the distribution of minority populations within the study area that are greater than 50 percent. As shown in **Attachment A, Exhibit A-3**, the areas of high minority populations are generally located in Little Rock around and south of the I-30/Interstate 630 (I-630) interchange; and along the majority of the I-30 corridor in North Little Rock.

Table 1. Percent Minority Populations in Study Area

Minority Populations	Percentage
Black or African American	55.3%
Hispanic or Latino	3.0%
Two or More Races	1.6%
Asian	1.2%
American Indian and Alaska Native	0.4%
Native Hawaiian and Other Pacific Islander	0.3%
Percent Minority for Study Area	61.8%

Source: Summary of data taken from U.S. Census Bureau, 2010 Census Summary File, Table P2.

A low-income population is defined as one with a median income for a family of four equal to or below the Department of Health and Human Services (DHHS) poverty guidelines of $23,850 in 2014 (2014 DHHS Poverty Guidelines). The median income for the entire study area is $27,000; however, nine of the 22 block groups within the study area have median incomes below the poverty level of $23,850. The median household incomes for the 22 census block groups that are either wholly or partially contained by the study area range from $9,051 to $90,089. **Attachment A, Exhibit A-4** shows the distribution of low-income populations within the study area.

Table 2. Median Household Income Below Poverty Level

Census Tract	Block Group	Total Households	Median household income	2014 DHHS Poverty Guideline
5	1	306	$22,188	$23,850
20.02	1	551	$21,188	
28	1	129	$17,460	
28	2	456	$9,051	
28	3	512	$18,643	
29	2	385	$16,897	
46	2	1,020	$20,183	
46	3	338	$15,086	
Total		**3,697**	**$17,587[1]**	

Source: U.S. Census Bureau 2008-2012 American Community Survey, Table B19013.
Note: [1] Average Median Household Income for block groups in study area.

3.2.3 Limited English Proficiency Populations

EO 13166, "Improving Access to Services for Persons with Limited English Proficiency" requires federal agencies to examine the services they provide and identify any need for services to those with LEP. The EO requires federal agencies to work to ensure that recipients of federal financial assistance provide meaningful access to their LEP applicants and beneficiaries. Failure to ensure that LEP persons can effectively participate in or benefit from federally assisted programs and activities may violate the prohibition under Title VI of the Civil Rights Restoration Act of 1987 and Title VI regulations against national origin discrimination.

Census block group data for "Ability to Speak English" for the population five years and older indicate that seven out of the 22 total block groups extending within the study area contain populations (ranging from one to 17 percent) that speak English less than "very well", with Spanish being the predominant language spoken for the LEP population. Of those seven block groups with LEP populations, three block groups were identified to have LEP populations above five percent[2]. Fifteen out of the 22 block groups have a zero percent LEP population. In compliance with EO 13166, public involvement efforts would need to employ the use of bilingual material and/or simultaneous translation, as applicable, so that LEP populations would have meaningful access to the programs, services, and information provided. **Attachment A, Exhibit A-5** shows the location of LEP populations greater than five percent for the Census block groups within the study area.[3]

[2] Safe Harbor LEP Threshold – Identifies actions that will be considered strong evidence of compliance with Title VI of the Civil Rights Act obligations. Safe Harbor requires written translations of vital documents for each LEP group that meets the threshold.

[3] Note that the Census block groups with LEP populations greater than five percent have been clipped to the study area boundary. Although the areas designated as LEP located immediately within the study area boundary appear to be areas of zero population, the LEP Census block groups for these areas actually extend both within and outside of the study area boundary. To ensure that all LEP populations have meaningful access to the programs, services and information provided, public involvement efforts will employ the use of bilingual material and/or simultaneous translation, as applicable.

3.2.4 Additional Analyses

In addition to the Census data analyses described in **Sections 3.2.1** through **3.2.3**, additional online research and field reconnaissance was also completed to identify environmental justice resources such as food banks and homeless shelters. A list of these resources is presented in **Attachment B-1**. Additional resources for environmental justice populations may be identified during the PEL process.

3.3 Land Use

3.3.1 Schools

Eight schools were identified within the study area as shown in **Attachment A, Exhibit A-2** on the referenced sheets: Booker Arts Elementary School, Booker T. Washington Elementary School, Horace Mann Middle School, and Rockefeller Magnet Elementary School (**Sheet 2 of 6**); Clinton School of Public Service and University of Arkansas at Little Rock (UALR) School of Law (**Sheet 3 of 6**); Shorter College (**Sheet 4 of 6**); and Calvary Academy (**Sheet 5 of 6**). The North Little Rock School District Office (**Sheet 4 of 6**) is located adjacent to the study area. In addition, a new school facility is planned to be constructed in North Little Rock, located near the existing North Little Rock High School Football Stadium, south of I-40 and west of I-30. Although they are not considered a constraint, schools traditionally play an important role in the local community. It is a goal that impacts to these locations be avoided and/or minimized whenever possible.

3.3.2 Places of Worship

Twelve places of worship were identified within the study area as shown in **Attachment A, Exhibit A-2** on the referenced sheets: Duncan United Methodist Church, Greater Macedonia Baptist Church, Metro Worship Center, St. Paul Baptist Church, and Waters Temple Church of God in Christ (**Sheet 2 of 6**); Friendly Chapel Flame and St. Edward Catholic Church (**Sheet 3 of 6**); King Solomon Baptist Church, Independent Baptist Church, Greater Miracle Temple, and McCabe Chapel United Methodist Church; (**Sheet 4 of 6**); and First Pentecostal Church (**Sheet 5 of 6**). Although they are not considered a constraint, places of worship traditionally play an important role in the local community. It is a goal that impacts to these locations be avoided and/or minimized whenever possible.

3.3.3 Cemeteries

Three cemeteries (Fraternal Cemetery, Little Rock National Cemetery, and Oakland Cemetery) are located within or immediately adjacent to the study area (**Attachment A, Exhibit A-2 – Sheet 2 of 6**). The Fraternal Cemetery is located entirely within the study area east of I-30 and in the southern half of the corridor. The Oakland Cemetery and Little Rock National Cemetery are located partially within or immediately adjacent to the study area.

3.3.4 Section 4(f) Properties

A Section 4(f) property is any significant publicly owned park, recreation area, wildlife and waterfowl refuge, or historic property (including archeological sites) protected by 23 Code of Federal Regulations (CFR) 774. Twelve parks and/or recreation areas potentially eligible for Section 4(f) protection were identified within the study area as follows (shown in **Attachment A, Exhibit A-2** on the referenced sheets): Gillam Park and Interstate Park (**Sheet 1 of 6**); Pettaway Park (**Sheet 2 of 6**); Hangar Hill Park, MacArthur Park, River Front Park, River Front West and East Park, Terry Manson Park, and William J. Clinton Presidential Center and Park (**Sheet 3 of 6**); 14th Street Park (**Sheet 4 of 6**); and Crest View Park (**Sheet 5 of 6**). In addition, two schools, Rockefeller Elementary School (**Sheet 2 of 6**) and Booker Arts Magnet School (**Sheet 2 of 6**) have public recreation areas that are potentially eligible for Section 4(f) protection. If proposed improvements result in a use of these types of properties, a Section 4(f) evaluation will be required.

3.3.5 Section 6(f) Properties

A Section 6(f) property is any public outdoor recreational land acquired or improved with funds authorized under the Land and Water Conservation Fund (LWCF) Act of 1965. Section 6(f) of the LWCF Act established restrictions on the use of these properties, such that any conversion to a use other than public recreation requires replacement of land of equal or greater value. Shown in **Attachment A, Exhibit A-2**, LWCF properties include Interstate Park (**Sheet 1 of 6**) and MacArthur Park (**Sheet 3 of 6**)[5].

3.4 Natural Resources

3.4.1 Vegetation

The majority of the study area is within an urbanized area which contains various landscaping type vegetation. The southern limit of the study area does contain a natural wooded area adjacent to the existing roadway. Similar natural vegetation is also present in in the northern portion of the study area. These areas may have been impacted previously due to road construction or other types of development; however, they have been allowed to re-vegetate in a natural state. There are no known rare or unique vegetative communities within the study area other than those described as jurisdictional wetlands. The proposed project will comply with EO 13112 on Invasive Species as to prevent the introduction or spread of invasive plant species as a result of the proposed action. Additionally, any seeding and replanting of disturbed areas will occur in compliance with EO 13112 and the Executive Memorandum on Environmentally and Economically Beneficial Landscaping.

3.4.2 Wildlife Habitat and Migration Patterns

In addition to the wooded areas, several bridges and structures within the study area are nesting sites for migratory birds. The AHTD has a special provision that details the requirements of the contractor when working on a bridge or other structure when

[5] Source: LWCF properties identified by AHTD through the Arkansas Department of Parks and Tourism

nesting migratory birds are present. This special provision will be provided by the AHTD for inclusion in the construction contract. The proposed project will comply with EO 13112 on Invasive Species as to prevent the introduction or spread of invasive terrestrial or aquatic animal species as a result of the proposed project.

3.4.3 Threatened and Endangered Species

Federally listed species are protected under the Endangered Species Act (ESA) of 1973. In general, this act protects both the species and habitat. The Interior Least Tern (*Sterna antillarum athalassos*) is known to occur within the study area; however, there are no known nesting sites which would require specific avoidance measures. Consultation with the US Fish and Wildlife Service (USFWS) will be required to determine if specific conservation measures will be required to minimize the risk of potential impacts to foraging terns. No other federally listed species are known to occur within the study area.

3.4.4 Waters of the U.S., including Wetlands

Pursuant to EO 11990 (Protection of Wetlands) and Section 404 of the Clean Water Act, a preliminary investigation was conducted to identify potential waters of the US, including wetlands, within the study area. The preliminary investigation identified potential jurisdictional features through field reconnaissance, desktop review, and review of National Wetland Inventory maps. The study area intersects Fourche Creek, Arkansas River, Lake No. 1, and several other tributaries located in the northern limits of the study area. Wetlands are present at the southern and northern limits of the study area. A more detailed delineation to map and evaluate these features would need to be conducted to determine if these features meet the requirements and are under the jurisdiction of the USACE further along in the project development process. Section 404 impacts should be avoided or minimized to the extent possible and would require appropriate permitting.

3.4.5 Floodplains

According to FEMA data, the study area does intersect the 100-year floodplain at Fourche Creek, Arkansas River, and in the northern project limits. These areas are characterized as Zone A; special flood hazard areas inundated by the 100-year flood, with no base flood elevations determined.

A portion of the Dark Hollow basin, a ponding/flood detention area, is located along the I-40 corridor in the northern portion of the study area. Dark Hollow is a low-lying area of North Little Rock located east of I-30, generally bounded by I-40 to the north and the high ground adjacent to the Arkansas River to the south (**Attachment A, Exhibit A-2 - Sheet 5 of 6**). There are several residential areas located outside of but nearby the study area in Dark Hollow that are historically subject to frequent flooding. Dark Hollow is drained by Redwood Tunnel, a deteriorated, undersized arch-shaped culvert running underground of North Redwood Street from just north of Broadway Street for approximately 2,600 feet, where it discharges into the Arkansas River[6] (**Attachment A,**

[6] Source: USACE, Little Rock District. North Little Rock, Dark Hollow Limited Re-Evaluation Report, Appendix A, Hydrology and Hydraulics Report, Updated April 2006.

Exhibit A-1). Any increases to impervious surface within the Dark Hollow basin could result in an increase in flood waters affecting the Dark Hollow area.

The hydraulic design for this project would need to be in accordance with current FHWA design policies. The proposed project would need to be in compliance with 23 CFR 650 regarding location and hydraulic design of highway encroachments within the floodplains. The proposed project would also need to comply with EO 11988 which requires federal agencies to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative.

3.5 Other Items of Consideration

3.5.1 Cultural Resources

Cultural Resource sites have shown up on records checks and likely still exist. AHTD Cultural Resource Staff performed a preliminary cultural resources investigation for the proposed I-30 PEL study, which is included in **Attachment B-2**. A summary of those findings is provided below for both archeological and historic resources. AHTD's preliminary investigation included a records check of the Arkansas Archeological Survey (AAS) for previously recorded archeological sites and of the Department of Arkansas Heritage - Arkansas Historic Preservation Program (AHPP) for National Register listed structures. Several maps and references were also checked as part of this preliminary assessment. Findings from the historic resources analysis were coordinated with the State Historic Preservation Officer (SHPO).

The cultural resources study area, also known as the Area of Potential Effect (APE), was defined as a 100-foot buffer on each side of I-30 and I-40 from the existing ROW. Information about cultural resources sites or their location is not for public disclosure.

3.5.1.1 Archeological Resources

Oakland Cemetery, Fraternal Cemetery, and the National Cemetery are located between the I-530 and I-630 interchanges east of I-30. These cemeteries are listed on the National Register of Historic Places (NRHP); and Oakland Cemetery is recorded as archeological site 3PU329. No other cemeteries were noted within the APE.

Three sites are directly within the 100-foot APE.

(1) Site 3PU144 is a well uncovered during the construction of I-630. This site is under I-630 and therefore no longer present.
(2) Site 3PU415 is a very low density lithic scatter located within the US Highway 67 (Hwy. 67)/I-40 interchange. The site was revisited during this evaluation in 2014 and a few lithics were found on the surface. Half of the site was destroyed during the construction of the ramp to I-40. The site will need to be shovel tested within the remaining portion and a site revisit form will need to be filled out.

(3) Site 3PU762 consists of a section of buried 1906 railroad tracks on the north side of East 3rd Street. Only a section of this railroad track was removed. Additional rail sections extend a short distance to the northwest and southeast of this site. If these sections are impacted, then the site will need to be documented. A site revisit form will need to be filled out.

Several sites are recorded near the 100-foot APE. If the project's impacts extend beyond the 100-foot APE, the below sites will need to be evaluated further.

(1) Site 3PU205 is situated near the I-530 interchange south of the railroad yard and is a lithic surface scatter. No shovel tests were excavated at this site when it was initially recorded. This site was revisited by referencing the US Geological Survey (USGS) quad map showing the site location. The area had standing water and only two shovel tests were conducted in areas without water. These shovel tests were negative for cultural material. Additional efforts will need to be done to relocate this site.
(2) Site 3PU707 is located south of the Arkansas River on East 3rd Street near the Old Choctaw Station. This site consisted of a section of brick pavement that was documented during its demolition. This site is no longer present since the street was paved. Any evidence of brick roads will need to be documented during the survey of this project.
(3) Site 3PU834 is a historic site consisting of a cement ramp feature. No artifacts were associated with this site.
(4) Site 3PU457 is a low mound dating from the Early Archaic to Mississippi Period and is undetermined in its status to the NRHP. Significant work would be required to excavate this site if it is impacted. This site will probably be eligible to the NRHP and should be avoided.
(5) Site 3PU414 is a prehistoric and historic artifact scatter and is undetermined in its status to the NRHP. The entire site was excavated by SPEARS, Inc. in 1994 and is no longer present. The site was written up and cleared in a management summary.
(6) Site 3PU404 is a light lithic scatter within a disturbed context. This site was considered not eligible to the NRHP.

In order to protect the sites from looting and further destruction, all archeological site information and locations are not subject to the Freedom of Information Act and are not to be distributed to the public. Accordingly, none of the archeological sites discussed in this section are shown on the constraints mapping in **Attachment A, Exhibits A-1** and **A-2**.

3.5.1.2 Historic Resources

One hundred and sixty-four (164) structures were evaluated for the current project within the proposed APE. The AHPP identified two structures already listed on the NRHP (Terminal Warehouse Building and Reichardt House) as well as four historic districts (Marshall Square, Hanger Hill, MacArthur Park, and Park Hill). Marshall Square Historic District has eight structures within the 100-foot APE. Hanger Hill

Historic District has five structures and MacArthur Park and Park Hill Historic Districts have four structures each within the APE, all of which were considered eligible to the NRHP. In addition, 114 new structures were evaluated, of which 18 were determined potentially eligible to the NRHP. Four structures with SHPO numbers[7] were determined as potentially eligible to the NRHP.

A Review for Technical Assistance (RTA) for these 164 structures was submitted to the SHPO on May 13, 2014 (**Attachment B-3**). The SHPO returned a preliminary determination on June 12, 2014 (**Attachment B-4**), as follows:

- All potentially eligible structures presented were determined to be eligible, for a total of 45 eligible structures.
- Of these 45 eligible structures, two were already listed in the NRHP (Terminal Warehouse Building and Reichardt House); and
- 119 structures were determined not eligible.

All NRHP eligible structures are shown in the constraints mapping presented in **Attachment A, Exhibits A-1** and **A-2**.

3.5.2 Hazardous Materials

These layers contain relevant data points from Environmental Protection Agency (EPA) and Arkansas Department of Environmental Quality (ADEQ) geodatabases. Most points are regulated storage tanks. Other items to note include an air quality monitoring station and the Central Arkansas Water company facility. Sites for the information discussed in this section are shown on the constraints maps presented in **Attachment A, Exhibits A-1** and **A-2**.

Environmental Regulatory Database Review

A review of available on-line databases from the EPA and ADEQ was performed for the study area to determine if any known sites producing, storing, and/or disposing of toxic or hazardous materials might affect the proposed study alternatives. GIS data was downloaded from the EPA website and GeoStor which provides access to GIS data in the state of Arkansas. GeoStor data provides locations for facilities, incident sites and monitoring points, at the permit and facility level, regulated or tracked by environmental programs within the jurisdiction of the ADEQ.

At this time, no recommendations from the PEL study have been identified; therefore, level of risk is not determined for sites within the study area. An environmental regulatory records review assessment (radius report) in accordance with the American Society for Testing and Materials (ASTM) Practice E1527-05, with exceptions to accommodate the particular situations and needs of roadway projects, would be necessary during the schematic and NEPA phase of project development.

[7] Structures with SHPO numbers have been previously inventoried by the SHPO.

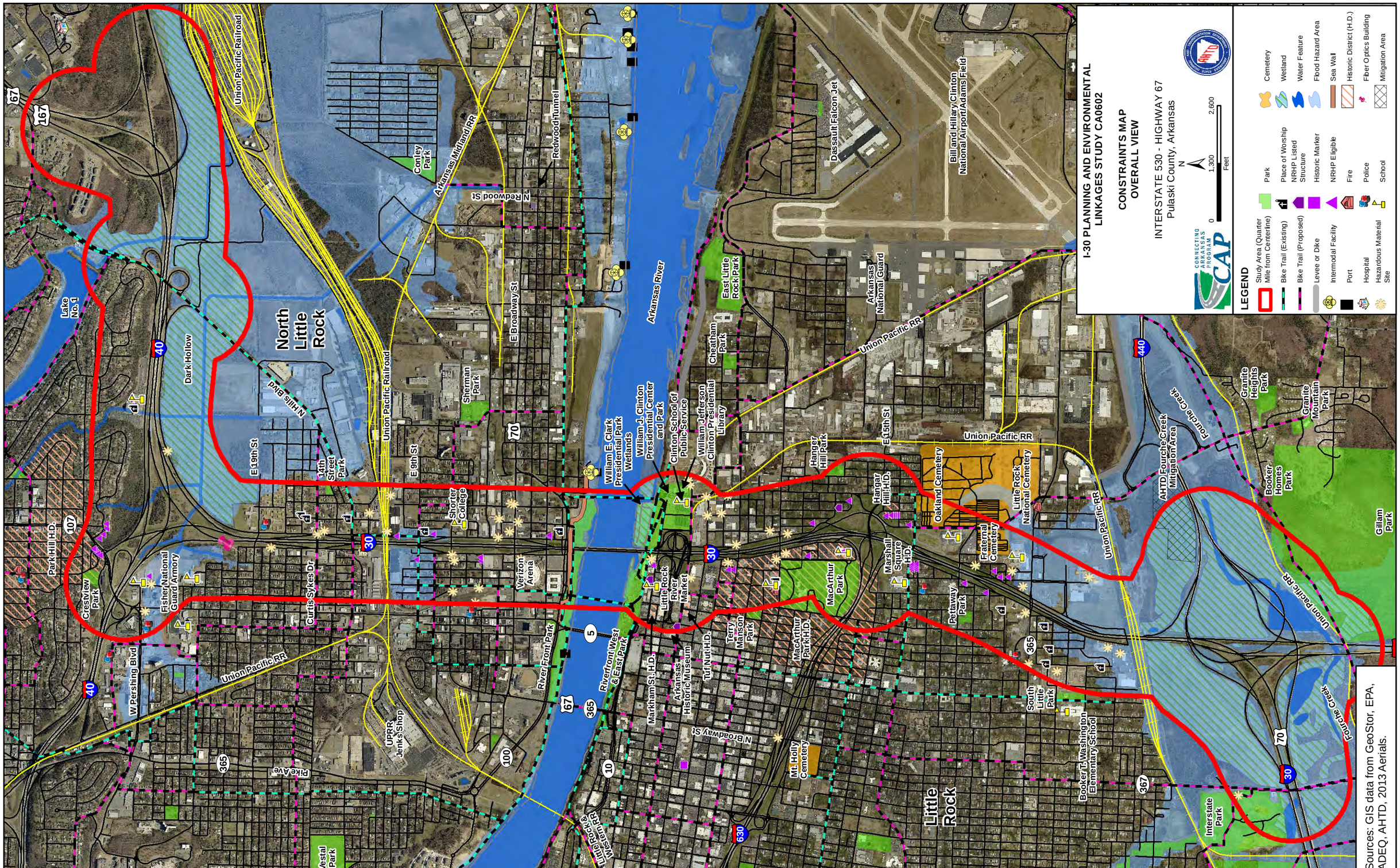
Forty-nine (49) sites were identified within the limits of the study area. The majority of the sites (25 of the 49 total) are service stations, maintenance facilities, or vehicle centers that contain registered storage tanks. Approximately nine sites are associated with manufacturing or construction material facilities. The remaining sites are associated with the railroad, a recycling facility, and other miscellaneous businesses. A more detailed assessment of impacts to these sites would need to occur for the alternatives identified.

Several overhead and underground utilities are present throughout the study area. Proposed improvements may affect these areas and may result in the need for the relocation or modification of these facilities. There is no known contamination associated with existing utilities; however, the potential exists that contamination could be encountered during utility adjustments. Coordination with utility companies concerning potential contamination would be addressed during the ROW stage of project development.

If the preferred alternative identified through the NEPA process requires the demolition and removal of bridge and/or building structures, asbestos containing materials (ACM) and lead based paint (LBP) testing may be necessary. It is recommended that ACM and LBP testing be performed on the structures to be removed dependent upon the age of the individual structure.

Attachment A: Exhibits

Exhibit A-1: Constraints Map – Overall View
Exhibit A-2: Constraints Map – Sheets 1-6
Exhibit A-3: High Minority Population Map
Exhibit A-4: Low Income Population Map
Exhibit A-5: LEP Population Map


I-30 PLANNING AND ENVIRONMENTAL LINKAGES STUDY CA0602
CONSTRAINTS MAP
OVERALL VIEW
INTERSTATE 530 - HIGHWAY 67
Pulaski County, Arkansas
N
0
1,300
2,600
Feet
CONNECTING ARKANSAS PROGRAM
CAP
LEGEND
Study Area (Quarter Mile from Centerline)
Bike Trail (Existing)
Bike Trail (Proposed)
Levee or Dike
Intermodal Facility
Port
Hospital
Hazardous Material Site
Park
Place of Worship
NRHP Listed Structure
Historic Marker
NRHP Eligible
Fire
Police
School
Cemetery
Wetland
Water Feature
Flood Hazard Area
Sea Wall
Historic District (H.D.)
Fiber Optics Building
Mitigation Area
North Little Rock
Little Rock
Arkansas River
Union Pacific Railroad
Union Pacific RR
Arkansas Midland RR
Dark Hollow
Lake No. 1
Park Hill H.D.
Crestview Park
Fisher National Guard Armory
W Pershing Blvd
Curtis Sykes Dr
Pike Ave
Vestal Park
UPRR Jenks Shop
Little Rock & Western RR
River Front Park
Riverfront West & East Park
Markham St. H.D.
Arkansas Historic Museum
Tuf Nut H.D.
Terry Manson Park
MacArthur Park H.D.
MacArthur Park
Little Rock River Market
Shorter College
Verizon Arena
Sherman Park
14th Street Park
E 19th St
E 9th St
N Hills Blvd
E Broadway St
N Redwood St
Conley Park
Redwood Tunnel
William E. Clark Presidential Park Wetlands
William J. Clinton Presidential Center and Park
Clinton School of Public Service
William Jefferson Clinton Presidential Library
Cheatham Park
East Little Rock Park
Arkansas National Guard
Dassault Falcon Jet
Bill and Hillary Clinton National Airport/Adams Field
Hanger Hill Park
Hangar Hill H.D.
E 15th St
Oakland Cemetery
Little Rock National Cemetery
Fraternal Cemetery
Marshall Square H.D.
Pettaway Park
South Little Park
Booker T. Washington Elementary School
Mt. Holly Cemetery
N Broadway St
Fourche Creek
AHTD Fourche Creek Mitigation Area
Granite Heights Park
Granite Mountain Park
Booker Homes Park
Gillam Park
Interstate Park
Sources: GIS data from GeoStor, EPA, ADEQ, AHTD, 2013 Aerials.

DRAFT

Union Pacific RR

AHTD Fourche Creek Mitigation Area

440

365

Interstate Park

Union Pacific RR

Booker Homes Park

30

70

Fourche Creek

530

Gillam Park

Sources: GIS data from GeoStor,EPA, ADEQ, AHTD, 2013Aerials.

LEGEND

- Study Area (1/4 Mile from Centerline)
- Levee or Dike
- Intermodal Facility
- Port
- Hospital
- Hazardous Material Site
- Park
- Place of Worship
- NRHP Listed Structure
- Historic Marker
- NRHP Eligible
- Fire
- Police
- School
- Cemetery
- Wetland
- Water Feature
- Flood Hazard Area
- Sea Wall
- Historic District (H.D.)
- Mitigation Area
- Fiber Optics Building
- Bike Trail (Existing)
- Bike Trail (Proposed)

N

0 250 500 750 1,000

Feet

I-30 PLANNING AND ENVIRONMENTAL LINKAGES STUDY
CA0602

CONSTRAINTS MAP
SHEET 1 of 6

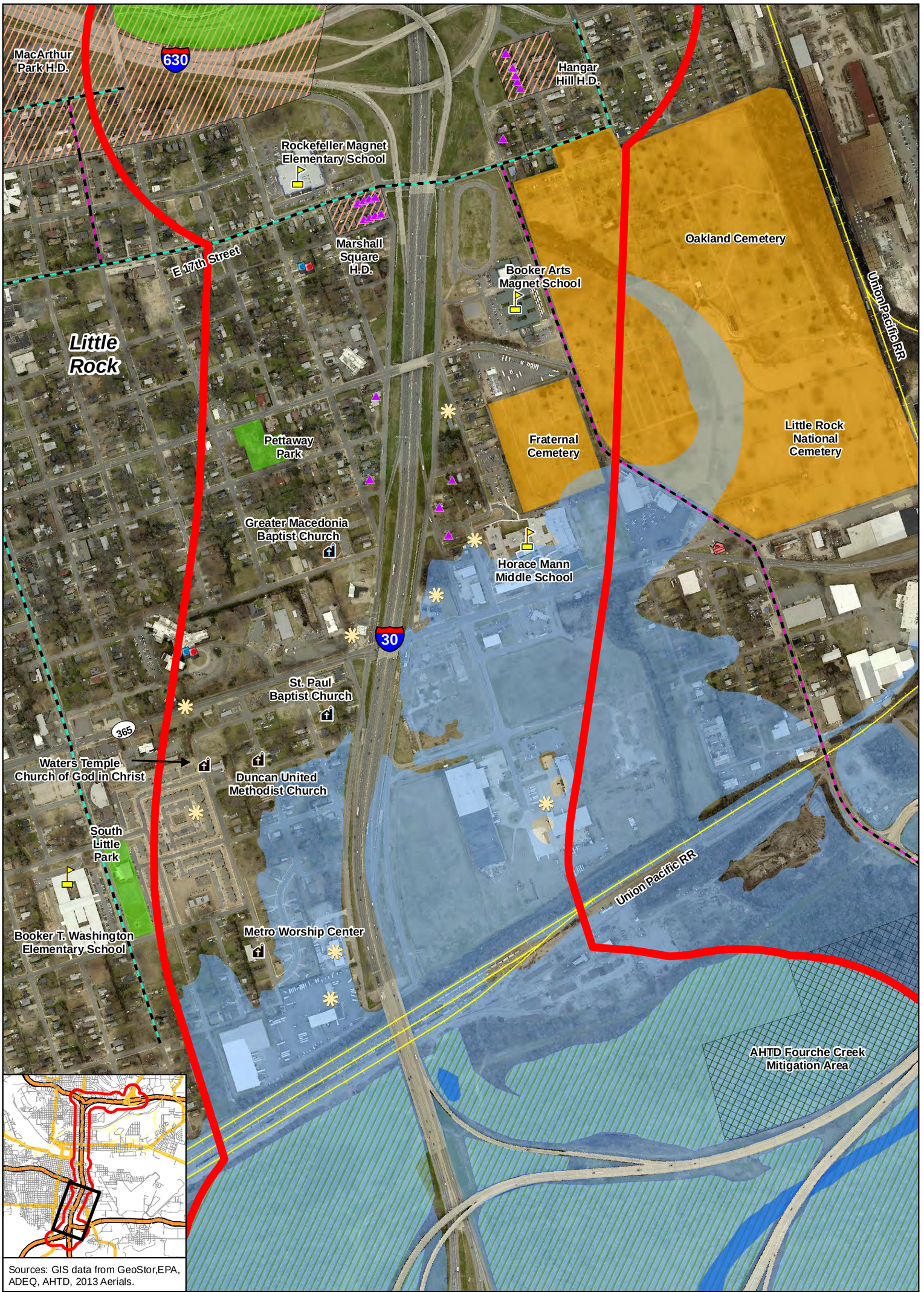
INTERSTATE 530 - HIGHWAY 67
Pulaski County, Arkansas

CONNECTING ARKANSAS PROGRAM CAP

DRAFT

Attachment A, Exhibit A-2

DRAFT



Sources: GIS data from GeoStor,EPA, ADEQ, AHTD, 2013 Aerials.

LEGEND

- Study Area (1/4 Mile from Centerline)
- Levee or Dike
- Intermodal Facility
- Port
- Hospital
- Hazardous Material Site
- Park
- Place of Worship
- NRHP Listed Structure
- Historic Marker
- NRHP Eligible
- Fire
- Police
- School
- Cemetery
- Wetland
- Water Feature
- Flood Hazard Area
- Sea Wall
- Historic District (H.D.)
- Mitigation Area
- Fiber Optics Building
- Bike Trail (Existing)
- Bike Trail (Proposed)

N

0 250 500 750 1,000
Feet

I-30 PLANNING AND ENVIRONMENTAL LINKAGES STUDY
CA0602

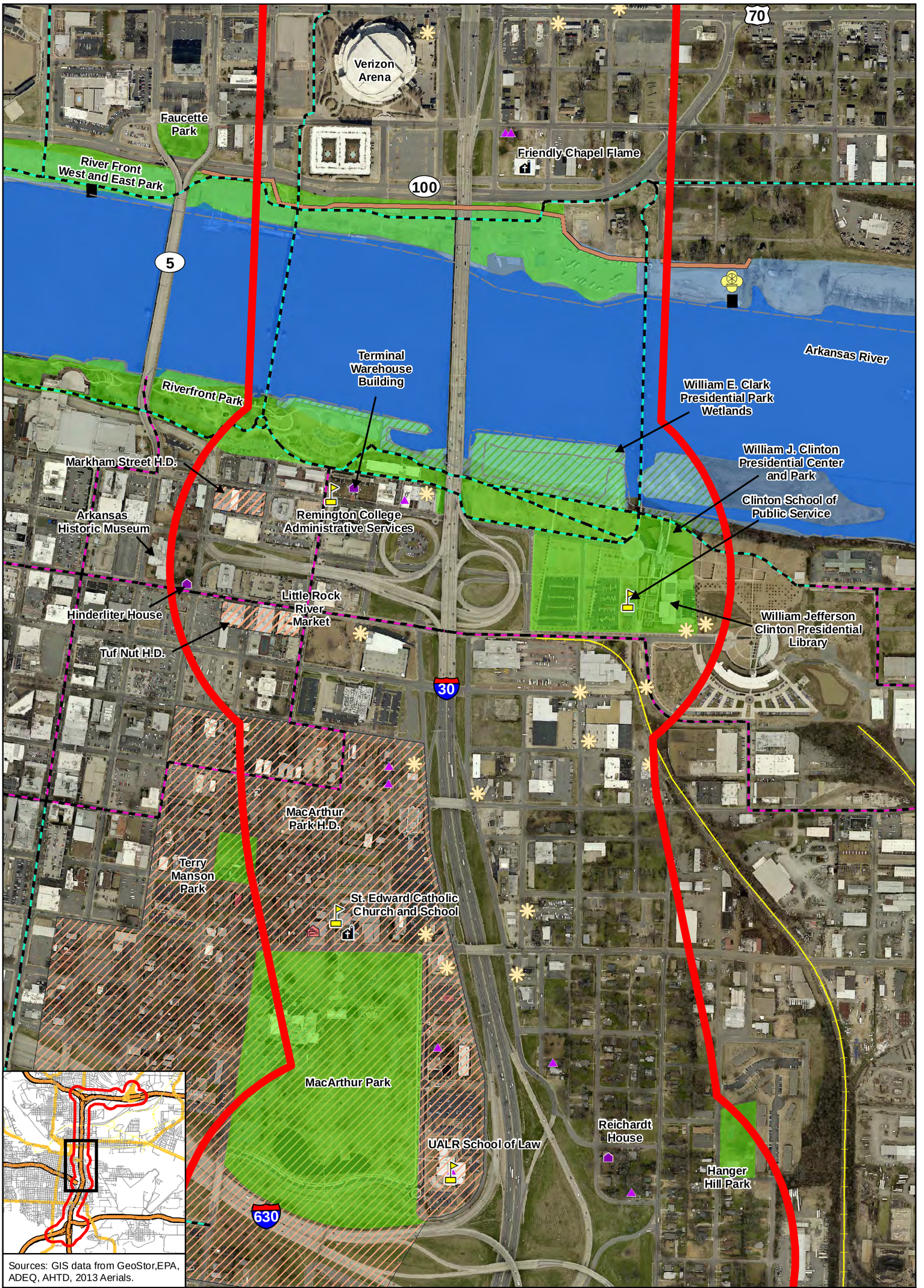
CONSTRAINTS MAP
SHEET 2 of 6

INTERSTATE 530 - HIGHWAY 67
Pulaski County, Arkansas

CONNECTING ARKANSAS PROGRAM CAP

Attachment A, Exhibit A-2

DRAFT



Sources: GIS data from GeoStor,EPA, ADEQ, AHTD, 2013 Aerials.

LEGEND

- Study Area (1/4 Mile from Centerline)
- Levee or Dike
- Intermodal Facility
- Port
- Hospital
- Hazardous Material Site
- Park
- Place of Worship
- NRHP Listed Structure
- Historic Marker
- NRHP Eligible
- Fire
- Police
- School
- Cemetery
- Wetland
- Water Feature
- Flood Hazard Area
- Sea Wall
- Historic District (H.D.)
- Mitigation Area
- Fiber Optics Building
- Bike Trail (Existing)
- Bike Trail (Proposed)

N

0 250 500 750 1,000
Feet

I-30 PLANNING AND ENVIRONMENTAL LINKAGES STUDY
CA0602

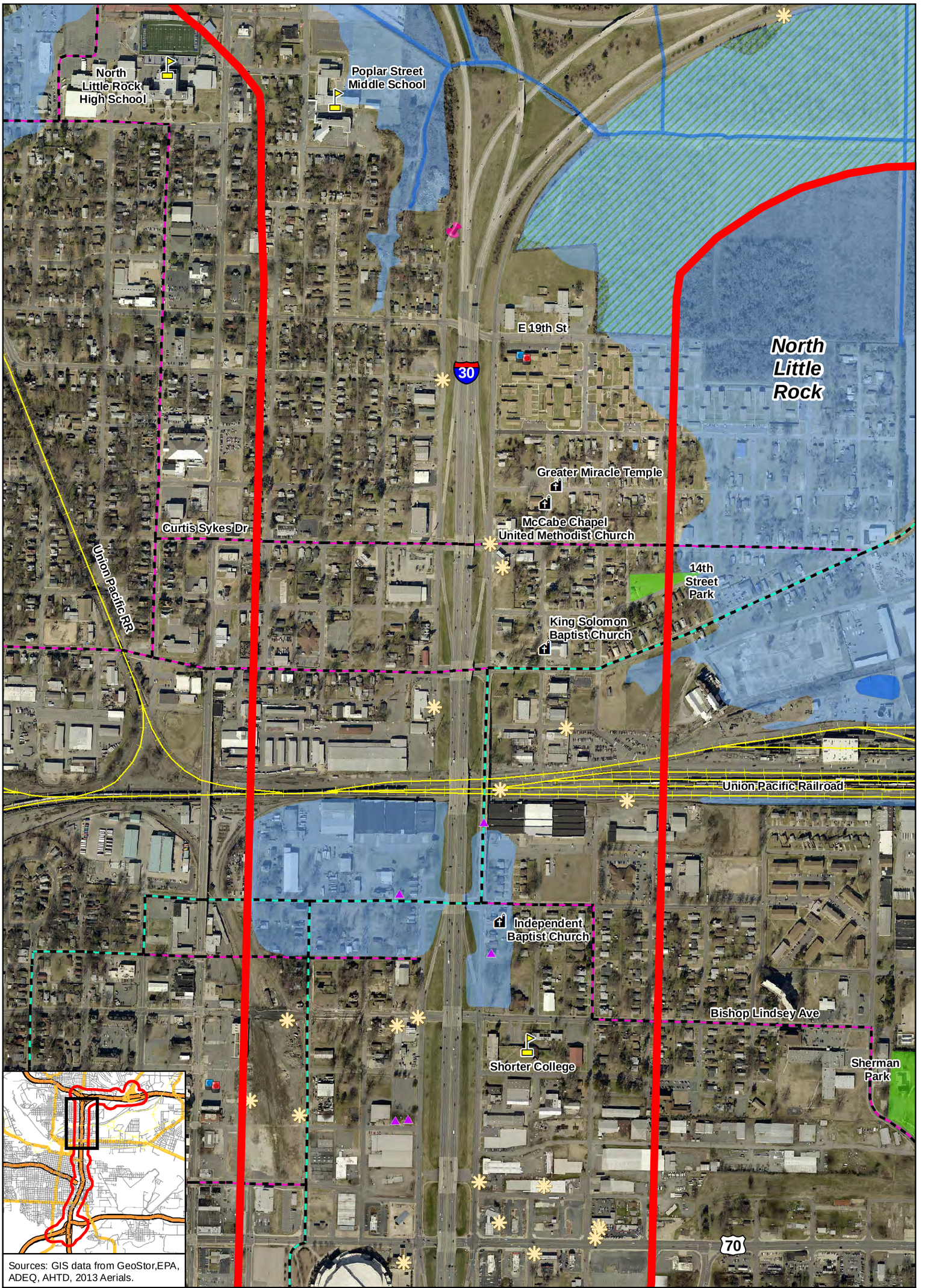
CONSTRAINTS MAP
SHEET 3 of 6

INTERSTATE 530 - HIGHWAY 67
Pulaski County, Arkansas

CONNECTING ARKANSAS PROGRAM CAP

Attachment A, Exhibit A-2

DRAFT



Sources: GIS data from GeoStor,EPA, ADEQ, AHTD, 2013 Aerials.

LEGEND

- Study Area (1/4 Mile from Centerline)
- Levee or Dike
- Intermodal Facility
- Port
- Hospital
- Hazardous Material Site
- Park
- Place of Worship
- NRHP Listed Structure
- Historic Marker
- NRHP Eligible
- Fire
- Police
- School
- Cemetery
- Wetland
- Water Feature
- Flood Hazard Area
- Sea Wall
- Historic District (H.D.)
- Mitigation Area
- Fiber Optics Building
- Bike Trail (Existing)
- Bike Trail (Proposed)

N

0 250 500 750 1,000
Feet

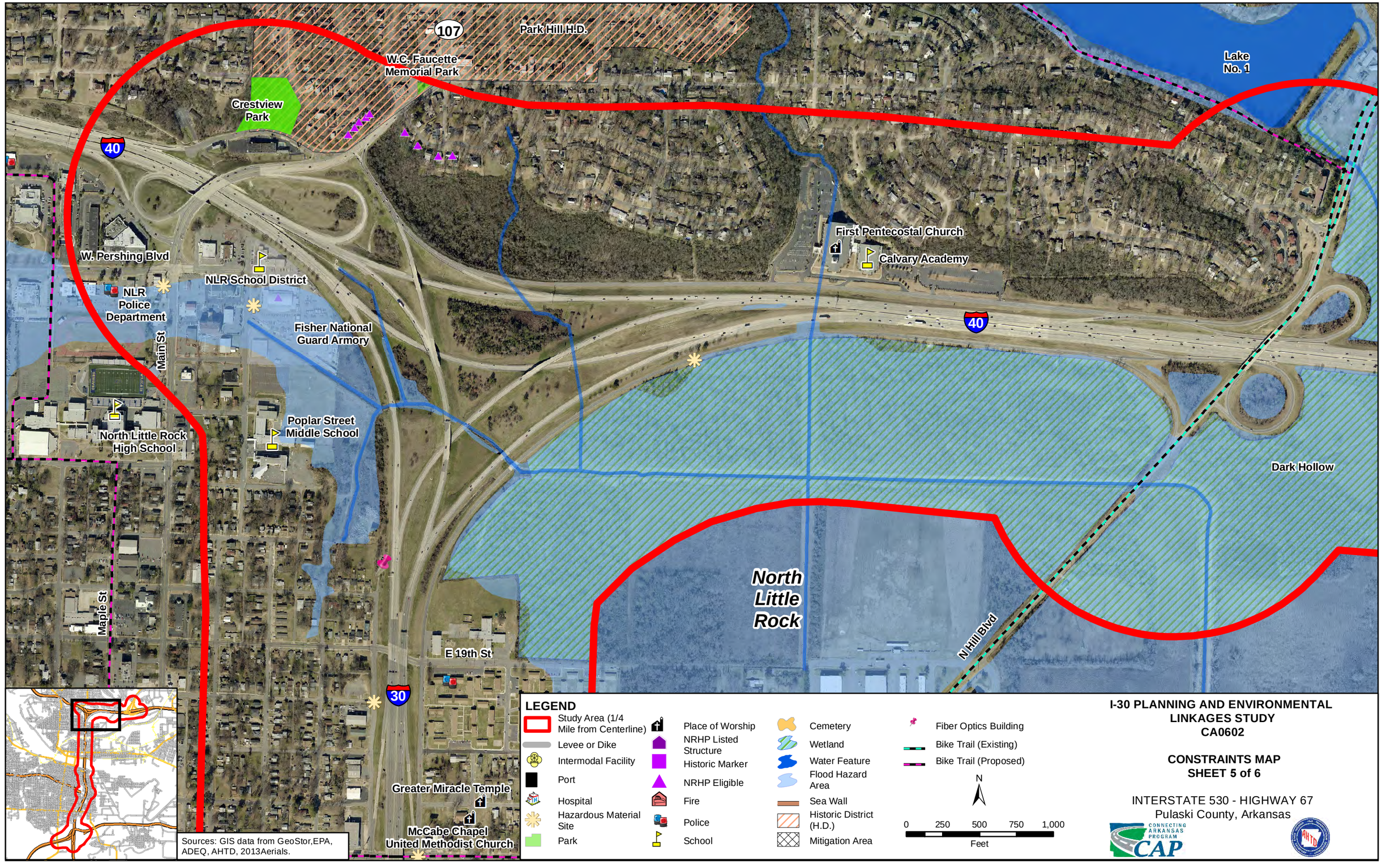
I-30 PLANNING AND ENVIRONMENTAL LINKAGES STUDY
CA0602

CONSTRAINTS MAP
SHEET 4 of 6

INTERSTATE 530 - HIGHWAY 67
Pulaski County, Arkansas

CONNECTING ARKANSAS PROGRAM CAP

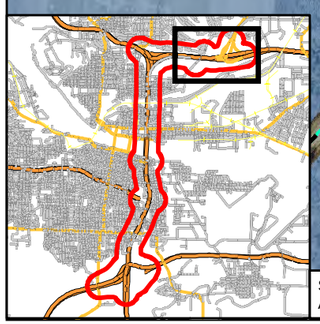
Attachment A, Exhibit A-2



DRAFT

Attachment A, Exhibit A-2

Lake No. 2
Lakeview Rd
Lake No. 1
N Hill Blvd
67
167
First Pentecostal Church
Calvary Academy
40
Dark Hollow
Union Pacific Railroad



Sources: GIS data from GeoStor,EPA, ADEQ, AHTD, 2013Aerials.

LEGEND

- Study Area (1/4 Mile from Centerline)
- Levee or Dike
- Intermodal Facility
- Port
- Hospital
- Hazardous Material Site
- Park
- Place of Worship
- NRHP Listed Structure
- Historic Marker
- NRHP Eligible
- Fire
- Police
- School
- Cemetery
- Wetland
- Water Feature
- Flood Hazard Area
- Sea Wall
- Historic District (H.D.)
- Mitigation Area
- Fiber Optics Building
- Bike Trail (Existing)
- Bike Trail (Proposed)

N

0 250 500 750 1,000
Feet

I-30 PLANNING AND ENVIRONMENTAL LINKAGES STUDY
CA0602

CONSTRAINTS MAP
SHEET 6 of 6

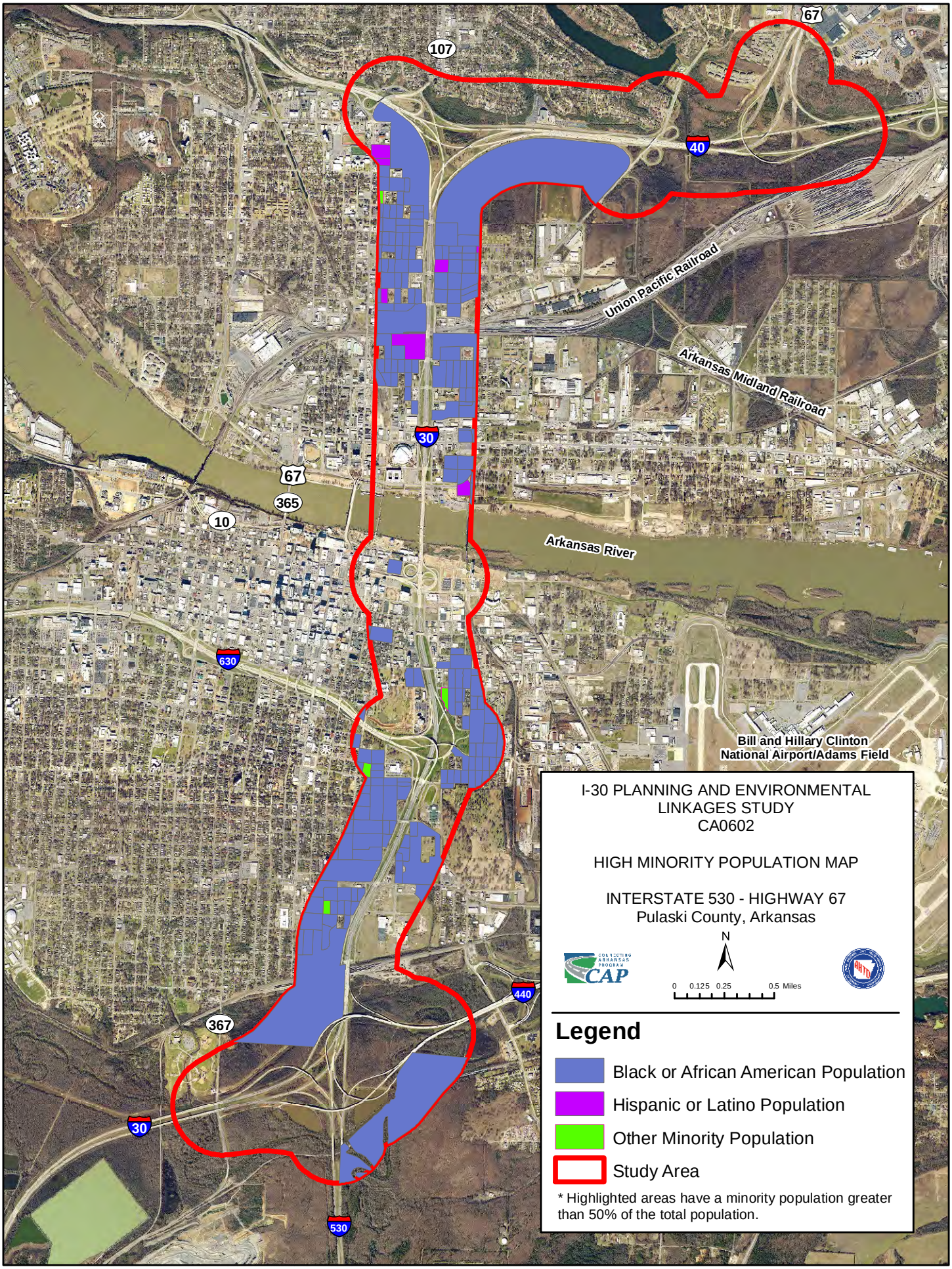
INTERSTATE 530 - HIGHWAY 67
Pulaski County, Arkansas

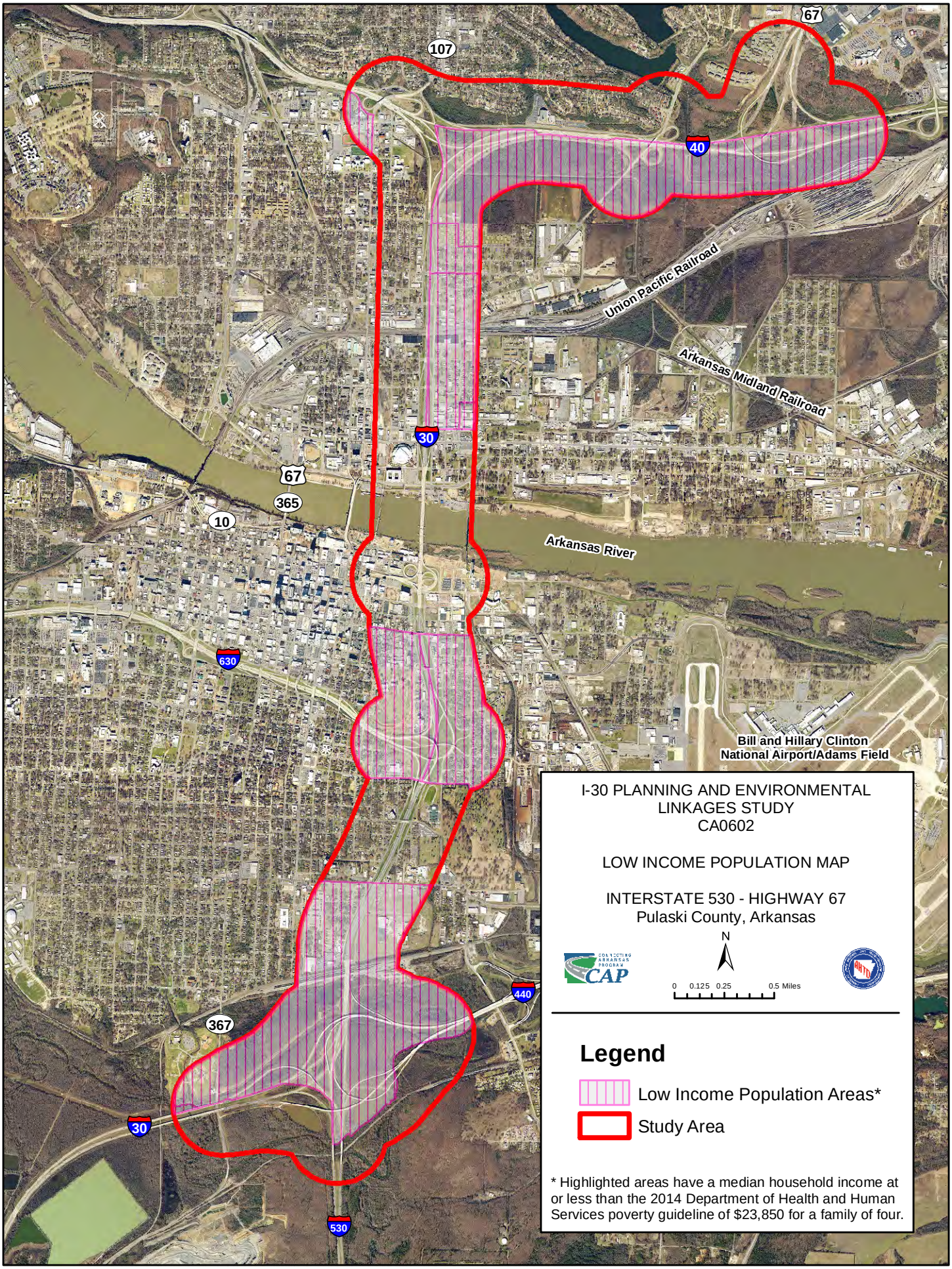
CONNECTING ARKANSAS PROGRAM CAP

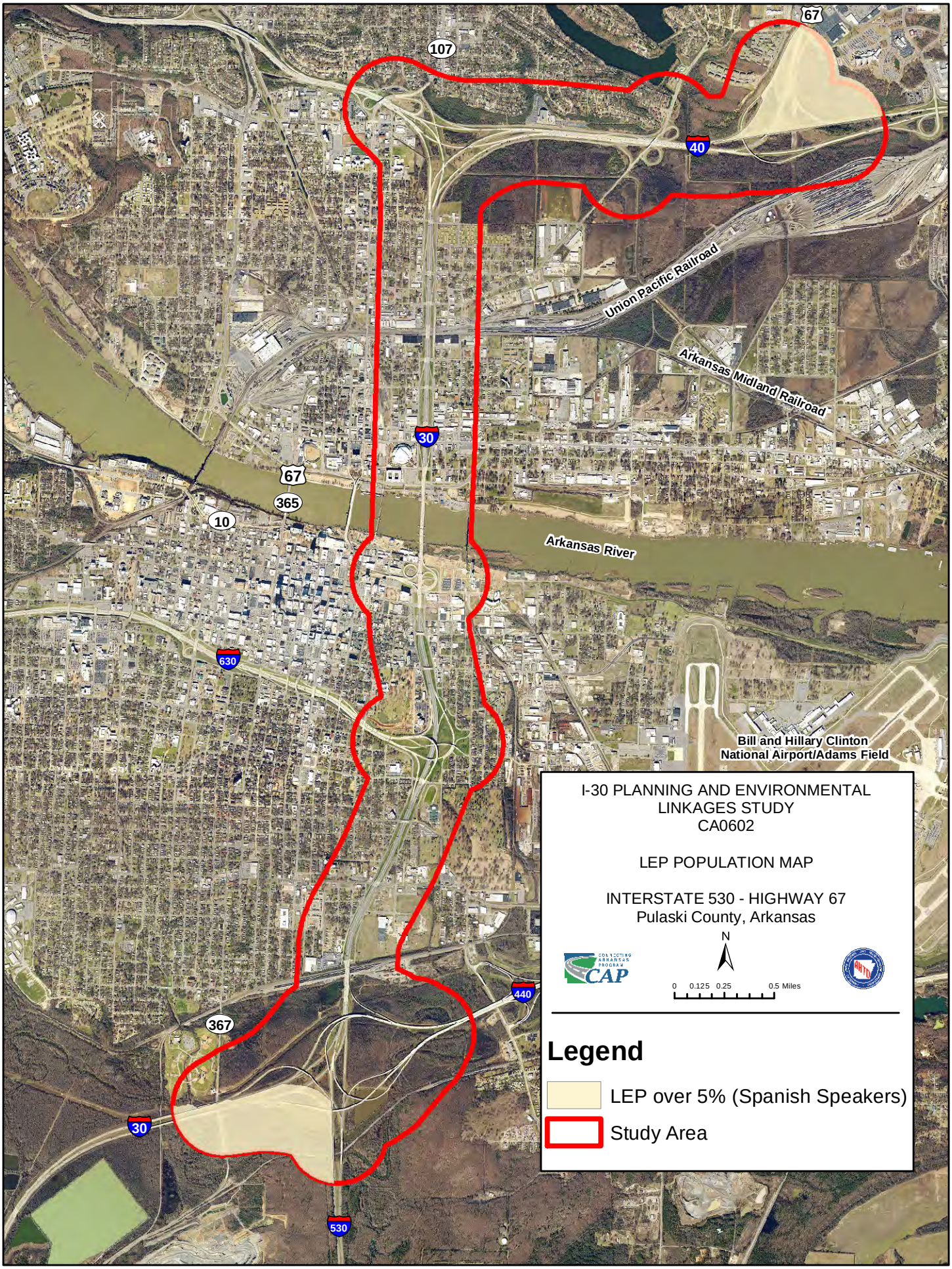
AHTD

DRAFT

Attachment A, Exhibit A-2


67
107
40
Union Pacific Railroad
Arkansas Midland Railroad
30
67
365
10
Arkansas River
630
Bill and Hillary Clinton
National Airport/Adams Field
440
367
30
530
I-30 PLANNING AND ENVIRONMENTAL
LINKAGES STUDY
CA0602
HIGH MINORITY POPULATION MAP
INTERSTATE 530 - HIGHWAY 67
Pulaski County, Arkansas
N
0 0.125 0.25 0.5 Miles
Legend
Black or African American Population
Hispanic or Latino Population
Other Minority Population
Study Area
* Highlighted areas have a minority population greater than 50% of the total population.


67
107
40
Union Pacific Railroad
Arkansas Midland Railroad
30
67
365
10
Arkansas River
630
Bill and Hillary Clinton
National Airport/Adams Field
440
367
30
530
I-30 PLANNING AND ENVIRONMENTAL
LINKAGES STUDY
CA0602
LOW INCOME POPULATION MAP
INTERSTATE 530 - HIGHWAY 67
Pulaski County, Arkansas
N
0 0.125 0.25 0.5 Miles
Legend
Low Income Population Areas*
Study Area
* Highlighted areas have a median household income at or less than the 2014 Department of Health and Human Services poverty guideline of $23,850 for a family of four.


67
107
40
Union Pacific Railroad
Arkansas Midland Railroad
30
67
365
10
Arkansas River
630
Bill and Hillary Clinton
National Airport/Adams Field
440
367
30
530
I-30 PLANNING AND ENVIRONMENTAL
LINKAGES STUDY
CA0602
LEP POPULATION MAP
INTERSTATE 530 - HIGHWAY 67
Pulaski County, Arkansas
N
0 0.125 0.25 0.5 Miles
Legend
LEP over 5% (Spanish Speakers)
Study Area

Attachment B: Supporting Data and Constraints Summary

B-1: Environmental Justice Resources
B-2: AHTD Cultural Resources Memorandum
B-3: Request for Technical Assistance – Arkansas Historic Preservation Program
B-4: Department of Arkansas Heritage – Arkansas Historic Preservation Program Letter
B-5: Constraints Summary Table

Environmental Justice Resources

The following are resources for Environmental Justice populations known to date within the I-30 PEL Study Area. Other areas/locations will come up during the PEL study.

Housing Developments:

Cumberland Manor Housing Development
2721 Scott St
Little Rock, AR 72206

Eastgate Terrace Housing Development
622 E 19th St
North Little Rock, AR 72114

Schools and Institutions:

Booker T. Washington Elementary School
2700 Main St
Little Rock, AR 72206

Shorter College
604 N Locust St
North Little Rock, AR 72114

Clinton School of Public Service
1200 President Clinton Ave
Little Rock, AR 72201

Homeless Shelter & Job Training:

Our House
302 E Roosevelt Rd
Little Rock, AR 72206

Places of Worship with Food Pantries/Food Banks/Homeless Shelters:

Duncan United Methodist Church
2624 Rock St
Little Rock, AR 72206

Greater Miracle Temple
701 East 16th St
North Little Rock, AR 72114

Independent Baptist Church
822 North Locust St
North Little Rock, AR 72114

King Solomon Baptist Church
1304 Pine St
North Little Rock, AR 72114

McCabe Chapel United Methodist Church
1523 Pine St
North Little Rock, AR 72114

Metro Worship Center
2914 S Cumberland St
Little Rock, AR 72206

St. Paul Baptist Church
2603 Commerce St
Little Rock, AR 72206

Walters Temple Church of God in Christ
2615 Cumberland St
Little Rock, AR 72206

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

INTEROFFICE MEMORANDUM

April 25, 2014

TO: Assessments

FROM: Kristina Boykin, Cultural Resources

SUBJECT: Constraints
AHTD Job Number CA0602
I-530-Hwy. 67 (Widening & Reconst.) (I-30 & I-40) (S)
Pulaski County

AHTD Job CA0602 consists of widening and improving interchanges along Interstate 30 and Interstate 40 from Interstate 530 to Highway 67 interchange. A 100 foot buffer on each side of I-30 and I-40 from the existing right-of-way (ROW) was the corridor considered for the initial analysis of all cultural resources for the proposed project. A preliminary investigation for job CA0602 included a records check at the Arkansas Archeological Survey (AAS) for previously recorded archeological sites and the Department of Arkansas Heritage (AHPP) for National Register listed structures. Several maps and references were checked as part of this preliminary assessment.

The 1986 Little Rock, North Little Rock, and McAlmont 7.5" topographic quad maps were examined for cemeteries, likely historic structures and landforms conducive to holding archeological sites. Several topographic quad maps are available for various years (1891, 1935, 1944, 1954, and 1961). The Sanborn Fire Insurance maps (1886, 1889, 1892, 1897, 1913, and 1939) are a great reference for structures still present within the project area.

Several General Land Office maps for Township 1 North, Range 12 West, Township 2 North, Range 12 West and Township 2 North, Range 11 West were examined for this project. The 1855 GLO map had several cultural features within or near the immediate project area. South of the Arkansas River, several fields, houses, a ferry crossing, Rapley's store, St. John's College Grounds, Arsenal Grounds, and roads are noted. North of the Arkansas River, a few fields and roads are within or near the project area. Also the Little Rock & Fort Smith R.R. and Cairo & Fulton R.R. were added on the 1819 GLO for Township 2 North, Range 12 West. The Little Rock & Fort Smith R.R. is still partially intact and in use. This railroad is outside of the project area. The Cairo & Fulton R.R. is no longer present within the project area unless buried under asphalt and houses. This railroad route crossed the Interstate 30 corridor. The only GLO feature that is still present is the Arsenal

Grounds incorporated into the MacArthur Park Historic District. The other GLO features are no longer present within the Area of Potential Effect (APE).

The 1936 Pulaski County Highway map does not reveal any information because the area is blacked out. A preliminary "windshield" survey has been performed by AHTD archeological staff with the following results.

In 2006, Panamerican Consultants, Inc. did a remote-sensing survey of the Arkansas River in the Little Rock area for submerged cultural resources. The only vessel discovered in the Little Rock area was near the Broadway Bridge. No known shipwrecks are present near the I-30 bridge for the current project (reference from *Cultural Resources Survey for the Arkansas River Navigation System from the Arkansas Post Canal to the Oklahoma State Line*).

Several historic routes are present within the corridor. The Military Road was the main transportation outlet from Little Rock especially going east to Memphis or west to Fort Smith in the 1820s and 1830s. The Military Road was utilized as the route for the removal of the Native Americans to Oklahoma as the Trail of Tears. This historic trail could be underwater since the Arkansas River has changed a great deal since the 1830s. No traces of this road are remaining in this project area. Another historic route is Steele's Approach to Little Rock. The Union General Frederick Steele led a Union army from Helena to Little Rock. This route is east of Interstate 30. Fagan's Approach to Helena is another historic route within the project area. Confederate troops led by James Fagan started in Little Rock and traveled to Helena in late June 1863. They traveled by train and by foot. This route is shown east and west of Interstate 30. The Butterfield Overland Mail Route went from Memphis to Fort Smith from 1858 to 1861. This route follows present-day Highway 70/Broadway Street and is the same route as Fagan's Approach within the APE. The Southwest Trail was a major immigration route in the 1820s that connected Missouri to Texas. This route crossed the APE across Highway 70 mentioned above with Fagan's Approach and the Butterfield Overland Route (reference from http://www.arkansasheritagetrails.com/). These routes are no longer apparent within the project area due to urban growth.

The Oakland Cemetery, Fraternal Cemetery, and the National Cemetery are located between the I-530 and I-630 interchanges east of Interstate 30. These cemeteries are also listed on the National Register of Historic Places (NRHP). In addition, Oakland Cemetery is recorded as archeological site 3PU329. No other cemeteries were noted within the APE.

Only three sites are directly within the 100 foot buffer. Site 3PU144 is a well uncovered during the construction of I-630. This site is under I-630 and therefore no longer present. Site 3PU415 is a very low density lithic scatter located within the 67/I-40 interchange. The site was revisited during this evaluation in 2014 and a few lithics were found on the surface. Half of the site was destroyed during the construction of the ramp to I-40. The site will need to be shovel tested within the remaining portion and a site revisit form will need to be filled out. Site 3PU762 consists of a section of buried 1906 railroad tracks on the north side of East 3rd Street. Only a section of this railroad track was removed. Additional rail sections extend a short distance to the northwest and southeast of this site. If these sections are impacted, then the site will need to be documented. A site revisit form will need to be filled out.

Several sites are recorded near the project area. Site 3PU205 is situated near the I-530 interchange south of the railroad yard and is a lithic surface scatter. No shovel tests were excavated at this site when it was initially recorded. This site was revisited by referencing the

USGS quad map showing the site location. The area had standing water and only two shovel tests were conducted in areas without water. These shovel tests were negative for cultural material. Additional efforts will need to be done to relocate this site. Site 3PU707 is located south of the Arkansas River on East 3rd Street near the Old Choctaw Station. This site consisted of a section of brick pavement that was documented during its demolition. This site is no longer present since the street was paved. Any evidence of brick roads will need to be documented during the survey of this project. Site 3PU834 is a historic site consisting of a cement ramp feature. No artifacts were associated with this site. Site 3PU457 is a low mound dating from the Early Archaic to Mississippi Period and is undetermined in its status to the NRHP. Significant work would be required to excavate this site if it is impacted. In our opinion, this site will probably be eligible to the NRHP and should be avoided. Site 3PU414 is a prehistoric and historic artifact scatter and is undetermined in its status to the NRHP. The entire site was excavated by SPEARS, Inc. in 1994 and is no longer present. The site was written up and cleared in a management summary. Site 3PU404 is a light lithic scatter within a disturbed context. This site was considered not eligible to the NRHP. If the project's limits are extended beyond the current buffer, these sites will need to be addressed. In order to protect the sites from looting and further destruction, all site information and location are not subject to the Freedom of Information Act and is not to be distributed to the public.

A total of 164 structures were evaluated for the current project within the proposed APE (Table 1). The AHPP had two structures already listed on the NRHP (Terminal Warehouse Building and Reichardt House) as well as four historic districts (Marshall Square, Hanger Hill, MacArthur Park, and Park Hill). Marshall Square Historic District has eight structures within the 100 foot buffer. Hanger Hill Historic District has five structures and MacArthur Park and Park Hill Historic Districts have four structures each within the buffer. These structures are considered eligible as part of a historic district. Of the 114 new structures evaluated, eighteen structures were determined potentially eligible to the NRHP. Four structures with SHPO numbers were determined as potentially eligible to the NRHP.

Table 1. Structures Evaluated for I-30 corridor.

	SHPO #	Historic District	New Structures	**TOTAL**
Eligible	2	21	0	**23**
Potentially Eligible	4	0	18	**22**
Not Eligible	23	0	96	**119**
TOTAL	**29**	**21**	**114**	**164**

An RTA for one hundred and sixty-four structures will be submitted to SHPO. All eligible and potentially eligible structures (n=45) are listed as a constraint on the attached maps and should be avoided.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

Scott E. Bennett
Director
Telephone (501) 569-2000
Voice/TTY 711

P.O. Box 2261
Little Rock, Arkansas 72203-2261
Telefax (501) 569-2400
www.arkansashighways.com

May 13, 2014

Mr. Eric Gilliland
Arkansas Historic Preservation Program
1500 Tower Building
323 Center Street
Little Rock, Arkansas 72201

RE: AHTD Job Number CA0602
I-530-Hwy. 67 (Widening & Reconst.)
(I-30 & I-40) (F)
Pulaski County

Dear Mr. Gilliland:

The department is conducting a planning study that will recommend improvements to Interstate 30 from the I-30 and I-530 interchange north to the I-30 and I-40 interchange in Little Rock and North Little Rock then east on Interstate 40 through the Hwy. 67/167 interchange in North Little Rock in Pulaski County. As part of our initial efforts to determine potential impacts, we are submitting one hundred sixty-four properties found adjacent to the existing interstates.

Photographs, descriptions and location maps for these properties are included so your staff may evaluate their eligibility for inclusion in the National Register of Historic Places. If you have any questions about the project, please contact Robert Scoggin of my staff at (501) 569-2077.

Sincerely,

Brenda Price

for Lynn P. Malbrough
Division Head
Environmental Division

LPM:DW:RS:jh

Enclosure
Request for Technical Assistance

The Department of
Arkansas
Heritage

Mike Beebe
Governor

Martha Miller
Director

Arkansas Arts Council

Arkansas Natural Heritage Commission

Delta Cultural Center

Historic Arkansas Museum

Mosaic Templars Cultural Center

Old State House Museum

Arkansas Historic Preservation Program

323 Center Street, Suite 1500
Little Rock, AR 72201
(501) 324-9880
fax: (501) 324-9184
tdd: (501) 324-9811
e-mail:
info@arkansaspreservation.org
website:
www.arkansaspreservation.org

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AHTD
JUN 16 2014
ENVIRONMENTAL
DIVISION

June 12, 2014

Mr. Lynn P. Malbrough
Division Head
Environmental Division
Arkansas State Highway and Transportation Department
PO Box 2261
Little Rock, AR 72203-2261

RE: Pulaski County – General
Section 106 Review – FHWA
Request for Technical Assistance
AHTD Job Number CA0602
AHPP Tracking Number 90015.1

Dear Mr. Malbrough:

This letter is written in response to your inquiry regarding properties of architectural or historical significance in the area of the proposed referenced project. The staff of the Arkansas Historic Preservation Program has reviewed the documents contained in your April 10 and May 13, 2014, letters. We have made a preliminary determination of the 164 properties possibly impacted. Of these two structures (PU3118 and PU3164) are listed in the National Register of Historic Places (NRHP) while 130 structures are ineligible and 32 structures are eligible for listing in the NRHP as listed below.

119 ineligible structures:
1-9, 11-12, 14, 16, 18-23, 25-39, 41, 43-44, 47, 48, 49-52, 55-56, 59-62, 64-80, 82-105, 107, 110, 112-113

PU4801S	PU5619	PU3288/5620	PU2955	PU2956	PU2944
PU2943	PU2942	PU2941	PU2940	PU2811	PU2939
PU2776	PU8195S	PU3463	PU3464	PU8200S	PU5348
PU0110	PU0111	PU0102	PU0103	PU0104	PU0165
PU5349					

45 eligible structures:
10, 13, 15, 17, 24, 40, 42, 46, 53, 57, 58, 63, 81, 106, 108-109, 111, 114

PU9072	PU9073	PU9074	PU9075	PU9080	PU9081
PU9082	PU9083	PU5613	PU5609	PU5606	PU5604
PU5603	PU2947	PU2957	PU2787	PU2953	PU3465
PU5347	PU5346	PU5345	PU0071	PU0078	PU0079
PU3118	PU3164	PU0109			

As we discussed in our meeting, we look forward to working with the Arkansas Highway and Transportation Department on determining the area of potential effect.

Please refer to the AHPP Tracking Number listed above in all correspondence. If you have any questions, please call Theresa Russell of my staff at (501)-324-9357.

Sincerely,

Frances McSwain

Frances McSwain
Deputy State Historic Preservation Officer

cc: Mr. Randal Looney, Federal Highway Administration
Dr. Richard Allen, Cherokee Nation of Oklahoma
Ms. Lisa LaRue-Baker, United Keetoowah Band of Cherokee Indians
Ms. Ladonna Brown, Chickasaw Nation
Dr. Ian Thompson, Choctaw Nation of Oklahoma
Ms. Dana Masters, Jena Band of the Choctaw Indians
Mr. Kenneth H. Carleton, Mississippi Band of Choctaw Indians
Mr. Emman Spain, Muscogee (Creek) Nation of Oklahoma
Mr. Robert Yargee, Alabama-Quassarte Tribal Town (Creek)
Mr. Jeremiah Hobia, Kialegee Tribal Town (Creek)
Ms. Barbara Welborn, Thlopthlocco Tribal Town (Creek)
Ms. Rebecca Brave, Osage Nation
Mr. Everett Bandy, Quapaw Tribe of Oklahoma
Ms. Natalie Harjo, Seminole Nation of Oklahoma
Dr. Ann Early, Arkansas Archeological Survey

NOTES ADDED TO LETTER FOR CLARIFICATION:

Note 1: This letter referneces two RTA sumbittals: April 10 and May 13, 2014. The original RTA was submitted April 10, 2014, but was subsequently revised by AHTD (cover page revised only to note that the RTA was for a planning study and not a NEPA analysis) and re-submitted on May 13, 2014 (see Appendix B-2).

Note 2: This letter references 130 structures as ineligible and 32 structures eligible (see paragraph 1). Per SHPO and AHTD, these numbers are incorrect and the correct numbers are 119 structures ineligible and 45 structures eligible, as presented in paragraphs 2 and 3 of this letter.

Constraints Summary Table

Constraints Identified within the Study Area[1]

Constraints, Environmental Regulations and Agreements	Results
Infrastructure Constraints	• Typical overhead and underground utilities exist. • One utility (Fiber Optic Building) located south of I-40 needs to be avoided. Another building is scheduled to be built to the southwest of the existing building and would also need to be avoided. • Four locations where the Union Pacific Railroad (UPRR) intersects the project study area and a maintenance facility adjacent to the corridor. • Impacts to the Seawall to be evaluated in accordance with USACE regulations and policy, Section 408.
Socio-economic • Title VI of the Civil Rights Act of 1964 • EO 12898 – Environmental Justice • EO 13166 – Limited English Proficiency	• Minority population consists of approximately 62 percent of the total population within the study area. • The dominant minority group is Black or African American. • Nine (out of 22) Census block groups extending within the study area report median household incomes below the poverty level. • Three (out of 22) Census block groups extending within the study area have LEP populations greater than five percent – predominantly Spanish speakers.
Park, Recreation Area, Wildlife or Waterfowl Refuge, or Publicly or Privately owned Historic Properties • FHWA Section 4(f) Regulations (23 CFR 774) • Land and Water Conservation Fund Act (LWCFA) of 1965	• Twelve parks and two school recreation areas were identified as potentially eligible 4(f) properties. • 6(f) properties include Interstate Park and Macarthur Park, which if impacted, would require replacement of land of equal or greater value.
Lakes, Rivers, and Streams • Section 303(d) • Section 9 and 10 of the Rivers and Harbors Act (RHA) of 1899 • Wild and Scenic Rivers Act of 1986	• Three named water features intersect the project study area. o Arkansas River o Fourche Creek o Lake No. 1
100-year Floodplains • Executive Order (EO) 11988 – Floodplain Management	• Three crossings of the 100-year floodplain occur. At the southern limits, Arkansas River, and northern project limits.
Waters of the U.S., including Wetlands • Clean Water Act (CWA) of 1972 • EO 11990 – Protection of Wetlands	• Wetlands occur in southern and northern portion of study area. • Arkansas River, Fourche Creek, and associated stream ways intersect the project study area.
Soils • Farmland Protection Policy Act (FPPA)1981	• Study area zoned for urban use - exempt from the FPPA.
Threatened & Endangered Species List • Endangered Species Act (ESA) of 1973	• The Interior Least Tern (Sterna antillarum athalassos) is known to occur within the project study area.
Fish and Wildlife • Fish and Wildlife Coordination Act (FWCA) of 1958 • Migratory Bird Treaty Act (MBTA) of 1918 • EO 13112 - Invasive Species	• Bridges and structures within the project area are nesting sites for migratory birds. • Compliance with EO 13112 regarding the potential introduction of invasive terrestrial or aquatic animal species as a result of a proposed project.
Vegetation • EO 13112 - Invasive Species • Executive Memorandum on Environmentally and Economically Beneficial Landscaping	• No known rare or unique vegetative communities within the project study area other than those described as jurisdictional wetlands. • Compliance with EO 13112 regarding the potential introduction of invasive plant species. Seeding and replanting of disturbed areas would need to be in compliance with EO 13112 and the Executive Memorandum on Environmentally and Economically Beneficial Landscaping.
Cultural Resources • National Historic Preservation Act (NHPA) of 1966 • Archeological Resources Protection Act (ARPA) of 1979 • Native American Grave Protection and Repatriation Act (NAGPRA) of 1990 • FHWA Section 4(f) Regulations (23 CFR 774) • Arkansas Antiquity Act	• Three archeological sites within the APE [2] • Four historic districts within the APE. • SHPO preliminary determination: 45 eligible structures within the APE (includes two already listed in the NRHP).
Hazardous Materials • Resource Conservation and Recovery Act (RCRA) of 1976 • Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980	• Forty-nine sites located within the project study area (including service stations, maintenance facilities, vehicle centers containing registered storage tanks, and miscellaneous businesses). • None of the sites identified would be considered high risk.
Other [3]	• Eight schools identified. • North Little Rock School District Office is located adjacent to the project area • North Little Rock is planning a new school facility south of I-40 and west of I-30, near the existing North Little Rock High School Football Stadium • Twelve places of worship identified.

Notes:

1. The study area is an approximately one-quarter mile buffer from the existing centerline of the roadway. It includes the various ramps associated with the interchanges.
2. The APE for the Cultural Resources assessment is a 100-foot buffer on either side of I-30 and I-40 from the existing ROW.
3. Schools and places of worship have been identified for informational purposes and are not considered constraints. However, they are included in this table given the importance that both play within the local community. Accordingly, it is a goal that impacts to these locations be avoided and/or minimized whenever possible.

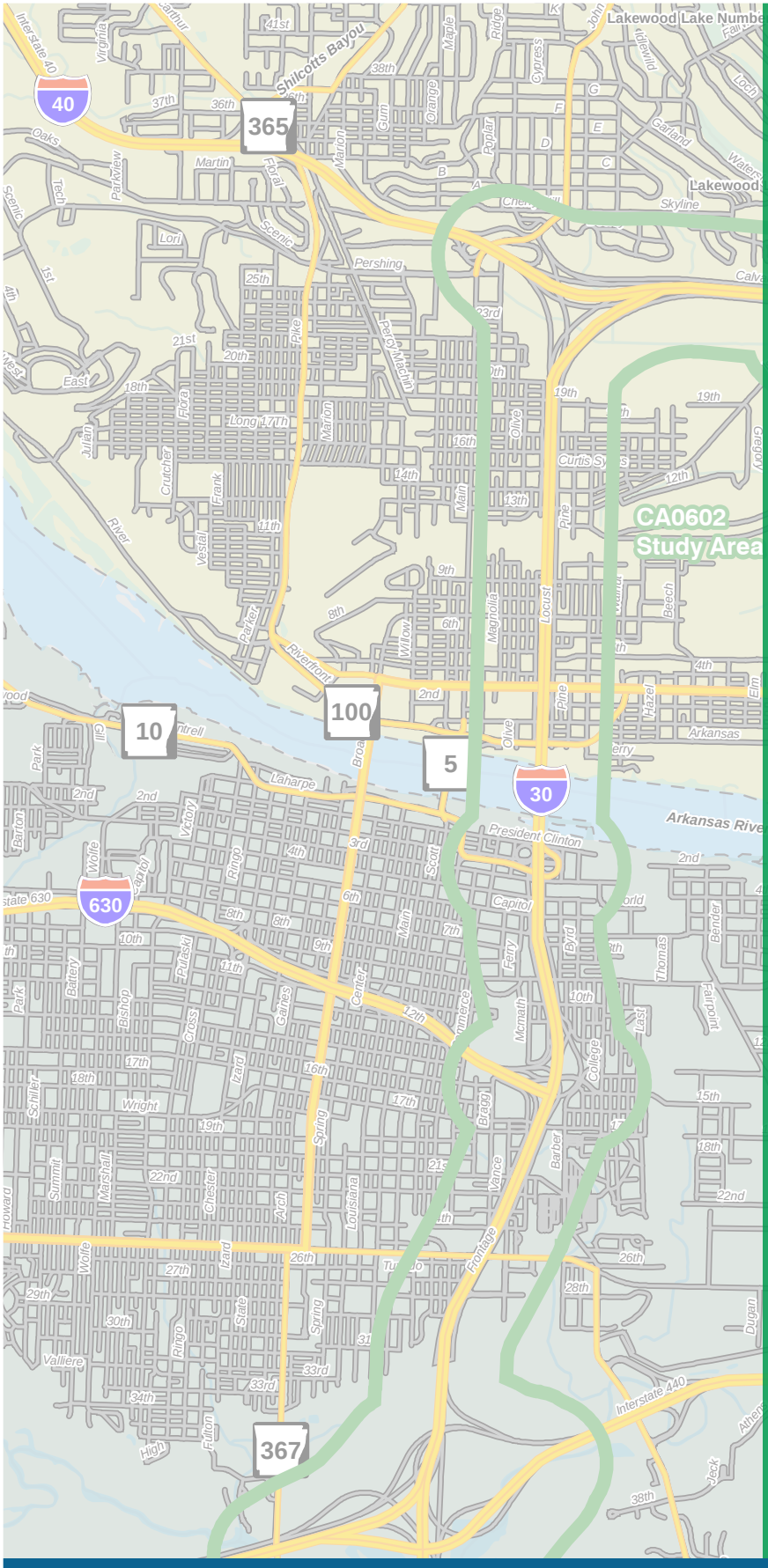
Appendix C:

Public and Agency Coordination Documentation

Appendix C-1	Public Involvement and Agency Coordination Plan
Appendix C-2	Public Meeting Summary and Analysis Reports
Appendix C-3	Technical Work Group Comment Documentation
Appendix C-4	Additional Outreach Documentation
Appendix C-5	Visioning Workshop Documentation

Appendix C-1:

Public Involvement and Agency Coordination Plan



PLANNING AND ENVIRONMENTAL LINKAGES PUBLIC INVOLVEMENT AND AGENCY COORDINATION PLAN

INTERSTATE 30

CA0602

Interstate 530 – Highway 67

September 2014

CONNECTING ARKANSAS PROGRAM CAP

Arkansas State Highway & Transportation Department

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1.0 INTRODUCTION

The Arkansas State Highway and Transportation Department (AHTD) is dedicated to working with others to provide safe and reliable transportation solutions for Arkansas. To assist in part with accomplishing this objective, AHTD is initiating a Planning and Environmental Linkages (PEL) Study as part of the Connecting Arkansas Program (CAP) CA0602 Project for the I-30 Corridor in Little Rock and North Little Rock. The PEL process was established by the Federal Highway Administration (FHWA) to provide a more efficient process of identifying, evaluating, and selecting preferred transportation improvements. This process allows early planning-level decisions to be carried forward so that future National Environmental Policy Act (NEPA) requirements are connected and planning analyses and decisions are not revisited.

In addition to informing and expediting the NEPA process, the PEL process will provide an opportunity for early coordination with the public as well as local, state and federal agencies in a transparent and collaborative environment. By working together, alternatives and avoidance measures can be developed at a local level. A PEL process will identify and document transportation needs and potential improvements for the study area.

The purpose of this Public Involvement and Agency Coordination Plan (PIACP) is to present the tools and strategies that will be implemented during the agency, stakeholder, and public/elected official coordination conducted as part of the PEL Study. Coordination with agencies, stakeholders, and elected/local officials will be initiated at project inception and will continue throughout the PEL process. Public coordination and outreach efforts conducted during the course of the PEL Study may be included by reference into future planning documents that are prepared in support of other specific transportation solutions that may emerge from the PEL process.

The proposed PEL study area has been delineated as depicted in **Figure 1** below. It is approximately 6.7 miles in length and extends through portions of Little Rock and North Little Rock in central Arkansas. The proposed study area extends along I-30 from I-530 to the south and I-40 to the north, and along I-40 to its interchange with Highway 67 in North Little Rock. This corridor was previously assessed and identified as an alternative for further study as part of *Phase 1 Arkansas River Crossing Study*, completed in 2003. This study analyzed travel through central Arkansas and across the Arkansas River. The I-30 portion of the study area also corresponds with the voter-endorsed improvements to I-30, a project that was included as part of the constitutional amendment passed during the November 2012 election for a 10-year, half-cent sales tax to improve highway and infrastructure throughout the state of Arkansas. I-30 and I-40 not only provide access from the downtown areas of Little Rock and North Little Rock, but also support traffic traveling to and from origins and destinations outside of the immediate metropolitan area.

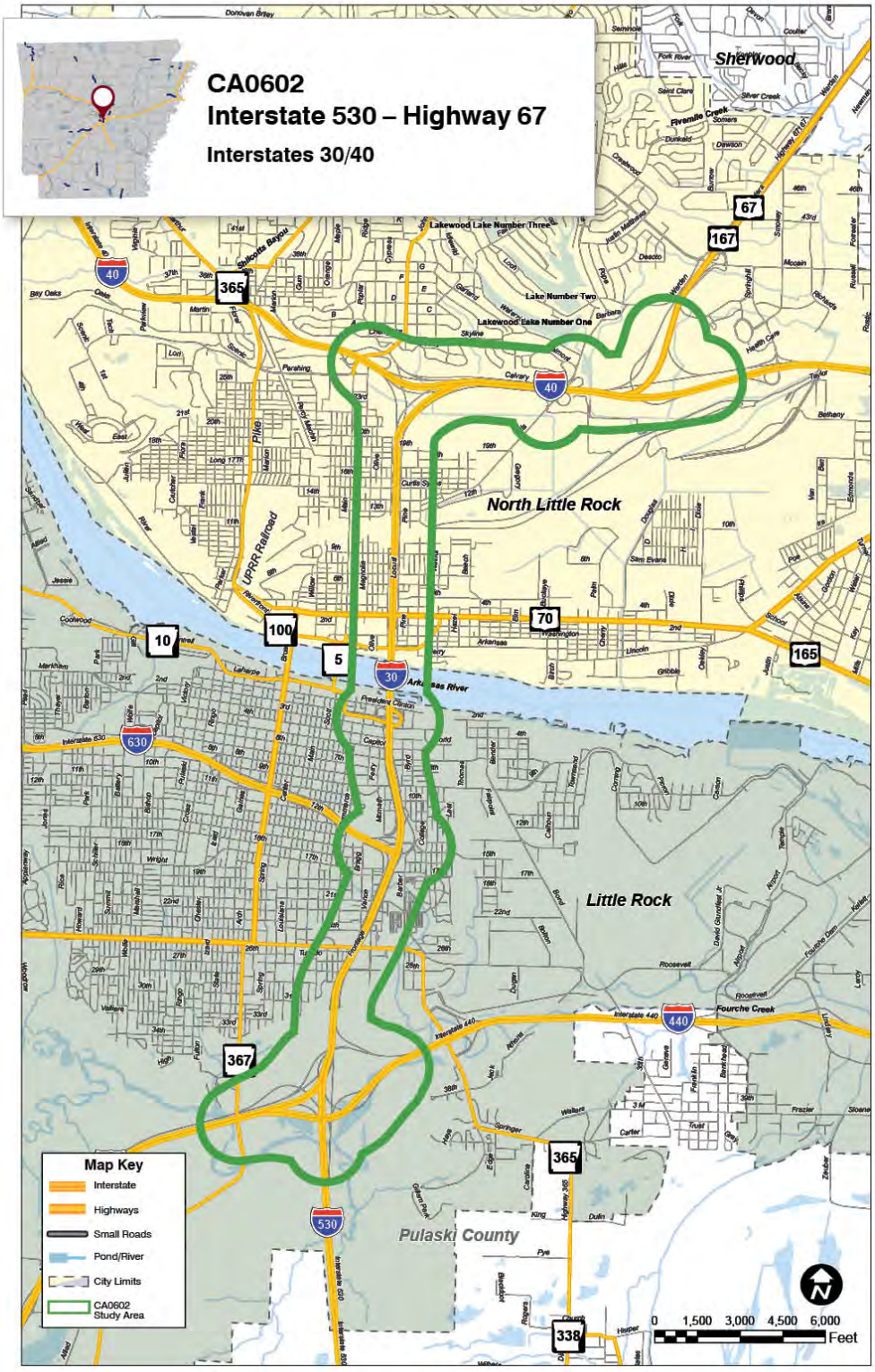


Figure 1. Proposed PEL Study Area

1.1 Purpose of the Public Involvement and Agency Coordination Plan

The PIACP outlines the tools and strategies proposed for agency coordination and public involvement that will be implemented during the PEL process.

The purpose of the PIACP is to:

- Identify the overall public involvement/agency coordination approach;
- Set goals for the public involvement/agency coordination program;
- Identify affected stakeholders (e.g., elected/local officials, agencies, community organizations, and the general public) and expectations for their involvement;
- Establish strategies to achieve the goals of the public involvement/agency coordination program and characteristics of the targeted audiences; and
- Identify specific tools and techniques to support the strategy.

1.2 Goals of the Public Involvement and Agency Coordination Plan

The application of the following PIACP goals will help guide the PEL process:

- Provide users, property and business owners, elected/local officials, agencies, community groups, and other stakeholders served by the study area with sufficient opportunity to contribute input to AHTD to inform and help shape the results of the PEL Study.
- Throughout the process, work with participating agencies and local officials to obtain informed consent.
- Ensure that traditionally underserved populations, including those with limited English proficiency and low literacy populations without personal transportation are included in accordance with Executive Order (EO) 13166.
- Proactively determine and engage minority and low income populations in accordance with EO 12898.
- Maintain communications, outreach and collaboration with AHTD and other transportation providers, government agencies, and public and private partners.
- Identify and use innovative tools and strategies to collaborate and effectively share information and to empower the public in the process.

1.3 Study Team Roles and Responsibilities

AHTD and its consultant staff (Study Team) will be responsible for leading the public outreach, stakeholder, and agency coordination efforts. These responsibilities will generally include, but will not be limited to:

- Determining the purpose, content, and format for each meeting to be held with stakeholder groups and the Technical Work Group (TWG).
- Determining the membership, roles and responsibilities, protocols, and meeting purpose, content, and format for the stakeholder meetings and TWG meetings.
- Determining and/or approving the dates, and locations of coordination meetings with the stakeholder groups and the TWG.

- Developing, providing comments, and approving all public outreach tools and meeting materials and coordinating with FHWA as required.
- Preparing notes and appropriate documentation for all coordination meetings with stakeholder groups and the TWG.
- Serving as the primary point of contact for all media requests, open records requests, elected/local official requests, and public inquiries.
- Maintaining a stakeholder tracking file (mailing list).
- Developing a PIACP for review, comment, revision, and approval by the FHWA.
- Coordinating and reserving meeting space for the TWG, other stakeholder (upon request) and public open house meetings.
- Developing meeting materials, addressing technical comments, and documenting communications and meetings with FHWA and other agencies.
- Developing study information for placement on the website, social media and electronic distribution.
- Managing and recording study-related inquiries received via the information line, email address and website.
- Leading coordination and developing informed consent with agencies and the TWG on technical issues.
- Coordinating logistics, providing staff support, and preparing summary documents for all three public open house meetings.
- Coordinating all meeting notices and display advertisements.
- Providing ongoing technical support, including facilitation services, for all agency and public involvement activities as needed.

1.4 Technical Oversight Committee

A Technical Oversight Committee (TOC) will be formed and charged with providing technical assistance to enable the efficient development of the PEL Study. The TOC will involve the appropriate technical resources within (and external to) AHTD to provide timely input, suggestions, feedback and/or guidance on the PEL. The TOC will be comprised of the following members:

- CAP Administrator, Chair
- Planning Lead, Member
- Design Lead, Member
- Construction Lead, Member
- Environmental Lead, Member
- Programming Lead, Member
- CA0602 Project Manager, Member
- FHWA Representatives, Members

In addition to the TOC, additional AHTD resources/subject matter experts (including but not limited to AHTD staff involved in planning, environmental, right of way, utilities, railroad coordination, materials, communications, public involvement, accounting and contracting) will support the TOC to assist in expediting the PEL.

2.0 TOOLS AND STRATEGIES

The following outreach tools and strategies will be implemented to accomplish the PIACP goals and objectives.

2.1 Website

The Study Team will develop study-specific information for the existing CA0602 web page on the on the CAP website (www.connectingarkansasprogram.com) to communicate project information and public involvement activities throughout the PEL process. The Study Team will develop and update information on the site as needed. The website will offer access to the information listed below, in addition to other materials developed as the study proceeds. Website content may include, but may not be limited to the following:

- Study milestones;
- Meeting announcements;
- Media releases;
- Photos and/or videos; and
- Website links.

AHTD will also collect all comments received through the website, and will forward them to a point person on the Study Team who will collaborate with the appropriate Study Team members for analysis, response, inclusion in technical reports, and the study record. All comments and responses will be recorded and included in the stakeholder tracking log.

2.2 Social Media

AHTD and its consultants will utilize the AHTD Twitter® account to broadcast PEL Study information, and members of the public who register with the AHTD Twitter® account can post their related comments. A link to the AHTD Twitter® account will be provided on the project website. Content to be broadcast via Twitter® may include, but may not be limited to the following:

- Study milestones;
- Meeting announcements; and
- Website links.

AHTD will monitor the Twitter® account Monday through Friday during normal business hours (except holidays) and will forward any comments to the Study Team. The Study Team will assist with responses to questions/comments made on Twitter® and provide information to AHTD for review and approval. AHTD will update the Twitter® site with approved information provided by the Study Team. A social media disclaimer addressing the use of social media sites will be placed on the AHTD website per FHWA requirements.

2.3 Stakeholder Tracking

The Study Team will compile mailing lists and revise as necessary to create a stakeholder tracking file for the PEL Study. The Study Team will be responsible for maintaining the file, which will include, but not be limited to the following stakeholders:

- Local, state, and federal elected officials;
- Agency officials;
- Public officials;
- Major regional institutions/employers;
- Advocacy groups;
- Tribal groups;
- Civic organizations;
- Neighborhood/homeowner associations;
- Businesses;
- Chambers of commerce;
- Transportation agencies;
- Utility providers;
- Special interest groups; and
- Individuals who sign up to be added to the mailing list.

The stakeholder tracking file will be used to announce the study, distribute meeting announcements and disseminate other important information as the study progresses.

Attendees of the public open house meetings and any other interested stakeholders will be added to the file when requested. The stakeholder tracking file will be updated as needed to assure the appropriate contacts as well as the most current contact information is captured.

2.4 Email Communications

The CAP email address, info@ConnectingArkansasProgram.com, will be utilized for the PEL Study. This email address will be posted on the project website and used to distribute meeting announcements and other important study information. In addition, it will also serve as the email address for study-related communications with the public. All inquiries and comments will be documented in the stakeholder tracking log.

3.0 STAKEHOLDER COORDINATION

AHTD, in coordination with the FHWA, will lead coordination efforts to ensure early and ongoing agency and elected/local official participation in the study process. As the lead agency for the PEL study, AHTD will be responsible for coordination with stakeholders, as detailed below.

3.1 Project Partners

In the spirit of cooperation and collaboration, and acknowledging the critical role that a number of agencies play in achieving the transportation goals of the State of Arkansas,

the central Arkansas metropolitan area and the cities of Little Rock and North Little Rock, Metroplan (the Metropolitan Planning Organization for central Arkansas) and the local governments of Little Rock, North Little Rock and Pulaski County have been invited as project partners on the I-30 PEL Study. The FHWA, in conjunction with the AHTD, are the lead agencies and Metroplan and the local governments are project partners. The cooperation among the lead agencies and project partners will be integral to the success of a collaborative environmental and transportation planning process.

3.2 Technical Work Group Coordination

The Study Team will create a TWG to serve as the primary means of agency coordination for the PEL Study. The TWG will include local, state, and federal staff to provide technical input and expertise throughout the study. TWG meetings may also include representatives from local businesses, environmental advocacy groups and representatives from major regional institutions.

The PIACP is strategically structured to bring in stakeholders at the appropriate time during the development of the study. TWG meetings will be held prior to the public meetings, thereby providing the Study Team the opportunity to meet with subject matter experts to provide information, answer questions and gather their input, questions and feedback. This information is important to take into account and incorporate prior to presenting concepts to the public.

In conjunction with the PIACP process, the Study Team will incorporate the following coordination guidelines:

- Coordination with FHWA throughout the PEL process, provide status updates and technical reports to FHWA for review and comment at major milestones, and receive FHWA guidance on ongoing PEL activities;
- Collaboration with project partners (Metroplan, City of Little Rock, City of North Little Rock, and Pulaski County) in advance of each TWG as described in the I-30 PEL Process Framework and Methodology.
- Coordination with and participation of other agencies in data gathering and regulatory compliance documentation;
- Provide opportunities for agency involvement in defining need and purpose;
- Provide opportunities for agency involvement in determining the range of alternatives to be considered;
- Collaboration with agencies to determine evaluation methodologies that will consider mobility, safety, economic factors, access and system connectivity, and feasibility objectives;
- Conduct context sensitive solutions (CSS) visioning workshops; and
- Providing insight in managing the process and resolving issues through ongoing coordination.

3.2.1 TWG Members

The Study Team will determine the initial list of agencies to be invited to participate on the TWG. Team members will be identified as agencies and organizations that can provide valuable input and technical assistance in areas of strategic importance to the study. Members will need to have the technical expertise as well as the time and interest required to fully participate. This group will be expected to provide timely input and comments on materials and information presented so group size will be limited to facilitate effective and efficient decision-making.

The Study Team will develop and mail letters to these agencies, which will include a request to designate a representative to serve as a member of the TWG. Designated representatives will then be invited to attend an introductory meeting and submit a membership form to participate on the TWG. Follow up and coordination activities will likely occur via email to expedite the development process. The initial list of agencies identified for participation on the TWG includes the following:

ANTICIPATED TWG MEMBERS	
Arkansas Archeological Survey	Housing and Urban Development
Arkansas Commissioner of State Lands	Little Rock District Corp of Engineers
Arkansas Department of Environmental Quality	City of North Little Rock
Arkansas Department of Emergency Management	Coast Guard Sector Upper Mississippi River
Arkansas Department of Parks and Tourism	Federal Emergency Management Agency
Arkansas Economic Development Commission	Federal Highway Administration
Arkansas Forestry Commission	Federal Railroad Administration
Arkansas Game and Fish Commission	Federal Transit Administration
Arkansas Geological Survey	Little Rock School District
Arkansas Highway & Transportation Department	Metroplan
Arkansas Historic Preservation Program	North Little Rock School District
Arkansas Natural Heritage Commission	Union Pacific Railroad
Arkansas Natural Resources Commission	U.S. Department of the Interior – National Park Service
Arkansas State Police	U.S. Natural Resource Conservation Service
Arkansas Waterways Commission	U.S. Army Corps of Engineers, Little Rock District
Central Arkansas Transit Authority	U.S. Environmental Protection Agency
City of Little Rock	U.S. Fish and Wildlife Service
Pulaski County	U.S. Geological Survey Arkansas
Pulaski County Special School District	

Additional entities may be invited to join as the study progresses. Members of the TWG are charged with the following responsibilities:

- Attend and participate in TWG meetings;
- Serve as a resource for the PEL Study and Study Team;
- Provide timely information and input when requested;
- Participate in the scoping process, including, advising the Study Team of upcoming planning and programming studies along the study area, additional

work that may influence the traffic and travel patterns, and/or issues of concern regarding the potential environmental or socioeconomic impacts;
- Provide input and work towards informed consent on the vision, transportation goals and objectives, purpose and need, alternatives screening criteria, screening process, alternatives development and evaluation, and other related processes and materials as warranted; and
- Provide meaningful and timely input on any unresolved issues.

The TWG will meet up to four times over the course of the PEL Study to provide input at critical milestones, including:

- PEL introduction, previous studies review, draft purpose and need, Universe of Alternatives development and evaluation methodology (anticipated summer 2014);
- Preliminary Alternatives development and evaluation methodology (anticipated fall 2014); and
- Reasonable Alternatives development and evaluation methodology (anticipated winter 2014).

Meetings will be scheduled to accommodate participation from as many members as possible. Meetings will be held in locations near or within the study area in Pulaski County, Arkansas. The Study Team will be responsible for identifying dates and locations for the TWG meetings. The Study Team will be responsible for scheduling, preparing materials and taking notes for all TWG meetings. The Study Team will prepare TWG meeting summaries for the study record.

3.3 Stakeholder Advisory Group

A Stakeholder Advisory Group (SAG), comprised of local individuals who bring unique knowledge and skills which complement those of the TWG, will be established in order to ensure early and ongoing decision making throughout the study. The SAG's role is to make recommendations and/or provide key information and materials to the Study Team. The SAG will include twelve representatives, with the Mayors of Little Rock and North Little Rock each appointing four, as well as four selected by the Pulaski County Judge. SAG members provide a one-of-a-kind perspective to the areas of interest each represents within the community, allowing the Study Team to gather valuable input. The SAG will meet regularly throughout the PEL process.

3.4 Elected/Local Official Briefings

The Study Team will identify and lead coordination with elected and local officials by developing and distributing an introductory elected/local officials' letter that will explain the PEL Study as well as the PEL process. Elected/local official briefings will be held on a one on one basis throughout the course of the PEL Study, ideally prior to the public meetings, thereby allowing this stakeholder group to acquire study information in advance of their constituents as well as allow them to ask questions and provide input. Additional meetings, however, may be scheduled depending on the level of detail and

range of options being considered once the study commences. Meetings will be scheduled to accommodate each elected/local official's schedule. Potential dates for these briefings will be identified and shared with the elected/local officials in advance.

Meeting notes or other documentation will be taken at each coordination meeting held and will be included in the study record. The elected/local officials' mailing list will include, but not be limited to the following[1]:

ELECTED OFFICIALS	
U.S. Representative District 2	Tim Griffin
U.S. Senator	John Boozman
U.S. Senator	Mark Pryor
Arkansas State Governor	Mike Bebee
Arkansas State Representative District 29	Fred Love
Arkansas State Representative District 30	Charles Armstrong
Arkansas State Representative District 31	Andy Davis
Arkansas State Representative District 32	Allen Kerr
Arkansas State Representative District 34	John Walker
Arkansas State Representative District 35	John Edwards
Arkansas State Representative District 36	Darrin Williams
Arkansas State Representative District 37	Eddie Armstrong
Arkansas State Representative District 38	Patti Julian
Arkansas State Representative District 39	Mark Lowery
Arkansas State Representative District 41	Jim Nickels
Arkansas State Representative District 42	Mark Perry
Arkansas State Senator District 30	Linda Chesterfield
Arkansas State Senator District 31	Joyce Elliot
Arkansas State Senator District 32	David Johnson
Arkansas State Senator District 34	Jane English
Pulaski County, County Assessor	Janet Troutman Ward
Pulaski County, County Judge	Floyd "Buddy" Villines
Pulaski County, Sherriff	Doc Holladay
Pulaski County, County Clerk	Larry Crane
City of Little Rock Board of Directors Ward 1	Erma Hendrix
City of Little Rock Board of Directors Ward 2	Ken Richardson
City of Little Rock Board of Directors Ward 3	Stacy Hurst
City of Little Rock Board of Directors Ward 4	Brad Cazort
City of Little Rock Board of Directors Ward 5	Lance Hines
City of Little Rock Board of Directors Ward 6	Doris Wright
City of Little Rock Board of Directors Ward 7	B.J. (Brenda) Wyrick
City of Little Rock Board of Directors Ward 8	Dr. Dean Kumpuris
City of Little Rock Board of Directors Ward 9	Gene Forston
City of Little Rock Board of Directors Ward 10	Joan Adcock
City of Little Rock Parks and Recreation Director	Truman Tolefree
City of Little Rock City Clerk	Susan Langley

[1] Elected officials as of April 16, 2014.

ELECTED OFFICIALS	
City of Little Rock Mayor	Mark Stodola
City of Little Rock City Manager	Bruce Moore
City of Little Rock Traffic Engineering Manager	Bill Henry
City of Little Rock Fire Chief	George Summers
City of Little Rock Police Chief	Stuart Thomas
City of Little Rock Civil Engineering Manager	Mike Hood
City of Little Rock Public Works Director	Jon Honeywell
City of North Little Rock Council Member Ward 1 Position 1	Debi Ross
City of North Little Rock Council Member Ward 1 Position 2	Beth White
City of North Little Rock Council Member Ward 2 Position 1	Linda Robinson
City of North Little Rock Council Member Ward 2 Position 2	Maurice Taylor
City of North Little Rock Council Member Ward 3 Position 1	Steve Baxter
City of North Little Rock Council Member Ward 3 Position 2	Bruce Foutch
City of North Little Rock Council Member Ward 4 Position 1	Murry Witcher
City of North Little Rock Council Member Ward 4 Position 2	Charlie Hight
City of North Little Rock Director of Finance	Karen Scott
City of North Little Rock Police Chief	Mike Bradley
City of North Little Rock Fire Chief	Robert Mauldin
City of North Little Rock Parks and Recreation Director	Bob Rhoads
City of North Little Rock Mayor	Joe Smith
City of North Little Rock City Clerk	Diane Whitbey
City of North Little Rock City Attorney	C. Jason Carter
City of North Little Rock City Treasurer	Mary Ruth Morgan
City of North Little Rock City Engineer	Mike Smith
City of North Little Rock Public Works Director	Bob Ward

3.5 Coordination Meetings

The Study Team may conduct Coordination Meetings over the course of the PEL Study process with stakeholders as requested or required. Coordination Meetings are likely to be held with business owners, political representatives and senior staff of local agencies that have a role in or are impacted by funding, permitting and processing transportation improvements within the study area. These meetings allow for one on one or small group interaction with stakeholders that have requested meetings to address specific issues that affect their business or community outside of the project partner meetings, TWGs, elected/local official briefings and public meetings. Examples include Verizon Center, Clinton Library, Clinton National Airport, and the downtown Little Rock River Market.

3.6 Visioning Workshops

One visioning workshop will be conducted with stakeholders during the PEL process, and another visioning workshop will be held during the NEPA/Schematic phase. During the first visioning workshop, and with an understanding of the purpose and need and goals and objectives of the PEL Study, stakeholders will have the opportunity to provide their input and prioritize their ideas for the I-30 corridor. From this visioning workshop, renderings of possible solutions that preserve and enhance aesthetic, historic and community resources will be developed. During the NEPA/Schematic phase, a second

visioning workshop will be held with stakeholders that examines potential CSS and design concepts in greater detail. Based on stakeholder feedback and available funding, CSS/aesthetic guidelines will be developed following this second visioning workshop and included in the design-build request for proposals, pending AHTD approval.

4.0 PUBLIC MEETINGS

Three Public Meetings will be held in compliance the AHTD Public Involvement Handbook (Draft Version - 2013) and the CAP Environmental Manual (2013) at key study milestones. The meetings will be held in an open house format and will generally cover the following key topics/milestones:

- Public Meeting #1: PEL introduction, previous studies review, draft purpose and need, Universe of Alternatives development and evaluation methodology;
- Public Meeting #2: Preliminary Alternatives development and evaluation methodology; and
- Public Meeting #3: Reasonable Alternatives development and evaluation methodology.

The general process for each series of meeting is outlined below:

- *Dates and Locations:* The Study Team will identify dates and venues for each meeting. Each meeting will be held for several hours in the late afternoon/early evening to accommodate varying schedules and transportation requirements of potential meeting attendees.

- *Public Meeting Display Ad:* For each of the three public meetings, a display ad will be published twice, two weeks prior and again one week prior to the public meeting, in the Arkansas Democrat-Gazette, North Little Rock Times and El Latino Arkansas, as well as other smaller local newspapers if deemed necessary or if requested. The Study Team will be responsible for all tasks related to these display ads, including preparing and coordinating with AHTD for approvals; placing the approved news release/display ad in the newspapers; and following up with the newspapers to ensure that the news releases/display ads are published as requested.

- *Media Announcements:* The Study Team will coordinate communication about the meetings with the local broadcast media (TV and radio). A paid Public Service Announcement (PSA) will be broadcast on up to three radio stations, as appropriate. PSAs will also be distributed to the primary local news television broadcast affiliates. The AHTD Public Information Officer (PIO) will serve as the primary point of contact for all news media. In addition, the Study Team will create talking points for identified spokespersons for AHTD as well as media kits to distribute at the public meetings. Up to 10 media kits will be prepared for each public meeting.

- *Flyers:* The Study Team will prepare notification flyers for each of the three public meetings (8½"x11", maximum, one-sided, black and white) announcing the public meetings. The flyers will be distributed by the Study Team no later than one week prior to the public meetings to various businesses, places of worship, Chambers of Commerce, schools and other public gathering places in the study area.

- *Minority Ministers:* Mail Public Officials letters and Minority Minister's letters one week prior to each meeting.

- *Stakeholder Notices:* The Study Team will assemble and mail notification letters indicating the general nature of the proposed study to members of the TWG (Federal, state, and local entities) and elected/local officials no later than one week prior to the public meeting.

- *Electronic announcements:* AHTD will announce the public meetings using various forms of electronic communications, including but not limited to posting the meeting information on the study website and broadcasting the meeting information via Twitter®. Broadcast details include the dates, times, and meeting locations; and, if requested, announcement flyers will be sent to individuals on the mailing list.

- *Logistics and Materials:* Planning for the PEL Study public meetings will include the following:
    - The Study Team will hold meetings and Webex/conference calls to discuss meeting set-up and materials, including agendas, handouts, and exhibits. The Study Team will also strategize and discuss staffing, comment feedback mechanisms, and specific communication and management processes for each meeting described above, including identification of goals and objectives. This includes a project status meeting (or pre-meeting) between the Study Team and AHTD one week prior to each of the three public meetings.
    - The Study Team will reserve and coordinate equipment and set-up needs for the venues identified;
    - The Study Team will record oral statements, upon request, at each meeting/open house;
    - The Study Team will secure simultaneous translation services and bilingual staff to be available, if requested;
    - The Study Team will ensure that all ADA regulated accommodations are made for disabled participants;
    - The Study Team will prepare meeting/open house handouts and exhibits and print approved handouts and sign-in sheets for distribution, use, and display at the public meetings; and
    - Following a 10-day official comment period for each of the three public meetings, the Study Team will prepare and submit a Public Meeting

Summary Report that will include a summary of the comments received and responses, sign-in sheets, handouts, and other information that was provided to meeting attendees.

5.0 TIMELINE AND SCHEDULE

See **Figure 2** below for a general timeline showing major study milestones, including stakeholder and public involvement activities. This timeline will be updated throughout the PEL Study as needed.

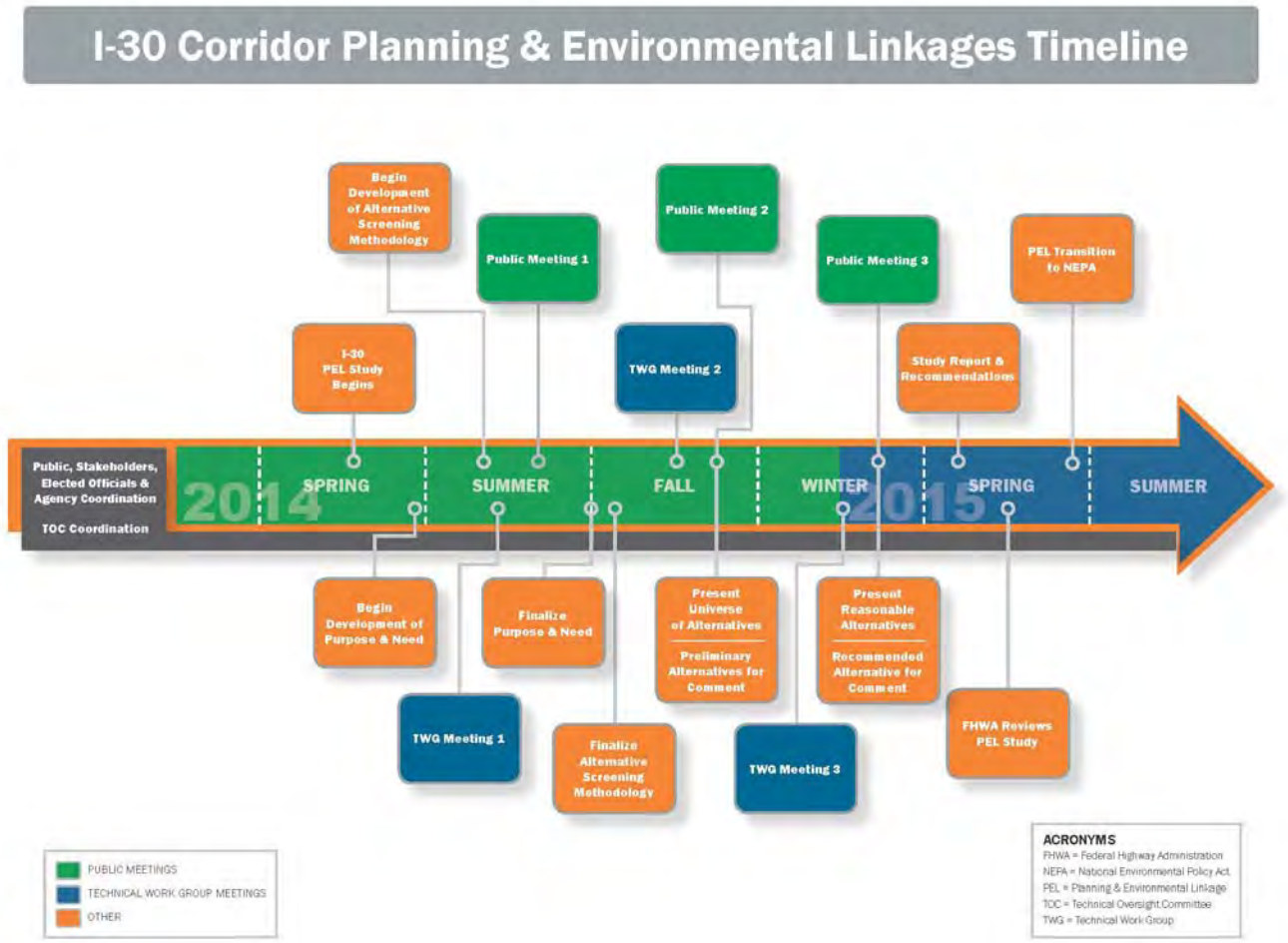


Figure 2: PEL Study Task Timeline

6.0 COMMUNICATION PLAN AND PROTOCOLS

AHTD will be the primary point of contact for all media, elected/local officials, and public and agency requests and inquiries. The following protocol should be followed for each type of communication:

6.1 Media Requests

All media requests should be referred directly to the AHTD PIO, Mr. Randy Ort. Mr. Ort will determine which additional Study Team members should be contacted to develop a

response to the request, as well as the time frame in which the request should be handled. All related correspondence should be documented for the study record.

6.2 Elected Official Requests

All elected official requests should be referred directly to the AHTD PIO, Mr. Ort. The PIO will determine which additional Study Team members should be contacted to develop a response to the request, as well as the time frame in which the request should be handled. All related correspondence should be documented for the study record.

6.3 Open Records Requests

All open records requests should be referred directly to the AHTD CAP Administrator, Ms. Keli Wylie. She will determine which additional Study Team members should be contacted to develop a response to the request, as well as the time frame in which the request should be handled. All related correspondence should be documented for the study record.

6.4 Phone Calls

When phone calls come in to the Study Team, they should initially be directed to the CAP Communications Manager, Mr. Jon Hetzel, who will determine the appropriate staff to handle the response and determine the next steps for action. All calls will be documented for the study record.

6.5 Agency Inquiries or Requests

All agency inquiries or requests should be referred to the AHTD CAP Administrator who will determine which additional Study Team members should be contacted to develop a response. All requests and responses should be documented for the study record.

6.6 Emails

The Study Team will collect all emails submitted through the AHTD study website and study email address. All email comments received in between public meetings will be evaluated and forwarded to the appropriate staff for response. Emails regarding open records requests, questions and comments from the media or elected/local officials, or specific inquiries/comments regarding the public involvement process will be forwarded to the appropriate AHTD staff member as outlined above. All email comments and responses will be documented for the study record.

6.7 Presentation Requests

All presentation requests should be directed to the CAP Communications Manager who will determine which additional Study Team members should be contacted to develop a response to the request and/or to be scheduled for a presentation, as well as the time frame in which the request should be handled. All related correspondence should be documented for the study record.

7.0 CONCLUSION

Agency, public and other stakeholder coordination will be a transparent process and will occur early and throughout the PEL process. The information obtained from these coordination efforts will be carried forward into further development efforts and NEPA studies. It is anticipated that the agencies and other stakeholders will also be re-engaged during the NEPA process to ensure continued coordination. Agency coordination and informed consent will be integral to the development of transportation solutions for the PEL Study and will continue to be essential throughout future studies and implementation efforts.

Appendix C-2:

Public Meeting Documentation

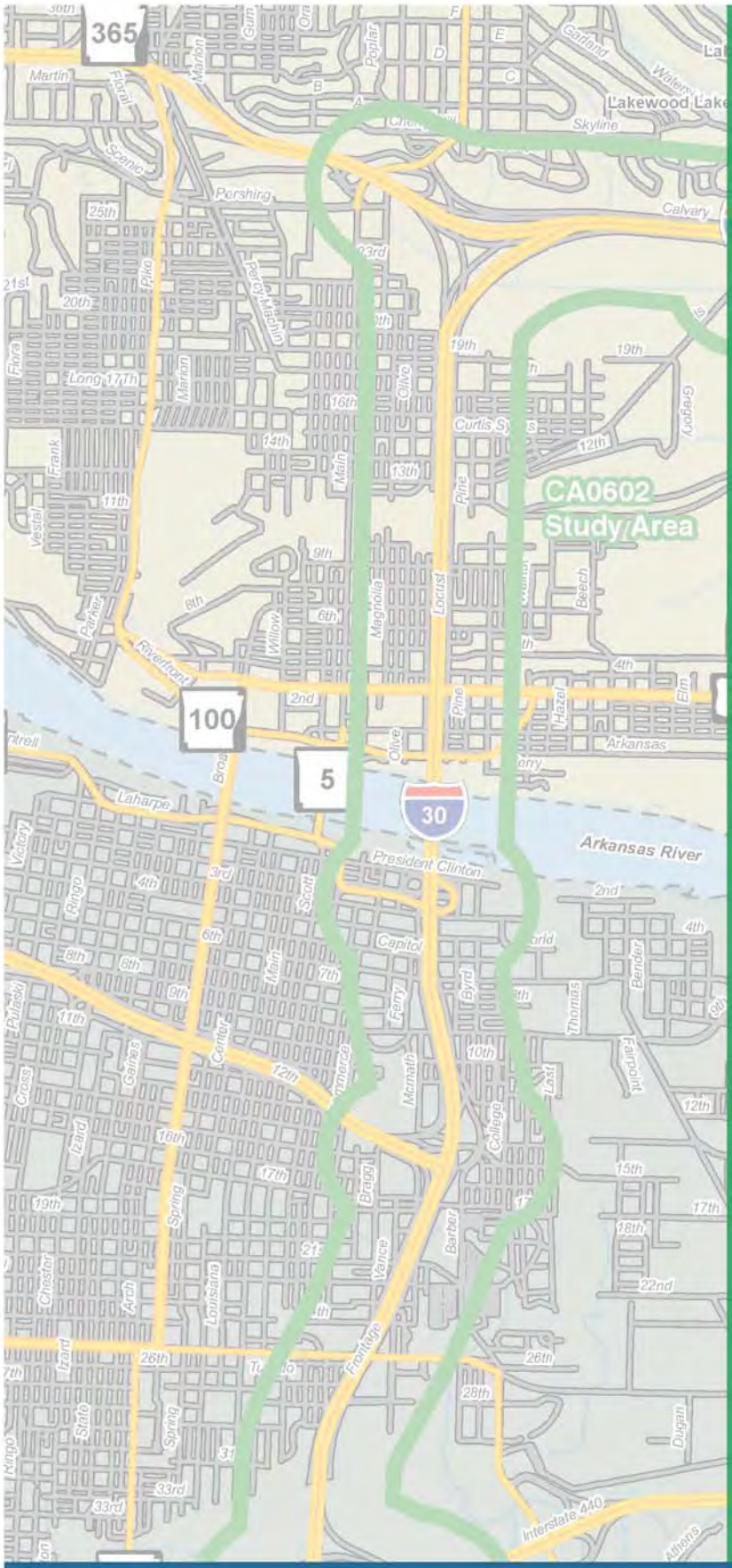
Public Meeting #1 Summary and Analysis Report*

Public Meeting #2 Summary and Analysis Report*

Public Meeting #3 Summary and Analysis Report*

Public Meeting #4 Summary and Analysis Report*

**Attachments provided on the DVD included at the end of the PEL Report*



PLANNING AND ENVIRONMENTAL LINKAGES PUBLIC MEETING #1 SUMMARY AND ANALYSIS REPORT

INTERSTATE 30

CA0602

Interstate 530 – Highway 67

November 2014

CONNECTING ARKANSAS PROGRAM CAP

Arkansas State Highway & Transportation Department

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Attachment C Materials and Photographs
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1.0 INTRODUCTION

In April 2014, the Arkansas Highway State Transportation Department (AHTD) began the Interstate 30 (I-30) Planning and Environmental Linkages (PEL) Study to identify the purpose and need for improvements within the I-30 PEL study area, determine possible viable alternatives for a long-term transportation solution, and recommend alternatives that can be carried forward seamlessly into the National Environmental Policy Act (NEPA) process. As part of the I-30 PEL Study, a series of three public meetings are to be held to allow the public to provide feedback on transportation needs and possible solutions in the study area. This report describes the first set of public meetings held in August 2014.

2.0 PUBLIC MEETING #1

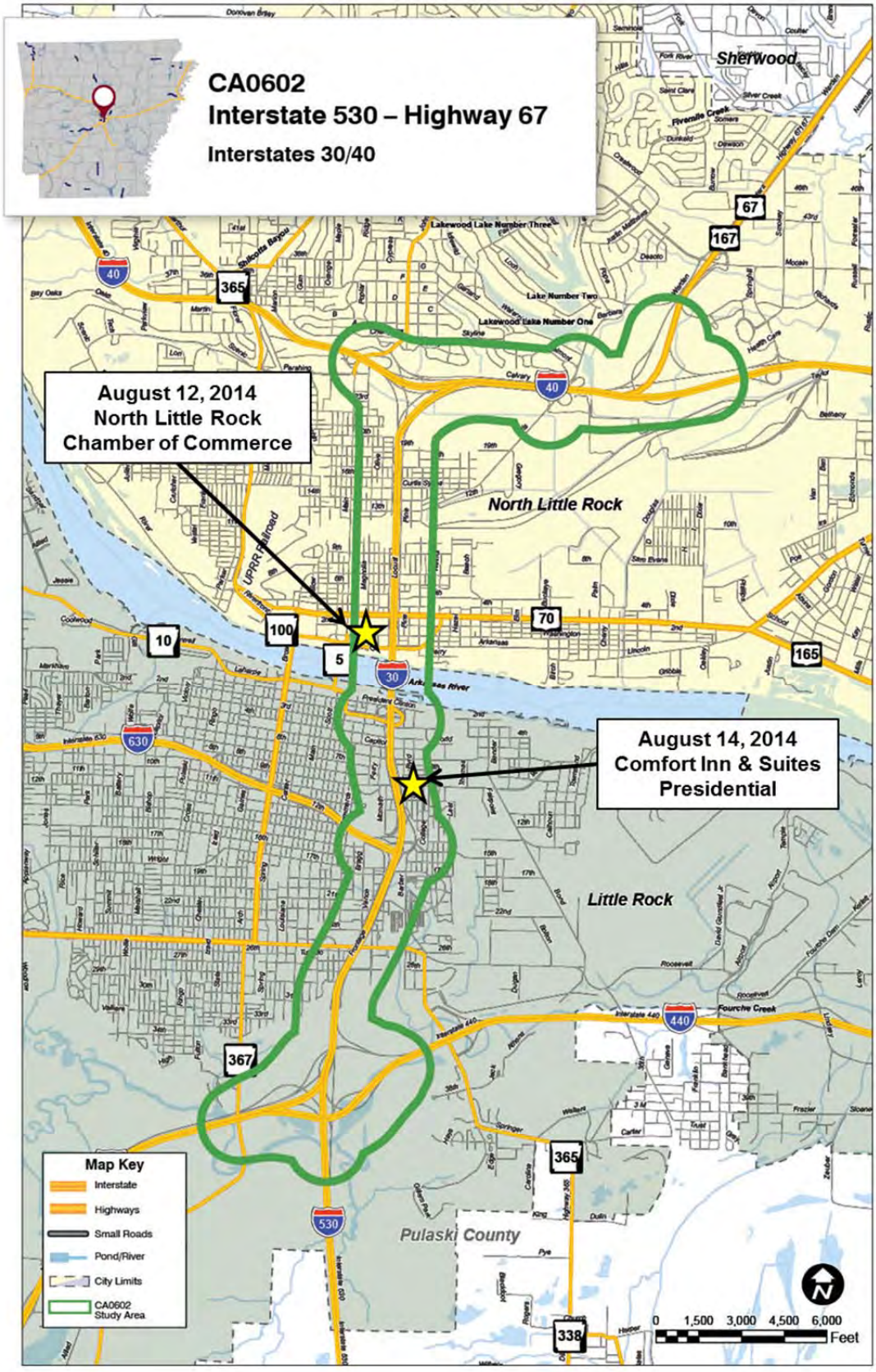
Public Meeting #1 included a set of two open-house public meetings that presented identical content. Meeting locations, dates, and times are presented in **Table 1. Figure 1** depicts the locations of the meetings.

Table 1. Public Meeting #1 Logistics

Schedule Date/Time	Location
Tuesday, August 12, 2014 4 p.m. – 7 p.m.	North Little Rock Chamber of Commerce Bank of the Ozarks Conference Center 100 Main St. North Little Rock, Arkansas 72114
Thursday, August 14, 2014 4 p.m. – 7 p.m.	Comfort Inn & Suites Presidential Cash/Campbell Ballroom 707 Interstate 30 Little Rock, Arkansas 72202

The sections that follow further detail the first set of public meetings and summarizes the input received through Friday, August 29, 2014, which was the end of the public comment period.

Figure 1. August 2014 I-30 PEL Public Meeting Locations



2.1 Public Meeting Advertising and Outreach

The first I-30 PEL public meetings were advertised using numerous methods of advertising and outreach, as summarized in **Table 2**.

Table 2. Public Meeting Advertising and Outreach

Outreach Efforts		Date(s)
Display/Newspaper Ads	Arkansas Democrat Gazette	7/13/14 & 8/10/14
	North Little Rock Times	7/17/14 & 8/7/14
	El Latino	7/24/14 & 8/7/14
Direct Mail	Fliers to adjacent property owners and property owners adjacent to interchanges	7/16/14
	Fliers to stakeholders (chambers, HOAs, etc.)	7/18/14
	Letters and fliers to elected officials	7/14/14 & 8/1/14
	Letters to minority ministers and area churches	7/18/14
Email	Fliers to Technical Work Group Members	7/18/14
	Fliers to persons requesting to be added to mail list	
Hand-Delivered Fliers	River Market	8/1/14
	Eastgate Terrace Housing Project (office)	
	MacArthur Park	
	Gas stations at every exit along the I-30 corridor	
	Locations around Broadway exit	
	Locations from 13-19th streets in North Little Rock	
Public Service Announcements	Sixty-second spots on Heartbeat 106.7 FM	8/8/14 – 8/14/14
	Sixty-second spots on La Pantera 1440 AM	
Websites	ConnectingArkansasProgram.com	7/15/14
	ArkansasHighways.com	
	ImagineCentralArkansas.com	8/4/14
News Release	Distributed to AHTD media list	8/1/14
Community Calendars	Little Rock Convention and Visitors Bureau	7/25/14
	AmericanTowns.com	
	KATV	
	Eventful	
	UALR Public Radio	
	Coalition of Greater Little Rock Neighborhoods	
Social Media	AHTD Twitter	8/3/14 – 8/14/14
	Metroplan Facebook	8/4/14
	Metroplan Twitter	
Stakeholder Presentations	Central Arkansas Transit Authority	7/15/14
	Downtown Little Rock Partnership	6/11/14
	Little Rock Chamber of Commerce	6/26/14
	Clinton Foundation	6/24/14
	Little Rock Chamber of Commerce – 50 for the Future	8/7/14

In addition, directional signs were placed in various locations around each public meeting facility to help participants locate the facility and to generate additional local awareness of the event.

Copies of the display/newspaper ads, flier, letters, press releases and online advertisements are included in **Attachment A**.

2.2 Public Meeting Attendance

A summary of the attendance at both the August 12 and August 14 public meetings is presented in **Table 3.**

Table 3. Public Meeting Attendance

Attendees	August 12, 2014	August 14, 2014
General Public	102	88
Elected Officials	5	3
Media	3	2
Study Team Members	33	33
Total Attendance	**143**	**126**

Participants represented a wide range of interests and included members of the general public, members of community organizations, elected officials, and city/county staff. Copies of the sign in sheets from both meetings are included in **Attachment B**.

2.3 Public Meeting Format and Materials

Both public meetings utilized an open house format, which allowed participants to arrive, sign in, view exhibits and handouts, ask questions, and provide comments between 4:00 p.m. and 7:00 p.m. The exhibits and handout material were identical for both meetings. The meeting layout was designed to showcase nine distinct stations. I-30 PEL Study Team members, comprised of AHTD staff and consultants, were available at every station to provide information and answer questions.

The nine stations are described below, in the order that they were intended to be viewed by the public. The materials available at each station are summarized in **Table 4.**

Station 1: Sign In Here – At this station, members of the public signed in, learned about the meeting format, and received introductory handout materials. Materials handed out included a public meeting program guide that described the meeting format and station set-up, an I-30 PEL fact sheet describing the PEL process, a Connecting Arkansas Program (CAP) brochure describing the CAP Program, and a public comment form.

Station 2: Connecting Arkansas Program – This station presented an overview of the CAP Program. It displayed three exhibit boards: a map of the state of Arkansas showing the general locations of the CAP projects; a table listing all of the CAP projects and their respective improvement type (e.g., widening and interchange improvements); and an exhibit displaying various CAP statistics and background information.

Station 3: I-30 PEL Study Area and Constraints Maps – This station presented the I-30 PEL study area and constraints that have been identified to-date. It displayed three exhibit boards: a map of the study area, a constraints map covering the north section of the study area (North Little Rock), and a constraints map covering the south section of the study area (Little Rock).

Station 4: Planning and Environmental Linkages – This station provided information about the PEL Process and served to collect public input on problems (needs) and goals and objectives for improvements within the study area. It displayed an exhibit explaining the PEL process, its benefits, and why the process has been implemented for the I-30 improvements. This station also displayed two interactive exhibit boards, one entitled "Problems (Needs)" inquiring what problems or challenges the public experiences traveling in the study area; and one entitled "Goals and Objectives" inquiring what improvements the would public like to see in the study area. Members of the Study Team were stationed at these interactive boards to transcribe on post-it notes the problems and goals identified by the public meeting attendees. These post-it notes with public-identified problems and/or goals were attached to the respective exhibit boards for all meeting attendees to view. This station also included additional copies of the constraints maps which divided the corridor by the north and south sections.

Station 5: Traffic and Safety – This station presented background information and findings from the preliminary I-30 PEL traffic and safety analysis. This station included an overview exhibit describing the approach taken for the preliminary traffic and safety analysis, as well as traffic and safety concerns identified by stakeholders[1]. Also included was an exhibit comparing existing and future No-Action peak hour level of service along I-30/I-40 in the study area. An additional exhibit illustrated existing and predicted crashes along I-30 in the study area under No-Action conditions.

Station 6: Aerial Maps – This interactive station consisted of two-sets of large-scale, aerial photograph maps of I-30/I-40 within the study area laid out on tables. Meeting attendees were encouraged to write on post-it notes (and attach directly to the maps) any problem areas, concerns and/or suggestions for improvements along I-30/I-40 in the study area. Additionally, a scribe was available to record participant's comments on a large notepad available for all attendees to view. Study team members, including engineers and planners were available to answer questions. This station also included a graphic exhibit illustrating the Alternative Screening Process.

Station 7: Study Timeline and How to Get Involved – This station presented an exhibit with the I-30 PEL Study timeline and an exhibit detailing the various methods members of the public could obtain more information or provide comments on the I-30 PEL Study.

Station 8: Draft Documents – This station provided draft copies of the I-30 PEL Framework and Methodology, Public Involvement and Agency Coordination Plan (PIACP), and the Constraints Report. Although hard copies of these documents were provided for reviewing at the public meeting only, meeting attendees were reminded that all public meeting materials, including these draft documents, were available on the project website.

[1] Stakeholders included AHTD, the Cities of Little Rock and North Little Rock, and Metroplan, the Metropolitan Planning Organization for central Arkansas.

Station 9: Comment Tables – This station included a sitting area and comment boxes for meeting participants to complete and submit comment forms at the meeting venues. At the end of each meeting, the Study Team collected all written comments from the comment boxes and any comments that were inscribed on the Problems (Needs) and Goals and Objectives exhibit boards at Station 4; and on the roll-plot aerial photograph maps and large notepad located at Station 6.

Table 4. Public Meeting Materials[1]

Station	Type	Title
Station 1: Sign In Here	Handout	Public Meeting Program Guide
	Handout	I-30 PEL Fact Sheet with Study Area Map
	Handout	CAP Brochure
	Handout	Comment Form
Station 2: Connecting Arkansas Program	Exhibit	CAP Project Locations
	Exhibit t	Cap Projects Listed
	Exhibit	CAP Statistics
Station 3: I-30 PEL Study Area and Constraints Maps	Exhibit	Study Area Map
	Exhibit	North Section Constraints Map
	Exhibit	South Section Constraints Map
Station 4: Planning and Environmental Linkages	Exhibit	PEL Process
	Exhibit	Problems (Needs)
	Exhibit	Goals and Objectives
	Exhibit	North Section Constraints Map[2]
	Exhibit	South Section Constraints Map[2]
Station 5: Traffic and Safety	Exhibit	Traffic and Safety Overview
	Exhibit	No-Action Level of Service
	Exhibit	Safety
Station 6: Aerial Maps	Exhibit	Large scale, aerial photograph maps of I-30/I-40 in the study area (set of 2 identical)
	Exhibit	Alternative Screening Process
Station 7: Study Timeline and How to Get Involved	Exhibit	PEL Study Timeline
	Exhibit	How to Get Involved
Station 8: Draft Documents	Report	I-30 PEL Framework and Methodology
	Report	Public Involvement and Agency Coordination Plan
	Report	I-30 PEL Constraints Report
Station 9: Comment Tables	Handout	Comment Form

Notes: [1] All exhibit boards were sized 34"x40" except for the Station 2 exhibit boards, which were sized 24"x36". Roll plots at Station 6 were 12-feet long. [2] These constraints maps were identical to those presented at Station 3 and were provided for additional viewing purposes.

Copies of the materials, as well as photos from the meetings, are included in **Attachment C**. **Figures 2** and **3** display the general layout for each of the public meetings.

Figure 2. Room Layout for August 12, 2014 Public Meeting

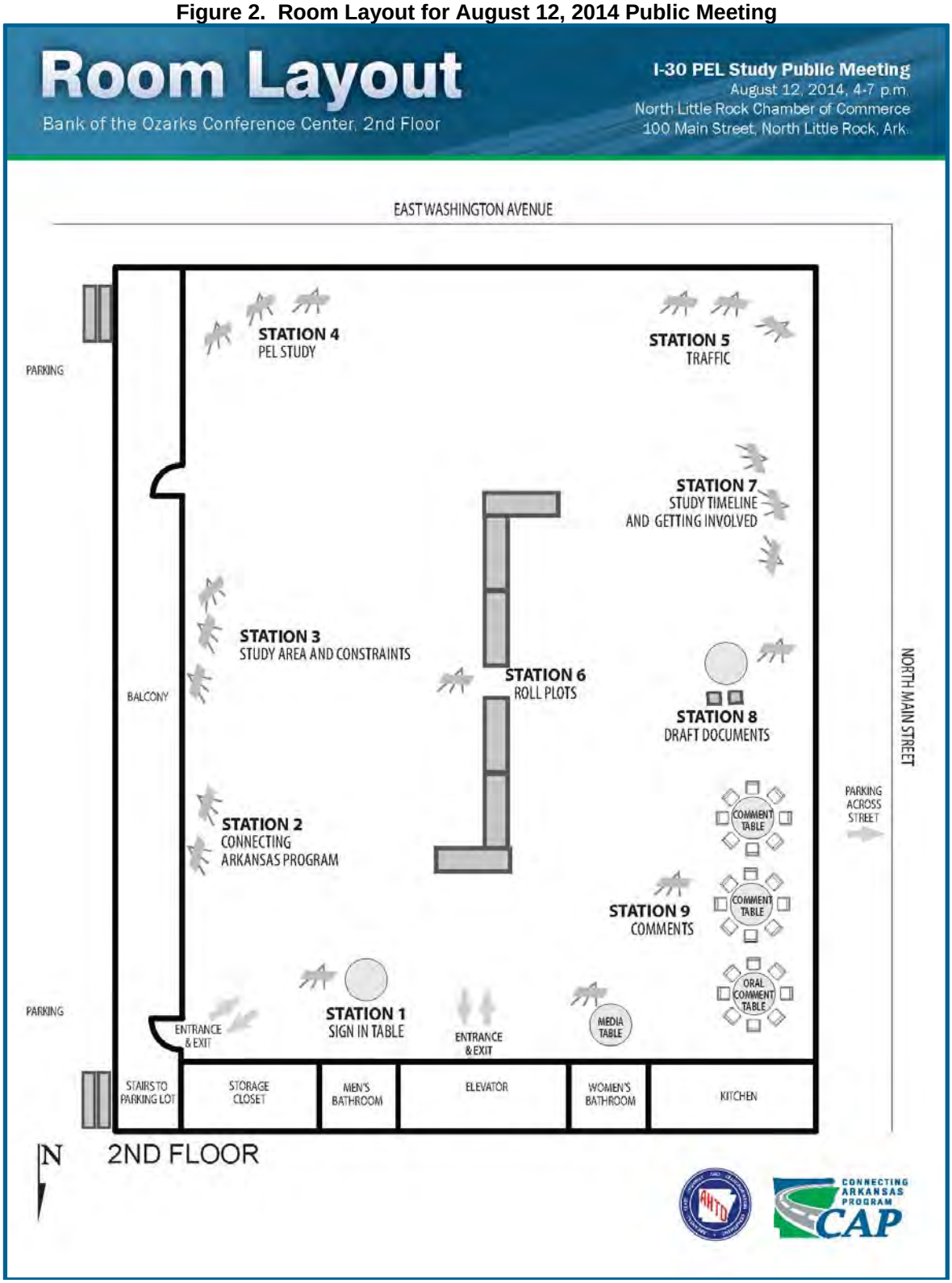
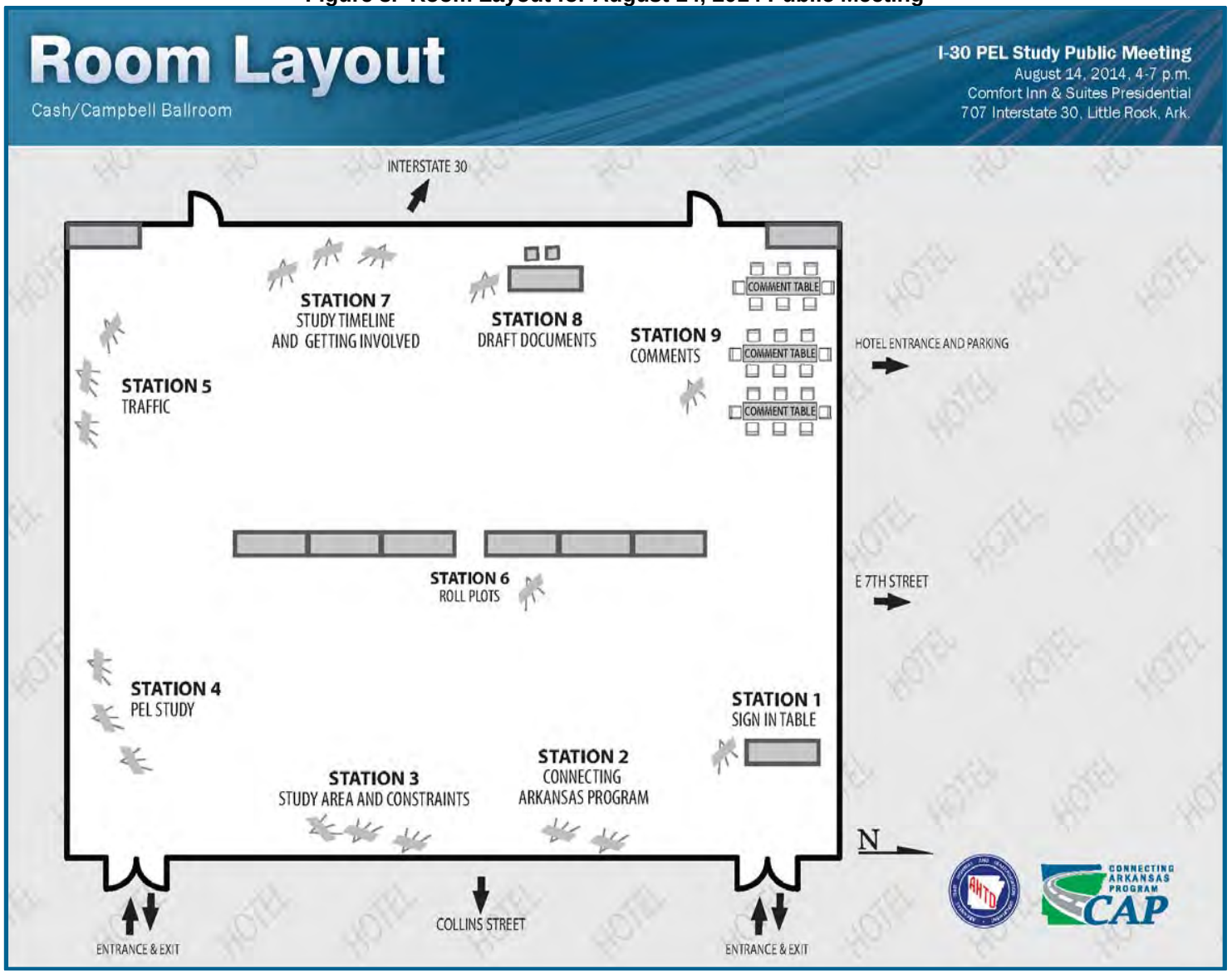


Figure 3. Room Layout for August 14, 2014 Public Meeting



2.4 Public Meeting Comments

The public comment period for the first series of public meetings opened on August 12, 2014 and ended August 29, 2014. Attendees could provide comments through a variety of methods, including the following:

- Submitting a written comment in the public meeting comment box at Station 9;
- Writing a comment on post-it notes and attaching to the Problems (Needs) and/or Goals and Objectives exhibit boards at Station 4;
- Writing a comment on post-it notes and attaching to the large-scale, aerial photograph maps or writing on the large notepad at Station 6;
- Calling the Connecting Arkansas Program at 501-225-1519;
- Mailing a written comment to Connecting Arkansas Program, RE: 1-30 PEL Study, 4701 Northshore Dr., North Little Rock, AR 72118; or
- Emailing a comment to Info@ConnectingArkansasProgram.com.

Table 5 shows the number of comment submissions by meeting (where applicable) and method in which they were submitted.

Table 5. Number of Comments Received

Submission Method	Reference Table for Comment Details*	August 12 Meeting	August 14 Meeting	Total
Comment Form	Table 7	34	23	**57**
Letter	Table 7	1		**1**
Email	Table 7	5		**5**
Post-it Note Comments on Problems (Needs) Exhibit Board (Station 4)	Table 8	52	17	**69**
Post-it Note Comments on Goals and Objectives Exhibit Board (Station 4)	Table 9	45	85	**130**
Comments Transcribed on Large Notepad (Station 6)	Table 10	16	6	**22**
Post-it Note Comments on Large-Scale Aerial Photograph Maps (Station 6)	Table 11	53	71	**124**
			Total Comments Received	**408**

*Notes: * See the referenced tables for detailed comments.*

The comment forms handed out at the public meetings consisted of five specific questions and one question asking for additional comments. The five specific questions and summary of results are presented in **Table 6.**

Table 6. Comment Form Questions and Results Summary

Question No.	Category	Question	Results Summary (number of comments)	
1	Problems	Do you feel there is a need for I-30 transportation improvements (Yes or No)? If so, what are the problems?	**Yes**	**No**
			52	2
2	Cultural Resources	Do you know of any historical sites, family cemeteries, or archaeological sites in the proposed area (Yes or No)? If so, please note and discuss with staff.	**Yes**	**No**
			14	28
3	Environmental Constraints	Do you know of any environmental constraints, such as endangered species, hazardous waste sites, existing or former landfills, or parks and public lands in the vicinity of the project (Yes or No)? If so, please note and discuss with staff.	**Yes**	**No**
			10	32
4	Suggested Improvements	Do you have a suggestion for an improvement to I-30 that would better serve the needs of the community (Yes or No)? If so, please describe.	**Yes**	**No**
			35	6
5	Impacts	Do you feel that improvements to I-30 will have any impacts (Beneficial or Adverse) on your property and/or community (e.g., economic, environmental, social, etc.). If so, please explain.	**Beneficial**	**Adverse**
			25	14

Of the commenters that responded to the "yes or no" portion of Question 1, 96 percent checked "yes" when asked if there was a need for I-30 transportation improvements. Of the commenters that responded to the "beneficial or adverse" portion of Question 5, 64 percent replied that I-30 improvements would have beneficial impacts and 36 percent replied that I-30 improvements would have adverse impacts.

Many of the comments submitted identified specific transportation problems and/or solutions to address issues of concern. Many commenters noted congestion problems along I-30/I-40, ramp spacing issues along I-30 within the study area, and weaving problems along I-40 between the I-30/I-40 interchange and the I-40/Hwy. 67/Hwy. 167 interchange. Numerous commenters also recommended bicycle and pedestrian facilities be improved and/or accommodated as part of the proposed project and that existing transit and transit improvements also be considered. Commenters also expressed a desire for preservation and protection of environmental resources, including historic resources, parks and habitat.

Table 7 provides a listing of all comments received on the comment forms, via e-mail or letter. For those comments submitted on the comment forms handed out at the public meetings, each comment is broken down by the five questions outlined above and any additional comments provided. Also included are the corresponding response codes for each comment. The response code key is presented in **Table 12.** Comments are listed verbatim unless otherwise noted due to comment length (in which case the comments are summarized) and copies of all comments received are included in **Attachment D**.

Table 7. Comment Forms, Emails, and Letters Received and Response Codes

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
Medley, J.	08/12/14	Comment Form	1	• **Problems:** Congestion/traffic.	A
				• **Suggested Improvements:** Promote public transit.	D
				• **Impacts:** Beneficial. Using public transit will reduce congestion.	S
McCraw, James E., Sr.	08/12/14	Comment Form	2	• **Problems:** Freeway not wide enough to handle all the traffic.	A
				• **Environmental Constraints:** Broadway off-ramp needs to be moved back to Riverfront. Congested traffic for arena events.	A
				• **Impacts:** Beneficial.	S
				• **Additional Comments:** Drainage problems at Locust and E. Washington. Needs to be fixed.	A, S
Voyles, Robert	08/12/14	Comment Form	3	• **Problems:** The weave at I-40/Hwy.67/Hwy.167 and I-30/I-40 can be solved by shifting commuters to center median.	A
				• **Suggested Improvements:** Only to 8, not 10 lanes.	A
Fells, Cedric	08/12/14	Comment Form	4	• **Problems:** Congestion and traffic using Welch St. (high rate of speed) to avoid getting in line on I-630 to go to I-30 North Little Rock.	A
				• **Suggested Improvements:** Widen the lanes to help congestion. Prevent the lanes from pooling into one [another].	A
				• **Impacts:** Beneficial. People will travel safely from LR to NLR.	S
				• **Additional Comments:** Looking forward to the new project helping with congestion and safety of traveling. Please make it beautiful and pleasant to view.	J, S
NA	08/12/14	Comment Form	5	• **Problems:** I-40 from I-30 to Hwy. 67/Hwy. 167 Lakewood exit needed and entrance ramp reconfigured.	A
				• **Impacts:** Beneficial.	S
NA	08/12/14	Comment Form	6	• **Problems:** Safety, safety, safety.	A
				• **Suggested Improvements:** Sound control thru metro areas. Improve merging and lane changing problems in front of 'Big' church I-40.	A, B
				• **Impacts:** Beneficial. Improve safety, improve quality of life.	A, B, S
				• **Additional Comments:** Please take into consideration the impact from opening the Panama Canal and the increased port/harbor development along the Gulf and Mississippi River. This will significantly increase truck traffic volume along I-30 and I-40 coming from Houston, New Orleans, Memphis, etc. Please consider the 'Big Picture' with your planning.	J, S

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
NA	08/12/14	Comment Form	7	• **Problems:** Congestion. Bad mix of local and thru traffic.	A
				• **Suggested Improvements:** Better signage for thru traffic to use I-440 instead of going downtown. A bridge connecting Chester St. to North Little Rock.	E, F
				• **Impacts:** Beneficial. I hate crossing I-30 Bridge. The safety factor and improvement will be beneficial.	S
NA	08/12/14	Comment Form	8	• **Suggested Improvements:** More signage prior to exits and interchanges. Fewer exits/on-ramps on I-30 corridor.	A, E
				• **Impacts:** Adverse. Only during construction phase. Right-of-way is across from our parking area.	B, M, S
NA	08/12/14	Comment Form	9	• **Problems:** It is unsightly and divides downtown NLR and LR - very unfriendly to anyone not in a car - of no artistic or architectural distinction - appears it was built cheaply.	C, J
				• **Suggested Improvements:** Light rail - if must expand. HOV lanes - don't make it dull - don't make it ordinary - and please don't paint it brown like the shameful I-30/I-630 interchange - so much opportunity lost. Have a design upfront.	D, E, J
				• **Impacts:** Adverse. I am not convinced adding lanes accomplishes anything but making the commute easier on suburbanites - is that a valid governmental action/use of taxpayer money?	L, S
NA	08/12/14	Comment Form	10	• **Problems:** More lanes.	A
				• **Impacts:** Beneficial. Traffic flow better.	S
Robertson, Jacouelyn	08/12/14	Comment Form	11	• **Problems:** Needs widening to accommodate traffic.	A
				• **Cultural Resources:** After looking at your map it appears my property at 2104 Vance may be listed as historic. I would like for someone to contact me about this for an explanation.	B, N
				• **Impacts:** Will definitely have an impact, not sure whether beneficial or adverse.	S
Greater South Temple Cogic	08/12/14	Comment Form	12	• **Problems:** It is most needed.	S
				• **Cultural Resources:** The National Cemetery and others.	B, H
				• **Suggested Improvements:** On and off ramp on Arch St. in Little Rock.	A, S
				• **Impacts:** Beneficial.	S
				• **Additional Comments:** I believe improvement is necessary. P.S. Don't forget about replacing the bridge on Arch.	A, S

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
Davis, Jacob	08/12/14	Comment Form	13	• **Problems:** Clear connection coming from both directions to I-30 to I-630.	A
				• **Impacts:** Adverse. It would most likely mean my building (505 Rector St.) would be demolished to make way.	B, S
Walker, Michael	08/12/14	Comment Form	14	• **Problems:** Age of infrastructure/congestion/safety.	A
				• **Environmental Constraints:** Wetland project adjacent to I-30 Bridge.	B, H
				• **Suggested Improvements:** Demo and reconstruct within existing bridge site.	A
				• **Impacts:** Adverse. Possibly cause to relocate boat ramp on NLR side of river, cause to relocate wetlands on LR side of river, unknown impact to Witt Stephens Jr. Central Arkansas Nature Center.	B, S
NA	08/12/14	Comment Form	15	• **Problems:** Heavy congestion - narrow corridor.	A
				• **Environmental Constraints:** Dark Hollow wetlands	B, H
				• **Impacts:** Yes. Both good and bad, but it's needed.	S
NA	08/12/14	Comment Form	16	• **Problems:** Weaving section I-10/I-30/Hwy. 67/Hwy.167. Congestion downtown - need an additional bridge.	A, G
				• **Suggested Improvements:** Provide a connector for local traffic and use I-30 for thru traffic.	A, Q
NA	08/12/14	Comment Form	17	• **Problems:** Aging of existing corridor, congested traffic.	A
NA	08/12/14	Comment Form	18	• **Problems:** Capacity and I-30 acts as a divider of downtown NLR - consider below grade facility with possibility of decking over at a later date.	A, G, J
				• **Suggested Improvements:** If below grade facility is not possible, preserve local thru street options 7th, 4th, Broadway, Washington.	B, E
				• **Impacts:** Do not own abutting property. I-30 divides a resurgent downtown NLR.	J, S
				• **Additional Comments:** Construct the Chester St. Bridge over the Arkansas River.	G
NA	08/12/14	Comment Form	19	• **Problems:** Congestion, bridge clearance, weaving, and super elevations.	G
				• **Suggested Improvements:** How about calling I-40, I-30, I-440, I-430 one name like Beltway or Beltline or Urban Loop.	J, S
				• **Impacts:** Beneficial. Better traffic flow.	S
				• **Additional Comments:** Raise grade of bridge over Roosevelt. Solve weaving issues. Rename highways into one Beltway name.	A, J, S

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
NA	08/12/14	Comment Form	20	• **Problems:** Road surface improvement, especially on the bridge over river.	A, G
				• **Suggested Improvements:** in NLR Lakewood entrance (North Hills) dangerous to get on I-30.	A
				• **Impacts:** Beneficial.	S
				• **Additional Comments:** Concern for continued Pulaski education - good start with this meeting together public comments. Currently trash along I-30 corridor is a continuous problem - lots of debris.	I, J, S
NA	08/12/14	Comment Form	21	• **Additional Comments:** Weaves problem. Prefer 8 lanes instead of 10. If access moved to 13th, key way finding to Curtis Sykes - historic. 5 lanes one way would be good. Better signage in I-40 directing people to Pike/McArthur to bypass I-30.	A, B, E
Bryant, D.	08/12/14	Comment Form	22	• **Problems:** Please consider Chester Bridge alternative and how best to continue access to downtown LR areas during projects.	F, M
				• **Suggested Improvements:** Less configuration of I-30.	A
				• **Impacts:** Ultimately positive for area, but shorter/mid-term costs/trade-off must be kept in view.	B, S
				• **Additional Comments:** I own 3 businesses in the area, all of which are established, one also office on President Clinton.	S
NA	08/12/14	Comment Form	23	• **Problems:** Congestion, congestion, congestion - too much volume for current road.	A
				• **Suggested Improvements:** Incorporate with contractor and subcontractor bonuses for finishing ahead of time - incorporate most up to date construction technologies for demolition and addition.	P
				• **Additional Comments:** I've lived in Arkansas 45 years and it always amazes me how long the construction (road) projects take in this state. Our bidding process, specification process, approval process, construction process-procedures need a complete overhaul to bring Arkansas road construction into the 21st century. Find a way to cut through the red tape process to all levels.	P
NA	08/12/14	Comment Form	24	• **Problems:** I think the main concern is congestion on the ramp from I-630. I don't think the other areas need to be improved.	A, S
				• **Cultural Resources:** Most of the corridor on the LR side has older homes, many historic buildings, and communities that do not want to be disrupted.	B

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
NA (Comment 24 continued)	08/12/14	Comment Form	24	• **Environmental Constraints:** The corridor is close to the Arkansas River and Fourche Creek. I'm concerned about the impact on water quality.	B
				• **Suggested Improvements:** I think the best thing of the community would be an improved public transportation system. Instead of expanding the highway, we could create a rapid transit bus system that would reduce congestion and environmental impacts.	D
				• **Impacts:** Adverse. I'm concerned about the effect construction will have on the community. See comments below.	M
				• **Additional Comments:** I have read several recent studies that have shown that adding lanes to highways DOES NOT solve congestion issues for the long term. On the other hand, creating a rapid transit bus system would reduce congestion. I do not believe that we should spend millions on a project that will displace homeowners while only offering a temporary relief to congestion.	B, D, S
NA	08/12/14	Comment Form	25	• **Problems:** Congestion #1. Since so many roads dump into I-30 in downtown LR, I-30 needs to have significant lane additions. Possibly a doubling, but at a minimal 5 lanes each way. Anything less is a waste of time and worry.	A
				• **Suggested Improvements:** If I-30 can't be widened to 5 or 6 lanes both ways, additional bridges up or down river need to be constructed.	A, G
				• **Impacts:** Beneficial. Better transportation system helps commerce.	S
NA	08/12/14	Comment Form	26	• **Problems:** Poor access to LR east of I-30 near river; dangerous on and off ramps near river.	A, J
				• **Cultural Resources:** St. Edward's Church, cemetery near Roosevelt.	B, H
				• **Suggested Improvements:** Enhance connectivity between east and west of I-30, both sides of river. Fewer ramps. Make it easier to get on I-630.	A, J
				• **Impacts:** Beneficial. Safe travel. Enhance development east of I-30.	B, S
NA	08/12/14	Comment Form	27	• **Problems:** Not enough areas to cross river. Everyone forced onto very few access points.	A, G
				• **Impacts:** Beneficial. If congestion gets worse people might avoid area so improvements will allow growth.	S

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
NA (Comment 27 continued)	08/12/14	Comment Form	27	• **Additional Comments:** Possibility of extending Hwy. 67/Hwy.167 at I-40 south bound through wetlands and railroad via elevated roadway all the way across river to add on additional route instead of extending current I-30 over bridge. It will relieve congestion with minimal obstruction to current occupied areas.	G, S
Edwards, Dennis St. John Baptist Church	08/12/14	Comment Form	28	• **Problems:** Entrance ramps from Broadway on the north side and from Markham on the south side of I-30 are far too short making dangerous egress.	A
				• **Suggested Improvements:** Widen merge to I-40 to two lanes and one to Park Hill.	A
				• **Impacts:** Beneficial. Less congestion and safer travel.	S
Ireland, James	08/12/14	Comment Form	29	• **Problems:** Congestion from I-630 going north onto I-30 to I-40.	A
				• **Suggested Improvements:** Widen exits and entrances to two lanes rather than one, leave an open lane from one interchange to the next.	A
				• **Impacts:** Beneficial. Economic, environmental, social.	S
				• **Additional Comments:** I-30 should definitely be widened to 4 or 5 lanes. The inside lane could be designated as lane for through traffic and outside exits should be widened to two open continuous lanes on and off the freeway.	A
NA	08/12/14	Comment Form	30	• **Problems:** Interchanges are too close too much weaving and poor lighting through Dark Hallow.	A, J
				• **Suggested Improvements:** Widen the bridge and replace it, improve interchanges, construct a Chester St. Bridge, better signage at north interchange, add lighting on I-40.	E, F, G, J
				• **Impacts:** Beneficial.	S
				• **Additional Comments:** On I-40 from I-30 to Hwy.67 add more lanes separating them with some going toward Jacksonville and some going toward Memphis. Add flyovers at north interchange and at Hwy. 67 interchange. Also add a HOV lane or a special lane for trucks or transit.	A, E
NA	08/12/14	Comment Form	31	• **Problems:** Bad road quality, bad exit ramp at Cantrell.	A
				• **Cultural Resources:** Park Hill - they are aware.	B, H
				• **Impacts:** Beneficial. If done right.	S
NA	08/12/14	Comment Form	32	• **Problems:** Traffic congestion, constant construction.	A, M
				• **Impacts:** Beneficial.	S

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
Clifton, Norman	08/25/14	Comment Form	33	• **Problems:** All traffic seems to bottleneck around interchange exit points.	A
				• **Suggested Improvements:** I think an exit off of I-40 W at North Hills Blvd in NLR would relieve some bottleneck problems at Hwy.107 & JFK.	A
				• **Impacts:** Beneficial.	S
Mitchell, Steve	08/26/14	Comment Form	34	• **Problems:** *(Note - Summarized due to length of comment. See Attachment D, Comment 34 for verbatim comment).* o I-30 SB on-ramp at Hwy. 70 (Broadway) – morning peak SB traffic problem. o I-30 Arkansas River Bridge – need shoulders, consider auxiliary lanes. o I-630 EB to NB Ramp – over capacity and impacts safety of EB I-630. o NB Curtis Sykes Dr. On-ramp - traffic merging from Curtis Sykes Dr. presents major conflict due to drivers wanting to access Hwy.107 and I-40 west – only 1,000 feet to get into the middle lane. o I-30 SB Hwy. 70 Off-Ramp (Bishop Lindsey Ave.) - SB exiting traffic has short merge. Difficulty accessing I-30 NB from Argenta when there is a special event since Bishop Lindsey is stop controlled. o NB I-30 Off-Ramp to Hwy. 107 – after the NB I-30 lanes split into I-40, the overhead I-40 WB exit sign is too close to lane drop. Traffic at Hwy. 107 ramp at signal backs up. o I-40 EB and WB between I-30 and Hwy. 67 - massive long weave, causes congestion and confusion. o I-30 NB Off-Ramp to Broadway - ramp is overwhelmed and backs up onto the I-30 main lanes. o I-530 NB Ramp to NB (EB) I-30 – ramp over capacity at morning peak, needs an additional lane to carry to I-630. o Hwy. 10 Elevated Section – Do not remove. o I-30 SB between 6th St. and I-630 Exits **-** chaotic section, little time to make multiple lane changes. Consider impact that additional lanes may have on this section.	A
				• **Suggested Improvement:** Noise dampening in the River Market area.	B
				• **Impacts:** Beneficial. Better access.	S

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
Mitchell, Steve (Continued)	08/26/14	Comment Form	34	• **Additional comments:** You'll note from the attached comments I know the corridor well. My history goes back to play in gullies eroded into the depressed excavation when a student at R.H. Parham Elementary that AHTD tore down for I-630. Over 30 years of commuting followed. Would be happy to comment on any proposals under consideration. AHTD retiree.	S
NA	08/14/14	Comment Form	35	• **Problems:** Danger to merge; too many exits, too close together; commuter choke slows passage.	A
				• **Cultural Resources:** Woodruff House - save this icon. Curran Hall 615 E. Capitol, LR. All historic houses in LR, around MacArthur Park.	B, H
				• **Environmental Constraints:** MacArthur Park. Pettaway Park - E. 21st LR.	B, H
				• **Suggested Improvements:** Use mass transit and hold commuters on perimeter, then bus all into jobs in business district.	D
				• **Impacts:** Adverse. Fear loss to neighborhoods bordering study area from more lost homes, isolating construction, loss of parks, loss of historic structures.	B, M
NA	08/14/14	Comment Form	36	• **Problems:** This is a great project; there is a significant need to increase safety and travel time along I-30. I suggest adding lanes and eliminating numerous access points. Removing access can be painful for some but this is an interstate and needs high mobility.	A, S
				• **Suggested Improvements:** There is much thru traffic from Hwy. 67; upgrading Hwy. 67 to interstate standards north to Walnut Ridge would be good -more NE AR and SEMO. There is time savings by using Hwy. 67/60/I-55.	S
				• **Impacts:** Beneficial. Time is money - the communities will benefit by safer travel and money saved.	S
				• **Additional Comments:** Good meeting! Very well organized.	S
NA	08/14/14	Comment Form	37	• **Problems:** Congestion and access across the right-of-way.	A
				• **Cultural Resources:** I think you have them all.	S
				• **Environmental Constraints:** Our facility on Roosevelt Rd.	R
				• **Suggested Improvements:** Combine exit ramps - exit are for multiple exits [unclear].	A, R
				• **Additional Comments:** If going to build new bridge - use it for thru traffic and use existing bridge for local access.	A

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
Robert, Sallie	08/14/14	Comment Form	38	• **Cultural Resources:** Oakland etc. Natural.	B, H
				• **Suggested Improvements:** Do it.	S
Schlereth, John	08/14/14	Comment Form	39	• **Additional Comments:** My concern is only if additional revenue is necessary. We have 9 parks in the study area. 7 are billboard locations.	A, S
NA	08/14/14	Comment Form	40	• **Problems:** I would like to see another corridor connecting Hwy. 67 with I-440, or maybe some other route around the east side of town.	F
				• **Cultural Resources:** They are already aware of the ones I know about. We should definitely not be bull dozing any of our heritage. Far too much has been lost already to insensitive projects.	B
				• **Suggested Improvements:** The loop from I-630 to I-30 should not have a lane ending. A lot of rude people race to the merge point so they can get ahead of considerate people who are waiting in line. The ramps to the current bridge have no acceleration lanes.	A, S
NA	08/14/14	Comment Form	41	• **Problems:** Poorly designed on ramps in some areas (e.g. downtown to I-30 E). Constriction of traffic flow.	A
				• **Cultural Resources:** Lots, but I will discuss in my official capacity.	S
				• **Environmental Constraints:** The ones you are already aware of.	S
				• **Suggested Improvements:** The on ramp from 2nd St. area (i.e., just south of main library) to get onto I-30 E is really short and really restricts traffic.	A
				• **Impacts:** Both. We all benefit from better transportation. We have significant concerns re: historic properties, but we will of course work with AHTD/FHWA to resolve them.	B, S
NA	08/14/14	Comment Form	42	• **Problems:** The access ramps are too short and too frequent. There should be focus on moving ramps and access away from the Riverfront. It's too congested and widening and expanding ramps in this area won't help (or so is my opinion anyway).	A
				• **Suggested Improvements:** Focus more on directing traffic around the city on the beltways before increasing capacity on I-30. Widening roads does not relieve congestion, it increases capacity and encourages more traffic.	S, Q
				• **Impacts: Adverse.** Continuing to focus all our money and energy in supporting only automobile traffic will only encourage more people to drive more and make it harder to increase biking/walking/mass transit and rail opportunities.	C, D

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
NA (Comment 42 continued)	08/14/14	Comment Form	42	• **Additional Comments:** This project should not just be considered a reaction to growing traffic. The results of expansion need to be considered as well. Will this increase traffic more? How are we encouraging people to leave their cars at home more? Does this solve the problem or will we have to widen the freeway again in another 30 years? I want to live in a city for people, not for cars. I-30 benefits those who do not live around and it and hurts the people who live adjacent to it.	B, E, S
Hadfield-Foss, Donna	08/14/14	Comment Form	43	• **Problems:** More lanes needed. More efficient exits.	A
				• **Environmental Constraints:** Old VA - asbestos. But this may not affect this project.	B, H
				• **Suggested Improvements:** Lanes and exits.	A
				• **Impacts:** Beneficial. I have property on Roosevelt between Rock and Commerce Streets.	S
Quapaw Quarter Association	08/14/14	Comment Form	44	• **Problems:** Lots - add William E. Woodruff House - on 8th St., Curran Hall is LR's official visitor information center on Capitol Ave.	B, H
				• **Suggested Improvements:** Route traffic on I-440 and I-430. Public transit.	D, Q, S
				• **Impacts:** Adverse. Disrupt downtown traffic and development, harm historic districts and resources.	B, S
Muse, Rohn President Forest Hills Neighborhood Association	08/14/14	Comment Form	45	• **Problems:** Not as proposed (or being discussed). Need to alleviate perceived congestion by utilizing the Chester St. proposal and increase public transportation options beginning with luxury buses and gradually add other type up to and including light rail.	D, F
				• **Cultural Resources:** They are on the - and some within the study area [unclear]. Hanger Hill Community has many historical structures that need to be saved.	B, H, R
				• **Environmental Constraints:** MacArthur Park.	B, H
				• **Suggested Improvements:** Bring more public attention to the under-utilized I-440 which is a great alternate route for those living outside LR/WLR but who come into these areas for a variety of purposed including to work.	Q, S
				• **Impacts:** Adverse. Livability and sense of community in historic neighborhoods. No one should lose their home[s] in the process. It seems those who complain about congestion are those who live outside the metro area.	B, S

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
Muse, Rohn President Forest Hills Neighborhood Association	08/14/14	Comment Form	46	• **Problems:** I think a lot of consideration needs to be focused on studying who contributes more to the perceived congestion (only lasts about 15 minutes at peak periods). By this, I suggest studies will indicate more people outside of the city coming into the area contribute to this peak time congestion more by far than others. Why should urban dwellers home owners suffer for their perceived inconvenience?	Q, S
NA	08/14/14	Comment Form	47	• **Problems:** Congestion, rough roads.	A
				• **Cultural Resources:** Hanger Hill historic district, Reichardt House.	B, H
				• **Environmental Constraints:** Sol Allman's Scrap Yard in Hanger Hill on 6th St. It's visually unappealing and a potential threat to ground water.	S
				• **Suggested Improvements:** Improve pedestrian access on the 6th and 9th St. overpasses leading from downtown to Hanger Hill. Add pedestrian/bike lanes and make the bridges look more aesthetically pleasing.	C, J
				• **Impacts:** Beneficial. Only if improvements are made to Hanger Hill in regard to access via 6th and 9th St. overpasses and removal of hazardous sites.	B, S
Shepherd, Evelyn	08/14/14	Comment Form	48	• **Problems:** Daily back-ups impossible to get anywhere between 5:00 p.m. and 6:00 p.m.	A
				• **Cultural Resources:** My house is a historical structure not sure what to say!!	B, N
				• **Suggested Improvements:** If only more people would carpool or take I-440.	E, Q, S
				• **Impacts:** Both. I think my house would be impacted but it would ease congestion maybe worth it.	B, S
NA	08/18/14	Comment Form	49	• **Problems:** Congestion at rush hours. Difficulty of directing tourists to downtown sites.	A
				• **Cultural Resources:** Woodruff House, Reichardt House, Hangar Hill neighborhood, MacArthur Park, Bowen Law School (former UAMS), house between Rockefeller School and Roosevelt Rd., Curran Hall (LR Visitor & Information Center), Historical AR Museum, Horace Mann High School.	B, H
				• **Environmental Constraints:** Parks, Riverfront, Presidential, MacArthur, Hangar Hill parks.	B, H

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
NA (Comment 49 continued)	08/18/14	Comment Form	49	• **Suggested Improvements:** Divert traffic to I-430 or east of airport. Add mass transit (light rail), trolleys, etc. Add another river bridge at Chester St.	D, F, Q
				• **Impacts:** Adverse. Increased traffic, under highway, will threaten residential and cultural assets.	B, S
				• **Additional Comments:** Please add bicycle and pedestrian bridges to link Hangar Hill and other neighborhoods east of I-30 to [the] west, particularly to MacArthur Park. Minimize impact to existing historic neighborhoods and structures and parks (Presidential Park, Riverfront, and MacArthur Parks).	B, C
Harvell, Grady AFCO Steel	08/19/14	Comment Form	50	• **Additional Comments:** While our property is not on I-30, we are adjacent to it and require access for over length/over dimension loads that we produce. Plants at 6th & Thomas and 1500 E 22nd St. both depend upon good access to I-30.	A
Harvell, Grady AFCO Steel	08/22/14	Comment Form	51	• **Additional Comments:** While our property is not on I-30, we are adjacent to it and require access for over length/over dimension loads that we produce. Plants at 6th & Thomas and 1500 E 22nd St. both depend upon good access to I-30.	A
Jones, Chuck	08/22/14	Comment Form	52	• **Problems:** Congestion, Dangerous Road, Roughest Road in Arkansas.	A
				• **Suggested Improvements:** The existing corridor has had to last 60 + years with nominal improvements - go ahead and make 10-12 lanes for the next 60 years.	A, S
				• **Impacts: Beneficial.** All transportation improvements have an overall benefit to society/community.	S
Diaz, LaKresha	08/27/14	Comment Form	53	• **Problems:** Merging onto I-30 from I-630 is congested. A simple reconfiguration could improve it. No sidewalks along freeway adjacent to neighborhood. Little landscaping, too much noise.	A, B, J
				• **Cultural Resources:** 1201 Welch St., LR, AR built 1872, on National Registry of Historic Places very historically significant.	B, H
				• **Suggested Improvements:** The merging from I-630 to I-30 is the problem, not the overall number of lanes.	A
				• **Impacts:** Adverse. Noise, possible removal of home and historic structures.	B, S
Lyon, Matthew	08/27/14	Comment Form	54	• **Problems:** Infrastructure is clearly outdated. Too many on and off ramps in proximity to one another on both sides. No direct access to Verizon Arena from I-30 EB. Merging hazard on Arkansas River.	A

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
Lyon, Matthew (continued)	08/27/14	Comment Form	54	• **Cultural Resources:** How will MacArthur Park, UALR Law School, Northshore RV Park be affected?	B
				• **Environmental Constraints:** Bill Clark Wetlands, AGFC Nature Center.	B, H
				• **Suggested Improvements:** At least 4 lanes each direction, more seamless and safe merging from I-630 (i.e., move Roosevelt Rd WR exit farther north so as to not interfere with I-630 E to I-30 W motorists). Also, from I-530 NB from Dixon Rd. to I-30/I-440, add one lane.	A
				• **Impacts:** Beneficial. A totally modernized freeway would do wonders for downtown LR/NLR.	A, S
				• **Additional Comments:** Not a property owner but would still like more information, please. Also, improvements for I-30 EB motorists merging with I-530 NB traffic that need to take the Roosevelt Rd. exit. Lots of dangerous weaving. Same with Hwy. 67/Hwy.167 SB to I-40 WB to I-30 WB. Would like to know what improvements would be made to LaHarpe Blvd. WB from I-30 to the new Broadway Bridge. Would like to see if there are any preliminary drawings/plans for how exit ramps will take shape. All in all, a very good meeting and am looking forward for the project to take shape. Thank you.	A, I, S
Herron, Jennifer	08/28/14	Comment Form	55	• **Problems:** Short on-ramps.	A
				• **Cultural Resources:** Woodruff House - east of I-30. Built in 1853 for the founder of the Ark. Gazette, William Woodruff - important landmark.	B, H
				• **Environmental Constraints:** Clinton Presidential Park, Wetlands and River Market - public enjoys these areas and provides good biking around NLR & LR.	B, H
				• **Suggested Improvements:** AHTD needs to work with CATA, LR and NLR to find better or additional ways to decrease congestion of highways and that is by offering more services, routes, TOD's for the community - need to work together on this.	D
				• **Impacts:** Adverse. Expanding highways doesn't solve the problem as shown from several studies. Have to offer other modes of transportation to get congestion off highways.	D, S

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
Herron, Jennifer (continued)	08/28/14	Comment Form	55	• **Additional Comments:** See attachment - not necessarily promoting light rail but other options to expanding the highways Realize the voters passed money, but need to spend wisely. Work with others such as CATA to help community. It's important for Arkansas Central Region. *Note: Due to its length, the attachment to this comment is presented in Attachment D, Comment 55 of this public meeting summary report.*	D, S
Smith, Lynn	09/02/14	Comment Form	56	• **Problems:** Through traffic should be separated from local traffic.	A
				• **Cultural Resources:** MacArthur Park, Hanger Hill, Marshall Square Historic Districts and Reichardt House.	B, H
				• **Environmental Constraints:** Riverfront Park and Presidential Park.	B, H
				• **Suggested Improvements:** *(Note - Summarized due to length of comment. See Attachment D, Comment 56 for verbatim comment, which also includes illustrative maps).* o Rename I-440 (from I-530 to Hwy. 167) to I-30. o Create one-way frontage roads on both sides of existing I-30 from Curtis Sykes exit to Roosevelt exit. o In North Little Rock, install Texas turnaround for NB to go SB at 19th St. Remove SB on ramp and NB off ramp at Curtis Sykes. Curve Cypress and Locust St. to become one way local bridges across river to hug the new bridge. o In Little Rock, remove all of the exits and entrances that exit and enter from 2nd St. and remove the 3rd St. entrance NB. Redo exits to exit onto 2nd St. Local frontage roads go under the new entrance/exit ramps. o Remove the 6th St. and 9th St. exit and entrance ramps. Keep entrance at McGowan to enter I-30. Make new ramp to enter I-630 at McMath. Keep Roosevelt ramps. o SB local frontage road follows already named frontage road and McGowan St. New segment shown in illustrative map. NB frontage road follows existing frontage road. New segment shown in illustrative map.	A
				• **Impacts:** Adverse. Destroying historical places.	B, S
Copher, Brian	08/12/14	Email	57	I respectfully request and propose greater consideration to a road addition/extension that would connect the east end of I-630 with intersection of I-40 and Hwy. 67/Hwy.167 with a divided 4 lane highway. *(Note – comment included illustrative map, see Attachment D, Comment 57).*	F

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
Price, Brenda (AHTD) on behalf of Anonymous	08/13/14	Email	58	I [Brenda Price, AHTD] spoke on the phone with a trucker yesterday afternoon. He wanted to contribute a comment/suggestion to the PEL Study PI. He has traveled I-35 through Austin, TX and the interstate is a two level facility with the upper level reserved for through traffic with no or few exits. He also has used a similar facility in Louisville, KY. His suggestion was that this is an alternative that should be considered during the PEL Study for I-30.	A
Wells, Kathy	08/14/14	Letter	59	The Coalition of Greater Little Rock Neighborhoods wants the greatest value for the expenditure of our tax dollars, and we are doubtful the current direction of the widening of Interstate 30, as proposed by the Ark. Highway Department, meets that standard. We learned from your spokesman's visit to our group June 14 that legal constraints prevent you from properly considering alternatives to widening the roads. We recommend you seek to lift that constraint in the January, 2015, session of the Arkansas General Assembly. Recognize that your job is to move people in urban areas, and in commuter stretches of road usage. Include mass transit in your planning and jointly fund future projects with Central Ark. Transit Authority. Declining revenues from fuel taxes cast serious doubt on the agency's future ability to maintain whatever is built today. Moreover, no alternative source of funding has been provided. This project is to be funded with a sales tax that has a sunset ending date. Any future renewals of such a tax cannot be assumed. We recommend you seek to repeal the state law that forbids your agency from developing property and generating revenue from it. As Coalition members discussed at that June session, your department could profit from developing a "transit station" at I-430 and I-630, or I-30 and I-40, where commuters park cars and shuttle into jobs in downtown Little Rock. They might leave that car for servicing in a retail outlet at the ground floor of a parking deck. A café might provide breakfast on the way to work. A grocery might provide bread and milk going home. Adding lanes of pavement is no solution to congestion, and there's plenty of evidence on record to support that policy position. Let's pursue adding a new pathway - a Chester St. Bridge over the Arkansas River. Moreover, our residents object to being taxed to subsidize cross-country trucking firms who pound our interstates to gravel, yet lobby successfully to evade paying their fair share of the highway maintenance costs. Spend our tax dollars to benefit us, rather than truckers.	B, D, F, J, S

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
Thielemier, Benjamin	08/14/14	Email	60	I was unable to attend the public meetings held this week re: CA0602 for the I-30 river bridge between I-530 and I-40 but I would like to share my thoughts. I believe, primarily, that this section of the interstate (or at a minimum the section between Roosevelt Road and the I-40 split) should be buried and carried through a tunnel. Tunnels, typically, take less time to construct and will result in less traffic disruption during construction. The interstate currently serves as a major dis-connector between much of Little Rock's downtown renaissance as well as disconnecting many neighborhoods on the east side of the interstate from the western side. Removing the interstate from above ground would allow for a reconnection of these areas. Substantial widening of the interstate will take up even more of Downtown's limited space and lend nothing to the beauty of our downtown skyline and river. Importantly for Downtown Little Rock-tunneling of the interstate would allow for the removal of the Cantrell interchange which takes up much of several blocks. This should be accomplished regardless of whether the Interstate is placed below ground or not. There are plenty of entrances and exits for downtown without taking so many blocks.	A, B, J
Pekar, Dale	08/15/14	Email	61	*(Note - Summarized due to length of comment. See Attachment D, Comment 61 for verbatim comment).* Develop alternatives that re-designate I-430 and I-440 respectively as I-30 to draw off through traffic from the downtown area. Develop an alternative which would designate both I-430 and I-440 as I-30--along the lines of I-35E and I-35W in the Dallas-Ft. Worth area. Elucidate the display of future crashes. Develop an alternative that permanently reduces the number of open lanes in this area to two; reserves one of the current lanes for emergency use only, and permanently stations police and a wrecker in the emergency lane to handle emergencies more quickly. Reduce the posted speed limit in this area. Live with the congestion. If you feel compelled to add more lanes to this segment, double-deck this stretch of interstate and make the new lanes for through traffic only--no ingress or egress to Little Rock or North Little Rock.	A, E

Wilson, William	09/08/14	Comment Form	62	• **Problems:** Same old model - it is broken.	S
				• **Cultural Resources:** Map: Historic District, Hanger Hill, Woodruff House, Rockefeller School, Moon/Booker, Jewish Cemetery, National Cemetery, Arsenal Building, Law School.	B, H
				• **Environmental Constraints:** Map: Fourche Creek Wetland, Bill Clark Wetlands.	B, H
				• **Suggested Improvements:** Fixed rail - I-630 only 4 lanes - max, use technology for traffic, other modes of transportation.	A, D
				• **Impacts:** Adverse. PCD, Park, homes in map, SOMA, Hanger Hill.	B, S
				• **Additional Comments:** Respect the urban neighborhood and ecology and environment of the surrounding interstate.	B, S
Minyard, Brian	08/19/14	Email	63	A question has arisen. I attended the meeting on the 14th. The mail back comment cards said that they needed to be postmarked by the end of August. Since the meeting is September 8th, what options does the Historic District commission have to formally have input? I do not know if they will want to pass a resolution, but if they did, would it be too late for public comment? If you have received resolutions from other groups, what was the protocol?	K

Table 8 provides a listing of all comments received at the public meetings as written on post-it notes and applied directly to the Problems (Need) exhibit board. Also included are the corresponding response codes for each comment. The response code key is presented in **Table 12.** Comments are listed verbatim.

Table 8. Post-it Note Comments from Problems (Needs) Exhibit Board (Public Meeting Station 4)

Grouping Category	Comment No.	Comment	Times Mentioned	Response Code
Congestion	PR-1	Congestion in general.	7	A
	PR-26	Congestion - I-630/College St. to 9th St.	2	
Ramps / Interchanges	PR-2	Short on-ramps; too many on-ramps; tight exits on I-30	12	A
	PR-4	JFK backs up on JFK (Exit ramp).	4	
	PR-5	Park Hill exit-Traffic backs up to exit ramp.	4	
	PR-7	On ramp Lakewood exit - go over 3 lanes now - safety issue.	3	
	PR-6	Redesign Cantrell ramp; merging at Cantrell a problem.	6	
	PR-9	Need to have access - North Hills to I-40 East at LKWD Exit.	2	
	PR-17	On ramps are the same as off ramps - big problem.	1	
	PR-19	Space between interchanges.	1	
Weaving	PR-8	Weaving problem on I-40 - wants flyover ramps along I-40.	3	A
	PR-9	I-40 E from Park Hill – skip over lanes dangerous.	2	
	PR-13	I-40 W - Parkway one lane needs to be two lanes going to I-40.	1	
	PR-21	Weaving section Hwy.167/Hwy. 67 to I-40 to I-30.	1	
Bridge	PR-10	Bridge replacement and/or widening.	2	G
	PR-15	Build bridge right beside it - west side of Broadway.	1	
	PR-24	I-30 bridge pier in middle of navigation channel needs removal. Must replace, NOT widen!	1	
Lighting / Aesthetics	PR-11	Lighting on Lakewood and I-40 exit - really tight circle with frequent breakdowns - Scared I will hit someone.	2	J
	PR-13	Better lighting along corridor (dark hollow).	1	
	PR-16	More Lighting.	1	
Bike and Pedestrian	PR-25	Interstate is an aesthetic and stressful barrier to bicycles and pedestrians.	1	C, J
Environmental	PR-23	Woodruff house needs to be on the constraints map.	4	B, H
Construction	PR-22	Concerned about traffic during bridge construction.	1	M
Maintenance	PR-3	Stoplight at Washington and Locust.	4	E
	PR-18	Road lines more visible in rain/snow.	1	J
	PR-20	State Highway drains repaired by I-30 at Locust and Washington Ave.	1	S

Table 9 provides a listing of all comments received at the public meetings as written on post-it notes and applied directly to the Goals/Objectives exhibit board. Also included are the corresponding response codes for each comment. The response code key is presented in **Table 12.** Comments are listed verbatim.

Table 9. Post-it Note Comments from Goals/Objectives Exhibit Board (Public Meeting Station 4)

Grouping	Comment No.	Comment	Times Mentioned	Response Code
Alternative Route	GL-1	Construct Chester St to NLR Bridge.	7	F
	GL-14	Additional river crossing essential!!!	1	
Alternative Modes	GL-2	Provide bike and pedestrian facilities.	28	C
	GL-4	Improve bike and pedestrian access.	2	
	GL-9	Support current transit.	1	D
	GL-10	Create effective public transportation system.	5	
	GL-21	Implement light rail/plan for light rail in right-of-way.	14	
	GL-23	Consider other ways to alleviate congestion other than widening.	6	
	GL-26	Increase public transit use.	4	
Outreach	GL-5	Better communication during the construction process.	2	O
	GL-29	Public education on new routes and ramps.	1	
Aesthetics	GL-13	Attractive Architectural design to bridge.	1	J
	GL-19	Design with context sensitive solutions in mind.	1	
	GL-31	Aesthetic consistency with existing bridges.	1	
Environmental Impacts	GL-15	Do not relocate people from homes.	1	B
	GL-16	Historical and Cultural; robust archeological and historic resources survey; historical preservation; preserve neighborhoods.	14	
	GL-30	Reduce traffic noise, but do not use ugly barriers.	1	
Access	GL-3	Plenty of access to Downtown North Little Rock.	2	A, J
	GL-8	Connection to Riverfront and all green space in corridor.	1	
	GL-20	Improve E-W connectivity.	1	
Specific transportation solution suggested	GL-6	If widen in one section, do not cause bottlenecks in other sections.	2	A
	GL-7	Do not only rehab I-40; needs to be widened and interchanges improved.	2	
	GL-11	Two-lane merger needed from I-630 onto I-30 E&W especially toward the river. These two lanes need to continue making I-30 5 lanes.	1	
	GL-12	Take thru traffic off I-30, put on local connector.	1	A, E
	GL-22	Cover interstate and create parking when feasible.	6	A, J
	GL-25	Fewer exit ramps.	5	A
	GL-27	Double deck the bridge.	4	G
	GL-32	Widen I-630 to I-30 NE ramp - lanes end too abruptly.	1	A
	GL-33	Use flybys as the highway access instead of ramps.	1	
	GL-34	Seamless transition from I-30 to I-40 E.	1	
	GL-35	Observation deck. Charge fee for vantage point.	1	J
	GL-36	Bury I-30 below ground to reconnect the city above.	1	A, J
Congestion Management	GL-17	Improve signage along I-30 and I-40.	1	E
	GL-18	HOV lanes or truck/ special lanes? Carpool?	1	
	GL-24	Divert trucks around the city, not through.	5	
	GL-28	Consider long term implications of widening an urban freeway! Widening does not relieve congestion, it increases capacity!	3	D, E, S

Table 10 provides a listing of all comments received at the public meetings as transcribed directly on the large notepad located at public meeting Station 6. Also included are the corresponding response codes for each comment. The response code key is presented in **Table 12.** Comments are listed verbatim.

Table 10. Comments from Large Notepad (Public Meeting Station 6)

Grouping	Comment No.	Comment	Response Code
Alternative Mode	NP-1	Evaluate rail options (example: light rail in St. Louis).	D
	NP-2	Go 21 high-speed rail program.	
	NP-19	Move the trolley (possibly link it to the airport).	
	NP - 21	Light rail.	
Specific transportation problem identified and/or solution suggested	NP-4	Merging.	A
	NP-5	Fix bridge over Roosevelt (it's too low). It's been hit by trucks several times.	
	NP-6	Two lane entrances and exits along I-30.	
	NP-7	Texas turnaround on I-30.	
	NP - 8	Continuous weave lanes between ramps.	
	NP – 11	Safety concerns on Locust and Riverfront.	
	NP – 12	Weaving between Hwy. 67 and I-30.	
	NP - 13	Faith Furniture: Owners concerned about stability of the roadway.	
	NP - 16	Weaving and Merging on I-40.	
Congestion Management	NP - 14	HOV lanes or dedicated lane for trucks.	E
	NP – 20	HOV lanes.	
	NP - 22	Public awareness of I-440 as an alternate route.	Q, S
Environmental Impacts	NP - 3	Flooding along the I-30 corridor.	B
	NP - 9	The adverse effects on Dark Hollow neighborhood.	
Lighting / Aesthetics	NP - 10	Corridor consistency.	J
	NP - 15	Highway safety: lighting along Dark Hollow area.	
	NP - 18	Safety lighting for students crossing under bridge.	
Access	NP - 17	Access and parking near school and library.	A, B

Table 11 provides a listing of all comments received at the public meetings as applied via post-it note directly on the large, aerial photograph maps of the study area. Also included is the corresponding response code. The response code key is presented in **Table 12.** Comments are listed verbatim.

Table 11. Comments from Aerial Photograph Maps (Public Meeting Station 6)

Comment Number	Comment	Response Code
MAP - 1	Need more than one I-40 WB lane after I-30/I-40 split.	A
MAP - 2	Confusing diverge. I-40 traffic often goes to Park Hill. *Post-it note comment placed near I-40 W and Hwy. 65N / Hwy. 107N split.*	A
MAP - 3	Need more signs showing right lane exit only. *Post-it note comment placed near Main St. Bridge.*	A, E
MAP - 4	Make Curtis Sykes on-ramp EB I-40 only. Make North Locust to Lakewood Interchange WB I-40 on-ramp.	A
MAP - 5	Locust St. bridge replacement? *Post-it note comment placed near bridge over railroad tracks between E 9th St. and E 13th St.*	A
MAP - 6	Main artery to downtown. *Post-it note comment placed near Exit 141B exit off ramp and N Cypress St.*	R
MAP - 7	Maintain 7th street ramps. Downtown (S) and Broadway Bridge connection. *Post-it note comment placed near Bishop Lindsey Ave. and N. Cypress St. intersection.*	A
MAP - 8	More use of Riverfront Rd. *Post-it note comment placed near Main St. Bridge.*	Q, S
MAP - 9	Drainage issue; underground pipe/culvert issue (rubble) - South Locust. *Post-it note comment placed near S. Locust St.*	A, S
MAP - 10	Rawhorn Furniture. -609. *Post-it note comment placed between S. Locust St. and N. Pine St.*	R, S
MAP - 11	Replace and widen bridge with special lighting. *Post-it note comment placed near I-30 Bridge.*	A, J
MAP - 12	Add new bridge at Chester.	G
MAP - 13	Need deceleration lane for Highway 10 exit.	A
MAP - 14	Pedestrian safety is a problem by Axciom; folks are always walking across the on-ramp.	C
MAP - 15	Eliminate this interchange, it detracts from the area - steer traffic elsewhere. *Post-it note comment placed near E. 2nd St. and I-30 interchange.*	A
MAP - 16	Improve this interchange. *Post-it note comment placed near E. 2nd St. and I-30 interchange.*	A
MAP - 17	Improve this interchange. *Post-it note comment placed near I-630 and I-30 interchange.*	A
MAP - 18	Lengthen 9th St. on-ramp, obstructed view during merging. *Post-it note comment placed near I-30 and I-630 interchange.*	A
MAP - 19	Need two on ramps I-30/I-630.	A
MAP - 20	Super E problem. *Post-it note comment placed near I-30/I-630 interchange.*	A
MAP - 21	Flyover from I-630 to left lane of I-30 West for airport traffic.	A
MAP - 22	More Roosevelt ramps on both sides close to Roosevelt Rd.	A
MAP - 23	Bridge hit several times. *Post-it note comment placed near I-30 overpass over E. Roosevelt Rd.*	A
MAP - 24	SPUI design at Roosevelt. *Post-it note comment placed near I-30 and Roosevelt Rd.*	A
MAP - 25	Move Roosevelt Rd. exit closer to Roosevelt and further from I-440 and I-30 ramps.	A
MAP - 26	Congestion due to sag in elevation - poor line of sight. *Post-it note comment placed between E. 28th and E. 29th streets near I-30.*	A
MAP - 27	Replace all ground mounted lighting with high mast lighting.	J
MAP - 28	Add another EB thru lane on I-30 from I-440 on ramp to I-440 off ramp to I-30 EB for a total of 3 lanes through that section.	A
MAP - 29	Improve this section by adding more lanes flyovers and lighting (I-40). *Post-it note comment placed near North Hills Blvd.*	A, J
MAP - 30	Radius of this ramp is really tight. If cars pull over to change a flat, it is dark and dangerous! *Post-it note comment placed near North Hills Blvd. on south side of I-40.*	A, J

Comment Number	Comment	Response Code
MAP - 31	Improve North Hill interchange and add flyovers at the Hwy. 67 and I-30 interchanges. Also add more lighting at I-440 to I-430.	A, J
MAP - 32	Access I-40 east from North Hills Blvd.	A
MAP - 33	Park Hill exit congestion.	A
MAP - 34	JFK to I-40E ramp needed.	A
MAP - 35	Merging lane way too short to get over I-40E at Main St.	A
MAP - 36	Improve North interchange with better lighting and flyovers. *Post-it note comment placed near I-30/I-40 interchange.*	A, J
MAP - 37	Get rid of 15th St. interchange. Put it at 13th St.	A
MAP - 38	Connect Cypress St. with a railroad overpass.	A
MAP - 39	A special lane for carpooling, transit, or trucks.	A, D, E
MAP - 40	Stop light improvements at Broadway. *Post-it note comment placed near I-30/Broadway intersection.*	E
MAP - 41	Expansion could interfere with interior least term habitat. *Post-it note comment placed near Riverfront Dr. and I-30.*	B
MAP - 42	Make the I-30 Bridge a special design bridge with LED lighting.	G, J
MAP - 43	Possibly widen interchange for exit and entrance. *Post-it note comment placed near I-30 and 2nd St.*	A
MAP - 44	Revise the on/off ramps to minimize the amount of land they use. *Post-it note comment placed at 2nd St. and I-30.*	A, B
MAP - 45	Connect Capitol over the Interstate. *Post-it note comment placed near I-30 and Capitol Ave.*	A
MAP - 46	I-630 ramp congestion. *Post-it note comment placed near I-630 and I-30 N ramp.*	A
MAP - 47	For immediate improvement: make both right lanes exit only between I-630 off ramps and I-630E/I-30E on ramps. That way I-630 traffic won't have to merge onto I-30 east bound.	A
MAP - 48	SPUI or Texas turnaround type of interchange. *Post-it note comment placed near E. Roosevelt Rd. and I-30.*	A
MAP - 49	Widen I-40.	A
MAP - 50	Fix Lakewood entrance!!!!	A
MAP - 51	Avoid weaves (toward Jacksonville). *Post-it note comment placed near I-40 and Hwy 67.*	A
MAP - 52	Comment includes a drawing of ramps modifications from I-40 to Hwy. 67. No verbiage. See **Attachment D**, Map Comments, August 12, 2014 Public Meeting, Comment 52 for drawing.	A
MAP - 53	High mass lighting and put flyovers. *Post-it note comment placed near Hwy. 67 and I-40.*	A, J
MAP - 54	Don't widen any part of I-30 from I-40 to I-630, instead use money to run trolley from Roosevelt Rd. to at Least McCain.	D
MAP - 55	Find a way to "unweave the weave" on I-40 without destroying church, Park Hill/Lakewood, or Dark Hollow. *Post-it note comment placed near I-40 toward Memphis.*	A, B
MAP - 56	Add lanes and reduce access points. Bypass routes are only helping travel time during peak hour. *Post-it note comment placed near I-40 toward Memphis.*	A
MAP - 57	Trail system line from NLRHS property to Riverfront. *Post-it note comment placed between North Pine St. and North Vine St.*	C
MAP - 58	Improve street scape under bridges and along high R/W for Bishop Lindsey, 9th St. and Broadway, Curtis Sykes. *Post-it note comment placed between E13th St. and railroad tracks.*	J
MAP - 59	Move off ramp on Broadway exit south of Bishop Lindsey Dr. *Post-it note comment placed at railroad tracks and SA Jones Dr.*	A

Comment Number	Comment	Response Code
MAP - 60	Student Housing Admin Building. *Post-it note comment placed near North Pine St. between Bishop Lindsey Ave. and SA Jones Dr.*	B, H
MAP - 61	Future parking for S.C. *Post-it note comment placed between SA Jones Dr. and North Poplar St.*	R
MAP - 62	S.C.: slow down traffic on load street. *Post-it note comment placed between North Vine St. and North Walnut St.*	R
MAP - 63	Reverse lanes in A.M. and P.M. *Post-it note comment placed between E 6th St. and E 5th St.*	E
MAP - 64	School - pedestrian traffic east/west (corner of E 7th and North Beech St.). *Post-it note comment placed between E 7th St. and North Beech St.*	B, C
MAP - 65	Re-do I-30 and byway for more left turn lanes if not SPUI. *Post-it note comment placed between E 14th St. and Washington St.*	A
MAP - 66	Protect basketball courts under I-30 (preserve or replace). *Post-it note comment placed near Verizon Arena.*	B, J
MAP - 67	Reroute traffic to I-440. *Post-it note comment placed between Riverfront Dr. and South Vine St.*	Q
MAP - 68	Design a bridge, don't just engineer one. This is the main entrance to two cities. Build a gateway. *Post-it note comment placed near I-30 Bridge.*	B, J
MAP - 69	Create a greater connection from east to west of I-30. *Post-it note comment placed near I-30 Bridge.*	J
MAP - 70	Same footprint, do not mess up park. *Post-it note comment placed near Wetlands (Little Rock side).*	B
MAP - 71	Longer acceleration lane. *Post-it note comment placed near President Clinton Ave.*	A
MAP - 72	Too short to merge. *Post-it note comment placed near President Clinton Ave.*	A
MAP - 73	This ramp is scary. *Post-it note comment placed near President Clinton Ave.*	A
MAP - 74	Too many access points along I-30. *Post-it note comment placed between Sherman St. and South Rock St.*	A
MAP - 75	Protect the park. *Post-it note comment placed near Dean Kumpuris Dr.*	B
MAP - 76	Longer on ramps. *Post-it note comment placed near Dean Kumpuris Dr.*	A
MAP - 77	Keep same number of off ramps, do not kill city. *Post-it note comment placed between E 3rd St. and E Capitol Ave.*	A, B
MAP - 78	Create a land bridge between 6th and 9th Streets.	J
MAP - 79	Bury this section to reconnect the city. *Post-it note comment placed between Ferry St. and Sherman St.*	A, J
MAP - 80	Greater pedestrian access to Hanger Hill neighborhood via 6th and 9th St. overpasses.	C
MAP - 81	Protect the Woodruff House. *Post-it note comment placed between E 8th St. and E 7th St.*	B
MAP - 82	Protect the park. *Post-it note comment placed between McMath Ave. and Pulaski County Lane.*	B
MAP - 83	Fix issue with traffic merging to one lane. *Post-it note comment placed near I-630/I-30 interchange.*	A
MAP - 84	Pauline Reichardt House - protect it. *Post-it note comment placed between E 13th St. and E 12th St.*	B
MAP - 85	Additional capacity on I-630 ramp. *Post-it note comment placed near I-630/I-30 interchange.*	A
MAP - 86	Use light rail I-30 and I-630; save livability.	B, D
MAP - 87	How can interstate improve a neighborhood? *Post-it note comment placed between Vance St. and Park Lane.*	B
MAP - 88	Add lanes and reduce access points. *Post-it note comment placed between E 23rd St. and E 21st St.*	A

Comment Number	Comment	Response Code
MAP - 89	Consider light rail when analyzing cross sections and right-of-way purchases. *Post-it note comment placed between McAlmont St. and E 22nd St.*	D
MAP - 90	Please don't take my house. *Post-it note comment placed between Vance St. and Park Lane.*	B
MAP - 91	Redo Roosevelt overpass. Pier in wrong place, clearance too low.	A
MAP - 92	Use construction opportunity to include other transportation options around Fouche Creek like walking and biking. *Post-it note comment placed near I-30/I-440/I-530 interchange.*	C, J
MAP - 93	Expand lanes I-530 Northwood. *Post-it note comment placed near I-30/I-440/I-530 interchange.*	A
MAP - 94	Make public aware of this underutilized access means of travel. *Post-it note comment placed near I-30/I-440/I-530 interchange.*	Q
MAP - 95	I-440 alternate route to NLR empty usually of traffic. *Post-it note comment placed near I-30/I-440/I-530 interchange.*	Q
MAP - 96	Minimize impact on wetlands. *Post-it note comment placed near I-30/I-440/I-530 interchange.*	B
MAP - 97	Add right hand exit with flyover for I-40 east bound to Hwy. 67 north bound. *Post-it note comment placed near I-40 and Hwy.67/Hwy. 167.*	A
MAP - 98	Increase traffic lanes (add); remove access points to increase mobility. *Post-it note comment placed near I-40 and North Hills Blvd.*	A
MAP - 99	Raise grade on North Hills at this point - floods frequently. Problem transition issue from AHTD to NLR right-of-way. *Post-it note comment placed near North Hills Blvd.*	A
MAP - 100	Remove North Hills interchange. Ramps too close to both I-30 and Hwy. 67.	A
MAP - 101	Add right hand exit with flyover for I-40 WB to I-30 WB.	A
MAP - 102	Hwy. 67 needs additional lanes - it is carrying a tremendous load and will continue to worsen. Don't underestimate patterns in NE Arkansas SEMO. *Post-it note comment placed near I-40 to Hwy. 67.*	A
MAP - 103	SEMO would like to see interstate designed to north out of Little Rock. Hwy. 67 is interstate standards why not make it interstate?	A
MAP - 104	Current Hwy. 67 lane configuration is all wrong, especially south from McCain (most shift two lanes to stay on Hwy. 67S to I-40 plus 2 more to reach I-30 to Little Rock). *Post-it note comment placed between Barbara Dr. and Hwy. 67/Hwy. 167.*	A
MAP - 105	Please think of corridor for many different modes of transportation. *Post-it note comment placed between North Locust St. and E 18th St.*	D
MAP - 106	If bridge is to be rebuilt, put in bicycle/pedestrian way. *Post-it note comment placed near 1-30 over railroad tracks in North Little Rock.*	G, C
MAP - 107	Please make crossings bicycle/pedestrian friendly and inviting. *Post-it note comment placed between Bishop Lindsey Ave. and SA Jones Dr.*	C
MAP - 108	Charge a fee; observation deck - help pay for maintenance of bridge. *Post-it note comment placed near I-30 Bridge.*	J
MAP - 109	Extend merge lane. *Post-it note comment placed near I-30 bridge.*	A
MAP - 110	Flybys not ramps! And when high traffic [use] stoplights (timing). *Post-it note comment placed near I-30 bridge.*	A
MAP - 111	Add extra lane to keep from having a bottleneck here. *Post-it note comment placed near President Clinton Ave.*	A
MAP - 112	Remove LaHarpe Dr. - helps Clinton/LaHarpe danger.	A
MAP - 113	Improvement to access to River Market and downtown. Not renovations of access. *Post-it note comment placed between Sherman St. and South Rock St.*	A
MAP - 114	Trees and shade structures on bridges would be nice for pedestrians. Please make crossing the interstate inviting to walkers and bicyclists. *Post-it note comment placed between Rector St. and McLean St.*	C, J

Comment Number	Comment	Response Code
MAP - 115	Bike path: Ferry St. - park - access I-630 (replace that bridge) work with city and AHTD for joint use. *Post-it note comment placed between Ferry St. and South Rock St.*	A, C, J
MAP - 116	Please work with cities to create a bicycle/pedestrian trail along corridor. *Post-it note comment placed between McMath Ave. and Ferry St.*	C, J
MAP - 117	Land bridge between 6th and 9th Streets.	C, J
MAP - 118	Land bridge between 6th and 9th Streets.	C, J
MAP - 119	Woodruff House - protect it! *Post-it note comment placed near E 89th St.*	B
MAP - 120	Two lanes on I-30 W coming from I-630 E. *Post-it note comment placed between E 17th St. and McAlmont St.*	A
MAP - 121	"Car Pool" helps eliminates pile ups. Mandatory lane for it! *Post-it note comment placed between E 21st St. and E 19th St.*	A, E
MAP - 122	Our House education building. *Post-it note comment placed between E 24th St. and E Roosevelt Rd.*	B, H
MAP - 123	Lights, lights, lights throughout!!! *Post-it note comment placed near I-30/I-440/I-530 interchange.*	J
MAP - 124	Merge. *Post-it note comment placed near I-30/I-440/I-530 interchange.*	R

Table 12 below presents the key to the response codes presented in **Tables 7 - 11.**

Table 12. Comment Response Code Key for Public Meeting #1

Response Code	General Topic Addressed	Response
A	Identification of a specific transportation need or solution to address issues of concern.	Input regarding the need for improvements within the I-30 PEL study area or potential solutions to address issues of concern identified as part of the August 2014 public meetings will be used in the development of the draft purpose and need, as well as the study goals and objectives. In addition, these specific problems and suggestions will be considered in the development and evaluation of draft alternatives. These draft alternatives, also called the Universe of Alternatives, will be presented at the second public meeting scheduled for November 2014. Moving forward, an alternatives screening process will be used to sequentially narrow the Universe of Alternatives to a set of Preliminary Alternatives, then Reasonable Alternatives, and ultimately to the PEL Recommendations for continued project development. The alternatives screening process and draft Preliminary Alternatives will also be presented at the second public meeting, and the Reasonable Alternatives and PEL Recommendations at a future public meeting anticipated in early 2015. Note that a set amount of funding is currently available for improvements along I-30/I-40 in the study area, and accordingly, PEL recommendations could include a prioritized set of improvements along I-30/I-40 that are comparable to the set amount of available funding.

Response Code	General Topic Addressed	Response
B	Concerns about potential social, economic and environmental impacts and/or request for protection of environmental resources in the study area.	Social, economic, and environmental resources (such as historic districts, neighborhoods/residences, parks, businesses, air and water, habitats, etc.) will be considered during the development, evaluation and screening of draft alternatives for the I-30 PEL Study in an effort to avoid and/or minimize any potential future negative impacts on these resources. Once the draft alternatives have been developed and refined for additional study under the NEPA process, they will be specifically evaluated for their ability to address the needs within the study area, as well as for their potential impacts on social, economic, and environmental resources. Efforts would be made to avoid, minimize, or mitigate potential environmental impacts associated with the proposed alternative(s) for the project.
C	Suggestion of bicycle/pedestrian improvements.	Suggested bicycle and pedestrian facilities needs and improvements will be considered during the development and evaluation of draft alternatives for the I-30 PEL Study.
D	Suggestion for transit improvements and/or system-wide coordination.	Transit improvements will be considered during the development and evaluation of draft alternatives for the I-30 PEL Study. Potential transit alternatives evaluated will include arterial bus transit, I-30 express bus transit, bus on shoulder, dedicated bus lanes, arterial bus rapid transit, light rail, heavy rail, commuter rail, and high speed rail. The I-30 PEL Study Team will work with local transit providers to examine the existing transit needs with the I-30 PEL study area, as well as how proposed solutions may complement the existing and planned transit system.
E	Suggestion and/or comment regarding congestion management strategies and strategies for improving non-recurring congestion.	Congestion management strategies, as well as strategies for improving non-recurring congestion, will be considered during the development and evaluation of draft alternatives for the I-30 PEL Study. Congestion management strategies evaluated will include information systems/advanced traveler information (e.g., dynamic message sign displays to drivers), managed lanes, reversible lanes, ramp metering (i.e., signals placed at the end of ramps to manage the number of vehicles entering the traffic stream), hard shoulder running, travel demand management, transportation system management, signage improvements, arterial improvements (i.e. increasing capacity and safety on existing parallel arterial roads), and consideration of land use policies. Strategies for improving non-recurring congestion evaluated will include the utilization of crash investigation sites, roadside/motorist assist enhancements, improvements to detour routes during construction, implementing variable speed limits, and implementing a queue warning system.
F	Suggestion and/or comments regarding construction of a new location route/river crossing.	An alternative route/bypass route on new location crossing the Arkansas River will be considered during the development and evaluation of draft alternatives for the I-30 PEL Study.
G	Suggestion or comments regarding I-30 Arkansas River Bridge condition and/or improvements.	Bridge rehabilitation, bridge replacement, and a bridge with elevated lanes will be considered during the development and evaluation of draft alternatives for the I-30 PEL Study.

Response Code	General Topic Addressed	Response
H	Suggestion to add to or update I-30 PEL Study maps.	Revisions to the maps will be made, as appropriate. Note that the study area for the cultural resources analysis, also known as the area of potential effect (APE), was a 100-foot buffer on either side of I-30 and I-40 from the existing ROW. This APE and the associated historic resources within this APE were coordinated and reviewed by the Arkansas State Historic Preservation Officer (SHPO). All historic resources within and intersecting the 100-foot APE are included in the constraints analysis and mapping. In relation to the William E. Woodruff House, this structure is listed on the National Register of Historic Places, but is located outside of the 100-foot APE. Accordingly, it is not included in the constraints analysis and mapping.
I	Questions/concerns about or suggestions for the I-30 PEL Study public involvement process.	Public participation is a key component of the I-30 PEL process. Every effort will be made to ensure that the public has open access to I-30 PEL Study information and ample opportunities to participate in the decision-making process. Members of the public are invited to visit the study's website and ATHD Twitter page, and to contact the Study Team with any questions or concerns or to request a group presentation: • Email: Info@ConnectingArkansasProgram.com • Phone: 501-255-1519 • Website: www.ConnectingArkansasProgram.com • Twitter: https://twitter.com/AHTD • Mail: Connecting Arkansas Program RE: I-30 PEL Study 4701 Northshore Dr. North Little Rock, AR 72118 Future public meetings will be announced through newspapers, local news, radio announcements, Twitter, email notifications, email and/or mail-out fliers to adjacent property owners and previous public meeting attendees that left contact information, and distribution fliers handed out within the local community.

Response Code	General Topic Addressed	Response
J	Questions/concerns about aesthetic issues.	Various aspects related to aesthetics and context sensitive solutions (CSS)*, such as lighting, landscaping, enhancing east-west connectivity, and the overall development of a transportation facility that complements the surrounding physical setting, will be considered as part of the PEL process. Visioning workshops will be conducted to obtain early feedback and develop a foundation for continued community outreach. One visioning workshop will be conducted with stakeholders during the PEL process, and another visioning workshop will be held during the NEPA phase of project development. Stakeholders will include representatives from the City of North Little Rock (appointed by the Mayor of North Little Rock), City of Little Rock (appointed by the Mayor of Little Rock) and Pulaski County (appointed by the County Judge). During the first visioning workshop, and with an understanding of the purpose and need and goals and objectives of the PEL Study, stakeholders will have the opportunity to incorporate their ideas and priorities for the I-30 corridor. From this visioning workshop, renderings of possible solutions that preserve and enhance aesthetic, historic and community resources will be developed. During the NEPA phase, a second visioning workshop will be held with stakeholders that examines potential CSS and design concepts in greater detail. Based on stakeholder feedback and available funding, CSS/aesthetic guidelines will be developed following this second visioning workshop and utilized, pending AHTD approval.
K	Question about resolutions passed outside of public meeting comment period.	For a resolution to be included as part of the public meeting summary, it needs to be submitted by August 29, 2014. However, if a resolution is passed after the comment period, it can be submitted to the PEL Study Team and the resolution will receive a response. It will also be included in the PEL Study public participation documents.
L	Questions/concerns about funding.	A major improvement project proposing to widen I-30 between I-530 and I-40 was included as part of the Connecting Arkansas Program (formerly the *One-half Cent Sales Tax for Transportation*), which was submitted to Arkansas voters in November 2012 as proposed Constitutional Amendment Number (No.) 1, “An Amendment to Provide Additional Funding for Highways, County Roads, City Streets, Bridges, and Surface Transportation.” Arkansans passed Constitutional Amendment No. 1 with over 54% of the vote. With approval of Constitutional Amendment No. 1, the Arkansas state sales tax increased a half-cent for ten years, beginning July 1, 2013. The design and construction of 31 needed statewide widening projects (including I-30 from I-530 to I-40) will be funded with the estimated $1.8 billion anticipated to accrue from tax support for roadway improvements. Because of their close proximity, the AHTD combined the I-30 widening project with planned pavement rehabilitation work on I-40, between I-30 and Hwy. 67/Hwy. 167.

Response Code	General Topic Addressed	Response
M	Questions/concerns about construction impacts.	Although it is unknown how many lanes would remain open during construction because alternatives have not been developed yet, traffic flow on I-30/I-40 would be maintained during construction. If improvements are implemented to the I-30 Bridge, the number of lanes remaining open to traffic would depend on if the I-30 Bridge is rehabilitated and/or widened or replaced. For example, if a widening alternative is recommended, it is possible that the existing 6-lane bridge could be temporarily reduced to 4-lanes during construction, assuming no shift in the centerline of the bridge and that widening would take place on both sides. The number of lanes remaining open could be different given a shift in the centerline or if widening were to occur primarily on one side. If a replacement alternative is recommended, it is possible that all six lanes could remain open while a new bridge is constructed. Although temporary congestion may occur as a result of project construction, all practicable steps would be taken to minimize the inconvenience to motorists, transit users, bicyclists and pedestrians. All practicable steps would also be taken to maintain access to residential and business areas in the project vicinity during construction. Measures to control noise and dust due to construction activities would be considered and incorporated into construction specifications.
N	Additional contact requested/needed.	Commenter was contacted by a member of the I-30 PEL Study Team to answer questions/provide clarification.
O	Questions/concerns about public outreach during construction.	AHTD has a public information office that provides notifications through various communications methods, including notifying the media, utilizing social media and contacting affected stakeholders among other tactics. During construction, AHTD will work to notify the public in as much advance as possible and to the extent practicable, and will continually work to improve communications throughout the process.
P	Questions/concerns about project delivery.	Improvements to I-30 will be delivered using the design-build-to-a-budget method. This method fixes the maximum amount available to all design-build teams (D-B Teams) proposing on the project (consistent with the voter-approved funding level – see Response Code L) to deliver a project that meets the project goals while maximizing the amount of specific project improvements that can be built for the fixed budget. Experience using this delivery method has shown that D-B Team innovations yield project time savings, high quality, and additional improvements for the fixed budget while meeting all project goals and requirements.

Response Code	General Topic Addressed	Response
Q	Questions/concerns about travel characteristics on I-30/I-40.	The I-30 PEL Study Team recognizes the importance of understanding travel characteristics (e.g., trip origins and destinations) in the identification of transportation solutions that best meet the need of motorists. The I-30 PEL traffic analysis and evaluation measures will be designed to identify the problems and best fitting solutions for the study area. Also as part of the I-30 PEL Study traffic analysis, the Study Team will perform a comprehensive multimodal analysis of I-30 and its effect on other transportation systems. Solutions will address highway capacity, transit, travel demand management, transportation system management, intelligent transportation systems, bicycle/pedestrian and access management needs. Improvements will also address recurring and non-recurring congestion in the corridor. To address interregional traffic, the I-30 traffic analysis will include I-430 and I-440 to understand their impacts on I-30 in the study area.
R	Unclear comment	The Study Team was unable to discern the comment's full meaning/context.
S	General comment or suggestion	Comment noted.

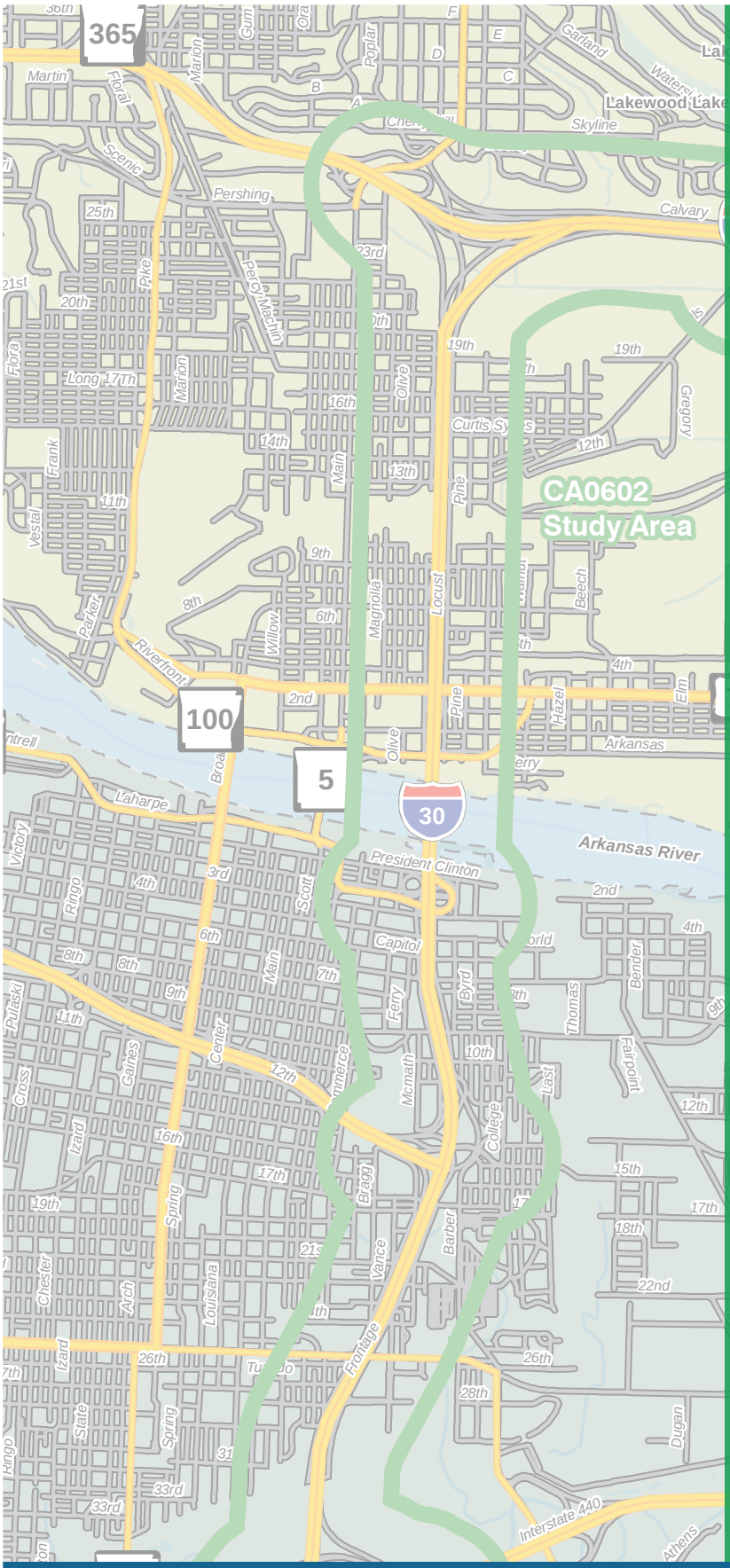
*Notes: * As defined by the FHWA, CSS is a collaborative, interdisciplinary approach that involves stakeholders in developing a transportation facility that complements its physical setting and preserves scenic, aesthetic, and historic and environmental resources while maintaining safety and mobility.*
Source: http://www.fhwa.dot.gov/planning/csstp/faq/

3.0 CONCLUSION AND NEXT STEPS

Initial feedback from the first series of public meetings generally supports the need for transportation solutions in the study area in order to alleviate congestion, improve safety, improve existing roadway deficiencies (i.e., too many ramps, weaving problems, etc.), and improve access and connectivity across I-30 through Little Rock and North Little Rock. Many comments also supported the accommodation and/or improvement of mass transportation and bicycle and pedestrian facilities. Meeting attendees also commented on environmental constraints and requested avoidance and protection of historic resources.

The input gathered at these public meetings on problems and proposed solutions will be used to develop the purpose and need and goals and objectives for the project, as well as the draft alternatives to address transportation needs. These draft alternatives, also called the Universe of Alternatives, will be presented at the second public meeting scheduled for November 2014. Moving forward, an alternatives screening process will be used to sequentially narrow the Universe of Alternatives to a set of Preliminary Alternatives, then Reasonable Alternatives, and ultimately to the PEL Recommendations for continued project development. The alternatives screening process and draft Preliminary Alternatives will also be presented at the second public meeting on November 6, 2014, and the Reasonable Alternatives and PEL Recommendations at a future public meeting anticipated in early 2015.

Copies of this document, as well as future public meeting materials, will be available online at www.ConnectingArkansasProgram.com. Questions or additional comments may be directed to Info@ConnectingArkansasProgram.com.



PLANNING AND ENVIRONMENTAL LINKAGES PUBLIC MEETING #2 SUMMARY AND ANALYSIS REPORT

CA0602

Interstate 530 – Highway 67

January 2015

CONNECTING ARKANSAS PROGRAM CAP

Arkansas State Highway & Transportation Department

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ATTACHMENTS

Attachment A Advertisements
Attachment B Sign In Sheets
Attachment C Materials and Photographs
Attachment D Comments

1.0 INTRODUCTION

In April 2014, the Arkansas Highway State Transportation Department (AHTD) began the Interstate 30 (I-30) Planning and Environmental Linkages (PEL) Study to identify the purpose and need for improvements within the I-30 PEL study area, determine possible viable alternatives for a long-term transportation solution, and recommend alternatives that can be carried forward seamlessly into the National Environmental Policy Act (NEPA) process. As part of the I-30 PEL Study, a series of four public meetings are to be held to allow the public to provide feedback on transportation needs and possible solutions in the study area. This report describes the second public meeting, held in November 2014.

2.0 PUBLIC MEETING #2

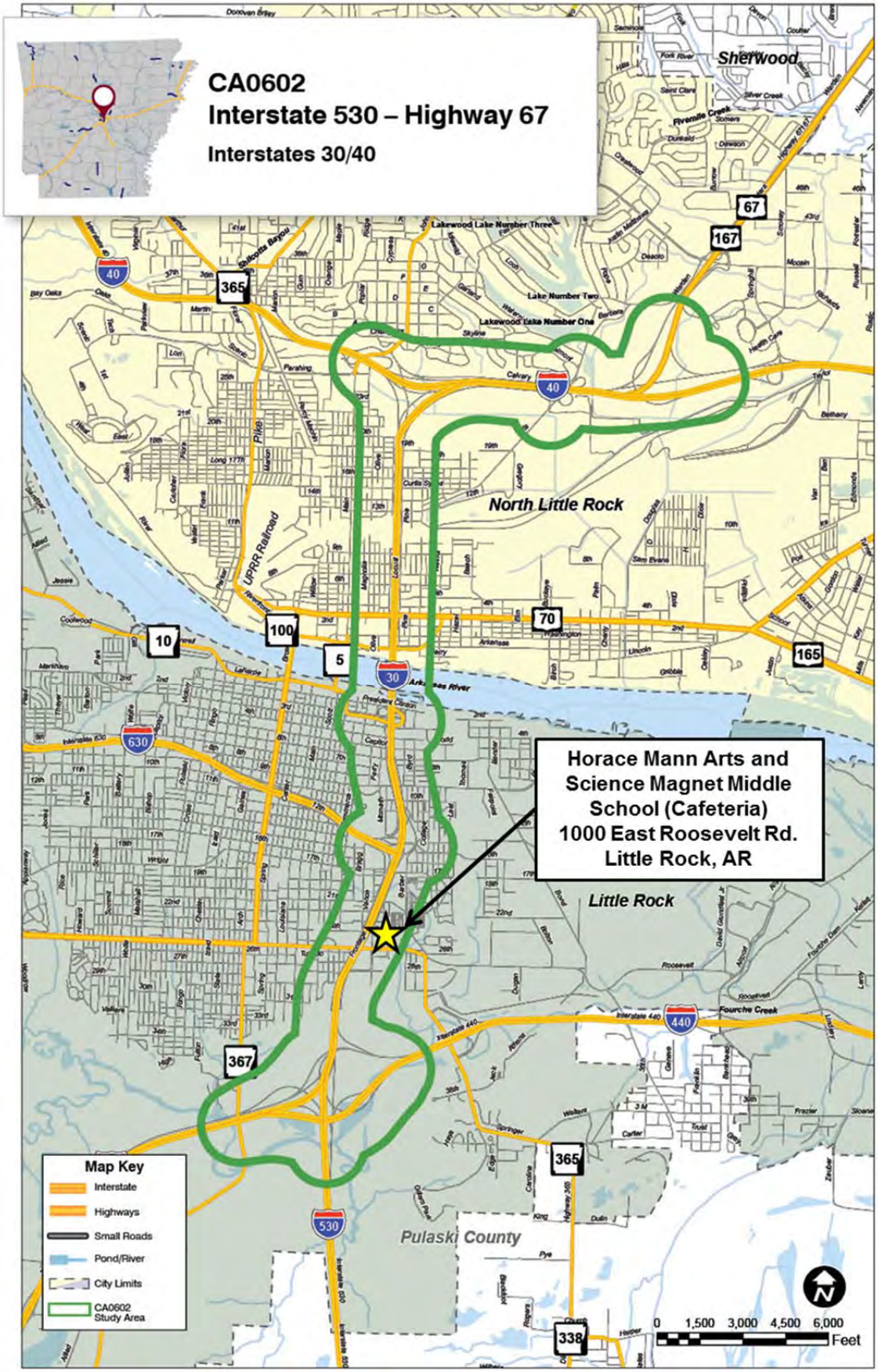
Public Meeting #2 was an open-house meeting, held on Thursday, November 6, 2014 at the Horace Mann Arts and Science Magnet Middle School. Public Meeting #2 logistics are presented in **Table 1,** and **Figure 1** depicts the location of meeting.

Table 1. Public Meeting #2 Logistics

Schedule Date/Time	Location
Thursday, November 6, 2014 4 p.m. – 7 p.m.	Horace Mann Arts and Science Magnet Middle School (Cafeteria) 1000 East Roosevelt Rd. Little Rock, Arkansas 72206

The sections that follow further detail Public Meeting #2 and summarizes the input received through Friday, November 21, 2014, which was the end of the public comment period.

Figure 1. I-30 PEL Public Meeting #2 Location



2.1 Public Meeting Advertising and Outreach

Public Meeting #2 for the I-30 PEL Study was publicized using numerous methods of advertising and outreach, as summarized in **Table 2**.

Table 2. Public Meeting #2 Advertising and Outreach

Outreach Efforts		Date(s)
Display/Newspaper Ads	Arkansas Democrat Gazette	10/5/14 & 11/2/14
	North Little Rock Times	10/9/14 & 10/30/14
	El Latino	10/9/14 & 10/30/14
Direct Mail	Flier to adjacent property owners and property owners adjacent to interchanges	10/8/14
	Fliers to stakeholders (chambers, HOAs, etc.)	10/10/14
	Letters to Community Meeting Attendees (no email address provided)	10/28/14
	Fliers to attendees of Public Meeting #1 (no email address provided)	10/10/14
	Letters and fliers to elected officials	10/6/14 & 10/27/14
	Letters to minority ministers and area churches	10/27/14
Email	Fliers to Technical Work Group Members	10/10/14
	Fliers to persons requesting to be added to mail list	
	Fliers to attendees of Public Meeting #1	
	Fliers to Project Partners, Stakeholder Advisory Group and visioning workshop attendees	10/14/14
	Fliers to Community Meeting attendees	10/28/14
Hand-Delivered Fliers[1]	Attractions (e.g., River Market, Clinton Presidential Center and Park)	10/30/14
	NAACP	
	Eastgate Terrace Housing Project (office)	
	Churches	
	Gas stations along the I-30 corridor	
	Schools and Development Centers	
	Libraries and Community Centers	
	Flier sent home with students of Horace Mann Arts and Science Magnet Middle School	10/23/14
Public Service Announcements	Sixty-second spots on Heartbeat 106.7 FM	10/27/14 – 11/6/14
	Sixty-second spots on La Pantera 1440 AM	
Websites	ConnectingArkansasProgram.com	10/3/14
	ArkansasHighways.com	
News Release	Distributed to AHTD media list	10/31/14
Community Meetings	King Solomon Baptist Church (North Little Rock)	10/20/14
	Shorter College (North Little Rock)	10/28/14
	St. John Missionary Baptist Church (Little Rock)	10/21/14
	Ward Chapel (Little Rock)	10/27/14
Community Calendars	Little Rock Convention and Visitors Bureau	10/18/14 – 11/6/14
	City of North Little Rock	
	North Little Rock Chamber of Commerce	
	North Little Rock Visitors Bureau	
	Arkansas Matters	
	Americantowns.com	
	THV11	
	FOX 16	
	KATV	
	Eventful.com	
	Coalition of Little Rock Neighborhoods	
	University of Arkansas Little Rock Public Radio	

Outreach Efforts	Date(s)	Outreach Efforts
Social Media	AHTD Twitter	11/5/14 & 11/6/14
	Arkansas Online Twitter	11/4/14
	Metroplan Twitter	10/28/14 & 11/6/14
	Metroplan Facebook	
Stakeholder Presentation	Historic District Commission of Little Rock	9/8/14
Booth and Display Information	Arkansas State Fair (PEL Fact Sheet and Public Meeting Flier)	10/10/14 – 10/19/14
*Note: [1] Flier distribution list provided in **Attachment A**.*		

In addition, directional signs were placed in various locations around each public meeting facility to help participants locate the facility and to generate additional local awareness of the event.

Copies of the display/newspaper ads, flier, letters, press releases and online advertisements are included in **Attachment A**.

2.2 Public Meeting Attendance

A summary of the attendance at Public Meeting #2 is presented in **Table 3.**

Table 3. Public Meeting #2 Attendance

Attendees	Number
General Public	116
Agencies	23
Elected Officials	1
Media	4
Study Team Members	26
Total Attendance	**170**

Participants represented a wide range of interests and included members of the general public, members of community organizations, elected officials, and city/county staff. Copies of the sign in sheets from both meetings are included in **Attachment B**.

2.3 Public Meeting Format and Materials

Public Meeting #2 utilized an open house format, which allowed participants to arrive, sign in, view exhibits and handouts, ask questions, and provide comments between 4:00 p.m. and 7:00 p.m. The meeting layout was designed to showcase 11 distinct stations. I-30 PEL Study Team members, comprised of AHTD staff and consultants, were available at every station to provide information and answer questions.

The eleven stations are described below, in the order that they were intended to be viewed by the public. The materials available at each station are summarized in **Table 4.**

Station 1: Sign in Here - At this station, members of the public signed in, learned about the meeting format, and received introductory handout materials. Materials handed out included a public meeting program guide that described the meeting format and station set-up, an I-30 PEL fact sheet describing the PEL process, a Connecting Arkansas Program (CAP) brochure describing the CAP Program, and a comment form.

A notice of non-discrimination exhibit was also posted at this station.

Station 2: I-30 PEL Study Area, Constraints Maps, and Timeline - This station presented the I-30 PEL study area, constraints that have been identified to-date, and PEL Study timeline. Seven exhibit boards were on display: one map of the study area; three separate constraints maps covering the north section of the study area (North Little Rock), the middle section of the study area (Arkansas River and central business districts), and south section of the study area (Little Rock); two identical legends explaining the symbols identified on the constraints maps; and an exhibit depicting the overall PEL study timeline and where the study is within this timeline of events.

Station 3: Purpose and Need – This station presented an overview of the purpose and need of the project. Eight exhibit boards were on display. One exhibit board each presented the purpose and need of the study, the study goals, and guiding principles. The remaining five exhibits provided additional details related to the needs of the project: a traffic and safety overview exhibit describing the approach taken for the preliminary traffic and safety analysis and concerns identified by stakeholders; an exhibit comparing existing and future No-Action peak hour level of service along I-30/I-40 in the study area; a safety exhibit showing existing and predicted crashes along the facility under No-Action conditions; an exhibit illustrating navigational safety issues; and an exhibit depicting example roadway and bridge structural and functional deficiencies along the I-30/I-40 facility.

Station 4: Universe of Alternatives and Alternatives Screening Methodology – This station presented two exhibit boards: one exhibit board listing the Universe of Alternatives - the initial set of possible solutions to the transportation needs identified for the I-30/I-40 facility in the study area; and one exhibit board illustrating the general alternatives screening methodology.

Station 5: Screening Process and Preliminary Alternatives – This station provided details about the Level 1 screening process and results. Two exhibit boards were on display. One exhibit board illustrated the results of the Level 1 screening of the Universe of Alternatives to Preliminary Alternatives. A second exhibit board illustrated the grouping of the Preliminary Alternatives into 6, 8, 10 and 12-lane scenarios combined with other highway build, I-30 Bridge, other modes, congestion management, and other non-recurring congestion management alternatives. This station also included an interactive survey where attendees were asked to place a check mark by the Preliminary Alternative(s) they wanted to see further evaluated as part of the PEL Study.

Station 6: Aerial Maps – This interactive station consisted of one large-scale, aerial photograph map of I-30/I-40 within the study area. Meeting attendees were encouraged to write on post-it notes (and attach directly to the maps) any problem areas, concerns and/or suggestions for improvements along I-30/I-40 in the study area. Study team members, including engineers and planners were available to answer questions.

Station 7: Typical Sections – This station presented example main lane typical sections for the 6, 8, 10 and 12-lane scenarios. Four exhibit boards were on display: two illustrating the 6 and 8-lane scenarios with either a 300-foot typical right of way (ROW) width or 400-foot typical ROW width; and two illustrating 10 and 12-lane scenarios with either a 300-foot typical ROW width or 400-foot typical ROW width.

Station 8: Design-Build Education – This station provided an explanation of the design-build-to-a-budget project delivery method to be implemented for the I-30 project. Three exhibit boards were on display: one exhibit board introducing the design-build project delivery method; one exhibit board describing design-build-to-a-budget; and one graphical illustration comparing regular project delivery to design-build-to-a-budget delivery.

Station 9: Connecting Arkansas Program – This station presented an overview of the CAP Program. It displayed three exhibit boards: a map of the state of Arkansas showing the general locations of the CAP projects; a table listing all of the CAP projects and their respective improvement type (e.g., widening and interchange improvements); and an exhibit displaying various CAP statistics and background information.

Station 10: Draft Documents – This station provided draft copies of the I-30 PEL Framework and Methodology, Public Involvement and Agency Coordination Plan (PIACP), Constraints Technical Report, Universe of Alternatives, and Alternatives Screening Methodology documents. Although hard copies of these documents were provided for reviewing at the public meeting only, meeting attendees were reminded that all public meeting materials, including these draft documents, were available on the project website.

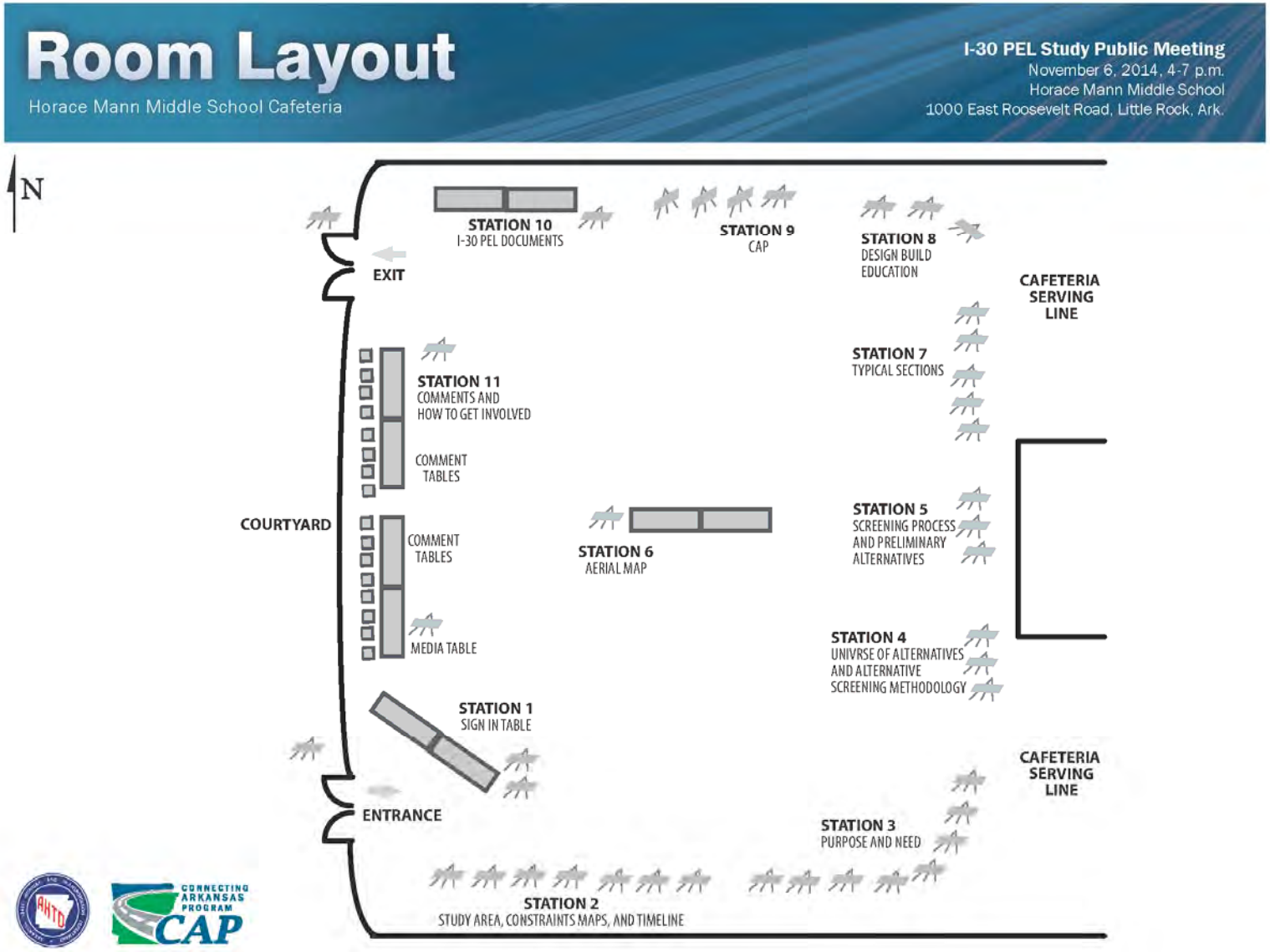
Station 11: Comment Tables and How to Get Involved – This station included a sitting area and comment boxes for meeting participants to complete and submit comment forms at the meeting venue. This station also presented an exhibit detailing the various methods members of the public could obtain more information or provide comments on the I-30 PEL Study. At the end of the meeting, the Study Team collected all written comments from the comment boxes, the surveys from Station 5, and post-it note comments on the roll-plot aerial photograph map at Station 6.

The materials described at each of the 11 stations above are summarized in **Table 4.** Copies of the materials, as well as photos from the meetings, are included in **Attachment C**. **Figure 2** presents the general layout for Public Meeting #2.

Table 4. Public Meeting #2 Materials

Station	Type	Title
Station 1: Sign In Here	Handout	Public Meeting Program Guide
	Handout	I-30 PEL Fact Sheet with Study Area Map
	Handout	CAP Brochure
	Handout	Comment Form
	Exhibit	Notice of Non Discrimination
Station 2: I-30 PEL Study Area, Constraints Maps, and Timeline	Exhibit	Study Area Map
	Exhibit	North Section Constraints Map
	Exhibit	Middle Section Constraints Map
	Exhibit	South Section Constraints Map
	Exhibit	Constraints Map Legend (x2)
Station 3: Purpose and Need	Exhibit	Purpose and Need
	Exhibit	Study Goals
	Exhibit	Guiding Principles
	Exhibit	Traffic and Safety Overview
	Exhibit	Level of Service
	Exhibit	Safety
	Exhibit	Navigational Safety Issues
	Exhibit	Roadway and Bridge Deficiencies
Station 4: Universe of Alternatives and Alternatives Screening Methodology	Exhibit	Universe of Alternatives
	Exhibit	Alternative Screening Process (Overview)
Station 5: Screening Process and Preliminary Alternatives	Exhibit	Alternative Screening Process (Universe to Preliminary)
	Exhibit	Scenarios for Further Evaluation
	Handout	Survey: Scenarios for Further Evaluation
Station 6: Aerial Maps	Exhibit	Large scale, aerial photograph map of I-30/I-40 in the study area
Station 7: Typical Sections	Exhibit	Main Lane Typical Sections – Example 1 (6-Lane and 8-Lane Scenarios)
	Exhibit	Main Lane Typical Sections – Example 1 (10-Lane and 12-Lane Scenarios)
	Exhibit	Main Lane Typical Sections – Example 2 (6-Lane and 8-Lane Scenarios)
	Exhibit	Main Lane Typical Sections – Example 2 (10-Lane and 12-Lane Scenarios)
Station 8: Design-Build Education	Exhibit	Design-Build Delivery
	Exhibit	Design-Build Delivery (continued)
	Exhibit	Design-Build-to-a-Budget
Station 9: Connecting Arkansas Program	Exhibit	CAP Project Locations
	Exhibit	Cap Projects Listed
	Exhibit	CAP Statistics
Station 10: Draft Documents	Report	I-30 PEL Framework and Methodology
	Report	Public Involvement and Agency Coordination Plan
	Report	Constraints Technical Report
	Report	Universe of Alternatives
	Report	Alternatives Screening Methodology
Station 11: Comment Tables and How to Get Involved	Handout	Comment Form
	Exhibit	How to Get Involved

Figure 2. Room Layout for Public Meeting #2



2.4 Public Meeting Comments

The public comment period for the first series of public meetings opened on November 6, 2014 and ended November 21, 2014. Attendees could provide comments through a variety of methods, including the following:

- Submitting a written comment in the public meeting comment box at Station 11;
- Submitting a survey regarding potential scenarios for further evaluation at Station 5;
- Writing a comment on post-it notes and attaching the post-it notes to the large-scale, aerial photograph map at Station 6;
- Calling the Connecting Arkansas Program at 501-225-1519;
- Mailing a written comment to Connecting Arkansas Program, RE: 1-30 PEL Study, 4701 Northshore Dr., North Little Rock, AR 72118; or
- Emailing a comment to Info@ConnectingArkansasProgram.com.

Table 5 shows the number of comment submissions by method in which they were submitted.

Table 5. Number of Comments Received

Submission Method	Reference Table for Comment Details[1]	Number of Comments
Comment Form	Table 6	23
Letter	Table 6	3
Email	Table 6	2
Survey Forms Completed – Scenarios for Further Evaluation (Station 5)	Table 7	59
Post-it Note Comments on Large-Scale Aerial Photograph Map (Station 6)	Table 8	18
Total Comments Received		**105**

Note: [1] See the referenced tables for detailed comments.

Many of the comments submitted identified specific transportation problems and/or solutions to address issues of concern. Many commenters noted congestion problems along I-30/I-40, ramp spacing issues along I-30 within the study area, and weaving problems along I-40 between the I-30/I-40 interchange and the I-40/Hwy. 67/Hwy. 167 interchange. Numerous commenters also recommended bicycle and pedestrian facilities be improved and/or accommodated as part of the proposed project and that existing transit and transit improvements also be considered. Commenters also expressed a desire for preservation and protection of environmental resources, including historic resources, parks, and habitat.

Table 6 provides a listing of all comments received on the comment forms, via e-mail, or letter. Also included are the corresponding response codes for each comment. The response code key is presented in **Table 9.** Comments are listed verbatim and copies of all comments received are included in **Attachment D**.

Table 6. Comment Forms, Emails, and Letters Received and Response Codes

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
Robertson, Jackie	11/6/14	Comment Form	1	I own house at 2104 Vance. The original freeway took most of front yard. If property will be compromised further I don't want a wall in the front yard.	B, I
Chambers, Don	11/6/14	Comment Form	2	My comments address the area NOE [northeast] Ark River. Many areas are frightening, however 3 standout: 1) Lakewood I-40 WB. Access ramp merge to I-30 WB- seems short crosses 2 lanes of I-40 WB. 2) I-40 WB ramp to access ramp merge to I-30 WB & I-40 EB ramp to I-30 WB and 15th St. exit. Very dangerous high speed weaving patterns. It is dangerous if you are familiar with the weaving/exiting patterns. Down Right scary if you are unfamiliar with the area. 3) I-30 Broadway exit. The 7th St. (Bishop Lindsey) right turn is very convenient. 7th takes you to the Broadway Bridge and downtown LR [Little Rock] will be greatly improved when 5th, 4th & Poplar Grid is completed. Problem: the right turn at the end of the exit ramp exposes you to a T-bone accident from the thru traffic on service road (Cypress St.). Redirect or require stop on Cypress St. 4) Extra- as much as possible use "Texas Turn Arounds" to reduce left turn load on local streets. 5) Extra Extra - preserve the 4th St. overpass for future connecting options in downtown NLR [North Little Rock].	A
Nellum Sr., Cleo	11/6/14	Comment Form	3	Will right of way affect Greater Macedonia Church and property south of church?	I
Schwartz, Dean Michael Hunter	11/6/14	Comment Form	4	The need is not so great that adding more than one extra lane or a light rail system would not be more than sufficient. In an event [unclear], key issue[s] are preserving historic areas, maintaining traffic flow during construction, and insuring easy access to businesses and educational institutions along the corridor.	B, E, K, Q
Lee, Eric	11/6/14	Comment Form	5	I own a business on S. E. [southeast] 6th St, right by the freeway. My concern is what would be the method of expansion and how the barricade will be installed. I am very worried about the blockage of the entrance/parking lot because that means I'll have to close the shop for a year.	E
Louks, Harry	11/6/14	Comment Form	6	1) I-30 make one side double deck bridge - costly but only way to save taking more land. 2) Replace and rebuild banked off/on connection (S. on I-30 turning west on I-630). Its no[t] banked for easy transition - slows down traffic.	A, O

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
Louks, Robin	11/6/14	Comment Form	7	Do not rule out double decker lanes. Add more pedestrian/bike overpasses particularly in the Hanger Hill neighborhood (over I-30). Please do not ruin any more neighborhoods as was done 50 years ago.	B, C, E, N, O
Carpenter, Russell	11/6/14	Comment Form	8	Thanks for coming! I'm curious about the frontage roads on the Little Rock side of the project. I feel that making them from downtown to I-530 would be another alternative to congestion. Also, how much work would be done at the I-30 & Roosevelt intersection?	A, S
Curry, Neil	11/6/14	Comment Form	9	Concerns: 1) Impact on AGFC [Arkansas Game and Fish Commission] Witt Stephens Jr. Central Arkansas Nature Center grounds (right of way neighbor on southwest side of I-30 Bridge). 2) Impact on NLR [North Little Rock] side boat ramp to Arkansas River. 3) How will Bill Clark Wetlands be altered (shade, fish and wildlife impacts)? 4) Rain run off/erosion control under bridge approaches. 5) Increase in sound decimal level below and to the sides of structure? 6) How will Arkansas River Trail be rerouted during construction for pedestrian & cycle use?	B, C, I
Thieliner, Benjamin	11/6/14	Comment Form	10	The existing bridge should be eliminated and the roadway put in a tunnel from Roosevelt or I-630 to NLR [North Little Rock]. Alternatively, the road should be moved away from downtown towards the east to tie in directly with [Hwy.] 67.	L, O, S
Schlereth, John	11/6/14	Comment Form	11	We own 9 parcels within the project. Most are billboard locations. It looks like the only 2 that will be affected are the 2 on each side of the I-30 Bridge in NLR. My preference would be for you to acquire [unclear text] property next to your new ROW so we could swap properties and relocate our signs rather than sell to HWD [highway department].	I
Morgan, Alex	11/6/14	Comment Form	12	Make it a mix of 8 and 10 lanes. Space out interchange. Add some better lighting.	A, D
Lytle, Nathaniel	11/6/14	Comment Form	13	Good information. Will offer more comments after studying information I've received.	S
Wells, Kathy	11/6/14	Comment Form	14	1) LR pol. [Little Rock Police] moved from old VA to 12th & Cedar. 2) Mark Our House Children's Center- 302 E. Roosevelt- put off limits! 3) Alternatives good to add- do use buses!	F, K, S

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
McCoy, David	11/6/14	Comment Form	15	1) Be mindful of how many people will die in accidents as a result of traffic. Slow down and reroute because of the construction. 2) Eliminate this I-30 Bridge as on I-30 route. Change Hwy. 440 to I-30; get rid of the I-30 signs for the highway over the river. Get rid of the I-530 (to Pine Bluff) sign. If you make I-440 be the new I-30, you will not have to spend but very little money. Leave downtown Bridge alone. Do not fix or expand anything. All I-30 traffic will now use I-440 which is wide enough for all the traffic. Spend money on engineering at the current southside I-30/I-440/I-530 interchange. Make that wide and multi-laned to take the I-440 traffic ("new I-30") and continue it to I-30 (Texarkana direction). If national travelers are looking for I-30 from I-40, you will route them to I-440 (new I-30). You won't have to build or refurbish the downtown I-30 - just remove the sign (I-30). 3) Get rid of the I-630 sign and call it something else too. Too many "30's" in the road signs- it's confusing even for locals.	A, L, P
Jackson, Diane	11/6/14	Comment Form	16	[No comments provided]	S
Adcock, Bill	11/6/14	Comment Form	17	Use design build to minimize time frame. My biggest concern is the placement or rebuilding overpasses & underpasses at or close to existing ones, and traffic delays during construction for our bus routes.	A, E, H
Diaz, Lakresha	11/6/14	Comment Form	18	Do not take historic structures. Please ensure the freeway right of way has sidewalks that allow the neighborhood to walk. Plant trees along the right of way for beautification.	B, C, D
NA	11/6/14	Comment Form	19	Would like to see inclusion of several transportation modes in this project for the right of way including but not limited to bicycles, trains, and buses. Would also like to see the highway limit the separation between neighborhoods it goes between. I look forward to a great multimodal transportation corridor!	C, D, K
Canfield, Keith	11/6/14	Comment Form	20	Seems there are other options that fit this situation of relatively short congestion periods. Exit redesign and reversible lanes (zipper type) would solve rush hour congestion for those with center city terminus. Thru traffic going to/from I-40 should be routed on I-440/430.	A, M, Q
Saraheen, Aladdin	11/6/14	Comment Form	21	I-30 superstore (Exxon) 6123 Roosevelt, Little Rock, AR. Will the exit to Roosevelt be moved? Are you going to widen the street and take part of our parking lot? When will the project start?	A, G, I

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
Miller, Scott	8/2014	Letter	22	As discussed recently, there are several items, which in my opinion, should be considered in the Interstate 30 (I-30) widening by the advisory committee. These are as follows: 1) It is imperative that east/west crossing at 7th St. under the I-30 account for school children walking to school. There are no stop signs for the ramps coming off I-30 now, and this area is extremely hazardous to pedestrians and children. With our new school zoning, dozens of children every morning will be walking under I-30 on 7th St. to get to school back and forth from Argenta to 7th St. Elementary, a distance of less than 10 blocks. 2) If any improvements are to be located on the school district property behind sophomore campus, assurances should be provided to the NLRSD [North Little Rock School District] that any fill placed will not exacerbate the flooding problem on school district property. Much of this area is in a flood zone and any additional fill places to widen I-30 in this area could result in more severe flooding on school district property. 3) I would request signage on the interstate for the high school. With numerous athletic events, visitors to athletic events, public attendance at arts events people will need to know what exits to take to reach the high school efficiently. Failure to do so could result in future accidents as people can see the school, but do not know how to exit to get to the school. 4) Consideration should be given to creating a pedestrian or other trails, north/south, on the west side of I-30 corridor right of way, including pedestrian bridges over ramps and/or the railroad yards, which will be critical in the long term to tie the school's future park development at the Poplar Street campus area to the River Trail and to encourage access from the communities on both sides of I-30 to the river and high school.	A, B, C, D, P
Hanson, William P.	11/10/14	Comment Form	23	I very much favor improving I-30. I am in close proximity to I-30 now. I do not want to lose my home. I am on a fixed income. It would be quite a burden to relocate. I appreciate that the proposals I saw indicate that improvements can still be made within current right of way with as little impact as possible on current neighborhoods and structures. Thank you all so much for your concern and may you each be blessed with the wisdom to do what is best for all of us. Thank you.	B, I

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
Pekar, Dale J.	11/14/14	Comment Form	24	Little Rock has little good foot access North and South from the River Market. There is a very narrow sidewalk on only the west side of Cumberland. Otherwise, the only thru path is on River Market/Commerce. It would be great if somehow Rock Street could provide North-South foot access or if a good wide sidewalk could be fitted onto Cumberland.	C, D
Scheiman, Daniel M. Audubon Arkansas	11/6/14	Letter	25	At 2,000 acres, Fourche Bottoms is one of the largest urban wetlands in the country and is the largest remaining tract of natural bottomland hardwoods in the Fourche Creek Watershed. Fourche Creek, its watershed, and its wetlands provide important natural services like water purification, floodwater storage, urban noise reduction, air pollution control, and wildlife habitat- all within the city of Little Rock. AHTD's proposed construction project intersects with the Fourche Bottoms at the I-30/I-530/I-440 interchange. Where impacts to wetlands occur mitigation must be done. Audubon Arkansas strongly suggests that mitigation takes place within the Fourche Creek Watershed. Mitigation should use only Arkansas native plants, and efforts should be to eradicate and prevent the establishment of non-native, invasive plant species at the construction and mitigation sites. Audubon has previously discovered populations of the globally rare Arkansas meadow-rue (*Thalictrum arkansanum*) at several locations along Fourche Creek. Surveys should be conducted to determine if the species is present at the project site. If present in the project area, construction will adversely impact the species. Further, it is important that the main channel of the Fourche Creek not be blocked or disturbed in any way. Best management practices should be used to prevent sediment from entering Fourche Creek, its wetlands, and the adjacent borrow ponds in the project area. I am happy to provide a detailed explanation of our concerns upon request from anyone at AHTD.	B
Stair, Patrick (continued on next page)	11/6/14	Letter	26	I am adamantly opposed to adding more through lanes to the I-30 and I-40 highways in the downtown area. Following are some of the reasons I am opposed to this, listed in no particular order. 1) As the saying goes, traffic will expand to fill the available space. If you build more through lanes, they will fill up as people use the extra lanes rather than taking alternate routes. I have seen this happen with all the road expansions I've witnessed since moving here 35 years ago. (comment continued on next page)	Q, S

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
Stair, Patrick (continued)	11/6/14	Letter	26	2) If you build more through lanes, you will bottle up more traffic with each accident. I have especially seen this effect with all the highway expansions in the area. 3a) There are plenty of alternate routes that people can take now, and those alternate routes could be well enhanced if the amount of energy and money that would go into an expansion of I-30/I-40 were instead funneled into arterial improvements. There is a wide variety of road and design enhancements, grade separations, and intersections redesigns that could improve throughout on the arterials. I know it must be much more fun planning for and building elaborate projects like a downtown expansion that working on some boring old intersection enhancement, but the total impact could be much greater and the cost could be less. 3b) Some of our existing alternate routes, such as the I-440 bypass, could be better utilized, and if the I-30/I-40 route becomes too congested, people will use those alternate routes. Perhaps some public education efforts would help. People may not realize that they could save time and gasoline taking some of these alternate routes. I remember how my sister was pleasantly surprised when she took a chance and went a little out of her way to use I-440 rather than going through downtown, and found that it was a pleasant and speedy alternative. Perhaps more people need to be educated on routes such as this. 3c) I am not a traffic engineer, but almost everything I've read indicates that it is a good idea to have alternate routes in a transportation network. Here's your chance to improve the alternate routes. 4) Whatever happened to the idea of the Chester Street Bridge? That would surely take a big load off the I-30 corridor downtown. 5) I'm tired of freeways getting wider and wider. When I go to other cities and see huge slabs of concrete breaking up the landscape, it just makes me sick. I-30 and I-40 break up the cities more than enough already. Please don't make it worse by expanding these freeways. 6) I live downtown, and I definitely do not want to increase the number of cars and trucks driving through the area, fouling the air more than it already is. In contrast to my opposition to suggestions to widen I-30 & I-40, I support adding shoulders, providing places for some wrecks to be moved to and for emergency vehicles, and improving ramps. I'd also rather see money spent on improving options such as mass transit, and bike/pedestrian pathways, rather than expanding the I-30/I-40 roads.	B, D, L, Q, S

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
Collins, Will	11/19/14	Email	27	Hello, my name is Will Collins. I attended the Public Meeting on November 6 and notice that a parcel of land owned by my company was marked as a wetland and also had a hazardous material dumping site icon on it. According to sources we have looked at (internal records, FEMA Flood Insurance Maps), there are wetlands around our parcel, but we do not share that designation. The parcel (PID#-33N2090000200) is highlighted in blue below:  Obviously we would like to figure out why our land is considered wetlands by one source and not by another, but also I'd like to figure out what the hazardous material could be?	R
Copher, Brian	10/10/14	Email	28	I think an expansion of 365 from I-40 with the addition of a Bridge on the west side of the UP rail bridge would relieve pressure on the 430 and 630 Maumelle to West Little Rock corridor. Extending 630 toward the airport then north to connect direct with 67/167 will significantly reduce the pressure on I-30 and I-40 from downtown Little Rock and North Little Rock while increasing the ease that residents of Sherwood, Jacksonville, Cabot and even Lonoke endure on their daily work travel. Note: Comment included an illustrative map. See **Attachment D** - Comment Forms, Emails and Letters - Comment #28.	A, L

As previously discussed, Station 5 presented the results of the Level 1 Screening (Preliminary Alternatives) and illustrated the grouping of the Preliminary Alternatives into 6, 8, 10 and 12-lane scenarios to be combined with other highway build, I-30 Bridge, other modes, congestion management, and other non-recurring congestion management alternatives. Once established, these groupings will be carried forward and evaluated as part of the next level of screening (Preliminary Alternatives to Reasonable Alternatives). **Table 7** provides an accounting of all the scenarios identified in the survey by attendees as preferable for further evaluation in the PEL Study. Survey forms are included in **Attachment D**.

Table 7. Survey Forms: Scenarios for Further Evaluation (Station 5)

Group	Description	Number of Times Circled
Survey Instructions: Circle the scenario you prefer to be further evaluated in the PEL Study		
Scenario	Scenario 1 - 6 lanes	8
	Scenario 2 - 8 lanes	22
	Scenario 3 - 10 lanes	11
	Scenario 4 - 12 lanes	5
Group	**Description**	**Number of Times Checked**
Survey Instructions: Check the box next to the Preliminary Alternatives you prefer to be further evaluated in the PEL Study		
Highway Build Alternatives	Main Lane Pavement Rehabilitation	21
	Collector / Distributor (C/D) Roads	13
	Auxiliary Lanes	7
	Frontage Road Improvements	17
	Intersection Improvements	24
	Interchange Improvements	31
	Ramp Consolidation/Elimination	19
	Roadway Shoulder Improvements	18
	Horizontal/Vertical Curve Improvements	6
	Bottleneck Removal	32
	Bypass Route	18
Congestion Management	Information Systems/Advanced Traveler Information	23
	Managed Lanes	17
	Reversible Lanes	9
	Ramp Metering	9
	Hard Shoulder Running	6
	Travel Demand Management	11
	Transportation System Management (TSM)	12
	Wayfinding/Signage	19
	Arterial Improvements	22
	Land Use Policy	10
I-30 Bridge	I-30 Arkansas River Bridge Rehabilitation	24
	I-30 Arkansas River Bridge Replacement	25
Other Modes	Arterial Bus Transit	10
	I-30 Express Bus Transit	19
	Bus on Shoulder	14
	Bus Lanes	13
	Arterial Bus Rapid Transit	11
	Light Rain (Streetcar)	16
	Bicycle/Pedestrian	19
	Commuter Rail	19

Group	Description	Number of Times Circled
Non-Recurring Congestion Management	Crash Investigation Sites	20
	Roadside/Motorist Assist Enhancements	16
	Improvements to Detour Routes	16
	Variable Speed Limits (Speed Harmonization)	15
	Queue Warning	20

As shown in **Table 7**, the most popular main lane widening scenario selected for further evaluation was an 8-lane scenario, followed by a 10-lane scenario. Of the other Preliminary Alternatives to be grouped with the 6, 8, 10, or 12-lane scenarios for future screening, the following alternatives ranked highest among their respective groupings: interchange improvements and bottleneck removal for highway build alternatives; information systems/advanced traveler information and arterial improvements for congestion management alternatives; I-30 express bus transit, bicycle/pedestrian improvements, and commuter rail for other mode alternatives; and queue warning and crash investigation sites for non-recurring congestion management alternatives. Results were split almost evenly among survey respondents between rehabilitation and replacement of the Arkansas River Bridge.

Table 8 provides a listing of all comments received at the public meetings as applied via post-it note directly on the large, aerial photograph map of the study area. Also included is the corresponding response code. The response code key is presented in **Table 9.** Comments are listed verbatim.

Table 8. Comments from Aerial Photograph Map (Station 6)

Comment Number	Comment	Response Code
MAP-1	Provide U-turn overpass for vehicles getting on at Curtis Sykes that need I-40 W. *Post it note comment placed near I-40 and North Hills Blvd interchange.*	A
MAP-2	Kids cross under to go to NLR [North Little Rock] school. *Arrow on post it note comment pointed at I-30 and 19th St. underpass.*	C
MAP-3	Make on ramp I-40 E access only. *Arrow on post it note comment pointed northward at I-30 on ramp at Curtis Sykes Drive.*	A
MAP-4	What is the effect that will be had on Shorter College? *Post it note comment placed near I-30 and Bishop Lindsey Ave.*	B, I
MAP-5	Move ramps south of 7th St. *Arrow on post it note comment pointed southward at I-30 exit ramp to Bishop Lindsey Ave (east-west) and N Cypress St (north-south).*	A
MAP-6	Walk route for school kids. *Arrows on post it note comment pointing along Bishop Lindsey Ave. .*	C
MAP-7	School is fed from west side of I-30. Arrow on p*ost it note comment pointed at school located at N Beech St. and E 7th St.*	C
MAP-8	Elevate bridge - bury it. *Post it note comment placed along I-30 Bridge.*	O
MAP-9	Ditto [Assumed comment is referencing MAP-8 comment]. *Post it note comment placed along I-30 Bridge.*	O
MAP-10	Provide north/south walking/biking access through here. *Arrow on post it note comment pointing southward, immediately south of the Junction Bridge in Little Rock, west of I-30.*	C
MAP-11	Make on/off ramps longer. *Post it note comment placed near I-30 and Cantrell interchange.*	A

Comment Number	Comment	Response Code
MAP-12	Eliminate this on ramp, its dividing city from Clinton Library. *Post it note comment placed near I-30 and Cantrell interchange.*	A, D
MAP-13	Close 6th or 9th St. exit southbound. *Post it note comment placed near I-30 and 6th St.*	A
MAP-14	Could work with cities to create bike trails that weave in and out of corridor providing a great north-south route connecting neighborhoods with downtown. *Post it note comment placed between McGowan St. and S Commerce St.*	C
MAP-15	A bike trail that follows the corridor maybe weaving in and out of it, would allow an alternative way for locals to access downtown - freeing the highway of some traffic. *Post it note comment placed along I-30 and 9th St.*	C
MAP-16	Accidents on ramp. *Arrow on post it note comment pointing towards I-30 and I-630 interchange (I-630 entrance ramp to northbound I-30).*	A
MAP-17	Replace driveway. *Post it note comment placed between E 23rd St. and E 24th St. immediately adjacent to I-30 on east side.*	A
MAP-18	Move Roosevelt Rd. on/off ramps north and south closer to Roosevelt Rd. *Post it note comment placed along I-30 just south of Roosevelt Rd. between E 26th St. and E 28th St.*	A

Table 9 below presents the key to the response codes presented in **Tables 6 and 8.**

Table 9. Comment Response Code Key for Public Meeting #2

Response Code	General Topic Addressed	Response
A	Identification of a specific transportation need or solution to address issues of concern.	Input regarding the need for improvements within the I-30 PEL study area or potential solutions to address issues of concern identified as part of the November 6, 2014 public meeting will be used in the continued development and screening of alternatives. The Study Team has and will continue to reach out to members of the public, stakeholders, and community leaders for input on alternatives and design considerations. For example, local representatives (agency, government, and community) appointed by the Mayors of Little Rock and North Little Rock and the Pulaski County Judge attended a visioning workshop on 11/19/14 where they provided input on access locations, ramping and weaving issues, traffic patterns, local attractions, land use plans and other design features to consider when developing and evaluating potential transportation solutions along the I-30/I-40 facility. The Study Team has and will continue to meet regularly with the city mayors, county judge, and representatives from Metroplan, all Project Partners in the PEL Study. Additionally, community meetings at local churches and with various community organizations have provided valuable input on the community vision for the I-30/I-40 facility. All of these individuals have and will continue to provide valuable planning knowledge used by the Study Team in the development of the proposed alternatives. At the time of Public Meeting #2, the Universe of Alternatives was screened to a set of Preliminary Alternatives (Level 1 Screening). Moving forward, the Preliminary Alternatives will be screened to a set of Reasonable Alternatives (Level 2 Screening), to be presented at Public Meeting #3 on January 29, 2015. (response continued on next page)

Response Code	General Topic Addressed	Response
A (continued)	Identification of a specific transportation need or solution to address issues of concern.	Utilizing valuable input provided by the public and stakeholders, the identified Reasonable Alternatives will be developed to a greater level of detail such that ramping, interchange improvements, intersection improvements and other design refinements are incorporated into the alternative designs, where practicable. Reasonable Alternatives will be subsequently screened to the PEL Recommendations for further project development. PEL Recommendations will be presented at a fourth public meeting in early Spring 2015. Note that a set amount of funding is currently available for improvements along I-30/I-40 in the study area, and accordingly, PEL recommendations could include a prioritized set of improvements along I-30/I-40 that are comparable to the set amount of available funding.
B	Concerns about potential social, economic and environmental impacts and/or request for protection of environmental resources in the study area.	Social, economic, and environmental resources (such as historic structures and districts, archeological resources, neighborhoods/residences, parks, businesses, wetlands, habitat, etc.) will be considered during the development, evaluation and screening of draft alternatives for the I-30 PEL Study in an effort to avoid and/or minimize any potential future negative impacts on these resources. Continued coordination with resource agencies will occur throughout the PEL and NEPA processes to ensure compliance and minimization of potential impacts. Once the PEL Recommendation(s) have been developed and refined for additional study under the NEPA process, they will be specifically evaluated for their ability to address the needs within the study area, as well as for their potential direct, indirect, and cumulative impacts on social, economic, and environmental resources, including displacement impacts, noise impacts, impacts to communities, and impacts to natural resources (wetlands, floodplains, habitat, etc.). Efforts would be made to avoid, minimize, or mitigate potential environmental impacts associated with the proposed alternative(s) for the project. In relation to potential noise mitigation, a noise study will be performed as part of the NEPA analysis to determine the degree of noise impacts (if any) and potential mitigation options (if feasible and reasonable). Construction of noise walls is subject to approval by affected residents, who will be given the opportunity to vote on their preference.
C	Suggestion of bicycle/pedestrian improvements.	Accommodating bicycle/pedestrian facilities and improving the safety of pedestrians and bicyclists, including pathways for students walking or bicycling to school, were all issues identified by local agency, government, and community representatives at the I-30 PEL visioning workshop held on 11/19/14. Suggested bicycle and pedestrian facilities needs and improvements have and will continue to be considered during the development and evaluation of draft alternatives for the I-30 PEL Study.

Response Code	General Topic Addressed	Response
D	Questions/concerns about east-west connectivity and aesthetic issues.	Various aspects related to aesthetics and context sensitive solutions (CSS)[1], such as lighting, landscaping, enhancing east-west connectivity, and the overall development of a transportation facility that complements the surrounding physical setting, will be considered as part of the PEL process. Visioning workshops have been included as part of the PEL process to obtain early feedback and develop a foundation for continued community outreach. One visioning workshop was held on 11/19/14 and included agency, government, and community representatives as appointed by the mayors of Little Rock and North Little Rock and the Pulaski County Judge. Improved lighting and other aesthetic suggestions were provided by visioning workshop participants, such as designing an open and inviting facility, not having an iconic bridge, and having a consistent use of materials throughout the corridor. From this visioning workshop, renderings of possible solutions that preserve and enhance aesthetic, historic and community resources will be developed. During the NEPA phase, a second visioning workshop will be held with stakeholders that examines potential CSS and design concepts in greater detail. Based on stakeholder feedback and available funding, CSS/aesthetic guidelines will be developed following this second visioning workshop and utilized, pending AHTD approval.
E	Questions/concerns about construction impacts	Although it is unknown how many lanes would remain open during construction because alternatives are still under development and evaluation, traffic flow on I-30/I-40 would be maintained during construction. For example, for the Arkansas River Bridge replacement alternative, it is possible that all six lanes could remain open while a new bridge is constructed. Although temporary congestion may occur as a result of project construction, all practicable steps would be taken to minimize the inconvenience to motorists, transit users, bicyclists and pedestrians. All practicable steps would also be taken to maintain access to residential and business areas in the project vicinity during construction. Measures to control noise and dust due to construction activities would be considered and incorporated into construction specifications. AHTD has a public information office that provides notifications through various communications methods, including notifying the media, utilizing social media, and contacting affected stakeholders, among other tactics. During construction, AHTD will work to notify the public in as much advance as possible and to the extent practicable, and will continually work to improve communications throughout the process.
F	Suggestion to add an Environmental Justice (EJ) Resource to the I-30 PEL Study Constraints Map	For discretionary and privacy purposes, EJ communities and resources, such as Our House, were not identified by location on the I-30 PEL Constraints Maps that were presented to the general public at the Public Meeting. However, EJ community locations and resources are identified in the I-30 PEL Constraints Technical Report, which was available for viewing at the Public Meeting and is available online at the project website. Our House is included in the Constraints Technical Report.

Response Code	General Topic Addressed	Response
G	Question about project timeline	The I-30 PEL study began in April 2014 and is anticipated to conclude in the summer of 2015, when the National Environmental Policy Act (NEPA) process will begin. Construction is expected to begin in 2018, and is anticipated to take 3-4 years.
H	Questions/concerns about project delivery	Improvements to I-30 will be delivered using the design-build-to-a-budget method. This method fixes the maximum amount available to all design-build teams (D-B Teams) proposing on the project to deliver a project that meets the project goals while maximizing the amount of specific project improvements that can be built for the fixed budget. Experience using this delivery method has shown that D-B Team innovations yield project time savings, high quality, and additional improvements for the fixed budget while meeting all project goals and requirements.
I	Questions/concerns about right of way (ROW) impacts and/or displacement of property	Potential ROW impacts would be based on a widening alternative (should the results of the PEL Study recommend a widening alternative). At Public Meeting #2, in order to present an example of potential ROW widths, general typical sections were overlaid on aerial photograph for 6, 8, 10 and 12 main lane options. These typical sections, however, were meant to serve as examples only because at this point in the PEL process, potential widening alternatives have not been designed to a level of detail where specific ROW impacts are known. ROW impacts will be clearer as the study progresses and will be provided at future public meetings. In general, AHTD's ROW is between the outside edges of the frontage roads, and the goal is to remain within the ROW. Because specific ROW impacts are unknown, it is also unknown what potential displacement impacts could result from the various main lane widening options. Once the PEL recommendations have been developed and refined for additional study under the NEPA process, they will be specifically evaluated for their ability to address the needs within the study area, as well as for their potential impacts on ROW and structures. Efforts would be made to avoid, minimize, or mitigate potential environmental impacts associated with the proposed alternative(s) to ROW and structures. Real property would be acquired in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act which provides important protections and assistance for people affected by Federally funded projects. It ensures that people whose real property is acquired, or who move as a result of projects receiving Federal funds, will be treated fairly and equitably and will receive assistance in moving from the property they occupy.

Response Code	General Topic Addressed	Response
J	Details about the Level 1 Screening process	As part of the Level 1 Screening, qualitative, fatal flaw criteria were utilized to evaluate and screen the Universe of Alternatives against the I-30 PEL project purpose and need. Alternatives were give a pass or fail rating for each of the screening criteria. To move on the next level of screening, alternatives needed to show an overall positive impact on the I-30/I-40 facility and be determined practicable. For transportation projects, generally, an alternative is practicable if it 1) meets the purpose and need; 2) is available and capable of being done (i.e., it can be accomplished within the financial resources that could reasonably be made available, and it is feasible from the standpoint of technology and logistics); and 3) will not create other unacceptable impacts such as severe operation or safety problems, or serious socioeconomic or environmental impacts.[2] Alternatives that did not meet the purpose and need, and those that were clearly impractical based on cost or effectiveness in Little Rock and North Little Rock, were eliminated at this level.
K	Suggestion and/or comments regarding transit improvements	Potential transit alternatives evaluated as part of the Universe of Alternatives in the Level 1 Screening included arterial bus transit, I-30 express bus transit, bus on shoulder, dedicated bus lanes, arterial bus rapid transit, light rail, heavy rail, commuter rail, and high speed rail. All of the above alternatives except heavy rail and high speed rail moved forward to the Level 2 screening analysis as Preliminary Alternatives. Heavy rail and high speed rail were screened out from further evaluation because they were determined impractical based on high construction cost and the difficulties associated with constructability. See **Response Code J** for Level 1 Screening details and definition of practicable. The I-30 PEL Study Team will continue to work with local transit providers as the screening process moves forward to examine the existing transit needs of the I-30 PEL study area, as well as how proposed solutions may complement the existing and planned transit system.
L	Suggestion and/or comments regarding construction of a new location river crossing (bypass route)	A new location river crossing (bypass route) was included in the Universe of Alternatives evaluated as part of the Level 1 Screening analysis. It passed the Level 1 Screening and will be evaluated as part of the Level 2 Screening as a Preliminary Alternative. See **Response Code J** for Level 1 Screening details. The Level 2 Screening analysis and results will be presented at Public Meeting #3 on January 29, 2015.
M	Suggestion and/or comments regarding reversible lanes	A reversible lane alternative was included in the Universe of Alternatives evaluated as part of the Level 1 Screening analysis. It passed the Level 1 Screening and will be evaluated as part of the Level 2 Screening as a Preliminary Alternative. See **Response Code J** for Level 1 Screening details. The Level 2 Screening analysis and results will be presented at Public Meeting #3 on January 29, 2015.
N	Suggestion and/or comments regarding an Elevated Lanes (Roadway) alternative	An elevated roadway lanes alternative was included in the Universe of Alternatives. This alternative was screened out as part of the Level 1 Screening because it was determined impractical based on the high construction cost and difficulties associated with constructability. See **Response Code J** for Level 1 Screening details and definition of practicable.

Response Code	General Topic Addressed	Response
O	Suggestion or comments regarding I-30 Arkansas River Bridge alternatives	Three options were considered for the Arkansas River Bridge as part of the Universe of Alternatives: bridge rehabilitation, bridge replacement, and a bridge with elevated lanes. The Universe of Alternatives were developed utilizing information provided from previous studies[3], along with input from the Technical Work Group, Project Partners (City Mayors, Pulaski County Judge and Metroplan), public, and other stakeholders. Elevated bridge lanes were screened out as part of the Level 1 Screening because they were determined impractical based on the high construction cost and difficulties associated with constructability. Bridge rehabilitation and replacement passed the Level 1 Screening and will be evaluated as part of the Level 2 Screening as Preliminary Alternatives. See **Response Code J** for Level 1 Screening details and definition of practicable. The Level 2 Screening analysis and results will be presented at Public Meeting #3 on January 29, 2015.
P	Questions/concerns about signage	Improving wayfinding/signage was included in the Universe of Alternatives evaluated as part of the Level 1 Screening analysis. This alternative would improve signage along the study area to provide the traveler better information to aid in decision making, and allow for a safer travel experience by avoiding last minute weaving to reach a desired exit. This alternative passed the Level 1 Screening and will be evaluated as part of the Level 2 Screening as a Preliminary Alternative. See **Response Code J** for Level 1 Screening details. The Level 2 Screening analysis and results will be presented at Public Meeting #3 on January 29, 2015.
Q	Questions/concerns about alternatives being considered as part of the I-30 PEL Study	In order to ensure a comprehensive evaluation of potential solutions to transportation problems along I-30/I-40, the Universe of Alternatives included various types of alternatives other than just main lane widening. **Highway build alternatives** included main lane widening, main lane pavement rehabilitation, elevated roadway lanes, collector/distributor roads, auxiliary lanes, dedicated truck lanes/ramps, frontage road improvements, intersection improvements, interchange improvements, ramp consolidation/ elimination, shoulder improvements, horizontal and vertical curve improvements, bottleneck removal, and a bypass route. **Arkansas River Bridge alternatives** included bridge rehabilitation, replacement, and elevated bridge lanes. **Other mode alternatives** included arterial bus transit, I-30 express bus transit, bus on shoulder, dedicated bus lanes, arterial bus rapid transit, light rail, heavy rail, commuter rail, and high speed rail. **Congestion management alternatives** included information systems/advanced traveler information (e.g., dynamic message sign displays to drivers), managed lanes, reversible lanes, ramp metering (i.e., signals placed at the end of ramps to manage the number of vehicles entering the traffic stream), hard shoulder running, travel demand management, transportation system management, signage improvements, arterial improvements (i.e. increasing capacity and safety on existing parallel arterial roads), and consideration of land use policies. **Non-recurring congestion alternatives** included the utilization of crash investigation sites, roadside/motorist assist enhancements, improvements to detour routes during construction, implementing variable speed limits, and implementing a queue warning system. (response continued on next page)

Response Code	General Topic Addressed	Response
Q (continued)	Questions/concerns about alternatives being considered as part of the I-30 PEL Study	Of all the alternatives presented above, only five were screened out as part of the Level 1 analysis for not meeting the purpose and need and/or for not being practical: elevated lanes (roadway), truck lanes/ramps, elevated lanes (bridge), heavy rail, and high speed rail. The remaining 38 Preliminary Alternatives will be advanced to the Level 2 Screening. See **Response Code J** for Level 1 Screening details and definition of practicable. The Level 2 Screening analysis and results will be presented at Public Meeting #3 on January 29, 2015.
R	Environmental Issues associated with Parcel 33N209000200	1) Why is the parcel shown as a wetland area? The constraints mapping process is primarily a *high-level, database search* analysis performed to identify existing concerns that may constrain potential alternatives within the I-30 PEL study area. An evaluation of high resolution 2014 aerial photography, knowledge of the low-permeable soils in the area, the tendency of the area to be poorly drained and store water, and field verification by AHTD personnel were all factors that led to the preliminary identification as the area in question as a wetland. It is important to note that at this stage of high-level planning, a formal jurisdictional wetland determination has not been made. A Waters of the U.S., including wetlands jurisdictional analysis will occur for areas determined to be impacted by the proposed alternative(s) as part of the NEPA phase of the project, set to begin in the Fall/Summer of 2015. 2) What is the nature of the hazardous materials site shown on the parcel? Data points associated with environmentally regulated facilities were obtained from Environmental Protection Agency (EPA) and Arkansas Department of Environmental Quality (ADEQ) databases. Review of the EPA database identified the site located at the parcel in question as "CENTRAL AR WATER/N LOCUST 20".[4] Upon further investigation, the EPA site shows the facility address listed as "SE corner of I-40/I-430." That interchange location is several miles to the northwest outside of the I-30 PEL study area. Review of the ADEQ database[5] using the facility name "Central AR Water" identified the site at the latitude and longitude coordinates[6] shown in the image below:  (response continued on next page)

Response Code	General Topic Addressed	Response
R (continued)	Environmental Issues associated with Parcel 33N209000200	The ADEQ site also shows a National Pollutant Discharge Elimination System (NPDES) Permit associated with the coordinates.[7, 8] There is a discrepancy between the address shown in the EPA database (SE corner of I-40/I-430), the EPA data point provided in their electronic files, and the site coordinates provided in the ADEQ database. One possible reason for this discrepancy is that the "SE corner of I-40/I-430" address with the EPA was mislabeled and should read "SE corner of I-40 and I-30" which would correspond with the ADEQ coordinates. At this time however, based on the cursory database search performed for the PEL Study, the reason for the discrepancy is unknown. An environmental regulatory records review assessment in accordance with the American Society for Testing and Materials (ASTM) Practice E1527-05 will be performed during the NEPA phase of project development, which will likely provide additional information related to the site in question.
S	General comment or suggestion	Comment noted.

Notes:
[1] As defined by the FHWA, CSS is a collaborative, interdisciplinary approach that involves stakeholders in developing a transportation facility that complements its physical setting and preserves scenic, aesthetic, and historic and environmental resources while maintaining safety and mobility.
Source: http://www.fhwa.dot.gov/planning/csstp/faq/
[2] The evaluation of alternatives must consider a reasonable range of options that could fulfill the project sponsor's purpose and need. Reasonable alternatives include those that "are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant" (Council on Environmental Quality, 1981).
[3] 2003 Central Arkansas Regional Transportation Study [CARTS] Areawide Freeway Study, Phase 1 Arkansas River Crossing Study and METRO 2030.2, the Long Range Metropolitan Transportation Plan for the CARTS area.
[4] Details about the site listing can be found at the following link to the EPA database: http://iaspub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110044959444.
[5] Link to the ADEQ database: (http://www.adeq.state.ar.us/home/pdssql/pds.aspx#display)
[6] http://www.adeq.state.ar.us/home/pdssql/p_facil_details.asp?AFIN=6004512&AFINDash=60-04512
[7] http://www.adeq.state.ar.us/home/pdssql/p_permit_details_water_npdes.asp?AFINDash=60-04512&AFIN=6004512&PmtNbr=ARG670710.
[8] A link to a copy of the NPDES Permit is located at the following link: http://www.adeq.state.ar.us/ftproot/Pub/WebDatabases/PermitsOnline/NPDES/Permits/ARG670710.pdf.

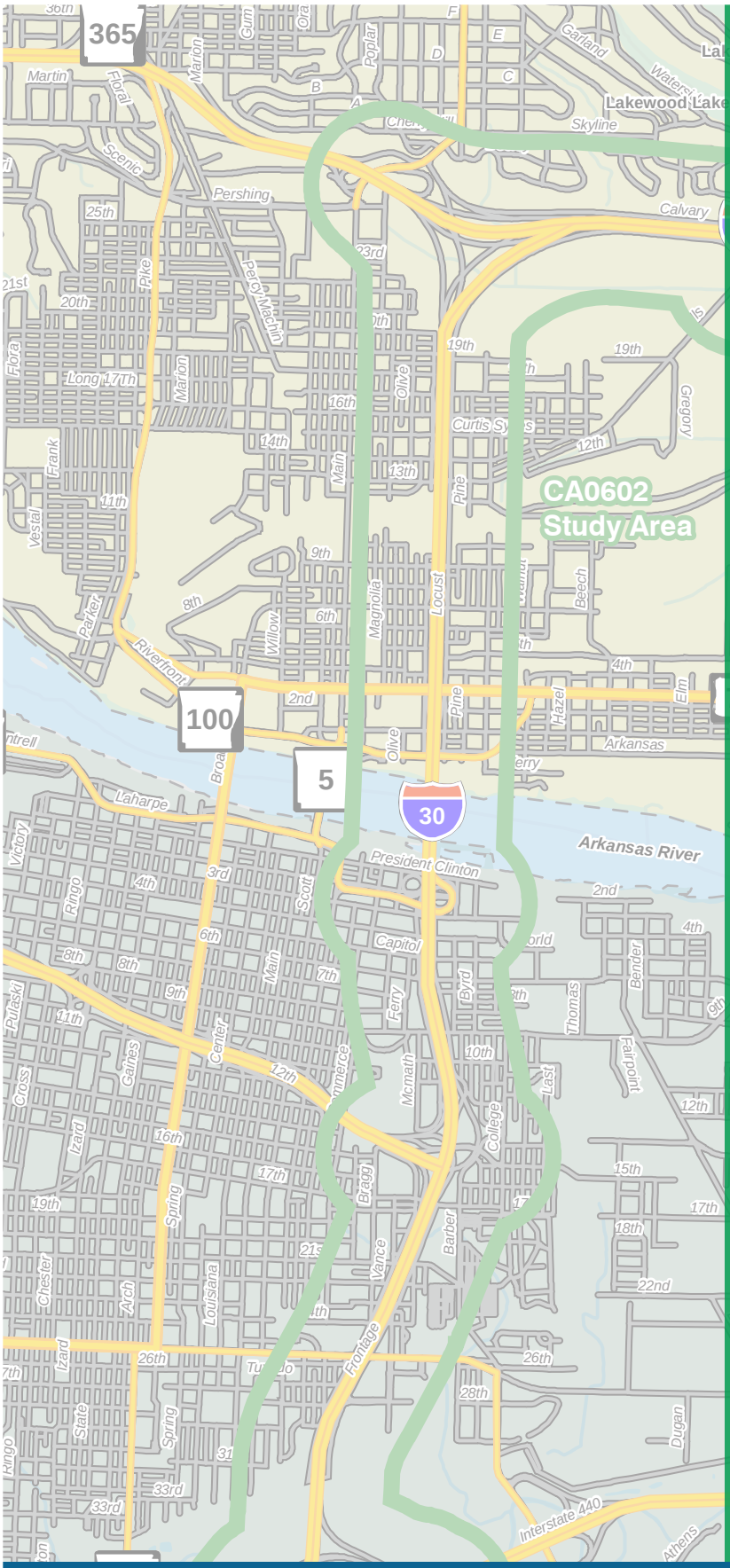
3.0 CONCLUSION AND NEXT STEPS

Feedback from Public Meeting #2 supports the need for transportation solutions in the study area in order to alleviate congestion, improve safety, improve existing roadway deficiencies (i.e., too many ramps, weaving problems, etc.), and improve access and connectivity across I-30 through Little Rock and North Little Rock. Many comments provided suggestions for ramping, weaving and other design solutions to problems experienced along the I-30/I-40 facilities. Many comments also supported the accommodation and/or improvement bicycle and pedestrian facilities, especially related to the safety of students walking to and from school; improved safety features (lighting

and signage); and other aesthetic features. Additionally, commenters requested avoidance and protection of natural resources such as wetlands, historic resources, and residences/structures. Meeting attendees also identified through surveys a general preference for an 8-lane widening scenario, followed by a 10-lane widening scenario, incorporated with other Preliminary Alternatives such as interchange improvements, bottleneck removal, information systems/advanced traveler information, and I-30 express bus transit.

The input gathered at Public Meeting #2 will be used in the continued development and screening of alternatives. The Level 1 Screening process and results (Preliminary Alternatives) were presented at this Public Meeting. The Level 2 Screening process and results (Reasonable Alternatives) will be presented at the third Public Meeting scheduled for January 29, 2015. The Level 3 Screening process and results (PEL Recommendations) will be presented at a fourth Public Meeting scheduled for spring 2015.

Copies of this document, as well as future public meeting materials, will be available online at www.ConnectingArkansasProgram.com. Questions or additional comments may be directed to Info@ConnectingArkansasProgram.com.



PLANNING AND ENVIRONMENTAL LINKAGES PUBLIC MEETING #3 SUMMARY AND ANALYSIS REPORT

CA0602

Interstate 530 – Highway 67

March 2015

CONNECTING ARKANSAS PROGRAM CAP

Arkansas State Highway & Transportation Department

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ATTACHMENTS

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1.0 INTRODUCTION

In April 2014, the Arkansas Highway State Transportation Department (AHTD) began the Interstate 30 (I-30) Planning and Environmental Linkages (PEL) Study to identify the purpose and need for improvements within the I-30 PEL study area, determine possible viable alternatives for a long-term transportation solution, and recommend alternatives that can be carried forward seamlessly into the National Environmental Policy Act (NEPA) process. As part of the I-30 PEL Study, a series of four public meetings are to be held to allow the public to provide feedback on transportation needs and possible solutions in the study area. This report describes the third public meeting, held in January 2015.

2.0 PUBLIC MEETING #3

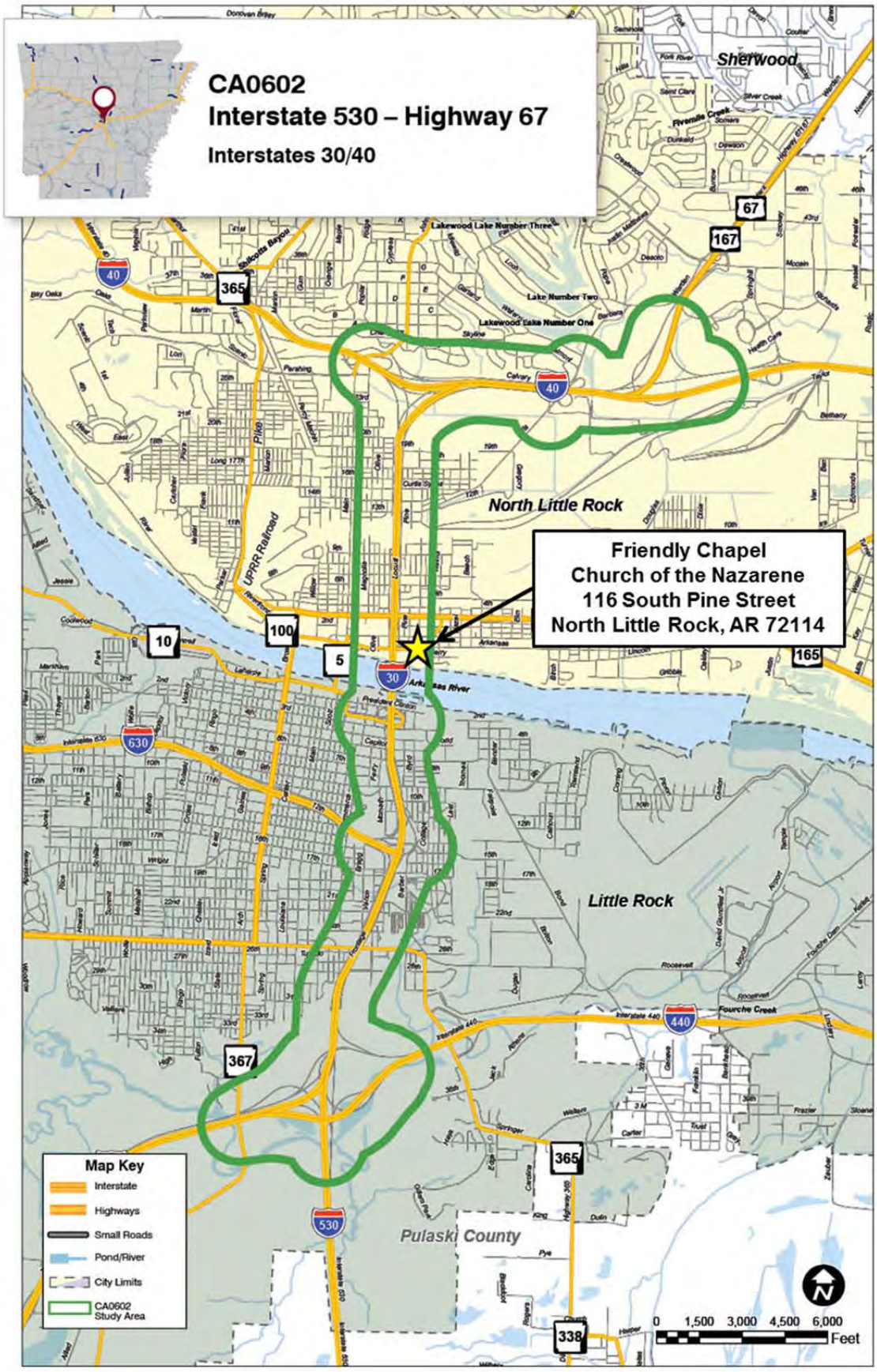
Public Meeting #3 was an open-house meeting, held on Thursday, January 29, 2015 at the Friendly Chapel Church of the Nazarene. Public Meeting #3 logistics are presented in **Table 1,** and **Figure 1** depicts the location of meeting.

Table 1. Public Meeting #3 Logistics

Schedule Date/Time	Location
Thursday, January 29, 2015 4 p.m. – 7 p.m.	Friendly Chapel Church of the Nazarene (Gym) 116 South Pine Street North Little Rock, Arkansas 72114

The sections that follow further detail Public Meeting #3 and summarizes the input received through Friday, February 13, 2015, which was the end of the public comment period.

Figure 1. I-30 PEL Public Meeting #3 Location



2.1 Public Meeting Advertising and Outreach

Public Meeting #3 for the I-30 PEL Study was publicized using numerous methods of advertising and outreach, as summarized in **Table 2**.

Table 2. Public Meeting #3 Advertising and Outreach

Outreach Efforts		Date(s)
Display/Newspaper Ads	Arkansas Democrat Gazette	1/11/15 & 1/25/15
	North Little Rock Times	1/8/15 & 1/22/15
	El Latino	1/8/15 & 1/22/15
Direct Mail	Flyer to adjacent property owners and property owners adjacent to interchanges	1/8/15
	Flyers to stakeholders (chambers, HOAs, etc.)	1/8/15
	Flyers to Community Meeting Attendees (no email address provided)	1/8/15
	Flyers to attendees of Public Meetings #1 & #2 (no email address provided)	1/8/15
	Flyers to persons interested in project	1/8/15
	Letters to elected officials	1/6/15 & 1/20/15
	Letters to minority ministers and area churches	1/14/15
Email	Flyers to Technical Work Group Members	1/14/15
	Flyers to Elected Officials	1/12/15
	Flyers to persons requesting to be added to mail list	
	Flyers to attendees of Public Meetings #1 & 2	
	Flyers to minority ministers and area churches	
	Flyers to stakeholders (chambers, HOAs, etc.)	
	Flyers to Project Partners, Stakeholder Advisory Group and visioning workshop attendees	
	Flyers to Community Meeting attendees	
Hand-Delivered Flyers[1]	Attractions (e.g., River Market, Clinton Presidential Center and Park)	1/20/15
	NAACP	
	Eastgate Terrace Housing Project (office)	
	Churches	
	Gas stations along the I-30 corridor	
	Schools and Development Centers	
	Libraries and Community Centers	
Public Service Announcements	Sixty-second spots on Heartbeat 106.7 FM	1/19/15 – 1/29/15
	Sixty-second spots on La Pantera 1440 AM	
Websites	ConnectingArkansasProgram.com	1/6/15
	ArkansasHighways.com	
	Metroplan.org	1/13/15
News Release	Distributed to AHTD media list	1/23/15
Community Calendars	Little Rock Convention and Visitors Bureau	1/12/15 – 1/29/15
	City of North Little Rock	
	Little Rock Regional Chamber of Commerce	
	North Little Rock Visitors Bureau	
	Americantowns.com	
	Eventful.com	
	University of Arkansas Little Rock Public Radio	

Outreach Efforts	Date(s)	Outreach Efforts
Social Media	AHTD Twitter	1/13/15, 1/28/15, & 1/29/15
	Little Rock Chamber Twitter	1/29/15
	WER Architects Twitter	1/29/15
	Metroplan Twitter	1/21/15, 1/27/15, & 1/29/15
	Metroplan Facebook	1/13/15, 1/21/15, & 1/27/15
	studioMain Facebook	1/29/15
Stakeholder Presentation	Park Hill Neighborhood Association	1/6/15
	Metroplan Board	1/28/15
*Note: [1] Flyer distribution list provided in **Attachment A**.*		

In addition, directional signs were placed in various locations around the public meeting facility to help participants locate the facility and to generate additional local awareness of the event.

Copies of the display/newspaper ads, flier, letters, press releases and online advertisements are included in **Attachment A**.

2.2 Public Meeting Attendance

A summary of the attendance at Public Meeting #3 is presented in **Table 3.**

Table 3. Public Meeting #3 Attendance

Attendees	Number
General Public	133
Agencies	10
Elected Officials	6
Media	3
Study Team Members	19
Total Attendance	**171**

Participants represented a wide range of interests and included members of the general public, members of community organizations, elected officials, and city/county staff. Copies of the sign in sheets from both meetings are included in **Attachment B**.

2.3 Public Meeting Format and Materials

Public Meeting #3 utilized an open house format, which allowed participants to arrive, sign in, view exhibits and handouts, ask questions, and provide comments between 4:00 p.m. and 7:00 p.m. The meeting layout was designed to showcase seven distinct stations. I-30 PEL Study Team members, comprised of AHTD staff and consultants, were available at every station to provide information and answer questions.

The seven stations are described below, in the order that they were intended to be viewed by the public. The materials available at each station are summarized in **Table 4.**

Station 1: Sign in Here - At this station, members of the public signed in, learned about the meeting format, and received introductory handout materials. Materials handed out included a public meeting program guide that described the meeting format and station set-up, an I-30 PEL fact sheet describing the PEL process, a Connecting Arkansas Program (CAP) brochure describing the CAP Program, and a comment form. A notice of non-discrimination exhibit was also posted at this station.

Station 2: I-30 PEL Study Area, Constraints Maps, and Timeline - This station presented the I-30 PEL study area, constraints that have been identified to-date, and PEL Study timeline. Nine exhibit boards were on display: one map of the study area; three separate constraints maps covering the north section of the study area (North Little Rock), the middle section of the study area (Arkansas River and central business districts), and south section of the study area (Little Rock); two identical legends explaining the symbols identified on the constraints maps; and an exhibit depicting the overall PEL study timeline and where the study is within this timeline of events. This station also included one exhibit board presenting an overview of the purpose and need of the project and one exhibit board presenting the study goals.

Station 3: Level 1 Screening - This station presented four exhibit boards that illustrated the Level 1 Screening process: an exhibit board listing the Universe of Alternatives - the initial set of possible solutions to the transportation needs identified for the I-30/I-40 facility in the study area; an exhibit board illustrating the general Alternatives Screening Methodology; an exhibit board illustrating the screening of the Universe of Alternatives to a set of Preliminary Alternatives; and an exhibit board listing the results of the Level 1 Screening of the Universe of Alternatives to Preliminary Alternatives, which were carried forward to the Level 2 Screening.

Station 4: Level 2 Screening - This station presented 10 exhibit boards that illustrated the Level 2 Screening process, which was broken up into two phases: Levels 2a and 2b. Attendees first viewed an exhibit board describing the Level 2 Screening methodology. Then attendees viewed 4 exhibit boards associated with the Level 2a Screening: one exhibit board breaking down the Level 2a scoring process, one exhibit board presenting an example of the Level 2a Screening, one exhibit board outlining the Level 2a alternatives screened out, and one exhibit board identifying the Basic Scenarios - grouping of Primary and Complimentary Alternatives - recommended for Level 2b. Another exhibit board provided the definition and illustration of collector/distributor (C/D) roads to aid meeting attendees in understanding the difference between main lane widening and C/D roads, both identified as Primary Alternatives for further evaluation. The Level 2a Screening was followed by four exhibit boards illustrating the Level 2b Screening process: one exhibit board breaking down the Level 2b scoring process, one exhibit board presenting an example of the Level 2b Screening, one exhibit board outlining the Level 2b scenarios screened out, and one

exhibit board identifying the scenarios for further evaluation in Level 3, also called the Reasonable Alternatives.

Station 5: Roll Plots and Typical Sections - This station presented roll plots and typical sections for all three of the Recommended Alternatives: 1) 8-Lane C/D Scenario (3 Main Lanes + 1 C/D each direction); 2) 10-Lane Scenario (5 Main Lanes each direction); and 3) 10-Lane C/D Scenario (3 Main Lanes + 2 C/D Lanes each direction). The roll plots included existing and potential proposed right-of-way (ROW), as of date, and an exhibit board noted that interchange and ramp locations had yet to be developed. Study Team members, including engineers and planners, were available to answer question.

Station 6: I-30 PEL Documents - This station provided copies of the I-30 PEL Framework and Methodology, Public Involvement and Agency Coordination Plan (PIACP), Constraints Technical Report, Universe of Alternatives, Alternatives Screening Methodology, and Level 1 and Level 2 Screening Methodology and Results Memorandum documents. Although hard copies of these documents were provided for review at the public meeting, attendees were reminded that all displayed materials, are also available on the project website.

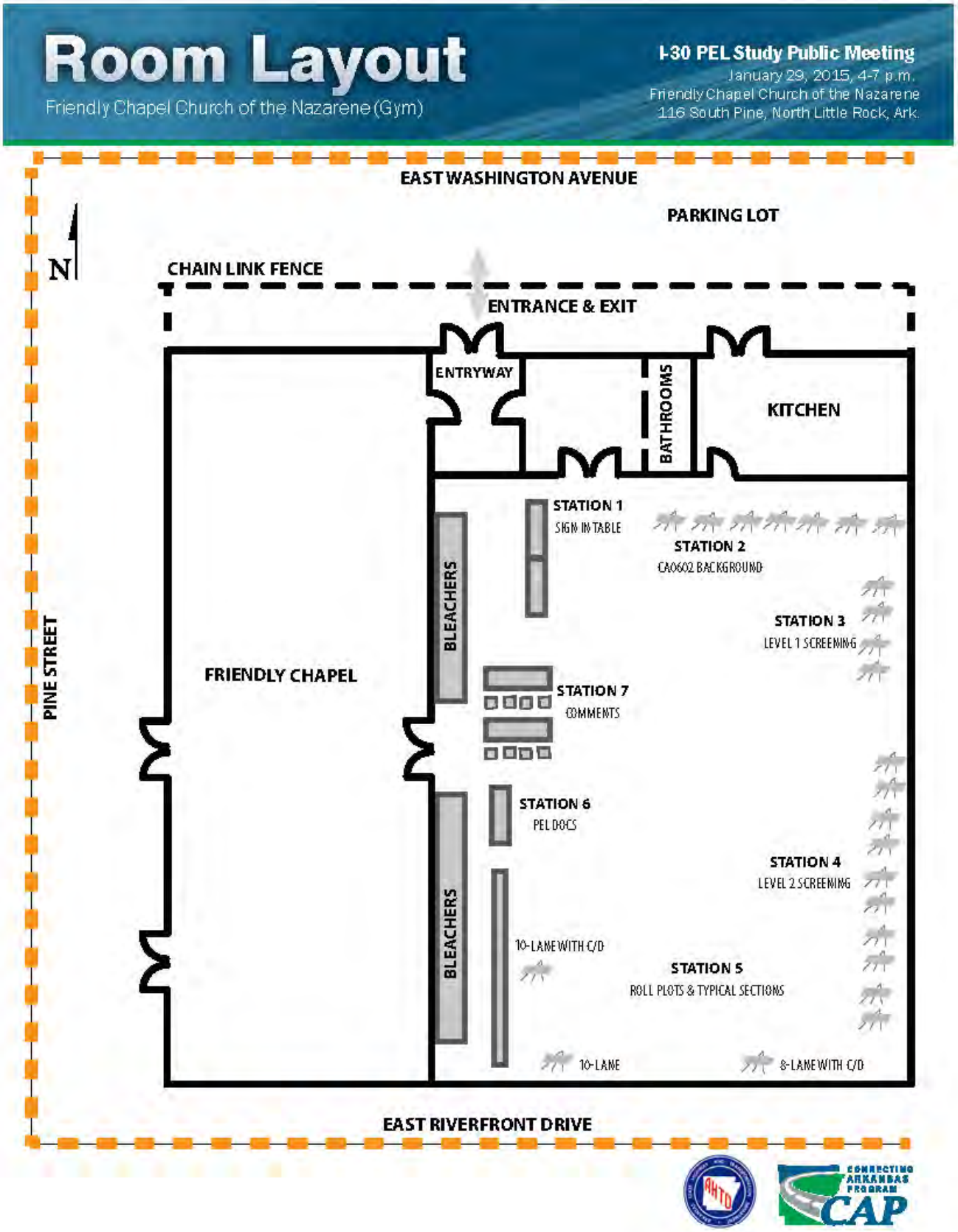
Station 7: Comment Tables and How to Get Involved - This station included a sitting area and comment boxes for meeting participants to complete and submit comment forms at the meeting venue. This station also presented an exhibit detailing the various methods members of the public could obtain more information or provide comments on the I-30 PEL Study. At the end of the meeting, the Study Team collected all written comments from the comment boxes.

The materials described at each of the seven stations above are summarized in **Table 4.** Copies of the materials, as well as photos from the meetings, are included in **Attachment C**. **Figure 2** presents the general layout for Public Meeting #3.

Table 4. Public Meeting #3 Materials

Station	Type	Title
Station 1: Sign In Here	Handout	Public Meeting Program Guide
	Handout	I-30 PEL Fact Sheet with Study Area Map
	Handout	CAP Brochure
	Handout	Comment Form
	Exhibit	Notice of Non Discrimination
Station 2: I-30 PEL Study Area, Constraints Maps, and Timeline	Exhibit	Study Area Map
	Exhibit	North Section Constraints Map
	Exhibit	Middle Section Constraints Map
	Exhibit	South Section Constraints Map
	Exhibit	Constraints Map Legend (x2)
	Exhibit	Purpose and Need
	Exhibit	Study Goals
Station 3: Level 1 Screening	Exhibit	Universe of Alternatives
	Exhibit	Alternative Screening Process (Overview)
	Exhibit	Alternative Screening Process (Level 1)
	Exhibit	Scenarios for Further Evaluation (Moving on to Level 2)
Station 4: Level 2 Screening	Exhibit	Level 2 Screening Methodology
	Exhibit	Level 2a Screening
	Exhibit	Level 2a Screening Examples
	Exhibit	Level 2a Alternatives Screened Out
	Exhibit	Basic Scenarios Recommended for Level 2b
	Exhibit	Collector/Distributor
	Exhibit	Level 2b Screening
	Exhibit	Level 2b Screening Examples
	Exhibit	Level 2b Scenarios Screened Out
	Exhibit	Scenarios for Further Evaluation (Moving on to Level 3)
Station 5: Roll Plots and Typical Sections	Aerial Roll Plot	8-Lane C/D Scenario (3 Main Lanes + 1 C/D Lane Each Direction)
	Exhibit	8-Lane C/D Scenario - Typical Section
	Aerial Roll Plot	10-Lane Scenario (5 Main Lanes Each Direction)
	Exhibit	10-Lane Scenario - Typical Section
	Aerial Roll Plot	10-Lane C/D Scenario (3 Main Lanes + 2 C/D Lanes Each Direction)
	Exhibit	10-Lane C/D Scenario - Typical Section
	Exhibit	Notice Regarding Interchange and Ramp Locations
Station 6: I-30 PEL Documents	Report	I-30 PEL Framework and Methodology
	Report	Public Involvement and Agency Coordination Plan
	Report	Constraints Technical Report
	Report	Universe of Alternatives
	Report	Alternatives Screening Methodology
	Report	Level 1 Screening Methodology and Results Memorandum
	Report	Level 2 Screening Methodology and Results Memorandum
Station 7: Comments and How to Get Involved	Handout	Comment Form
	Exhibit	How to Get Involved

Figure 2. Room Layout for Public Meeting #3



2.4 Public Meeting Comments

The public comment period opened on January 29, 2015 and ended February 13, 2014. Attendees could provide comments through a variety of methods, including the following:

- Submitting a written comment in the public meeting comment box at Station 7;
- Calling the Connecting Arkansas Program at 501-225-1519;
- Mailing a written comment to Connecting Arkansas Program, RE: 1-30 PEL Study, 4701 Northshore Dr., North Little Rock, AR 72118; or
- Emailing a comment to Info@ConnectingArkansasProgram.com.

Table 5 shows the number of comment submissions by method in which they were submitted.

Table 5. Number of Comments Received

Submission Method [1]	Number of Comments
Comment Form	30
Email	2
Total Comments Received	**32**

Note: [1] See Table 6 for detailed comments.

Many of the comments submitted identified specific transportation problems and/or solutions to address issues of concern, and several commenters cited a specific lane-widening alternative of preference. Many commenters noted ramp spacing issues along I-30 within the study area and weaving problems along I-40 between the I-30/I-40 interchange and the I-40/Hwy. 67/Hwy. 167 interchange. Another common theme expressed by commenters was the improvement and/or accommodation of other transportation modes (bicycle, pedestrian, and/or transit) as part of the proposed project. Several questions relating to potential ROW impacts were submitted and commenters also expressed a desire for preservation and protection of cultural resources.

Table 6 provides a listing of all comments received on the comment forms and via e-mail. Also included are the corresponding response codes for each comment. The response code key is presented in **Table 7.** Comments are listed verbatim and copies of all comments received are included in **Attachment D**.

Table 6. Comment Forms and Emails Received and Response Codes

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
Lee, Esther Lee	1/29/15	Comment Form	1	I think it's a great idea to improve or widen the interstate [I-30] but just don't take away our homes that we've paid for please and thanks.	N, O
Thomas, Darryl	1/29/15	Comment Form	2	Satisfied with all 3 plans; only concern is viewing the final plans and seeing the extent of the "right away passages."	N, O
Hodge, Jerry	1/29/15	Comment Form	3	Very Informative. Lots of people to answer questions. Thanks for doing this!	O
White, Terry	1/29/15	Comment Form	4	The Arkansas Highway Department has been very easy to work with and very informative about this project.	O
	1/29/15	Comment Form	5	Interesting & needed project.	O
Ross, Debi	1/29/15	Comment Form	6	67/167–I40 merger needs to be fixed! Lakewood exit added. Lakewood entrance improved.	A
Morgan, Alex	1/29/15	Comment Form	7	I-40 east bound from Levy to I-30 should be improved. North Hills ramps should be modified. I-30 to I-40 WB ramp should have better signing or paint the interstate sign on the road to which ramp goes where.	A, E
Voyles, Robert	1/29/15	Comment Form	8	The 67/167 to I-40 weave can be improved by moving to the median from southbound. This has been mentioned but is not included! Too bad – that would have solved that dangerous weave & help with Lakewood Exit traffic. The reverse should be included from I-30 to median on I-40.	A
Selman, Alicia	1/29/15	Comment Form	9	Protect the parking and the Southern Company. 13th & Cypress. Thanks!	N
Scott, Dan	1/29/15	Comment Form	10	I have concerns about 5 lanes (10 total lanes) on I-30 heading north & dumping into what is essentially 3 lanes (1 west, 1 onto Park Hill & 2 heading east) of interstate with no means to solve the East 40 & 67/167 lane swerving to accommodate those continuing to head north & those who are traveling I-40 east & wanting to continue to head east. I also am concerned about having meetings in neighborhoods with no information about where exit/entrance ramps will be going. My concern is that decisions on scope (10 lanes vs. 8 lanes) will be made and then those decisions will mandate where the ramps are & it will be too late to get neighborhood input. Without solving the 67/167- 40 East problem, this appears to be an exercise in futility as far as traffic flow improvement is concerned. Access routes from one side of I-30 to the other need significant improvements – wider, better lit with wide sidewalks to help kids safely cross under the interstate.	A, C, D

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
	1/29/15	Comment Form	11	Do not widen to 5 or 6 lanes in each direction. Unnecessary and way too expensive. Improve the ramps to be more efficient and reduce delays during rush hour. Fix structural problems on the bridge.	A, O
Mackey, Stuart S.	1/29/15	Comment Form	12	Please don't start until Broadway Bridge is done.	H
	1/29/15	Comment Form	13	My concern is the I-30/I-40 interchange. There need to be some improvements to that interchange. Not enough merge time to exit Park [Hill] area.	A
	1/29/15	Comment Form	14	10-Lanes	A
	1/29/15	Comment Form	15	Not an I-30 comment. AHTD needs to take pedestrians into consideration. For example – when Cantrell is widened near Kraftco, there needs to be a safety island/crosswalk so people can cross on foot (bus stop and apartments).	D
	1/29/15	Comment Form	16	Great information, it was very thoughtful to have people to explain what is displayed. Looking forward for next meeting.	O
Lambert, Kathleen	1/29/15	Comment Form	17	Would like to see the large I-30 ramp removed from the center of Little Rock to allow the downtown area to fill back in. Better access on 4th St. for Rapid Bus Service.	A, K
Rhodes, Bernadette	1/29/15	Comment Form	18	I like the 8-lane C/D option. That number of lanes is sufficient to alleviate congestion. I think allowing buses on shoulders is a good idea.	A, K
Markham, Susan	1/29/15	Comment Form	19	1. Address functional/ structural deficiencies. 2. Keep to 6 thru lanes. 3. Spend $$ on improving arterial system and on alternative travel modes. 4. Look for opportunities to actually strengthen neighborhood connectivity – e.g., improving pedestrian access, accommodating – really accommodating bus travel.	A, C, D, J, K

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
Lupton, Jonathan	1/29/15	Comment Form	20	1. As the guy who did Metroplan's projection, I can tell you that they were done based on pre-2010 data, the best then available. The 2000-2010 decade saw an unusual up-tick in population growth, influencing the projection out to 2040. Based on trends post-2010, regional population growth has slowed sharply (see recent Metrotrends newsletters), suggesting we're less likely to reach the 943,000 total forecast for 2040. For that reason, I think the 165,000 VPD forecast for the I-30 bridge is probably too high. 2. I can see 8 lanes just for the bridge, remaining 6 lanes elsewhere but with upgrades to the on/off flows. I like the C/D lanes and have found these helpful driving in large US metros like Wash DC, Dallas, Houston, Chicago, etc. 3. Congestion isn't really that bad on that stretch, I-30 from 630 to 40, except at rush hour, and even then the biggest constraint is the on/off and weaving, not total traffic (at least not yet). Try a larger urban area for comparison. I remember getting back from a week in DC and finding traffic laughable in comparison. 4. I genuinely fear the really wide cross-section, i.e., 10-12 lanes. Why? Because I've driven these in other urban areas and find driver behavior is frequently horrifying; traffic moves 10-15 mph above the posted limit and there are always some 'road warriors' weaving in and out going 90 mph. Mark my words, if I-30 is widened to 10-12 lanes, you'll see some pretty spectacular crashes. 5. While some improvements (and a new bridge) are necessary, I'm convinced the money would be better spent on upgrading arterial streets through the region, via access mgt [management] and minor widening where necessary. Such upgraded arterials could absorb much of the traffic growth while taking local traffic off the freeways, allowing them to return to the role for which they were designed: intercity/long-distance travel. Thanks!	A, J, L, M, O
Ryan, Richard	1/29/15	Comment Form	21	What compensation will be made for business that business slows down?	H

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
Fikes, B.	1/29/15	Comment Form	22	Good presentation – AHTD Personnel helpful. Paint hwy [highway] numbers in lanes thru Little Rock & NLR [North Little Rock] to help driver's select correct lane of travel. This was seen by me in Kansas City, MO.	E, O
Rhodes, Jeremy	1/29/15	Comment Form	23	Please, please don't put in 10 lanes. I think with proper planning we can keep running well with 8. I think 10 is too much!	A
Wells, Kathy	1/29/15	Comment Form	24	Support 8 lanes w/one C/D lane plus regular traffic. Strongly oppose any more lanes. Need more mass transit! Want to see interchanges; must be better than ones today! Respect historic structures; cultural features.	A, B, K
Minyard, Brian	1/29/15	Comment Form	25	The only benefit for the 10 lane would be the 2 lane C/D lanes. But do we really need 3 + 3 lanes if we have C/D lanes in each direction. Personal comment – not an official city comment.	A
Peppas, Jeremy	1/29/15	Comment Form	26	What is the plan to handle pedestrian foot traffic that runs down Clinton Ave? Currently the people cause traffic issues for those crossing the river. The traffic will only increase when the Broadway Bridge is imploded. Will I-30 be closed to truck traffic across the Arkansas River? Will the moorings and the entirety of the bridge be replaced? Or will it just be the span?	D, H
Falkowski, Becky	1/29/15	Comment Form	27	Want least impact to downtown. 8-lane is preference but would want to know what we're gaining and/or losing with each scenario (8 vs. 10). Would like entrance into downtown Little Rock to be welcoming architecturally – not just a concrete bridge cutting through. Appreciate how you have worked with the community with the process.	A, B, C, M, O
Henry, James	1/29/15	Comment Form	28	I don't think the 3-lanes with C/D lanes plan will help very much. I am hesitant to support the 5-lane plan because it is ugly and seems too wide. However, I wonder if the 3 lane + 2 C/D lane plan will significantly reduce congestion at 30/630 interchange. I like this plan the best if it can be applied without tearing down any important buildings in downtown LR [Little Rock].	A, B
Lane, Kelley	1/29/15	Comment Form	29	The 10 Lane/ CD option seems like the best overall option for long-term development. However, to disrupt all the work that has been put in around the Clinton Center – to the River Market – would be destructive to the development of the City. If possible, the roads should be developed upwards rather than outwards.	A, B, F, G
	1/29/15	Comment Form	30	Keep to 6 through lanes! Improve/repair functional/structural.	A

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
Guffey, Marsha	2/2/15	Email	31	I do not think it is acceptable to consider either 8 or 10 lanes for Interstate 30. For one thing, the Metroplan Board for many years has taken a stand against more than 6 lanes, instead favoring the development of a more multi-modal system. I wholeheartedly agree with this stance. For another thing, I know you have done traffic forecasts, but the overall trend is to less, not more driving, for a variety of reasons I am sure you have read as much as I have. I know Central Arkansas is growing population-wise, but that is still a lot of pavement if the VMT trend holds. I would rather have congestion that makes people reconsider jumping in their cars and to consider transit, than to over-build roads. But more personally, just as a driver, I don't want driving in Little Rock to feel like driving in Atlanta. I much prefer that we find other ways to accommodate the traffic, like building a new bridge at Chester Street and funneling some of the traffic out through North Little Rock. I have read that your travel demand model doesn't show that this will help much, but I am not convinced. The Little Rock/North Little Rock area needs several more bridges so the traffic can spread out. People would not use I-30 for local traffic if they had viable alternatives. I do not think the Collector/Distributor lanes are a viable alternative.	A, I , K, L, O

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
Stair, Patrick	2/10/15	Email	32	Of the three options presented at Meeting #3 on 1/29/15, I very much prefer the 8-Lane C/D Scenario. I can barely stomach the 10-Lane C/D Scenario, and I absolutely abhor the 10-Lane Scenario. But frankly, I doubt that the AHTD is taking a vote on this issue. I do not think we need more through lanes to solve a problem that exists for maybe ten hours a week. This afternoon (a Tuesday), at about 4:50 PM, I drove from Crystal Hill, traveling east on I-40, turned right onto I-30 West, traveled through the downtown and turned right on I-630 West. I never went slower than 40 MPH, and people were passing me. It was surely the heart of rush hour, and I never encountered a problem. I have much more difficulty during rush hour traveling in the city, crossing the Broadway bridge, trying to travel east to west through the downtown. Except when there is a wreck, I do not have problems on the freeways downtown. I wish that AHTD had a broader concept of the "T" in their name, and wasn't so dependent on building bigger and wider highways to solve every transportation problem. What I think we need more than additional through lanes downtown (where people who live there will have to breathe more auto pollution), is more public transit, better on- and off-ramps with the freeways, improved traffic lights, smarter intersections, well-paved streets. I'd rather see this money spent on the Broadway bridge and replacing the NLR [North Little Rock] Main Street bridge over the viaduct downtown. To me, building more lanes primarily means that a single wreck can bottle up more traffic. Over the past 40 years I've seen that result on every one of your expansion projects.	A, C, K, J, M, O

Table 7 below presents the key to the response codes presented in **Table 6.**

Table 7. Comment Response Code Key for Public Meeting #3

Response Code	General Topic Addressed	Response
A	Identification of a specific transportation need or solution to address issues of concern.	Input regarding the need for improvements within the I-30 PEL study area or potential solutions to address issues of concern identified as part of the January 29, 2015 public meeting will be used in the continued development and screening of alternatives. The Study Team has and will continue to reach out to members of the public, stakeholders, and community leaders for input on alternatives and design considerations. For example, local representatives (agency, government, and community) appointed by the Mayors of Little Rock and North Little Rock and the Pulaski County Judge attended a visioning workshop on 11/19/14 where they provided input on access locations, ramping and weaving issues, traffic patterns, local attractions, land use plans and other design features to consider when developing and evaluating potential transportation solutions along the I-30/I-40 facility. The Study Team has and will continue to meet regularly with the city mayors, county judge, and representatives from Metroplan, all Project Partners in the PEL Study. Additionally, community meetings at local churches and with various community organizations have provided valuable input on the community vision for the I-30/I-40 facility. All of these individuals have and will continue to provide valuable planning knowledge used by the Study Team in the development of the proposed alternatives. At the time of Public Meeting #3, the Universe of Alternatives had been screened to a set of Preliminary Alternatives (Level 1 Screening) and the Preliminary Alternatives had been screened to a set of Reasonable Alternatives (Level 2 Screening). Although potential ROW impacts were shown for the preliminary designs of the Reasonable Alternatives at Public Meeting #3, interchange and ramp locations were yet to be determined. Moving forward, utilizing valuable input provided by the public and stakeholders, the identified Reasonable Alternatives will be developed to a greater level of detail such that ramping, interchange improvements, intersection improvements and other design refinements are incorporated into the alternative designs, where practicable. The Reasonable Alternatives will be screened to the PEL Recommendations (Level 3 Screening) for further project development. PEL Recommendations will be presented at Public Meeting #4 on April 16, 2015. Note that a set amount of funding is currently available for improvements along I-30/I-40 in the study area, and accordingly, PEL Recommendations could include a prioritized set of improvements along I-30/I-40 that are comparable to the set amount of available funding.

Response Code	General Topic Addressed	Response
B	Concerns about potential social, economic and environmental impacts and/or request for protection of environmental resources in the study area.	Social, economic, and environmental resources (such as historic structures and districts, archeological resources, neighborhoods/residences, parks, businesses, wetlands, habitat, etc.) will be considered during the development, evaluation and screening of draft alternatives for the I-30 PEL Study in an effort to avoid and/or minimize any potential future negative impacts on these resources. Continued coordination with resource agencies will occur throughout the PEL and NEPA processes to ensure compliance and minimization of potential impacts. Once the PEL Recommendations have been developed and refined for additional study under the NEPA process, they will be specifically evaluated for their ability to address the needs within the study area, as well as for their potential direct, indirect, and cumulative impacts on social, economic, and environmental resources, including displacement impacts, noise impacts, impacts to communities, and impacts to natural resources (wetlands, floodplains, habitat, etc.). Efforts would be made to avoid, minimize, or mitigate potential environmental impacts associated with the proposed alternative(s) for the project.
C	Questions/concerns about east-west connectivity and aesthetic issues.	Various aspects related to aesthetics and context sensitive solutions (CSS)[1], such as lighting, landscaping, enhancing east-west connectivity, and the overall development of a transportation facility that complements the surrounding physical setting, will be considered as part of the PEL process. Visioning workshops have been included as part of the PEL process to obtain early feedback and develop a foundation for continued community outreach. One visioning workshop was held on 11/19/14 and included agency, government, and community representatives as appointed by the mayors of Little Rock and North Little Rock and the Pulaski County Judge. Improved lighting and other aesthetic suggestions were provided by visioning workshop participants, such as designing an open and inviting facility, not having an iconic bridge, and having a consistent use of materials throughout the corridor. From this visioning workshop, renderings of possible solutions that preserve and enhance aesthetic, historic and community resources will be developed. During the NEPA phase, a second visioning workshop will be held with stakeholders that examines potential CSS and design concepts in greater detail. Based on stakeholder feedback and available funding, CSS/aesthetic guidelines will be developed pending AHTD approval.
D	Suggestion of bicycle/pedestrian improvements.	Accommodating bicycle/pedestrian facilities and improving the safety of pedestrians and bicyclists, including pathways for students walking or bicycling to school, were all issues identified by local agency, government, and community representatives at the I-30 PEL visioning workshop held on 11/19/14. As described in **Response Code C**, a second visioning workshop will be held during the NEPA/Schematic phase and based on stakeholder feedback and available funding, CSS/aesthetic guidelines will be developed pending AHTD approval. Because bicycle and pedestrian paths are maintained by the cities, potential bicycle and pedestrian accommodations will need to be coordinated between the cities and stakeholder(s) of interest, and will be further refined during the NEPA process as applicable. Study Team planners and engineers have and will continue to work with city planners to ensure that city goals for future development are given due consideration and incorporated when practicable.

Response Code	General Topic Addressed	Response
E	Questions/concerns about signage	Improving wayfinding/signage was included in the Universe of Alternatives. This alternative would improve signage along the study area to provide the traveler better information to aid in decision making, and allow for a safer travel experience by avoiding last minute weaving to reach a desired exit. This congestion management strategy passed the Levels 1 and 2 Screening analyses and was designated a Complimentary Alternative, meaning it is an alternative that when combined with a Primary Alternative, addresses the study goals. Accordingly, it has been grouped with a Primary Alternative(s), those alternatives considered to have the potential to substantially address the study goals as stand-alone alternatives, such as main lane widening, C/D roads, and bridge replacement. Wayfinding/signage improvements will be evaluated as part of the Level 3 Screening, and analysis and results of this screening will be presented at Public Meeting #4 on April 16, 2015.
F	Suggestion and/or comments regarding an Elevated Lanes (Roadway) alternative	An elevated roadway lanes alternative was included in the Universe of Alternatives. This alternative was screened out as part of the Level 1 Screening because it was determined impractical based on the high construction cost and difficulties associated with constructability. For transportation projects, generally, an alternative is practicable if it 1) meets the Purpose and Need; 2) is available and capable of being done (i.e., it can be accomplished within the financial resources that could reasonably be made available, and it is feasible from the standpoint of technology and logistics); and 3) will not create other unacceptable impacts such as severe operation or safety problems, or serious socioeconomic or environmental impacts.[2]
G	Suggestion or comments regarding I-30 Arkansas River Bridge alternatives	Three options were considered for the Arkansas River Bridge as part of the Universe of Alternatives: bridge rehabilitation, bridge replacement, and a bridge with elevated lanes. Elevated bridge lanes were screened out as part of the Level 1 Screening because they were determined impractical based on the high construction cost and difficulties associated with constructability. See **Response Code F** for the definition of practicable. Bridge rehabilitation was screened out as part of the Level 2 Screening due to navigational impediments, high project costs, and the structural condition of the bridge. Bridge replacement has been designated a Primary Alternative, (see **Response Code E** for description of a Primary Alternative) and will be evaluated as part of the Level 3 Screening, to be presented at Public Meeting #4 on April 16, 2015.

Response Code	General Topic Addressed	Response
H	Questions/concerns about construction impacts	Although it is unknown how many lanes would remain open during construction because alternatives are still under development and evaluation, traffic flow on I-30/I-40 would be maintained during construction. For example, for the Arkansas River Bridge replacement alternative, it is possible that all six lanes could remain open while a new bridge is constructed. Bridge replacement includes the complete construction of a new I-30 Bridge, not just the span but the approaches as well. Construction of the Broadway Bridge will be completed prior to construction of the I-30 project. During and post construction, I-30 in the study area would remain accessible to truck traffic, excluding trucks carrying hazardous materials requiring permits and oversized trucks (unless their permit specifically notes I-30 as a route), which are typically routed around I-30 unless delivering in the study area. Although temporary congestion may occur as a result of project construction, all practicable steps would be taken to minimize the inconvenience to motorists, transit users, bicyclists and pedestrians. All practicable steps would also be taken to maintain access to residential and business areas in the project vicinity during construction. Measures to control noise and dust due to construction activities would be considered and incorporated into construction specifications. AHTD has a public information office that provides notifications through various communications methods, including notifying the media, utilizing social media, and contacting affected stakeholders, among other tactics. During construction, AHTD will work to notify the public in as much advance as possible and to the extent practicable, and will continually work to improve communications throughout the process.
I	Suggestion and/or comments regarding construction of a new location river crossing (bypass route)	A new location river crossing (bypass route) was included in the Universe of Alternatives evaluated as part of the Level 1 Screening analysis. It passed the Level 1 Screening but was screened out as part of the Level 2 analysis for the following reasons: 1) a new crossing would introduce significant new environmental and community impacts (e.g., new corridor and new river crossing); 2) it would remove a relatively small amount of traffic, approximately 3.5%, from the I-30 corridor peak demand; and 3) the high estimated cost and lack of funding source – estimated cost for a Chester Street bridge is between $80-$100 million, including expenses associated with ROW, roadway, intersections, and the bridge.
J	Suggestion and/or comments regarding arterial improvements	Arterial improvements were evaluated as part of the Universe of Alternatives. This alternative passed the Levels 1 and 2 Screening analyses and was designated a Complimentary Alternative, meaning it is an alternative that when combined with a Primary Alternative, addresses the study goals. Accordingly, it has been grouped with a Primary Alternative(s), those alternatives considered to have the potential to substantially address the study goals as stand-alone alternatives, such as main lane widening, C/D roads, and bridge replacement. Arterial improvements will be evaluated as part of the Level 3 Screening and the Level 3 Screening analysis and results will be presented at Public Meeting #4 on April 16, 2015.

Response Code	General Topic Addressed	Response
K	Suggestion and/or comments regarding transit improvements	Potential transit alternatives evaluated as part of the Universe of Alternatives in the Level 1 Screening included arterial bus transit, I-30 express bus transit, bus on shoulder, bus lanes, arterial bus rapid transit, light rail, heavy rail, commuter rail, and high speed rail. All of the above alternatives except heavy rail and high speed rail moved forward to the Level 2 Screening analysis as Preliminary Alternatives. Heavy rail and high speed rail were screened out from further evaluation because they were determined impractical based on high construction cost and the difficulties associated with constructability. See **Response Code F** for the definition of practicable. Light rail and commuter rail were screened out from the Level 2 analysis. Light rail was screened out because it would remove a small percentage of I-30 demand and is not included in the Central Arkansas Transit Authority (CATA) short term plan. Moreover, although part of their long range plan, CATA has indicated that they would implement bus rapid transit before light rail along future light rail corridors. Commuter rail was screened out because it was not included in either the CATA short or long term plans and would remove only a small percentage of I-30 demand. Arterial bus transit, I-30 express bus transit, bus on shoulder, bus lanes, and arterial bus rapid transit were carried forward as part of the Level 3 analysis. The I-30 PEL Study Team will continue to work with local transit providers as the screening process moves forward to examine the existing transit needs of the I-30 PEL study area, as well as how proposed solutions may complement the existing and planned transit system. The Level 3 Screening analysis and results will be presented at Public Meeting #4 on April 16, 2015.
L	Suggestion and/or comments regarding traffic projections	Based on historical traffic data from 1990 to 2013, new Metroplan forecast data, and meetings with the Cities of Little Rock and North Little Rock to discuss land use growth, the traffic forecast has been adjusted from the 2003 CARTS Areawide Freeway Study forecast of 2.5% annual traffic growth for I-30 to approximately 1% annual traffic growth. Traffic growth on arterial streets that cross I-30 is less than 1% annual growth. If the forecast is not reached by the 2041 design year, it will be reached sometime thereafter providing for a more sustainable solution that solves traffic congestion.
M	Suggestion and/or comments regarding motorist experienced traffic congestion	Traffic can be a personal perception issue relative to your own local experiences. This study will use both national standards for interstate performance as well as more than a dozen different mobility measures of effectiveness that compare existing, future no-action, and future action conditions so AHTD, stakeholders, and the public can compare the different improvements to make an informed decision on the trade-offs of improvements.

Response Code	General Topic Addressed	Response
N	Questions/concerns about ROW impacts and/or displacement of property	Potential ROW impacts would be based on a widening alternative (should the results of the PEL Study recommend a widening alternative). Aerial roll plots of the three identified Reasonable Alternatives from the Level 2 Screening were presented at Public Meeting #3, showing the existing and preliminary proposed ROW for each alternative. Interchange and ramp locations had yet to be determined at Public Meeting #3. Accordingly, potential ROW impacts may vary once interchange and ramp locations are designed, which will be presented at Public Meeting #4 on April 16, 2015. Regarding the parking lot for the Southern Company at 13th and Cypress (1201 Cypress Street, North Little Rock, Arkansas 72114), as of the design of the Reasonable Alternatives presented at Public Meeting #3, the preliminary 10-Main Lane and 10-Lane C/D Alternatives would potentially require ROW from the parking lot of located at 1201 Cypress Street; no additional ROW would be required under the 8-Lane C/D Alternative at the same location. It is important to note that the proposed alternatives as designed in the PEL are preliminary and that further design refinements will occur for the PEL Recommendation(s) during the NEPA phase. Once this occurs, the NEPA alternatives will be specifically evaluated for their ability to address the needs within the study area, as well as for their potential impacts on ROW and structures. Efforts would be made to avoid, minimize, or mitigate potential environmental impacts associated with the proposed alternative(s) to ROW and structures. Real property would be acquired in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act which provides important protections and assistance for people affected by Federally funded projects. It ensures that people whose real property is acquired, or who move as a result of projects receiving Federal funds, will be treated fairly and equitably and will receive assistance in moving from the property they occupy.
O	General comment or suggestion	Comment noted.

Notes:
[1] As defined by the FHWA, CSS is a collaborative, interdisciplinary approach that involves stakeholders in developing a transportation facility that complements its physical setting and preserves scenic, aesthetic, and historic and environmental resources while maintaining safety and mobility.
Source: http://www.fhwa.dot.gov/planning/csstp/faq/
[2] The evaluation of alternatives must consider a reasonable range of options that could fulfill the project sponsor's Purpose and Need. Reasonable alternatives include those that "are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant" (Council on Environmental Quality, 1981).

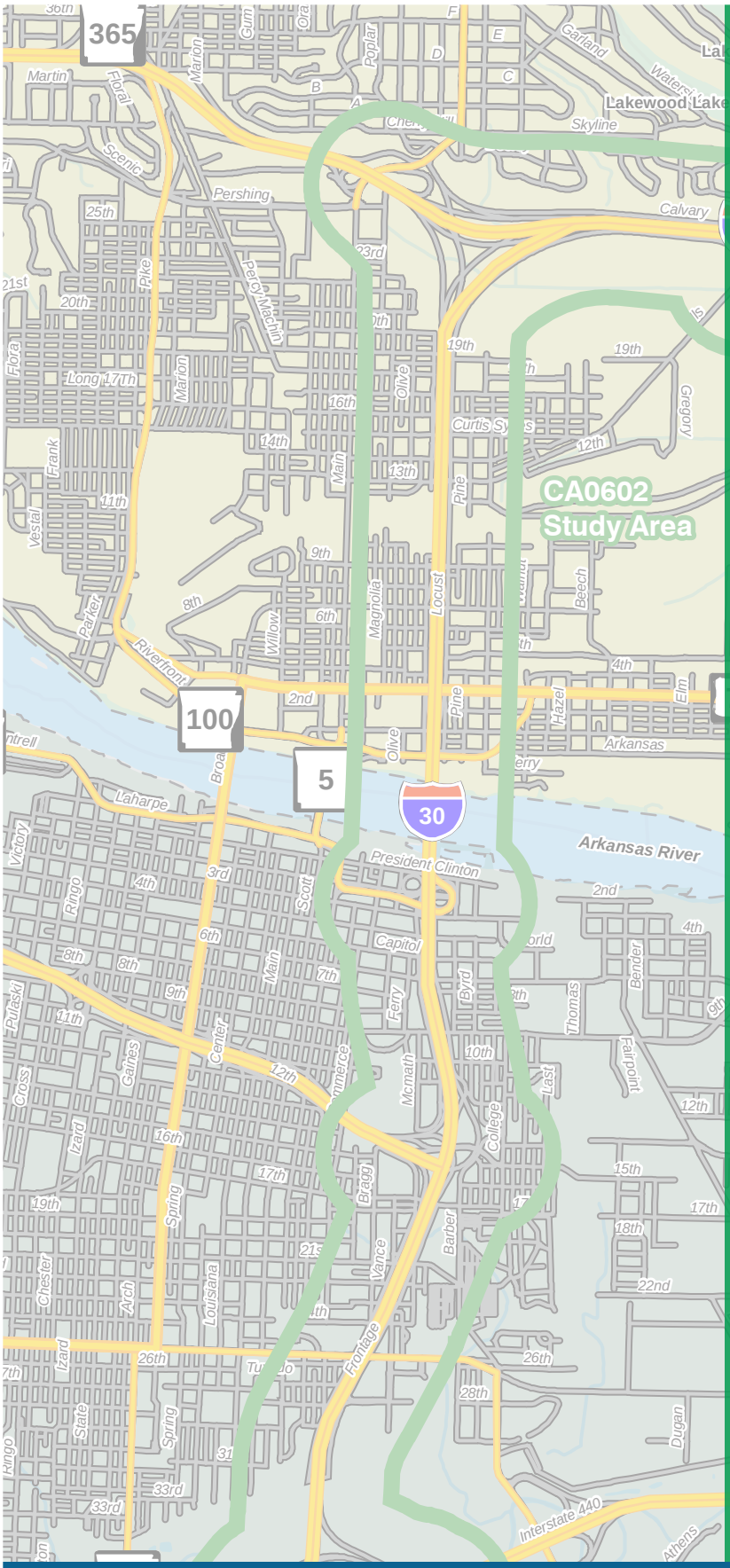
3.0 CONCLUSION AND NEXT STEPS

Feedback from Public Meeting #3 supports the need for transportation solutions in the study area in order to alleviate congestion, improve safety, improve existing roadway deficiencies (i.e., too many ramps, weaving problems, etc.), and improve access and connectivity across I-30 through Little Rock and North Little Rock. Many comments provided suggestions for ramping, weaving and other design solutions to problems experienced along the I-30/I-40 facilities. Several commenters provided questions

and/or suggestions relating to anticipated ROW impacts. Many commenters also supported the accommodation and/or improvement of other transportation modes (bicycle, pedestrian, and transit) and improved safety features (lighting and signage). Several commenters expressed their preference for a specific widening alternative, whereas others cited a preference for no main lane widening, but implementation of other types of improvements (e.g., arterial roadways and transit).

The input gathered at Public Meeting #3 will be used in the continued development and screening of alternatives. The Level 2 Screening process and results (Reasonable Alternatives) were presented at this Public Meeting. The Level 3 Screening process and results (PEL Recommendations) will be presented at the third Public Meeting scheduled for April 16, 2015.

Copies of this document, as well as future public meeting materials, will be available online at www.ConnectingArkansasProgram.com. Questions or additional comments may be directed to Info@ConnectingArkansasProgram.com.



PLANNING AND ENVIRONMENTAL LINKAGES PUBLIC MEETING #4 SUMMARY AND ANALYSIS REPORT

CA0602

Interstate 530 – Highway 67

May 2015

CONNECTING ARKANSAS PROGRAM CAP

Arkansas State Highway & Transportation Department

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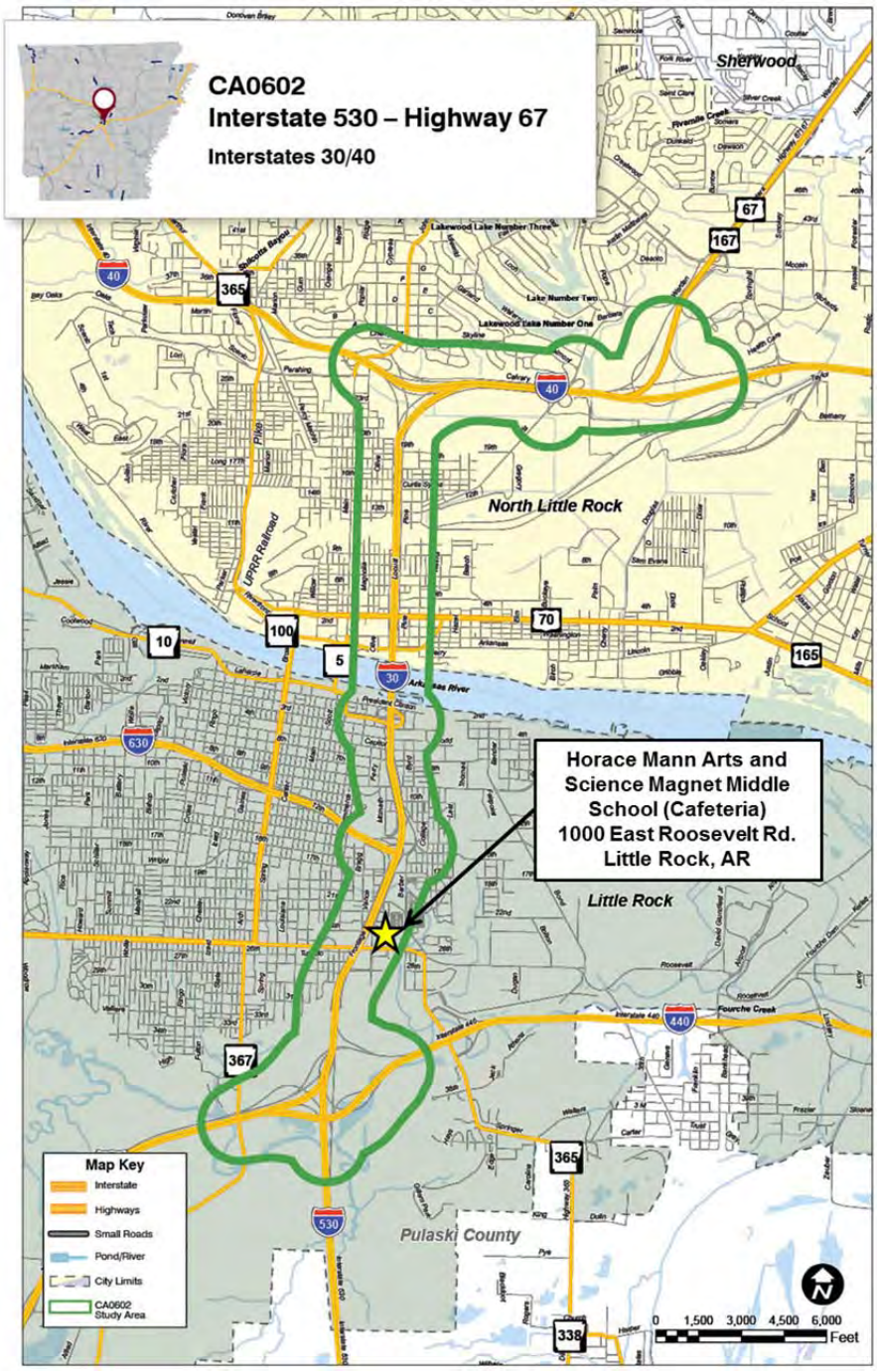
ATTACHMENTS

Attachment A Advertisements
Attachment B Sign In Sheets
Attachment C Materials and Photographs
Attachment D Comments

1.0 INTRODUCTION

In April 2014, the Arkansas Highway State Transportation Department (AHTD) began the Interstate 30 (I-30) Planning and Environmental Linkages (PEL) Study to identify the purpose and need for improvements within the I-30 PEL study area, determine possible viable alternatives for a long-term transportation solution, and recommend alternatives that can be carried forward seamlessly into the National Environmental Policy Act (NEPA) process. As part of the I-30 PEL Study, a series of four public meetings were held to allow the public to provide feedback on transportation needs and possible solutions in the study area. This report describes the fourth and final public meeting.

Figure 1. I-30 PEL Public Meeting #4 Location



2.0 PUBLIC MEETING #4

Public Meeting #4 logistics were as follows:

- **Location:** Horace Mann Arts and Science Magnet Middle School (Cafeteria) 1000 East Roosevelt Road, Little Rock, Arkansas 72206 (See **Figure 1**)
- **Date:** Thursday, April 16, 2015
- **Time:** 4 p.m. – 7 p.m.
- **Format:** Open house

The sections that follow further detail Public Meeting #4 and summarizes the input received through Friday, May 1, 2015, which was the end of the public comment period.

2.1 Public Meeting Advertising and Outreach

Public Meeting #4 for the I-30 PEL Study was publicized using numerous methods of advertising and outreach, as summarized in **Table 1**.

Table 1. Public Meeting #4 Advertising and Outreach

Outreach Efforts		Date(s)
Display/Newspaper Ads	Arkansas Democrat Gazette	3/24/15 & 3/25/15
	North Little Rock Times	3/26/15 & 4/9/15
	El Latino	3/26/15 & 4/9/15
	Hola Arkansas	4/10/15
Direct Mail	Flyer to adjacent property owners and property owners adjacent to interchanges	3/25/15
	Flyers to stakeholders (chambers, HOAs, etc.)	3/25/15
	Flyers to attendees of previous public or community meetings (no email address provided)	3/25/15
	Flyers to persons interested in project	3/25/15
	Letters to elected officials	3/23/15 & 4/6/15
	Letters to minority ministers and area churches	3/30/15
Email	Flyers to Technical Work Group Members	4/1/15
	Flyers to minority ministers and area churches	
	Flyers to Elected Officials	3/24/15
	Flyers to persons requesting to be added to mail list	3/25/15
	Flyers to attendees of previous public or community meetings	
	Flyers to stakeholders (chambers, HOAs, etc.)	
	Flyers to Project Partners, Stakeholder Advisory Group and Visioning Workshop attendees	
Hand-Delivered Flyers	Attractions (e.g., River Market, Clinton Presidential Center and Park)	4/9/15
	NAACP	
	Eastgate Terrace Housing Project (office)	
	Churches	
	Gas stations along the I-30 corridor	
	Schools and Development Centers	
	Libraries and Community Centers	
	Flyers sent home with students – Horrace Mann	4/13
Public Service Announcements	Two 30-second spots on Heartbeat 106.7 FM	4/6/15 – 4/16/15
	One 60-second spot on Power 92.3 FM	
	Two 30-second spots on La Pantera 1440 AM	
Websites	ConnectingArkansasProgram.com	3/23/15
	ArkansasHighways.com	3/24/15
	Metroplan.org	3/30/15
News Release	Distributed to AHTD media list	4/15/15
Community Calendars	Little Rock Convention and Visitors Bureau	3/24/15 – 4/16/15
	North Little Rock Visitors Bureau	
	State of Arkansas	
	Americantowns.com	
	Eventful.com	
	THV11	
	FM 89.1 KUAR	
Social Media	Metroplan Twitter	3/27/15 & 4/14/15
	Metroplan Facebook	3/27/15
Stakeholder Presentation	First United Methodist Church Lunch	3/4/15
	Metroplan Board	3/25/15

In addition, directional signs were placed in various locations around the public meeting facility to help participants locate the facility and to generate additional local awareness of the event.
Copies of the display/newspaper ads, flyer, letters, press releases and online advertisements are included in **Attachment A**.

2.3 Public Meeting Attendance

A summary of the attendance at Public Meeting #4 is presented in **Table 2.**

Table 2. Public Meeting #4 Attendance

Attendees	Number
General Public	101
Agencies	16
Elected Officials	1
Media	2
Study Team Members	23
Total Attendance	**143**

Participants represented a wide range of interests and included members of the general public, members of community organizations, elected officials and city/county staff. Copies of the sign in sheets from both meetings are included in **Attachment B**.

2.4 Public Meeting Format and Materials

Public Meeting #4 utilized an open house format, which allowed participants to arrive, sign in, view exhibits and handouts, ask questions and provide comments between 4:00 p.m. and 7:00 p.m. The meeting layout was designed to showcase nine distinct stations. I-30 PEL Study Team members, comprised of AHTD staff and consultants, were available at every station to provide information and answer questions.

The nine stations are described below, in the order that they were intended to be viewed by the public. The materials available at each station are summarized in **Table 4.**

Station 1: Sign in Here - At this station, members of the public signed in, learned about the meeting format, and received introductory handout materials. Materials handed out included a public meeting program guide that described the meeting format and station set-up, an I-30 PEL fact sheet describing the PEL process, a Connecting Arkansas Program (CAP) brochure describing the CAP Program, and a comment form. A notice of non-discrimination exhibit was also posted at this station.

Station 2: I-30 PEL Study Area, Constraints Maps and Timeline - This station presented the I-30 PEL study area, constraints that have been identified to-date and PEL Study timeline. Six exhibit boards were on display: one map of the study area; three separate constraints maps covering the north section of the study area (North Little Rock), the middle section of the study area (Arkansas River and central business districts), and south section of the study area (Little Rock); a legend board explaining the symbols identified on the constraints maps; and an exhibit depicting the overall PEL study timeline and where the study is within this timeline of events.

Station 3: Level 1 Screening - This station presented four exhibit boards that illustrated the Level 1 Screening process: an exhibit board illustrating the general Alternatives Screening Methodology; an exhibit board listing the Universe of Alternatives - the initial set of possible solutions to the transportation needs identified for the I-30/I-40 facility in the study area; an exhibit board illustrating the screening of the Universe of Alternatives to a set of Preliminary Alternatives; and an exhibit board listing the results of the Level 1 Screening of the Universe of Alternatives to Preliminary Alternatives, which were carried forward to the Level 2 Screening.

Station 4: Level 2 Screening - This station presented seven exhibit boards that illustrated the Level 2 Screening process, which was broken up into two phases: Levels 2a and 2b. Attendees first viewed an exhibit board describing the Level 2 Screening methodology. Then attendees viewed three exhibit boards associated with the Level 2a Screening: one exhibit board breaking down the Level 2a screening process, one exhibit board outlining the Level 2a alternatives screened out, and one exhibit board identifying the Basic Scenarios - grouping of Primary and Complimentary Alternatives - recommended for Level 2b. Another exhibit board provided the definition and illustration of collector/distributor (C/D) roads to aid meeting attendees in understanding the difference between main lane widening and C/D roads, both identified as Primary Alternatives for further evaluation. The Level 2a Screening was followed by two exhibit boards illustrating the Level 2b Screening process: one exhibit board breaking down the Level 2b scoring process and one exhibit board identifying the scenarios for further evaluation in Level 3, also called the Reasonable Alternatives.

Station 5: Level 3 Screening – This station presented 10 exhibit boards that illustrated the Level 3 Screening process: one exhibit board breaking down the Level 3 screening methodology; one exhibit board illustrating the Level 3 screening process; one exhibit board presenting the overall Level 3 screening matrix, one exhibit board describing the use of the Vissim modeling software; two exhibit boards presenting the AM and PM peak hour speed profiles for the various scenarios including existing conditions, No Action Alternative, and the three Action Alternatives; and four exhibit boards presenting the results of the Level 3 screening with individual matrices for mobility, safety, cost, and environmental.

Station 6: PEL Recommendation(s) - This station presented four exhibit boards and one animation of the PEL Recommendation. The four boards included: one exhibit board presenting the rationale behind the top Reasonable Alternative identification (10-lane with Downtown C/D); one exhibit conceptually illustrating the I-30 PEL Recommendation; one exhibit board that provided an overview of the PEL Recommendation which included the various components of the alternative; and one exhibit board depicting the upcoming NEPA timeline which would conclude with the award of the design-build contract for the project. In addition to the exhibit boards, Station 6 also presented on-going animation of the PEL Recommendation which simulated traffic conditions for the AM peak period in year 2041.

Station 7: 10-Lane with Downtown C/D – This station presented roll plots of the I-30 PEL Recommendation. The roll plots included existing and potential proposed right-of-way (ROW), as of date. Study Team members were available to answer questions.

Station 8: I-30 PEL Documents - This station provided copies of the I-30 PEL Framework and Methodology, Public Involvement and Agency Coordination Plan (PIACP), Purpose and Need Report, Constraints Report, Universe of Alternatives, Alternatives Screening Methodology and Level 1 and Level 2 Screening Methodology and Results Memorandum documents. Although hard copies of these documents were provided for review at the public meeting, attendees were reminded that all displayed materials were also available on the project website.

Station 9: Comment Tables and How to Get Involved - This station included a sitting area and comment boxes for meeting participants to complete and submit comment forms at the meeting venue. This station also presented an exhibit detailing the various methods members of the public could obtain more information or provide comments on the I-30 PEL Study. At the end of the meeting, the Study Team collected all written comments from the comment boxes.

The materials described at each of the nine stations above are summarized in **Table 3.** Copies of the materials, as well as photos from the meetings, are included in **Attachment C**. **Figure 2** presents the general layout for Public Meeting #4.

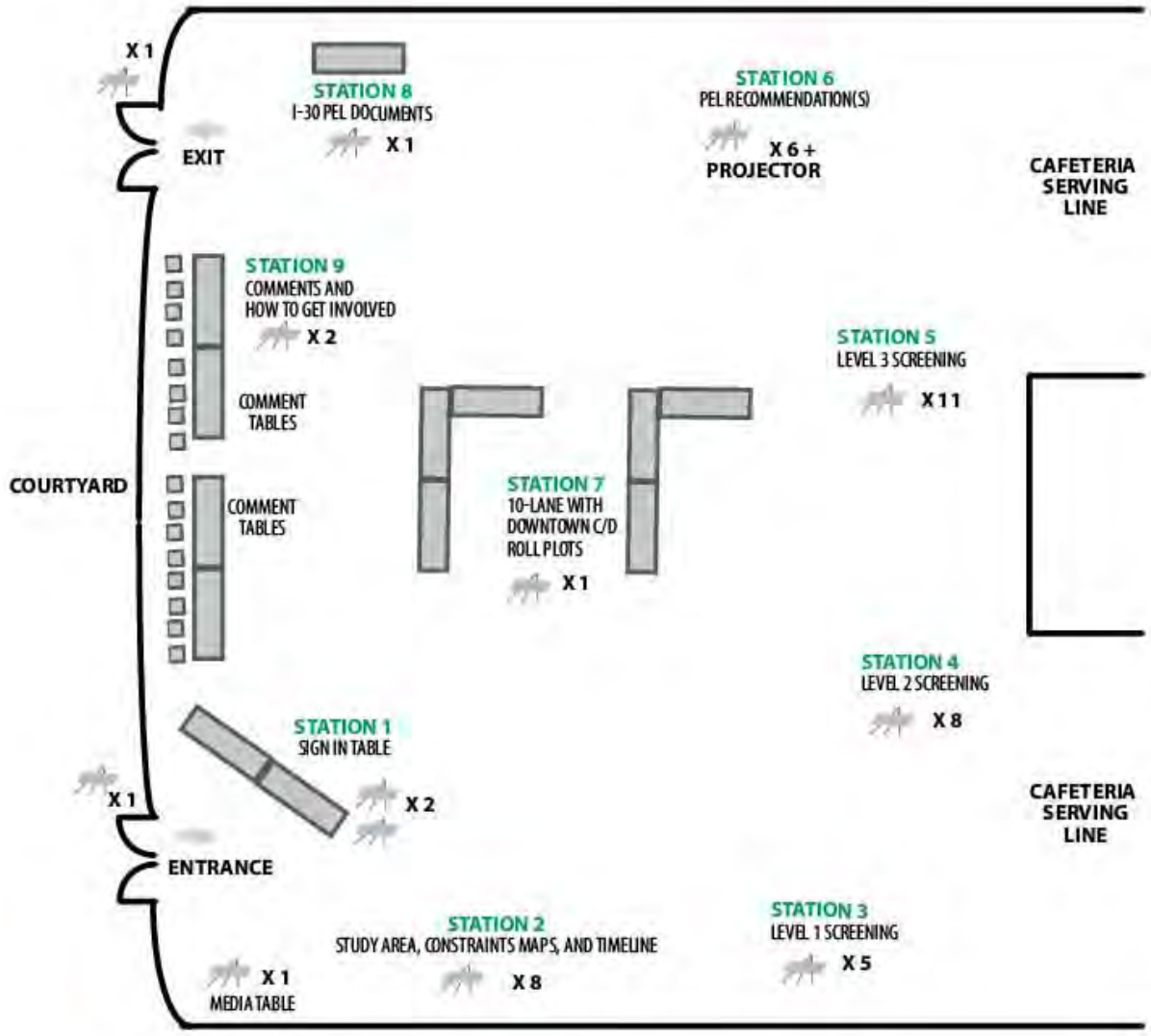
Table 3. Public Meeting #4 Materials

Station	Type	Title
Station 1: Sign In Here	Handout	Public Meeting Program Guide
	Handout	I-30 PEL Fact Sheet with Study Area Map
	Handout	CAP Brochure
	Handout	Comment Form
	Exhibit	Notice of Non Discrimination
Station 2: I-30 PEL Study Area, Constraints Maps, and Timeline	Exhibit	Study Area Map
	Exhibit	North Section Constraints Map
	Exhibit	Central Section Constraints Map
	Exhibit	South Section Constraints Map
	Exhibit	Constraints Map Legend
	Exhibit	PEL Study Timeline
Station 3: Level 1 Screening	Exhibit	Alternative Screening Process (Overview)
	Exhibit	Universe of Alternatives
	Exhibit	Alternative Screening Process (Level 1)
	Exhibit	Scenarios for Further Evaluation (Moving on to Level 2)
Station 4: Level 2 Screening	Exhibit	Level 2 Screening Methodology
	Exhibit	Level 2a Screening
	Exhibit	Level 2a Alternatives Screened Out
	Exhibit	Basic Scenarios Recommended for Level 2b
	Exhibit	Collector/Distributor
	Exhibit	Level 2b Screening
	Exhibit	Scenarios for Further Evaluation (Moving on to Level 3)

Station	Type	Title
Station 5: Level 3 Screening	Exhibit	Level 3 Screening Methodology
	Exhibit	Level 3 Screening Process
	Exhibit	Level 3 Screening Matrix
	Exhibit	Vissim Modeling
	Exhibit	Speed Profiles (Existing and No Action)
	Exhibit	Speed Profiles (Reasonable Alternatives)
	Exhibit	Screening Measures and Results - Mobility
	Exhibit	Screening Measures and Results - Safety
	Exhibit	Screening Measures and Results - Cost
	Exhibit	Screening Measures and Results - Environmental
Station 6: PEL Recommendation(s)	Exhibit	Top Reasonable Alternative
	Exhibit	I-30 PEL Recommendation (10-Lane with Downtown C/D)
	Exhibit	PEL Recommendation Overview
	Animation	10-Lane with Downtown C/D Animation using Future Year 2041 AM Peak Hour Traffic Volumes
	Exhibit	I-30 NEPA Timeline
Station 7: 10-Lane with Downtown C/D Roll Plots	Aerial Roll Plot	10-Lane with Downtown C/D Roll Plots
Station 8: I-30 PEL Documents	Report	I-30 PEL Framework and Methodology
	Report	Public Involvement and Agency Coordination Plan
	Report	Constraints Technical Report
	Report	Universe of Alternatives
	Report	Alternatives Screening Methodology
	Report	Level 1 Screening Methodology and Results Memorandum
	Report	Level 2 Screening Methodology and Results Memorandum
Station 9: Comments and How to Get Involved	Handout	Comment Form
	Exhibit	How to Get Involved

1

Figure 2. Room Layout for Public Meeting #4



2.5 Public Meeting Comments

The public comment period opened on April 16, 2015 and ended May 1, 2015. Attendees could provide comments through a variety of methods, including the following:

- Submitting a written comment in the public meeting comment box at Station 9;
- Calling the Connecting Arkansas Program at 501-225-1519;
- Mailing a written comment to Connecting Arkansas Program, RE: 1-30 PEL Study, 4701 Northshore Dr., North Little Rock, AR 72118; or
- Emailing a comment to Info@ConnectingArkansasProgram.com.

Table 4 shows the number of comment submissions by method in which they were submitted.

Table 4. Number of Comments Received

Submission Method [1]	Number of Comments
Comment Form	15
Email	15
Phone Calls	5
Total Comments Received	**35**

Note: [1] See Table 5 for detailed comments.

Many of the comments submitted identified specific transportation problems and/or solutions to address issues of concern. Many commenters inquired about changes in access and if their properties would be impacted by proposed ROW acquisition. Some commenters expressed favoritism for the accommodation of other modes in the PEL Recommendation's design, while others specifically requested no widening and/or the implementation of only transit solutions. The protection of historic structures and districts from project impacts was also a prevalent comment received; and several requests for additional information related to potential displacements and billboard impacts were also submitted.

Table 5 provides a listing of all comments received. Also included are the corresponding response codes for each comment. The response code key is presented in **Table 6.** Comments are listed verbatim unless otherwise notated and copies of all comments received are included in **Attachment D**.

1 **Table 5. Comments Received and Response Codes**

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
Frasier, Coreen	4/16/15	Comment Form	1	1. As a car driver and bicycle commuter in Little Rock, I appreciate all efforts that have been made in the past and future to accommodate all modes of transportation. I look at all new plans in our area as opportunities to make Little Rock a viable and livable place to live, and work. I hope that all efforts will be made to make connections to all walk/bike routes. Though the highways in the past have been built for cars - It is time to build roads, bridges, and highways for people. I hope you will consider this in your future plans in Arkansas. 2. Roads are sometimes built to get cars out of town and into town quickly, hence car drivers who are not tax payers in our community are moving to surrounding towns. Let's build roads for the people that live here and the tax payers here, instead of building roads to get out of, and into town quickly.	D, R
Wells, Kathy	4/16/15	Comment Form	2	1. Do replace bridge. 2. Do get all funding before any construction. 3. Do not link to added lanes of I630 - Leave this alone. 4. Do not add lanes-costs outweigh benefits! Would promote transit. 5. Do not overshadow buildings at Cantrell exit - Keep to same size/footprint as today. 6. Do not slice off MacArthur Park. 7. Only add I630 lanes if you roof over I630-Commerce to Broadway-see plan of George Wittenberg	A, B, E, F, G, J, L, P-1
Rush, Shari	4/16/15	Comment Form	3	1. My concerns are the noise and getting out of my driveway onto Frontage Rd. My house is on the service rd. off of Roosevelt and 30N, I already have a hard time hearing inside my house, and in the mornings it is sometimes difficult getting out of my driveway. 2. The comment that I have is, change is good, but is this going to be a nightmare for me since I live right at the on-ramp, with getting in and out of my driveway. And how do you plan to handle the noise. The noise is always there no matter the hour and it is a little nerve-racking how will it be when the expanding starts.	B, H, N-1
Anders, Mike	4/16/15	Comment Form	4	We have property at E Broadway & Locust NLR- site of Valero Gas station- It is very important to us to maintain access to Locust St as an exit from the station with access to the on-ramp for I-30 headed North & East.	N-2
Plant, Marilyn	4/16/15	Comment Form	5	I think the 10 lane scenario is the solution I approve of the schematics so far.	R

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
Minyard, Brian	4/16/15	Comment Form	6	1. I think 10 lanes are too much. 8 would be sufficient you cannot build your way out of congestion. 2. Still need to rename 440 to 30 and the north leg of 30 to 530.	J, R
Roberts, Ray	4/16/15	Comment Form	7	McCain Blvd to I440. (Drawing on comment form)	Q-1
Molden, Don	4/16/15	Comment Form	8	Great lay out, all my questions were answered.	R
Anders, Patrick	4/16/15	Comment Form	9	1. Big concern about new R.O.W. on BDW'Y and Locust N.E. corner. AR. already took land when BDW'Y project done several years ago. 2. Also concern about access onto Locust with new on ramp re location.	N-2, O-1
Turner, Mary	4/16/15	Comment Form	10	My only concern is the noise, we here the Freeway pretty well now, just can't imagine any more noise.	B, H
Morgan, Alex	4/16/15	Comment Form	11	The diverging diamond at Cantrell should be elevated fully instead of a signal.	P-2
Chambers, Don	4/16/15	Comment Form	12	Full access at N Hills Blvd. I 40 EB I40 WB exit	N-3
Plant, Robert (Sr.)	4/16/15	Comment Form	13	Concerning all future meetings. Please make it easier for the handicap to enter your assembly.	M
Martin, Eddie	4/16/15	Comment Form	14	1. Object to remove of 6th & 9th Street exit westbound. 2. Object to taking on North side of E. Broadway in NLR. 3. Need access to new entrance ramp on E. Broadway, NLR.	N-4, O-1, Q-2
Chapman, Dan	4/17/15	Email	15	Can you provide me a list of the 19 structures, five homes, seven commercial properties	K
Sanders, Shela	4/18/15	Email	16	Please make no widening of I-630 that would encroach on the Historic McArthur or Historic Governor's mansion districts.	B, G
Walker, Robert	4/18/15	Email	17	I DO NOT want any widening of I-630	G

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
Tatum, Kay	4/19/15	Email	18	As a resident of downtown Little Rock's MacArthur Park Historic District, I am very opposed to the widening of I-630. Residents choose where they live (Benton, Cabot, Conway, etc). Considerations should be made by these individuals with regard to the commute to their place of employment prior to selecting to live in these areas. Downtown should not suffer the consequences and be punished because these individuals desire to live outside of the City. Make it a toll-way, and that would certainly decrease use of I-630 while generating revenue. Promote mass transit. I understand that funding is not even in place at this time to proceed. Please do not consider until funding is in place. Above all, consider the historic homes and the historic buildings, as well as new construction, to include the high-rise condominiums downtown when proposing changes. Historic Arkansas Museum and the Main Library, as well as historic buildings in the River Market would certainly suffer the consequences of an elevated interstate. The new high-rise condominiums would severely suffer from an elevated interstate. Residents invested because of the VIEW and now you consider changing that? Do NOT make their investments worthless! I am very opposed to this idea.	A, B, E, F, G, H, R
Fleming, Robert	4/20/15	Email	19	I am writing to voice my objection to widening the I-30 corridor through downtown Little Rock. I not only live in this area, but I own several residential rental properties that would be negatively impacted. The congestion that is being addressed by this widening only happens for a relatively minute length of time each day. The majority of the day the traffic flow is more than adequate. To consume such a large mass of valuable, historic land to accommodate such a small amount of time does not make since. I urge those in the decision making process to consider NOT widening I-30. And, to consider alternatives for traffic and the transportation of people -rail, carpooling, etc...	A, E, I, L, R
Gibbens, Tom	4/20/15	Phone	20	Contacted Perry Johnston with the Arkansas State Highway and Transportation Department. Mr. Tom Gibbens, Arkansas General Manager for Lamar Outdoor Advertising, read an article stating that 6 billboards owned by Lamar would be affected by the proposed reconstruction of the I-30 bridge. Mr. Gibbens has asked for more detailed information concerning which billboards may be involved.	K

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
Oman, Noel	4/20/15	Phone	21	Contacted Danny Straessle with the Arkansas State Highway and Transportation Department. The environmental screening for the Top Reasonable Alternative showed that a total of 19 displacements would result if, of course, it the project was built without any changes in the NEPA or design-build process. They included five residential, seven commercial and seven billboards. May I have a list and location of those properties?	K
Roble, Robert	4/20/15	Email	22	Would it be possible to get a copy of any information which was presented at the I30 public meeting last week? We were unable to attend.	K
Collins, Will	4/21/15	Email	23	Can you please let me know if any of my company's properties will be affected by the planned expansion of I-30/I-40. Our property is highlighted in red. I believe the large parcel near the bottom left of the images will not be affected, but I am not sure about the other three north of the highway. We have a billboard that I hope is not affected (see third image). Pictures included in email	O-2
Jones, Beverly	4/21/15	Email	24	A city can take decades to rebuild a decimated neighborhood. Just like a sound family structure leads to a sound citizenry, sound policies considering long term effects on the community lead to a prosperous and happy community. Do not throw good money after bad. Listen to the cries of those directly affected! I know these things from living the history of the downtown, Quapaw, Mansion and Midtown areas. When money is at issue, policymakers must still ultimately make judgments that best fit into the fabric of Our Town.	B, R
McRae, Ken	4/21/15	Phone	25	Contacted Chuck Martin with the Arkansas State Highway and Transportation Department. He requested information regarding the impacts due to the concept shown at a public meeting. I believe this is the Design-Build project. Can one of you provide that information or contact him. He gave the location of his property and email address on attached note.	K
Price, Joseph	4/21/15	Email	26	This is Joseph Price for Sync Weekly. We saw that someone has made a pitch for a 10 lane interstate in downtown Little Rock. We were interested in knowing what that could mean for Little Rock itself as far as business goes. If it would have an effect or if it would be business as usual. We were particularly interested in knowing if current conditions throw many people off the idea of coming downtown and if speedier traffic would curb that reluctance.	A, B, K
Burney, Belinda	4/22/15	Email	27	Curtis Sykes exit North should be moved back SOUTH, not North.	N-5

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
Fries, Andy	4/22/15	Email	28	I wanted to let you know that I tried to download the first handout and the file is either really large, or something might be wrong with the link. It wants to open it, but it just sits at a blank screen. Problem might be on my end. All the other links worked fine. Great public meeting last Thursday. Very well laid out. Hope you guys are getting a lot of good feedback.	K, R
Finn, Lawrence	4/23/15	Email	29	The proposed 10 lane solution does not seem to show any consideration for public transportation. I can see little or no dedicated ROW for alternate transit. The solution as presented primarily facilitates single occupant automobiles and commerce. Typically, urban areas will expand Highways only to encourage more single occupant automobiles ultimately confronting the same problems years from now. The problem is not being solved it is only being perpetuated. It would be interesting to see how the model would look considering economic and population growth over the next 20 years. Unfortunately AHTD is not asking the right questions and therefore will not deliver long term solutions. Arkansas will continue to make the same mistakes as other congested sister cities.	E, R
Unknown	4/23/15	Mailed in Comment Form	30	1. Being at the public meeting and studying the proposed 10-lane with (2) cd's along partial I-30 corridor further convinces me that Central Arkansas needs to invest in restructuring the public transit system so that there are other choices other than relying on the automobile. This proposed plan is projected to 2040 and costs more of the $450 million budget, which is a lot of money a lot of space. I think the reasoning behind going to the 10-lane with 2 CD's needs to be further evaluated-is it really worth an extra $25 million- based on wait time in traffic and safety? I looked at the numbers and it wasn't that much different. 2. Also; want to stress the east / west connections and really thinking about how these can be further enhanced other than widening, lighting. They need to be places where people/community connect. Willing to not have 10-lane with 2 CD's if lanes turn for good urban fabric at these east/west connections. 3. Question the ability for AHTD to maintain the expanse of the highway- how do they foresee the years in maintaining? 4. I'd rather invest in better public transit system, have 8 lane with 2 CD's and further enhance east/west connections than have all the safety and waiting issues projected for 2040. 5. Need to really think about the value of adding $25 million to 10-lane (2) cd- not worth it.	C, E, F, J

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
Walker, Robert	4/23/15	Email	31	You are just going to run over us, our neighborhood, again, with a noisy, disruptive, crime causing, neighborhood decaying, freeway again, right? I 630 pervades my neighborhood with noise. The 630 exit onto Woodrow makes a wall of steel splitting my neighborhood. It is the only exit from 630 leading into a narrow two lane residential street. 630 was built before FEMA flood plain regulations. Floods happen in my neighborhood. Houses flood. Neighbors nearly drown. This is due to 630 grading. Any construction along the I30 - 630 route will increase noise and pollution along my stretch without any mitigation until actual widening at the stretch along my neighborhood, the part which was constructed first. Who are the Federal officials to contact about these projects?	B, G, H, K
Long, Dennis	4/28/15	Phone	32	Has property at 9th street and I-30. Wants to know if there is anything on the internet showing what AHTD will do regarding the I-30 job and impacted property.	K, O-3
Holland, Steve	4/29/15	Email	33	I saw an article in the newspaper yesterday showing some of the potential displacement locations in NLR. One is a billboard that is on our property. The other was listed as “400 E 13th St” which is the corner we set on. I know everything is preliminary and subject to change. But we would like to know how close the widening will be to our front door. I-30 is directly in front our office. In fact we use part of the ROW for employee parking. We would like to know if there is the potential that this project would decimate our business by taking away our access for freight trucks, customers, etc. I went to some of the public input meetings that were held. I did not see anything like what is described in the newspaper. Any information that we could get concerning the potential impact on the area around 13th & N Cypress would be greatly appreciated.	O-4
Maher, Boyd	5/1/15	Email	34	*(Note – See Attachment D, Comment 34 for copy of Resolution).* The Capitol Zoning District Commission passed the attached resolution last year regarding the potential widening of Interstates 30 and 630 through downtown Little Rock. Our agency has already submitted this resolution to AHTD, but wished to resubmit since the public comment period on the PEL study is closing. We hope this material is helpful in your review.	R

Name (Last/First) or Organization	Date	Submission Method	Comment Number	Comment(s)	Response Code(s)
Gentry, Courtney	5/5/15	Mailed in Comment Form	35	*(Note - Summarized due to length of comment. See Attachment D, Comment 35 for verbatim comment).* • Concerned that Little Rock's downtown area is beginning a renaissance/revitalization, and this project will create a chokehold for the area. • Concerned about construction impacts. • Believes that driver behavior is to blame for any traffic issues, and that adding more lanes will only allow more room for these bad drivers to cause chaos. • Prefers implementing other means to alleviate congestion – such as methods for changing driver behavior. • States that the only time I-630 and I-30 are congested are during peak commuter traffic times. • Questions if funding is available.	A, B, F, H, L, R

Table 6 below presents the key to the response codes presented in **Table 5.**

Table 6. Comment Response Code Key for Public Meeting #4

Response Code	General Topic Addressed	Response
A	PEL Recommendation	The 10-lane Downtown C/D Alternative was identified as the PEL Recommendation to be carried forward to NEPA. Features of the PEL Recommendation include: • 3 main lanes and 2 C/D lanes in each direction; outside the C/D lanes, facility is 5 main lanes in each direction; • C/D lanes extending from about Broadway St. to the Cantrell Road interchange; • Replacement of the Arkansas River Bridge • Interchange and intersection improvements, ramp modifications, bottleneck removal, auxiliary lanes, shoulder and frontage road improvements, main lane pavement rehabilitation and horizontal/vertical curve improvements. • Congestion management and other mode alternatives incorporated into design including ramp metering, transportation system management (TSM), wayfinding/signage improvements, bus on shoulder and bicycle/pedestrian access accommodations. • Slower speeds traveled on the C/D lanes anticipated to result in less severe crashes than higher speed main lanes. • C/D lanes would create a new local connection between Little Rock and North Little Rock across the Arkansas River Bridge, allowing motorists to travel between the downtown areas without entering the main lanes of the interstate. Serving as an additional crossing of the Arkansas River that is separate from main lane traffic, the C/D lanes would provide more convenient access to and between the downtown economic districts and support improved connectivity and cohesion of these financially viable commercial and tourist areas. • Approximately 9 acres of new ROW would be required, thus, the majority of the PEL Recommendation would be constructed within existing ROW.

Response Code	General Topic Addressed	Response
B	Concerns about potential social, economic and environmental impacts and/or request for protection of environmental resources in the study area.	Social, economic, and environmental resources were considered during the development, evaluation and screening of alternatives for the I-30 PEL Study in an effort to avoid and/or minimize any potential future negative impacts on these resources. Once the PEL Recommendation design has been further refined during NEPA, this refined design will be specifically evaluated for its potential direct, indirect and cumulative impacts on the study area resources. In relation to potential noise impacts and mitigation, a noise study would be performed as part of the NEPA analysis to determine the degree of noise impacts (if any) and potential mitigation options, if mitigation is determined feasible and reasonable. Construction of noise walls is subject to approval by the affected residents, who will be given the opportunity to vote on their preference. In relation to MacArthur Park, MacArthur Park Historic District and the Governor's Mansion Historic District, impacts to these resources are not anticipated to result from the PEL Recommendation. In relation to potential visual impacts, the majority of the improvements would be at an elevation similar to existing I-30/I-40. In the vicinity of the I-30/Hwy. 10 interchange, in the southbound direction, the PEL Recommendation would have one ramp (the new exit to 6th and 9th Street) that would be approximately 20 feet higher than the existing interstate. A more detailed analysis of potential visual impacts would occur during the NEPA phase of project development. Aesthetic priorities of the community as identified by stakeholders in Visioning Workshops would be incorporated to the extent practicable in the design of the new infrastructure. In relation to community impacts, the PEL Recommendation would not impact any public facilities (churches, schools, etc.) that tend to create unity and facilitate community gatherings. Furthermore, bridges along the I-30/I-40 facility would be widened/lengthened when practicable, thereby opening up east-west connectivity and better facilitating the interaction of areas previously divided by the existing facility. Efforts would be made to avoid, minimize, or mitigate potential environmental impacts associated with the identified NEPA preferred alternative. Continued coordination with resource agencies would occur throughout the NEPA processes to ensure compliance and minimization of potential impacts.

Response Code	General Topic Addressed	Response
C	Questions/concerns about east-west connectivity and aesthetic issues.	Various aspects related to aesthetics and context sensitive solutions (CSS), such as lighting, landscaping, enhancing east-west connectivity and the overall development of a transportation facility that complements the surrounding physical setting, were considered as part of the PEL process. Visioning workshops have been included as part of both the PEL and early stages of NEPA as to obtain early feedback and develop a foundation for continued community outreach. One visioning workshop was held on 11/19/14 and included agency, government, and community representatives as appointed by the mayors of Little Rock and North Little Rock and the Pulaski County Judge. Improved lighting and other aesthetic suggestions were provided by visioning workshop participants, such as designing an open and inviting facility, not having an iconic bridge and having a consistent use of materials throughout the corridor. From this visioning workshop, possible solutions that preserve and enhance aesthetic, historic and community resources were identified. During the NEPA phase, a second visioning workshop will be held with stakeholders that examines potential CSS and design concepts in greater detail. Based on stakeholder feedback and available funding, CSS/aesthetic guidelines would be developed following this second visioning workshop and included in the design-build-to-a-budget request for proposals, pending AHTD approval.
D	Suggestion of bicycle/pedestrian improvements.	Accommodating bicycle/pedestrian facilities and improving the safety of pedestrians and bicyclists, including pathways for students walking or bicycling to school, were all issues identified by local agency, government, and community representatives at the I-30 PEL visioning workshop held on 11/19/14. As described in **Response Code C**, a second visioning workshop will be held during the NEPA/Schematic phase and based on stakeholder feedback and available funding, CSS/aesthetic guidelines would be developed and included in the design-build-to-a-budget request for proposals, pending AHTD approval. Because bicycle and pedestrian paths are maintained by the cities, potential bicycle and pedestrian accommodations will need to be coordinated between the cities and stakeholder(s) of interest, and will be further refined during the NEPA process as applicable. Study Team planners and engineers have and will continue to work with city planners to ensure that city goals for future development are given due consideration and incorporated when practicable.

Response Code	General Topic Addressed	Response
E	Suggestion and/or comments regarding transit improvements	Potential transit alternatives evaluated as part of the Universe of Alternatives in the Level 1 Screening included arterial bus transit, I-30 express bus transit, bus on shoulder, bus lanes, arterial bus rapid transit, light rail, heavy rail, commuter rail and high speed rail. All of the above alternatives except heavy rail and high speed rail moved forward to the Level 2 Screening analysis as Preliminary Alternatives. Heavy rail and high speed rail were screened out from further evaluation because they were determined impractical[1] based on high construction cost and the difficulties associated with constructability. Light rail and commuter rail were screened out from the Level 2 analysis. Light rail was screened out because it would remove a small percentage of I-30 demand and is not included in the Central Arkansas Transit Authority (CATA) short term plan. Moreover, although part of their long range plan, CATA has indicated that they would implement bus rapid transit before light rail along future light rail corridors. Commuter rail was screened out because it was not included in either the CATA short or long term plans and would remove only a small percentage of I-30 demand. Arterial bus transit, I-30 express bus transit, bus on shoulder, arterial bus lanes and arterial bus rapid transit were carried forward as part of the Level 3 analysis and included in the PEL Recommendation as either “other modes incorporated into the PEL Recommendation design” (includes bus on shoulder and bicycle pedestrian access) or “other modes that are potential future opportunities” (includes arterial bus transit, I-30 express bus transit, arterial bus rapid transit and arterial bus lanes). The Level 2 analysis did include an evaluation of transit in relation to improvements on I-30. Historical growth rates and the CARTS travel demand model were used to estimate 2040 traffic volumes in the study area. Analysis was performed to quantify the volume of traffic that could be attracted to or diverted away from I-30 as a result of changes in facility capacity and transit improvements in the study area. These volumes were then added to or subtracted from the projected 2040 volumes to produce modified I-30 traffic demand. The resulting volumes were then used as the basis for a high-level traffic analysis of the alternatives. A transit oriented alternative was evaluated in Level 2. The 6 Main Lane Alternative included replacement of the I-30 Arkansas River Bridge and congestion management, other mode and non-recurring management strategies that passed Level 1, but no main-lane widening. This alternative was screened out during Level 2 because it failed to substantially improve mobility and safety in the study area, suggesting that transit improvements alone would not meet the purpose and need or study goals of the project. The NEPA Study Team will continue to work with local transit providers as the PEL Recommendation is carried forward through NEPA to evaluate how the NEPA preferred alternative may complement the existing and planned transit system.

Response Code	General Topic Addressed	Response
F	Questions/concerns regarding project cost/ funding	It is unlikely that the entire set of solutions recommended in the PEL will be funded as one project. A key activity within the NEPA process is to further evaluate the PEL Recommendation, identify segments of independent utility and develop an implementation schedule for those improvements based on priorities tied to purpose and need and project goals. As the design schematics of the NEPA preferred alternative are advanced, and cost estimates become more refined, the NEPA project team will identify the set of "most likely improvements", which will form the basis for the first construction phase. To maximize the amount of construction delivered, the project will be delivered using the Fixed Price – Best Design methodology as outlined in the *AHTD Design-Build Guidelines and Procedures*. AHTD will establish the baseline project scope and the not-to-exceed baseline project budget, consistent with the most likely set of improvements identified in NEPA. Operational modeling of the preferred alternative during the NEPA phase would provide relevant information needed in the determination of the priority of improvements for inclusion into the Fixed Price – Best Design project. Logical termini and sections of independent utility would be coordinated and approved by the lead agencies; and based on this modeling and coordination, a project phasing plan of the NEPA preferred alternative would be prepared and included in the NEPA documentation. In relation to maintenance costs, even with the implementation of all the solutions recommended by the PEL Study, the improvements on the I-30 corridor would only add between 25 and 30 lane miles to the 30,000+ lane miles currently maintained by AHTD. AHTD would utilize available funds to maintain the transportation system, as needed and as practicable.
G	Questions/concerns regarding I-630	The PEL Recommendation (see **Response A**) includes improvements to I-30 and I-40; it does *not* include improvements to I-630. Traffic modeling determined that additional capacity improvements on I-630 from Louisiana Street west beyond the PEL study limits ("outside area") are needed in the future year (2041) to avoid backups from congestion outside the study limits impacting traffic and safety inside the study limits on I-30. AHTD has acknowledged this outside area warrants additional study and plans exist to evaluate and potentially improve, as determined necessary, this outside area. Any future improvements to I-630 are outside the scope of the I-30 PEL and NEPA phases of project development. Moreover, should I-630 be studied by AHTD and FHWA in the future, potential environmental impacts resulting from capacity improvements would be evaluated as part of an I-630 planning and NEPA analyses.

Response Code	General Topic Addressed	Response
H	Questions/concerns about construction impacts	Although temporary congestion may occur as a result of project construction, all practicable steps would be taken to minimize the inconvenience to motorists, transit users, bicyclists and pedestrians. All practicable steps would also be taken to maintain access to residential and business areas in the project vicinity during construction. Measures to control dust due to construction activities would be considered and incorporated into construction specifications. Noise associated with the construction of the project is difficult to predict. Heavy machinery, the major source of noise in construction, is constantly moving in unpredictable patterns. However, construction normally occurs during daylight hours when occasional loud noises are more tolerable. Noise receivers are not expected to be exposed to construction noise for a long duration; therefore, any extended disruption of normal activities is not expected. Provisions will be included in the plans and specifications that require the contractor to make every reasonable effort to minimize construction noise through abatement measures such as work-hour controls and proper maintenance of muffler systems. AHTD has a public information office that provides notifications through various communications methods, including notifying the media, utilizing social media and contacting affected stakeholders, among other tactics. During construction, AHTD will work to notify the public in as much advance as possible and to the extent practicable, and will continually work to improve communications throughout the process.

Response Code	General Topic Addressed	Response
I	Questions/concerns about adding lanes	A No-Action Alternative and 6 Main Lane Alternative were evaluated as part of the PEL Study in an effort to achieve the study goals without adding lanes to the existing roadway. As discussed below, neither alternative was determined to meet the purpose and need and study goals of the project. **No Action Alternative:** Although the No Action has no environmental impacts and zero cost, the I-30/I-40 facility already exhibits severe Level of Service (LOS) F congestion (worst level of congestion) over a long duration in several areas. By 2041, the section of I-30 north of the Arkansas River would operate at LOS F congestion almost continuously throughout the AM peak period. Peak hour travel speeds would be near 20 mph, and the poor crash rates along the route would continue to worsen. The No Action Alternative will be advanced for further evaluation as required by NEPA. No Action travel speeds (speed profiles)[2] for AM and PM peak periods in 2041 are shown throughout the length of the study area in **Figure 3** (below this table), demonstrating severe levels of congestion generally along the entirety of the I-30/I-40 facility. **6-Main Lanes** (3 main lanes in each direction) – This alternative included replacement of the I-30 Arkansas River Bridge and congestion management, other mode and non-recurring management strategies that passed Level 1, but no main-lane widening. This alternative was screened out during Level 2 because it failed to substantially improve mobility and safety in the study area, and as traffic volumes continue to increase, the conditions would grow progressively worse over the next 20 years. Accordingly, it did not meet the purpose and need, or the study goals of the project, and was not advanced to Level 3.

Response Code	General Topic Addressed	Response
J	Questions/concerns about a 10-lane alternative (8-lanes are sufficient)	Two 8-lane Alternatives were evaluated: 8 Main Lane and 8-lane C/D Alternatives. **8-Main Lanes** (4 main lanes in each direction) – This alternative was screened out in Level 2 because it incurred costs and environmental impacts while not adequately addressing mobility and safety in the study area. High-level traffic modeling (Highway Capacity Manual) demonstrated a failure to meet AHTD operational standards at specified locations. Moreover, this high level analysis did not factor in the effects of merging and diverging traffic prevalent throughout the corridor, resulting in an analysis that likely overstates the actual performance of the 8-Lane Scenario. Accordingly, this alternative did not meet the purpose and need or the study goals of the project and was not advanced to Level 3. **8-lane C/D** (3 main lanes and 1 C/D lane in each direction) – This alternative was screened out in Level 3. Micro-simulation traffic modeling showed this alternative performing poorly in the mobility measures. By 2041, several locations would experience peak hour travel speeds below 25 mph and the southbound direction would experience LOS F congestion (worst level of congestion) for nearly the entire AM peak period. The afternoon peak period also has several locations with LOS F congestion lasting more than an hour. Accordingly, this alternative did not meet the purpose and need or the study goals of the project and was not advanced to NEPA as a PEL Recommendation. 8-lane C/D travel speeds (speed profiles)[2] for AM and PM peak periods in 2041 are shown throughout the length of the study area in **Figure 4** below this table, demonstrating severe levels of congestion on portions of I-30/I-40. Regarding the comparative costs between the 10-lane C/D and the 8-lane C/D Alternatives: The additional cost of the 10-lane C/D Alternative is approximately $135 Million higher than the cost for the 8-lane C/D Alternative. The additional investment is needed because the 8-lane C/D Alternative failed to adequately address the mobility issues along I-30 (**Figure 4**). Also see **Response L**.
K	Request for additional contact/information	Commenter has been or will be contacted by a Study Team member and provided the requested information. FHWA is lead Federal agency for the I-30 PEL Study and NEPA documentation. Point of contact: FHWA – Arkansas Division.
L	Suggestion and/or comments regarding motorist experienced traffic congestion	Traffic can be a personal perception issue relative to individual local experiences. This study used both national standards for interstate performance as well as more than a dozen different mobility measures of effectiveness that compare existing, future no action and future action conditions so AHTD, stakeholders and the public could compare the different improvements to make an informed decision on the trade-offs of improvements.
M	Questions/concerns about public meeting	ADA access has and will continue to be provided and signs posted for all public meetings/hearings. Future public involvement efforts will strive to ensure that meeting locations facilitate ease of ADA access, to the greatest extent possible.

Response Code	General Topic Addressed	Response
N = Questions/concerns about potential impacts to access		
N-1	Access to residence located on existing frontage road at Roosevelt and I-30 Little Rock, AR	The entrance ramp from the frontage road onto I-30 north of Roosevelt Street is anticipated to be removed as part of the PEL Recommendation. Removal of this ramp could reduce traffic on the frontage road and make it easier to enter/exit the commenter's driveway. Removal of the entrance ramp would not result in a loss of access; however, motorists in the area would need to travel south on McAlmont Street and Vance Street to Roosevelt Street in order to enter the interstate, requiring additional travel time. Note: The PEL Recommendation is a conceptual preliminary alignment for widening and reconstruction and, therefore, subject to change during the NEPA phase as the alignment is developed and refined to a greater level of specificity. A more detailed analysis of potential impacts to access will occur during the NEPA phase of project development. Efforts would be made to avoid, minimize or mitigate potential environmental impacts associated with the proposed alternative.
N-2	Access to Valero Gas Station located at East Broadway and Locusts Streets, North Little Rock, AR	Access to Locust Street from the Valero Gas Station is not anticipated to be affected by the PEL Recommendation. The existing northbound I-30 entrance ramp at that location would be relocated further south, but should not prevent entry to northbound I-30 from the Valero Gas Station via Locust Street. The note in **Response N-1** applies.
N-3	Access to North Hills Boulevard, North Little Rock, AR	In regard to the request for full access at North Hills Boulevard, the American Association of State Highway and Transportation Officials (AASHTO) guidelines recommend no more than 1 interchange per mile in an urban area, and any new construction or modifications to existing roadways should meet those guidelines. The distance from the I-40/Hwy. 67 interchange to the North Hills Boulevard interchange is less than ½ mile. Additional movements at the North Hills Boulevard interchange would result in unsafe conditions due to new traffic merging to get to and from I-40.
N-4	Access at 6th and 9th Streets	In regard to the elimination of 6th and 9th Street exits (westbound): AASHTO guidelines recommend no more than 2 ramps per direction per mile for an interstate facility. The current layout of I-30 has 6 ramps in the southbound direction between the Arkansas River and I-630, a distance of less than 1 mile. A higher number of ramps directly correlate to a higher number of crashes. Some ramps must be removed in order to meet AASHTO guidelines and to provide a safe roadway. The new flyover ramp from I-30 to the southbound frontage road will still provide the desired access.
N-5	Access at Curtis Sykes	Due to design limitations, the Curtis Sykes northbound exit could not be moved south. Doing so would result in a ground level interchange at 13th street, which in turn would not provide enough elevation to clear the UPRR tracks.

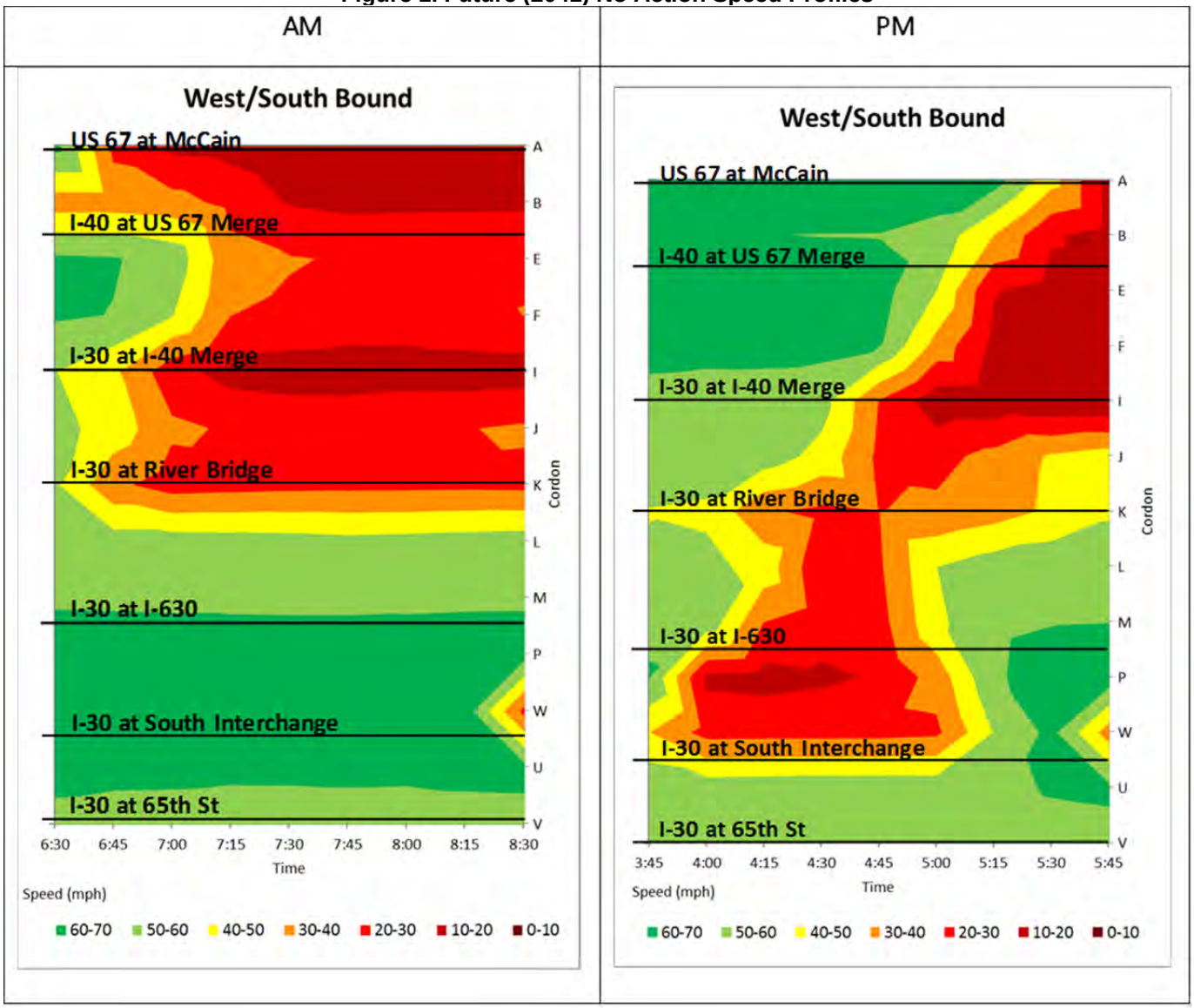
Response Code	General Topic Addressed	Response
O = Questions/concerns about potential ROW impacts		
O-1	Broadway and Locust Streets	A small amount of ROW would be required in the northeast corner of the Broadway Street/Locust Street intersection near the Valero Gas Station as a result of the PEL Recommendation. It is not anticipated that ROW would be required along Locust Street in this location. Note: The PEL Recommendation is a conceptual preliminary alignment for widening and reconstruction and, therefore, subject to change during the NEPA phase as the alignment is developed and refined to a greater level of specificity. A more detailed analysis of potential impacts to ROW and structures will occur during the NEPA phase of project development. Efforts would be made to avoid, minimize or mitigate potential environmental impacts associated with the proposed alternative. Real property would be acquired in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act which provides important protections and assistance for people affected by Federally funded projects. It ensures that people whose real property is acquired, or who move as a result of projects receiving Federal funds, will be treated fairly and equitably and will receive assistance in moving from the property they occupy.
O-2	Cypress Properties	The PEL Recommendation would not require any ROW from at the notated properties.
O-3	I-30 and 9th Street	The bridge over I-30 at 9th Street would be lengthened to allow for the additional lanes of I-30 to pass underneath, but no additional ROW would be required. The properties near the bridge could see some temporary impacts during construction (see **Response H**), but no permanent impacts are anticipated.
O-4	13th Street and N Cypress Street	The PEL Recommendation would add a connection to make Cypress Street continuous over the railroad track. The edge of pavement for the Cypress Street connection would be approximately 80 feet from the east face of the referenced building on the southwest corner of 13th Street and Cypress Street, which would be approximately where the edge of the grass currently is located. The ROW would be approximately 30 feet west of that, or 50 feet from the referenced building. It is anticipated the referenced billboard would also be affected. The note in **Response O-1** applies.
P = Question/concerns regarding the proposed design of Cantrell interchange		
P-1	Question/concern about community impacts at Cantrell interchange	The PEL Recommendation is proposed to have elevations similar to those on the existing Cantrell interchange; and the interchange is proposed to have a smaller footprint than the existing interchange, creating excess property for potential local development or green spaces. Note: The PEL Recommendation designates a conceptual preliminary alignment for widening and reconstruction. Further design refinements would occur as a more detailed schematic design and analysis is completed during the NEPA phase of project development. Once this occurs, the NEPA preferred alternative will be specifically evaluated for its ability to address the needs within the study area, as well as for its potential impacts to community impacts such as visual impacts. Efforts would be made to avoid, minimize or mitigate potential environmental impacts associated with the proposed alternative.

Response Code	General Topic Addressed	Response
P-2	Suggestion that the Cantrell interchange should be elevated	The Cantrell interchange is proposed in the PEL Recommendation as a diverging diamond. Micro-simulation traffic modeling of the PEL Recommendation confirms that the interchange performs operationally well during AM/PM peak periods with a signalized diverging diamond. Note: The PEL Recommendation is a conceptual preliminary alignment for widening and reconstruction and, therefore, subject to change during the NEPA phase as the alignment is developed and refined to a greater level of specificity. It is possible that the Cantrell interchange would be studied further during the NEPA phase of project development with the goals of improving safety and mobility above those improvements already identified to result from the PEL Recommendation at this location.
Q = Unclear Comment		
Q-1	McCain Boulevard	Intent of the illustration provided by the commenter is unclear. Commenter notates McCain Boulevard to I-440. McCain Boulevard is located northeast of the I-40/Hwy. 67 interchange, outside of the PEL study area. It is not anticipated that the PEL Recommendation would have an impact on travel from McCain Boulevard to I-440.
Q-2	Ramp Access	It is not clear what access the commenter is saying is needed relative to the new Broadway entrance ramp.
R	General comment or suggestion	Comment noted.

Notes:

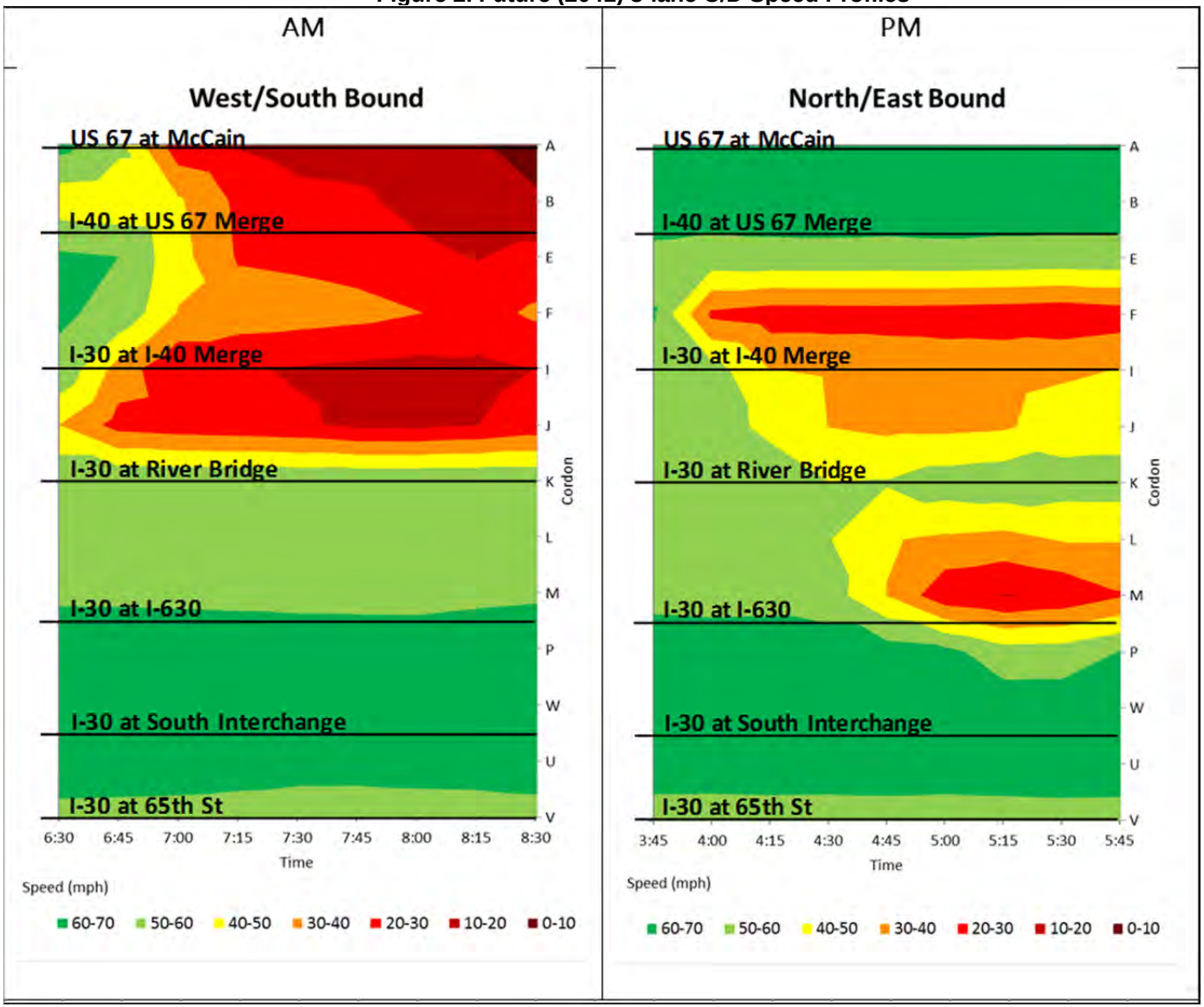
1. *For transportation projects, generally, an alternative is **practicable** if it: 1) meets the purpose and need; 2) is available and capable of being done (i.e., it can be accomplished within the financial resources that could reasonably be made available, and it is feasible from the standpoint of technology and logistics); and 3) will not create other unacceptable impacts such as severe operation or safety problems, or serious socioeconomic or environmental impacts. The evaluation of alternatives must consider a reasonable range of options that could fulfill the project sponsor's purpose and need. Reasonable Alternatives include those that "are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant" (Council on Environmental Quality, 1981).*
2. *Speed profiles provide a way to graphically demonstrate mobility. A speed profile compares the expected travel speed for the length of the corridor over a two hour period using the micro-simulation traffic models.*

Figure 1. Future (2041) No Action Speed Profiles



Source: I-30 PEL Vissim models

Figure 2. Future (2041) 8-lane C/D Speed Profiles



Source: I-30 PEL Vissim models

3.0 CONCLUSION AND NEXT STEPS

Feedback from Public Meeting #4 supports the need for transportation solutions in the study area in order to alleviate congestion, improve safety, improve existing roadway deficiencies (i.e., too many ramps, weaving problems, etc.), and improve access and connectivity across I-30 through Little Rock and North Little Rock. With the presentation of the PEL Recommendation, many of the comments received included specific questions related to potential access and ROW impacts. Similar to previous public meetings, commenters noted ramping and weaving problems as issues of concern and identified bicycle, pedestrian and transit accommodations as important transportation priorities.

The input gathered at Public Meeting #4 will be used to validate the selection of the I-30 PEL Recommendation. The PEL Recommendation will be continued to be refined and developed during the NEPA process which will be initiated upon completion of this study.

Copies of this document, as well as future public meeting materials, will be available online at www.ConnectingArkansasProgram.com. Questions or additional comments may be directed to Info@ConnectingArkansasProgram.com.

Appendix C-3:

Technical Work Group (TWG) Comment Documentation

TWG Meetings and Topics Discussed

TWG Meeting #1 Comment Documentation

TWG Meeting #2 Comment Documentation

TWG Meeting #3 Comment Documentation

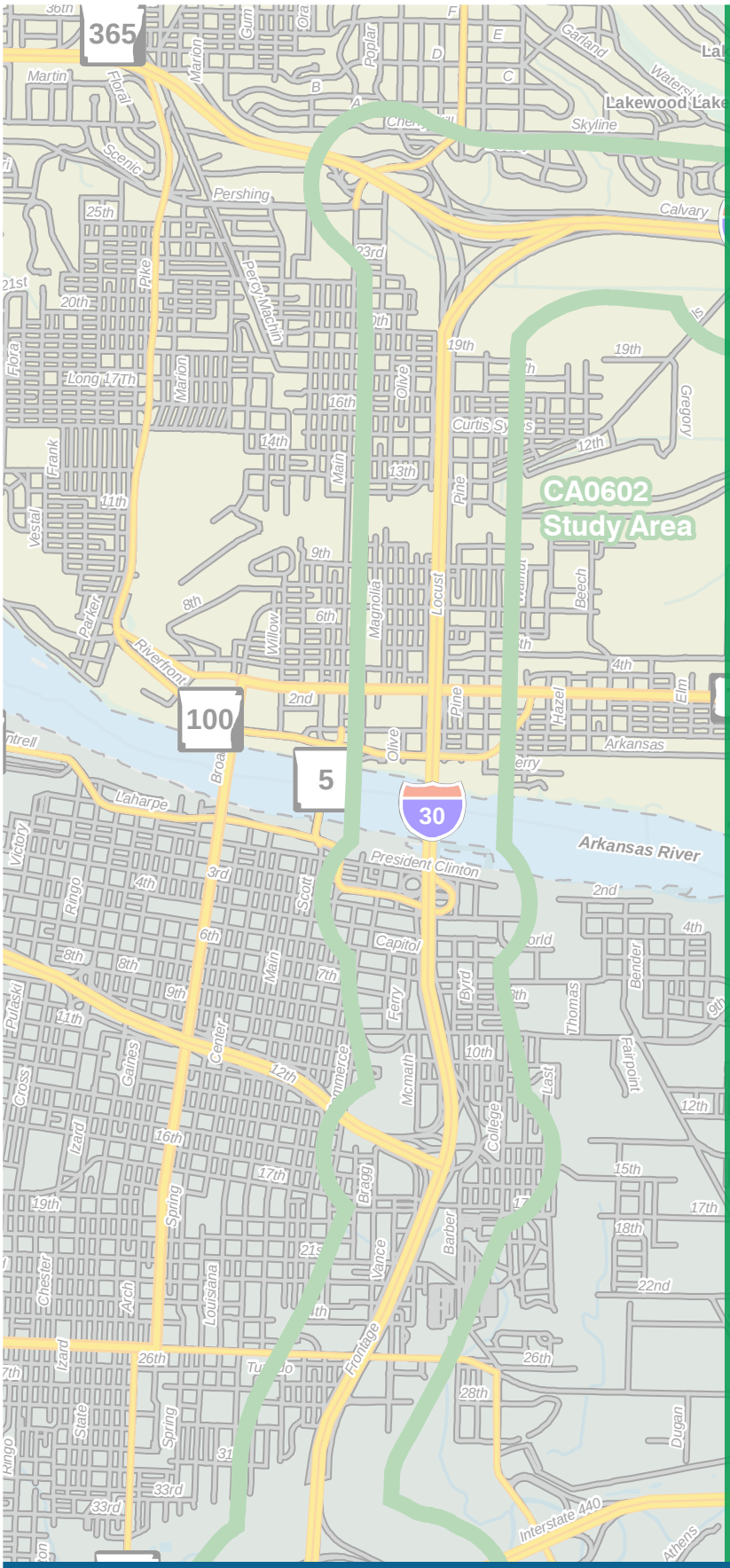
TWG Meeting #4 Comment Documentation

Technical Work Group Meetings and Topics Discussed

Meeting	Date	Location	Purpose and Meeting Highlights
1	June 26, 2014	Arkansas Transit Association	• Welcome • CA 0602 (I-30) Background / Past Studies • FHWA Perspective on PEL Process • I-30 PEL Study Introduction • I-30 PEL Study Timeline • Design-Build vs. Design-Bid-Build • Team Introduction • PEL Methodology & Framework • Role of the Technical Work Group • Public Involvement & Agency Coordination Plan • Key Study Elements and Status • Action Items • Next Meeting
2	September 25, 2014	Arkansas Transit Association	• PEL Overview • TWG #1 Recap • Public Meeting #1 Recap • Draft Purpose & Need • Alternative Screening Methodology • Universe of Alternatives • Level 1 Screening / Preliminary Alternatives • Action Items/Next Meeting • Questions • Upcoming Meetings / Outreach • Closing Comments

3	January 13, 2015	Arkansas Transit Association	• PEL Overview
			• PEL Update
			• Level 2 Screening Methodology and Results
			  o Methodology
			  o Level 2a Screening
			  o Level 2b Screening/Roll Plots
			• Vissim
			• Upcoming Meetings/Outreach
			• Action Items/Next Meeting
			• Closing Comments and Questions

4	March 31, 2015	Arkansas Transit Association	• PEL Overview
			• PEL Update
			• Level 3 Screening and Results
			  o Vissim
			  o Speed profiles
			  o Screening measures (mobility, safety, cost, environmental)
			  o PEL Recommendation(s)
			• Upcoming Meetings/Outreach
			• Action Items
			• Closing Comments and Questions



PLANNING AND ENVIRONMENTAL LINKAGES TECHNICAL WORK GROUP MEETING #1 COMMENT DOCUMENTATION

INTERSTATE 30

CA0602

Interstate 530 – Highway 67

April 2015

CONNECTING ARKANSAS PROGRAM CAP

Arkansas State Highway & Transportation Department

CAP Deliverable QC Comment Review Form

Project Number:	CA0602
Document:	TWG #1 Meeting and Materials Distributed to TWG Members on USB/Flash Drive
Consultant/Authors:	CA0602 Study Team
Date Submitted for QC Review:	Submitted to TOC on 8/25/14

** AHTD/FHWA

Cmnt No.	Section/ Page No.	Reviewer	Review Comment	Response	Change Verified		Agency Verified **
					New Pg.	Initials / Date	
1	**Email** 7/9/14	Martello, Michael Little Rock School District	LRSD has one question. How many lanes are going to remain open during construction of the I-30 bridge.	Although it is unknown how many lanes would remain open during construction because alternatives have not been developed yet, traffic flow on I-30 would be maintained during construction. The number of lanes remaining open to traffic would depend on if the I-30 bridge is rehabilitated and/or widened or replaced. For example, if a widening alternative is recommended, it is possible that the existing 6-lane bridge could be temporarily reduced to 4-lanes during construction, assuming no shift in the centerline of the bridge and that widening would take place on both sides. The number of lanes remaining open could be different given a shift in the centerline or if widening were to occur primarily on one side. If a replacement alternative is recommended, it is possible that all six lanes could remain open while a new bridge is constructed.	N/A	JLH / 8/21/14 & 8/25/14	✓

2	**Email** 7/7/14	Malone, Walter City of LR Planning and Develop.	We believe you are missing a couple National Register Districts between the River and MacArthur Park check the map on our site http://www.littlerock.org/!userfiles/editor/docs/planning/hdc/HDC%20nr%20dist%20map%202013.pdf .	The study area for the cultural resources analysis, also known as the area of potential effect (APE), was a 100-foot buffer on either side of I-30 and I-40 from the existing ROW. All historic districts within and intersecting the 100-foot APE were included in the constraints analysis and mapping. The suggested website was reviewed and the historic districts of Tuf Nut and Markham Street were identified to be located outside of the cultural resources APE, but within the larger I-30 PEL study area boundary. For mapping purposes, Tuf Nut and Markham Street historic districts were added to the constraints mapping. However, because these historic districts are outside of the APE evaluated by AHTD and the State Historic Preservation Officer (SHPO), no change was made to the cultural resources analysis included in the constraints technical report.	N/A	JLH / 8/21/14 & 8/25/14	✓
3	**Email** 7/7/14	Malone, Walter	We would also like to make sure you are looking at Charter Schools in or near the area, not just LRSD and NLRSD campuses.	An online search for charter schools in the study area was conducted and none were identified within the study area. In addition, the Study Team reached out the Mr. Gary Newton with Arkansas Learns to identify any existing or potential locations for future charter schools in the study area. Mr. Newton responded with the following two nearby Charter Schools, however, both were determined to be located outside of the study area: (1) eStem Public Charter School at 112 3rd Street, Little Rock, AR 72201 (0.5 mile from I-30) and (2) Little Rock Preparatory Charter School at 1616 S. Spring St., Little Rock, AR 72207 (0.8 mile from I-30). Because these charter schools are located outside of the I-30 PEL study area, no change has been made to the constraints mapping or constraints technical report.	N/A	JLH / 8/21/14 & 8/25/14	✓

4	**Email** 7/7/14	Malone, Walter	If you have not talked with the Ward 1 representative Erma Hendricks (sic). It was be wise to make contact, at least informational.	The Study Team attempted to contact Ms. Hendrix on 8/14/14. A voice mail was left notifying Ms. Hendrix about the I-30 PEL Study public meeting in Little Rock and an offer was extended to visit with Ms. Hendrix one-on-one should she have questions/comments. As the City Director for Ward 1 of Little Rock, Ms. Hendrix was sent a letter notifying her of the initiation of the I-30 PEL Study and providing background details relating to the study. Additionally, Ms. Hendrix was also mailed a public officials letter notifying her of the first two public meetings planned for August 12 in North Little Rock and August 14 in Little Rock. The letter formally invited Ms. Hendrix to attend these meetings and offer her views concerning the project. The Study Team has developed a robust public, agency and local/elected official outreach program and looks forward to meeting with Ms. Hendrix.	N/A	JLH / 8/21/14, 8/25/14 & 9/8/14	✓
5	**Email** 7/7/14	Malone, Walter	The dates for the meeting in August – • August 7 is a Planning Commission Hearing date. The meeting would start at 4 PM and go until it is over. At this point we do not know what will be on that agenda. But if there is anything filed in the general area that would cause a conflict for those who might wish to attend either or both meetings. • August 12 is an agenda meeting of the Little Rock Board of Directors. The meeting starts at 4 PM. While this is not a public hearing, some in the area might wish to attend and of course it would be a conflict for Staff as well as the Mayor and the Director for Ward 1 (or any other Directors who might wish to attend). • August 14 is the best date.	To reach the most stakeholders, two meetings were scheduled – August 12 in North Little Rock and August 14 in Little Rock. Both meetings were be held from 4 p.m. to 7 p.m. and presented identical information.	N/A	JLH / 8/21/14 & 8/25/14	✓

6	**Email** 7/7/14	Malone, Walter	Suggested project Goals/Principles (in addition to those you had provided)– • No loss of east-west connectivity of the street network and non-vehicular network • Make crossings of I-30 pedestrian friendly • Minimize the real, perceived and visual barrier of the freeway • I-30 should have and provide a connection to and from downtown LR/NLR to the rest of central Arkansas • Assure connective (sic) to CATA transit center in downtown Little Rock and Greyhound station in NLR • Maintain excess (sic) to downtown LR/NLR connections (could provide one exist (sic) point on the freeway to multiple exists (sic) within the street network) • Reduce or minimize the impacts visual and otherwise to the Presidential Park & Library as well as MacArthur Park & Historic District	Thank you for submitting the goals/principles. Many of the suggested goals are similar in concept to those identified by the Study Team and will serve to further confirm the project vision. Specific goals that may not have been previously identified will be brought forward and analyzed by the Study Team.	N/A	JLH / 8/21/14, 8/25/14 & 9/8/14	✓
7	Metropl an Letter dated 7/07/14	Casey R. Covington CARTS Study Director	The long-range metropolitan transportation plan is a systems plan that balances travel demands system-wide with the approved land use scenario and the fiscal limitations of a financially constrained plan. Embedded in that plan is an investment strategy that should be used to frame the I-30 corridor planning study not vice versa. While plans are subject to change, please be advised that we are coming to the end of a two year update cycle, with a new long-range plan due to be adopted in December of this year. All of the public comment we have received to date is consistent with the current strategies in METRO 2030.2.	The I-30 PEL will be developed in a manner that recognizes the current funding strategies and priorities in the updated long range metropolitan transportation plan (LRMTP). Because the project has dedicated funds from the Connecting Arkansas Program (CAP) and will likely include additional federal funding for rehabilitation, the overall budget for the project is essentially constrained to those fund sources. As the project is developed, the Study Team will be focused on maximizing the amount of project that can be delivered for the established project budget. It is anticipated that the PEL Study will address phasing as well as additional other solutions that may not be fully funded at this time, but that complement the recommended solution. Those elements and recommendations will be identified and submitted to the MPO to inform future LRMTP updates/amendments. Given the range of solutions that may result from the PEL Study, and to achieve consistency with the LRMTP, it is anticipated that PEL Study recommendations will require future refinements/amendments to the LRMTP and we will work closely with your team to ensure consistency.	N/A	JLH / 8/21/14, 8/25/14 & 9/8/14	✓

8	Metropl an Letter dated 7/07/14	Casey R. Covington CARTS Study Director	We agree that every reasonable effort should be made to reduce the time necessary to construct this project and will do everything that we can to avoid unnecessary delay. But other than the lost purchasing power that time takes on a project of this scale, is there any other deadline against which you are working of which we are unaware? I ask because at the moment it feels rushed and as if the cart is before the horse. For example, the recent news article announcing the replacement of the I-30 bridge and the method by which traffic would be maintained certainly gave the impression that a great many decisions have already been made. I suggest that it would be more prudent for the success of the project to take enough time in the beginning to achieve a publicly supported vision for the corridor and to build alternatives from it. Better by far to do things right the first time rather than do them quickly, only to have to redo later.	The I-30 PEL Study Team agrees that it is top priority to develop and deliver the I-30 improvements in a manner that gets it "right the first time." The use of the PEL Study and design-build delivery for the I-30 improvements is consistent with all federal initiatives developed to expedite project delivery while maintaining strong commitments to planning, NEPA and Design-Build requirements. There were a variety of reasons that federal agencies worked to streamline and integrate their processes, most notably because of public, agency and congressional concerns that the process took too long, cost too much, and in some cases, actually hindered reasonable and timely decision making practices. Inflation, even at a relatively small annual percentage, can have a huge impact on a major project. For example, delaying the I-30 improvements by a year would decrease the purchasing power of the established budget by $15,000,000, robbing the taxpayers of increased value for their tax dollars. The Study Team is committed to accelerated delivery to accomplish multiple FHWA EDC initiatives that span all phases of project development including: planning (PEL, GIS, CSS, IQED), design (Design-Build) and construction. AHTD is committed to not making decisions without appropriate levels of Project Partner and agency coordination, as well as public input, as set forth in the project's Public Involvement and Agency Coordination Plan (PIACP). The decision on the bridge replacement is ultimately an engineering/risk/return on investment decision made in parallel with the planning and NEPA processes. Contrary to previous reports, the I-30 PEL Study will consider both bridge rehabilitation and replacement.	N/A	JLH / 8/21/14 & 8/25/14	✓
9	Metropl an Letter dated 7/07/14	Casey R. Covington CARTS Study Director	**Technical Comment – Study Area** The proposed primary study area should be enlarged to include the CBD's on both sides of the river accounting for potential traffic patterns changes resulting from modifications to access points and interchanges and the impact of a potential new bridge at Chester Street. A tertiary study area supporting future NEPA analysis should be defined that considers the induced demand for continued freeway widening resulting from adding capacity to a key link and its impact on land use, financial sustainability and air	The study area boundary was developed based on conclusions drawn from the *CARTS Areawide Freeway Study - Phase 1 Arkansas River Crossing Study* (2003) and updated for this PEL study as described and documented in the Methodology and Framework and Environmental Constraints Report. Although we have defined a study area for the PEL Study, if alternatives outside of this boundary meet the purpose and need and warrant investigation (i.e. Chester Street) they will not be excluded from further analyses. Regarding traffic patterns, the CARTS Travel Demand	N/A	JLH / 8/21/14, 8/25/14 & 9/8/14	✓

			quality.	Model, provided by Metroplan, has been utilized to forecast traffic projections and understand traffic patterns on a metropolitan-wide level, not just within the study area. Vehicular traffic and transit will be evaluated holistically – determining how improvements inside the study area affect traffic and transit inside and outside of the study area. Exhibits depicting both the I-30 PEL study area (identified, for example, for the purposes of environmental constraints mapping) and the larger traffic study area will be presented at the second TWG and public meetings. The NEPA study area(s) will be defined during the NEPA phase of the project, which will occur subsequent to the completion of the PEL Study. During NEPA, direct, indirect and cumulative impacts are evaluated, often times requiring different study extents. Direct impacts are generally evaluated within the proposed project's direct footprint. Indirect impacts (i.e., project-induced impacts) are generally analyzed within a larger study area, called the Area of Influence (AOI). The AOI will be large enough to determine potential encroachment-alteration impacts (ecological and socio-economic) resulting from the project and project-induced growth impacts. Cumulative impacts are assessed by resource, and considered within a spatial geographic area labeled the Resource Study Area (RSA). The RSA is determined based on the environmental resources that are selected for analysis and may be a single RSA that is used for all resources or a separate RSA for each resource. The RSA will be large enough to understand the trends affecting the health of the resource yet small enough to provide practical consideration of the project's contribution to the cumulative effects.			

10	Metropl an Letter dated 7/07/14	Casey R. Covington CARTS Study Director	**Technical Comment – Purpose and Need** The public should define the purpose and need and corridor vision in the initial public outreach period. This determination should be made without the preconceived purpose and need already developed. Based upon the LRMTP and comments made pertaining to the corridor, I would take exception to the current description for congestion and voter commitment as provided in the draft purpose and need.	The lead agency, FHWA, has the authority for and responsibility of defining the purpose and need, which has been delegated to the Study Team. We are providing the opportunity for involvement during the development of the purpose and need to the Project Partners, TWG, stakeholders and the public. Public input was sought during the first round of public meetings on the purpose and need and goals/objectives. A station was set up that included a large exhibit board with a listing of potential problems or needs for the study area that had been developed by the Study Team. The station also had an exhibit board with a listing of potential goals for the study area. The Study Team developed the initial list of problems and goals, however meeting attendees were asked to write their concerns and goals on post-it notes and add to/revise/comment on the exhibit boards or to provide their comments at any point during the comment period (through August 29, 2014). The draft purpose and need statement presented at TWG #1 was a high level initial summary of the issues that had been identified by the Study Team. A Purpose and Need Report will be prepared that includes additional analyses and specific information that documents the needs that have been identified. All comments will be considered and incorporated, when practicable, into the Purpose and Need Report.	N/A	JLH / 8/21/14 & 8/25/14	✓

11	Metropl an Letter dated 7/07/14	Casey R. Covington CARTS Study Director	**Technical Comment – Purpose and Need - Congestion** The draft definition of congestion is far too generic and linking it to level-of-service is insufficient for this urban corridor. The question should not be framed in terms of eliminating congestion, but instead defining what level of congestion is acceptable and financially sustainable (see Level of Service discussion below). If congestion is to be used, it must be much more nuanced in order not to bias alternative selection. I would suggest dropping congestion and instead defining the purpose in terms of reliable and optimized flow.	The term congestion will be retained because it is familiar and easily-relatable concept to the public, and is the standard terminology used in AHTD NEPA documents. Moreover, the level of congestion on a facility, or a facilities ability to meet present and projected traffic demands, is cited by FHWA as a primary issue that may be listed and described in the purpose and need statement for a proposed action. It is understood that "congestion" is a multi-faceted concept which warrants further definition. As stated in response to comment #10, the draft purpose and need statement presented at TWG #1 was a high level initial summary of the issues that had been identified by the Study Team. A Purpose and Need Report will soon be shared that includes additional analyses and specific information that documents the needs that have been identified. After reviewing the fully developed Purpose and Need Report, then we can better determine if we are just using different terms to characterize the same transportation issue(s). Congestion will be measured by LOS, but also by travel time to key destinations, travel speed, VMT, VHT and average delay per motorist. The Alternatives Screening Methodology (ASM) will detail out these measures and criteria which is also under development and will be shared with the project partners, TWG, SAG and public to gain additional feedback in the near future.	N/A	JLH / 8/21/14, 8/25/14 & 9/8/14	✓
12	Metropl an Letter dated 7/07/14	Casey R. Covington CARTS Study Director	**Technical Comment – Purpose and Need - Congestion** In the corridor, six freeways merge and diverge within a six-mile stretch. Most of the traffic is local (i.e. within Pulaski County) and intra-regional (commuting to/from Pulaski County from within the metropolitan area) with a small percentage being inter-regional or through traffic. Different evaluation measures should be used for each of these trips. For the purposes of local traffic, for example, other solutions outside the proposed corridor may be appropriate. For inter-regional traffic, I-30 should be defined to include I-430 and I-440 that are preferred to the I-30 central corridor.	The Study Team designation of through versus local trips was established as trips relate to the I-30 PEL study area. For the I-30 PEL traffic analysis, a local trip was defined as any trip end with an origin or destination within the study area. A through trip was defined as both trip ends occurring outside the study area. The Study Team recognizes the importance of understanding travel characteristics - the percentages of local trips versus through trips - which will aid in the identification of transportation solutions that best meet the need of motorists. The I-30 PEL traffic analysis and evaluation measures (to be outlined in the ASM) are designed to identify the problems and best fitting solutions for the study area. As part of the I-30 PEL Study traffic analysis, Metroplan's 2040 daily travel demand model determined that approximately 57% of the daily I-30 traffic is destined	N/A	JLH / 8/21/14, 8/25/14 & 9/8/14	✓

				within the I-30 PEL study area (around the central business districts and abutting job centers) and 43% of the daily I-30 traffic is destined to pass through the study area. Additionally, the 2003 *Phase 1: Arkansas River Crossing Study*, noted that I-30 serves longer distance, more regional trips, whereas Broadway and Main Street serve more local trips when compared to each other. The Phase 1 Study identified the following trip length percentages for trips greater than 15 miles: I-30 carried 44% trips, Broadway carried 10% and Main Street carried 11%. Also as part of the I-30 PEL Study traffic analysis, the Study Team is performing a comprehensive multimodal analysis of I-30 and its effect on other transportation systems. Solutions will address highway capacity, transit, travel demand management, transportation system management, intelligent transportation systems, bicycle/pedestrian and access management needs. Improvements will also address recurring and non-recurring congestion in the corridor. To address inter-regional traffic, the I-30 traffic analysis will include I-430 and I-440 to understand their impacts on I-30 in the study area.			
13	Metropl an Letter dated 7/07/14	Casey R. Covington CARTS Study Director	**Technical Comment – Purpose and Need – Voter Commitments** The voters of the State of Arkansas approved a constitutional amendment providing for a temporary half-cent sales tax and the issuance of bonds to finance improvements to four-lane highways in the state. It is a means of financing that does not rise to the level of purpose and need. The I-30 project was not on the ballot, but is a political, though not legally binding, commitment of the Arkansas Highway Commission. It should be removed from the Purpose and Need and listed in the Goals and Objectives. The final purpose and need statement should be described in the terms of the mobility of Central Arkansas citizens and include facility maintenance, rehab, and replacement (as necessary), all supported within the LRMTP.	Voter commitment has been removed from the purpose and need and has been incorporated as a goal/objective of the project. As stated in response to Comment #15, the purpose and need will be developed in a manner that is consistent with and compatible with the goals in the LRMTP.	N/A	JLH / 8/21/14, 8/25/14 & 9/8/14	✓

14	Metropl an Letter dated 7/07/14	Casey R. Covington CARTS Study Director	**Technical Comment – Evaluation Criteria (functional objectives)** The initial screening criteria/study focus described the corridor in terms of a "broad set" of Must Haves and Must Not Do's. In a corridor as complex as this one, functional objects must be defined up front through the public involvement process and may not be as simple as yes or no. These objectives should be stratified from critical to unnecessary to assist in evaluating which alternatives to move forward. If a simple yes or no criterion is used in defining reasonable alternatives, they should be signed off on first by all Project Partners. I would suggest the first operational objective focus be on the preservation of existing infrastructure (beyond just the roadway), the second on improved safety, and the third on addressing traffic flow within merge-diverge areas.	The evaluation criteria presented at TWG #1 was simply an overview to provide a general understating of the approach and methodology that that the Study Team would be developing. The ASM (under development) will include multiple screening levels with qualitative and quantitative measures. The ASM will be distributed to the same stakeholders as done with the purpose and need/goals to gain additional feedback. Before developing the ASM, the purpose and need and goals and objectives must be fully developed as it serves as the basis for alternatives screening.	N/A	JLH / 8/21/14 & 8/25/14	✓
15	Metropl an Letter dated 7/07/14	Casey R. Covington CARTS Study Director	**Technical Comment – Goals and Objectives** The project goals and objectives should initiate with those from the LRMTP and be defined by the public throughout public engagement. As a general rule, I suggest avoiding terms like "minimize" and "maximize" as they are absolutes; and absolutes are always expensive and often conflict with each other. Where appropriate I would substitute "optimize".	The I-30 PEL Study Team agrees that the goals as identified in the LRMTP are important and were included in the initial draft of the goals developed by the Study Team. The goals as outlined in the existing LRMTP include: • economic growth; • equality of access and transportation choice; • environmental quality; • land use; • quality transportation corridors; and • funding adequacy. The broad goals included in the LRMTP correspond with the following project level goals developed by the Study Team: • avoid/minimize impacts to the human and natural environment, including historic and archeological resources; • enhance and complement economic development; • complement other modes of transportation and planned transportation investments in the region; • allow for east-west connectivity	N/A	JLH / 8/21/14, 8/25/14 & 9/8/14	✓

				• improve vehicle access to Little Rock, North Little Rock and local attractions; and • provide bike and pedestrian friendly facilities. The complete list of goals can be reviewed in the Purpose and Need Report. In addition, guiding principles presented at the TWG included context sensitive solutions (CSS) and to inform and support local, regional and state-wide transportation plans. In relation to the LRMTP goal of funding adequacy, see response to comment #7. Public input was sought as discussed in response to comment #10. Regarding the terminology optimize vs. minimize/maximize, the Study Team agrees and has revised study goals as appropriate.			
16	Metropl an Letter dated 7/07/14	Casey R. Covington CARTS Study Director	**Technical Comment – Goals and Objectives – Air Quality** Central Arkansas is at risk for classification of non-attainment of national air quality standards for both ozone and particulate matter. A goal should be improved air quality. In addition to the criteria pollutants, significant research is appearing linking proximity to major roadways with negative health impacts, especially on low income, minority populations. Given that the majority of the corridor is an EJ area, it would seem appropriate to add this into air quality.	The proposed PEL study area is located in Pulaski County, which is an area in attainment for all national ambient air quality standards (NAAQS); therefore, the transportation conformity rules do not apply and no additional air quality analysis is required at this time. However, it should be noted that Central Arkansas is at risk for classification of non-attainment for the NAAQS for both ozone and particulate matter. Therefore, a regional goal of the MPO is to improve air quality and help maintain attainment status. While reducing automobile trips can help reduce air pollution, so can optimizing traffic flow and decreasing time spent in traffic (travel time). Under existing conditions, 70 percent of the I-30 corridor within the study area experiences severe congestion with undesirable speeds (LOS E and F), which increases to 100 percent by 2040 under no-build conditions. One of the preliminary goals of the I-30 PEL Study is to optimize traffic flow and improve mobility along I-30, which in turn would decrease the amount of fuel and traffic delays, and the concentration of pollutants emitted, with a potential for air quality improvements.	N/A	JLH / 8/21/14, 8/25/14 & 9/8/14	✓

17	Metroplan Letter dated 7/07/14	Casey R. Covington CARTS Study Director	**Technical Comment – Goals and Objectives – consistency with LRMTP** The corridor alternatives should be consistent with the long-range metropolitan transportation plan.	See responses to comments #14 and #15.	N/A	JLH / 8/21/14 & 8/25/14	✓
18	Metroplan Letter dated 7/07/14	Casey R. Covington CARTS Study Director	**Technical Comment – Level of Service** Designing to a future level of service D in an urban corridor is financially unsustainable, ignores likely technological changes, and is just not a wise use of limited transportation funding. As previously indicated, defining corridor functional objectives and an acceptable traffic flow are more appropriate measure for the corridor. We suggest that it is reasonable to accept a level-of-service F during the AM and PM peak hours, assuming today's auto technology be included in the analyses, anticipating that improvements and deployment of autonomous or semi-autonomous vehicles well before 2040 will greatly increase carrying capacity of existing lanes. If LOS is to be used, we also suggest balancing it with other measures, i.e. travel time reliability, return on investment etc.	AHTD's current LOS standard is LOS D in urban areas during the peak hours on AHTD facilities. AHTD will consider both LOS D and E thresholds during the peak periods in the I-30 PEL Study. As a result, both LOS D and E results will be presented so that the lead agencies (AHTD and FHWA), TOC, Project Partners, TWG and public can understand the cost, engineering, environmental and other trade-offs to make an informed decision. Other measures of effectiveness will be considered in the corridor besides LOS, to the extent practicable, such as travel time to key destinations, travel speed, VMT, VHT and average delay per motorist.	N/A	JLH / 8/21/14 & 8/25/14	✓
19	Metroplan Letter dated 7/07/14	Casey R. Covington CARTS Study Director	**Technical Comment – Stakeholder Input** In addition to the stakeholder feedback indicated in the slides, Metroplan staff expressed a desire to consider the separation of local and through traffic, reconnecting neighborhoods, and reclaiming land for both park and economic purposes.	This input was added to the Traffic and Safety Overview exhibit board presented at the first set of public meetings and is consistent with the goals developed by the Study Team and the public. These desires will also be further explored during the CSS Visioning workshops.	N/A	JLH / 8/21/14 & 8/25/14	✓
20	Metroplan Letter dated 7/07/14	Casey R. Covington CARTS Study Director	**Technical Comment – Chester Street Bridge** The idea of a Chester Street Bridge has again surfaced and should be considered as part of the analysis and realm of alternatives.	Chester Street will be included in the Universe of Alternatives.	N/A	JLH / 8/21/14 & 8/25/14	✓
21	Metroplan Letter dated 7/07/14	Casey R. Covington CARTS Study Director	**PIACP - Section 1.0 - Introduction** Final Paragraph -Based on Metroplan traffic analyses, the primary purpose of this segment of I-30 is to provide access to the central business districts and abutting job centers, and only secondarily as a interregional corridor.	The Study Team agrees that the primary purpose of this segment of I-30 is to provide access to the central business districts and abutting job centers (local and intra-regional trips), and secondarily as an inter-regional corridor. The Study Team recognizes the importance of understanding travel characteristics - the percentages of	N/A	JLH / 8/21/14 & 8/25/14	✓

			Overemphasis of the interregional nature of the corridor traffic, which we have seen or heard several times from the study team, will tend to bias the alternatives considered.	local trips versus through trips - which will aid in the identification of transportation solutions that best meet the need of motorists. The I-30 PEL Study traffic analysis is designed to identify the problems and best fitting solutions for the study area. See Comment #12 for additional details relating to the I-30 PEL Study traffic analysis.			
22	Metropl an Letter dated 7/07/14	Casey R. Covington CARTS Study Director	**PIACP - Section 1.2 & 1.4 - Informed Consent** The term "informed consent" is used throughout the document without a clear definition of what this is or what it means for Project Partners. This term should be defined and shared with Project Partners to determine if it meets their expectations.	The definition of informed consent was presented in a letter to Mr. Jim McKenzie (Metroplan) from Mr. Jerry Holder (CAP Project Manager), dated July 14, 2014. A Project Partner meeting was held on July 28, 2014 and the topic was not raised by attendees. It can be discussed at a future meeting if more clarification is required.	N/A	JLH / 8/21/14 & 8/25/14	✓
23	Metropl an Letter dated 7/07/14	Casey R. Covington CARTS Study Director	**PIACP - Section 1.3 - Study Team** As indicated in Metroplan's initial response to the PEL agreement, each partner should be afforded the opportunity to participate on the Study Team. Without representation, the process is discounted as a true partnership.	The Study Team is made up of the lead agencies overseeing the project (FHWA and AHTD) and the consultant team hired to complete the study on behalf of the lead agencies. The PEL process is a collaborative and integrative approach – one that sets forth the active engagement of agencies, elected officials, and other stakeholders. In accordance with the PEL initiative, Metroplan, the Cities of Little Rock and North Little Rock, and Pulaski County have been designated as Project Partners in the PEL process along with AHTD and FHWA. The Project Partners are integral to the PEL process. The Study Team has and will continue to meet with the Project Partners throughout the PEL process to facilitate collaboration, provide project updates, coordinate on information prior to presentation to the TWG and public, and gather input/comments on key PEL milestones/deliverables as outlined in the I-30 PEL Framework and Methodology. As a Project Partner, Metroplan (and the other Project Partners) has the opportunity to have a proactive working relationship with the Study Team.	N/A	JLH / 8/21/14 & 8/25/14	✓
24	Metropl an Letter dated 7/07/14	Casey R. Covington CARTS Study Director	PIACP, Section 1.4 -**Technical Oversight Committee** The CARTS Study Director is responsible for the Long-Range Metroplan Transportation Plan (LRMTP) and the consideration of results of the PEL study in its adoption. The inclusion of the CARTS Study Director on this committee will expedite the consideration of study recommendations in regional planning documents.	The Technical Oversight Committee includes representatives from various technical disciplines from the lead agencies (FHWA and AHTD). The TWG includes local, state, and federal agency staff. Based on these designations, the CARTS Study Director has been invited to be a TWG member to facilitate coordination with the MPO on inclusion of the PEL in the LRMTP and to garner a proactive relationship.	N/A		✓
25	Metropl	Casey R.	**PIACP - Section 2.2 - Social Media**	Language in first paragraph of PIACP Section 2.2 has	PIACP,	JLH /	✓

	an Letter dated 7/07/14	Covington CARTS Study Director	Conflicting information is provided on the purpose/use of Social Media, at one point Twitter is described as a form of two-way communication encouraging public comment. Later it is added that comments posted on Twitter will not be included or evaluated as part of the PEL Study decision-making process. While I understand the challenges of social media, if it is an endorsed form of communication by AHTD then comments should be considered or its role revaluated.	been revised to read, "AHTD and its consultants will utilize the AHTD Twitter account to broadcast PEL Study information…" The following information has been deleted from the last paragraph, "However, comments posted on Twitter will not be included or evaluated as part of the PEL Study decision-making process."	Sec. 2.2, Pg. 5	8/21/14 & 8/25/14	
26	Metropl an Letter dated 7/07/14	Casey R. Covington CARTS Study Director	**PIACP - Section 4.0 -Public Meetings** The public involvement plan should be revised to include an initial comprehensive visioning process that is led by the public, not the public reacting to pre-prepared material. This should be done in a minimum of two public meetings where the first focuses on the purpose and need, functional objects, and broad corridor visioning and the second should constitute a design charette that includes land development considerations. Only after these two meetings and the consent of all partners should the project move to more detailed alternatives development consistent with public meeting #2. While I assume this to be the case as it is standard AHTD practice, all public meeting material should be made available on the project website with ample opportunities for public comment.	Multiple public meetings will be held throughout the PEL process. All material presented at the public meetings will be in draft form, providing a baseline for residents to make decisions and provide input. At the first series of public meetings, a station was set up with blank aerial roll plots. The goal of this station was to seek public input and suggestions of their vision for I-30. The public will also have the opportunity to provide comments and express their vision on comment sheets at the public meeting or through other outlets during an official comment period following the meeting (mail in comment sheets, email, twitter and/or phone). All comments received from the public and other stakeholders during the designated comment period will be addressed and resolved, to the extent practicable, in a formal comment-resolution process. A Stakeholder Advisory Group (SAG) will also be established to ensure early and ongoing decision making throughout the study. The SAG's role will be to make recommendations and/or provide key information and materials to the Study Team. The SAG will include twelve representatives, with the Mayors of Little Rock and North Little Rock each appointing four, as well as four selected by the Pulaski County Judge. SAG members will provide a one-of-a-kind perspective to the areas of interest each represents within the community, allowing the Study Team to gather valuable input. The SAG will meet regularly throughout the PEL process. In addition, one visioning workshop will be conducted with stakeholders during the PEL process, and another visioning workshop will be held during the NEPA/Schematic phase. During the first visioning	N/A	JLH / 8/21/14, 8/25/14 & 9/8/14	✓

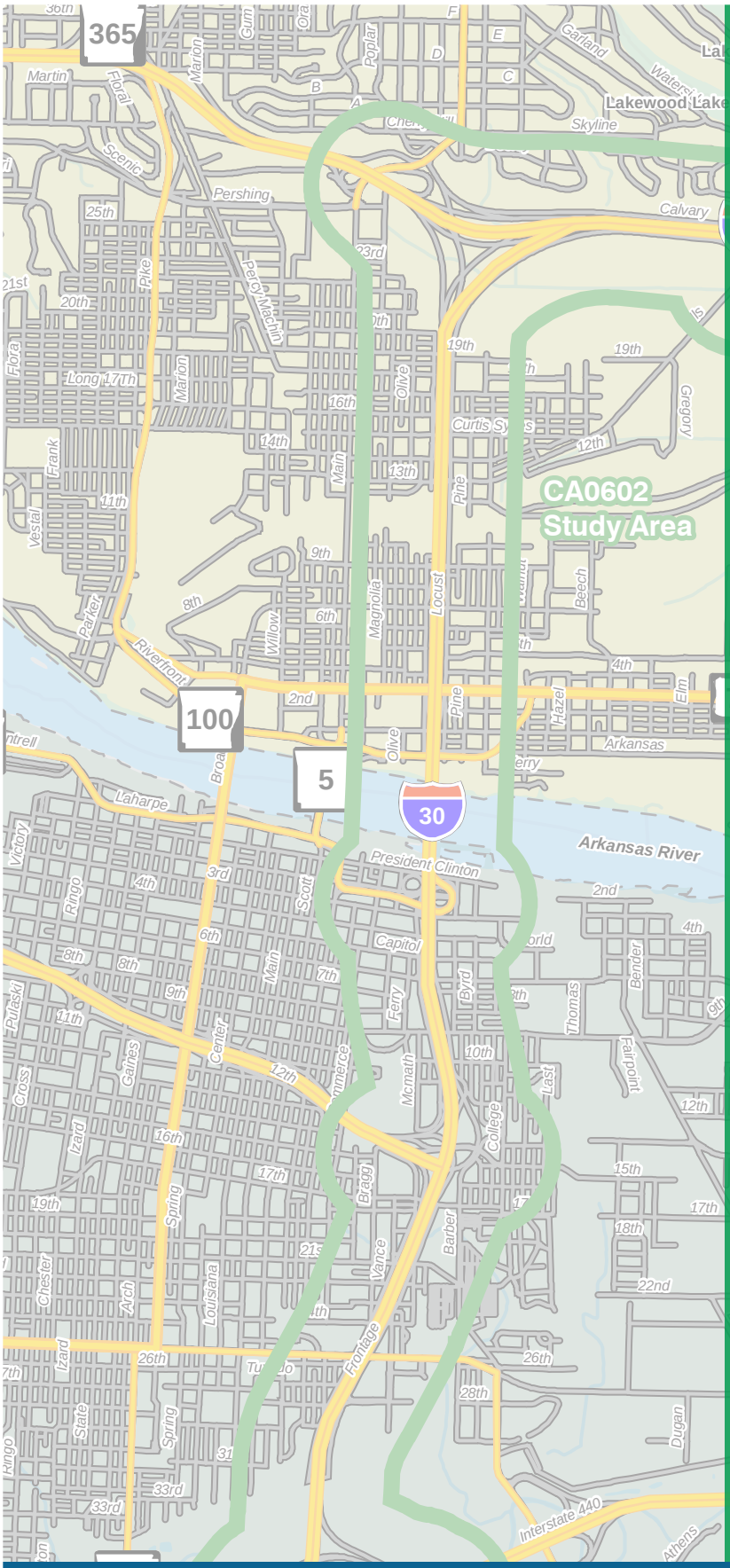
				workshop, and with an understanding of the purpose and need and goals and objectives of the PEL Study, stakeholders will have the opportunity to incorporate their ideas and priorities for the I-30 corridor. From this visioning workshop, renderings of possible solutions that preserve and enhance aesthetic, historic and community resources will be developed. During the NEPA/Schematic phase, a second visioning workshop will be held with stakeholders that examines potential CSS and design concepts in greater detail. Based on stakeholder feedback and available funding, CSS/aesthetic guidelines will be developed following this second visioning workshop and included in the design-build request for proposals, pending AHTD approval. The I-30 PEL PIACP and Framework and Methodology have been revised to include information related to the CSS visioning workshops and SAG. All materials will be available on both the AHTD and the www.connectingarkansasprogram.com websites.			
27	Metroplan Letter dated 7/07/14	Casey R. Covington CARTS Study Director	**PIACP - Communication Plan and Protocol** To the extent possible, Metroplan will observe the plan as drafted. However, given the polices of our organization and absent an acceptable PEL Agreement, should a situation arise that conflicts with the proposed Protocol, Metroplan will act according to our polices while notifying the AHTD CAP Administrator/Public Information Office.	Comment noted.	N/A	JLH / 8/21/14 & 8/25/14	✓
28	Metroplan Letter dated 7/07/14	Casey R. Covington CARTS Study Director	**PIACP - Communication Plan and Protocol** I would further request that Project Partners be given the opportunity to participate in the planning, material review, and promotion of the initial public meeting with significant time allowed for the adjustment of material as necessary.	Materials are provided to the Project Partners in advance of the TWG, and public meetings. Material review time will vary based upon established Project Partner, TWG and public meeting dates; therefore flexibility and understanding of fluctuating and sometimes abbreviated review periods is appreciated.	N/A	JLH / 8/21/14 & 8/25/14	✓
29	Email dated 07-09-14	Ann Marie Early [mailto:ameaerly@uark.edu]	We have a great interest in the impact that this project may have on the archeological sites in the Little Rock/North Little Rock metropolitan area. People have lived in this part of the state for the last 12,000 years, and remains of their settlements, cemeteries, defensive works, and transportation vehicles survive under the modern built landscape, just as they do in every urban area in this country. Your documents don't	A preliminary archeological investigation was conducted by AHTD archeological staff and included a records check of the Arkansas Archeological Survey (AAS) for previously recorded archeological sites. In addition, several maps and references were also checked as part of this preliminary assessment, as listed below: • The 1986 Little Rock, North Little Rock, and McAlmont 7.5" topographic quad maps -examined for cemeteries, likely historic structures and landforms conducive to	N/A	JLH / 8/21/14 & 8/25/14	✓

			mention archeological resources, but they will certainly be some of the resources affected by any development that includes ground disturbing- or riverine construction- activities as this project goes forward. I hope that we can play a part in the fate of those resources as the PEL study moves ahead.	holding archeological sites • Reviewed historic topographic quad maps (1891, 1935, 1944, 1954, and 1961) • Reviewed Sanborn Fire Insurance maps (1886, 1889, 1892, 1897, 1913, and 1939). • Reviewed General Land Office maps for Township 1 North, Range 12 West, Township 2 North, Range 12 West and Township 2 North, Range 11 West • Reviewed 1936 Pulaski County Highway map • Reviewed the 2006 Panamerican Consultants, Inc. remote-sensing survey of the Arkansas River in the Little Rock for submerged cultural resources • Researched historic routes • Conducted preliminary "windshield" survey performed by AHTD archeological staff In order to protect the sites from looting and further destruction, all archeological site information and locations are not subject to the Freedom of Information Act and are not to be distributed to the public. Accordingly, none of the archeological sites identified were included on the constraints mapping. However, the detailed constraints technical report, to be included as part of the PEL Study, will identify the results of the above described preliminary archeological analysis by AHTD. Additionally, a more detailed archeological analysis will be conducted during the NEPA phase of this project, once an alternative has been recommended from the PEL Study. The Study Team looks forward to working with your organization on the preservation of archeological sites.			
30	Email dated 06-09-14	Vence L. Haggard Regional Administrator Federal Railroad Administration	**Rail-Freight Issues When Considering Environmental and Development Impacts Studies** Freight rail corridors should be considered essential transportation infrastructure which must be protected and preserved to safely transport essential commodities throughout the nation. Trains operate 24 hours a day, seven days a week. There are no federal or state restrictions which limit the hours available for the safe operations of railroads or for the length and weight of trains. Trains operate in an industrial environment using the nation's interconnected	Information provided and issues mentioned will be considered throughout the PEL process, including during the development of alternatives and the alternatives screening process, and continued through the NEPA phase once a recommended alternative has been identified.	N/A	JLH / 8/21/14 & 8/25/14	✓

			system of railroad tracks and rail facilities such as rail yards, stations and loading facilities. The Federal Railroad Administration (FRA) has concerns for any actions or development which might impact railroad safety and safety at highway-rail grade crossings, Some examples of this include roadway development resulting in the shortening of roadway storage areas between tracks and adjacent traffic intersections or roadway changes which may result in high-profile crossings. FRA also recommends careful review of any development which might result in encroachment to railroad corridors that could affect the safety and/or efficiency of rail transportation. Other factors, generally related to proximity to rail corridors or railroad grade crossings, may impact the health, quality of life or transportation mobility in communities. These factors should also be carefully reviewed. The following is a list of issues which may be important to review: **Encroachment on freight-rail corridors:** • New at-grade crossings over railroad sidings and passing tracks affect a railroad's ability to manage operations such as having trains pass each other or safely holding trains for other reasons without creating community conflicts such as blocked crossings; • Clearance adequacy of grade separation bridges over railroad tracks must allow for multi-modal double stack trains; **Other Highway-Rail Grade Crossing and Pedestrian Safety Concerns and Train Noise Abatement:** • The Federal Railroad Administration supports efforts by state and local agencies and railroads to close redundant crossing of convenience. FRA also discourages the proliferation of new at-grade crossings. Grade separations are encouraged whenever possible new crossings are required to avoid collisions, traffic congestion, emergency vehicle delays or business access problems caused by passing trains and blocked crossings.				

			• Pedestrian and bicycle access should be considered when crossing are closed; • Pedestrian access should be considered in the design or re-design of new at-grade crossings as well as in the design of grade separations: • Providing either safe, legal pedestrian access or fencing to prevent illegal railroad trespassing should be considered in situations where access across the tracks is needed and or used by pedestrians to access businesses, schools, recreational facilities or other frequented locations; • New development near highway-rail grade crossings should avoid residential or commercial driveways within 100 feet of at-grade crossings whenever possible; • Quiet zones should be established by public authority designation using FRA recommended “Supplemental Safety measures (SSMs)” whenever possible at all crossings; • Local jurisdictions are responsible for funding the construction of noise sound barriers or the establishment of quiet zones. Railroads are not required to pay for such noise abatement strategies. **Proximity to rail-freight tracks or rail facilities:** • Housing units should be set back from railroad tracks as far as possible to avoid safety concerns which may result from rail operations including derailments, collisions, or possible hazardous materials incidents; • Proximity to railroad tracks and rail yards or other rail facilities such as stations should also be considered for noise, light pollution from rail yards, vibration and diesel fumes from industrial machinery and locomotive engines, security issues and attractive nuisance liability before building hospitals, any type of residential housing, vibration sensitive operations such as high-tech factories, schools, children’s playgrounds or				

			anything that might induce children to trespass across tracks.				
31	Received at TWG Meeting 6/26/14	North Little Rock School District	A new school facility is planned to be constructed in North Little Rock, located near the existing North Little Rock High School Football Stadium, south of I-40 and west of I-30.	Change made. Notation of the new school has been added to the constraints report.	Const. Rprt. Sec. 3.3.1	JLH / 8/21/14 & 8/25/14	✓



PLANNING AND ENVIRONMENTAL LINKAGES TWG #2 RESPONSE TO COMMENTS

INTERSTATE 30

CA0602

Interstate 530 – Highway 67

April 2015

CONNECTING ARKANSAS PROGRAM CAP

Arkansas State Highway & Transportation Department

CAP Deliverable QC Comment Review Form

Project Number:	CA0602
Document:	TWG #2 Meeting (Sept. 25, 2014) and Materials Distributed to TWG Members on USB/Flash Drive
Consultant/Authors:	CA0602 Study Team
Date Submitted for QC Review:	N/A

Cmnt No.	Section/ Page No.	Reviewer	Review Comment	Response	Change Verified		Agency Verified **
					New Pg.	Initials / Date	
1	**Email** 10/13/14	Patricia Blick, Assistant Director, Arkansas Historic Preservation Program	Arkansas Historic Preservation Program, AR SHPO: We look forward to further consultation as the alternatives are narrowed and a preferred alternative is selected. We have made preliminary identification of historic properties that may be impacted by the undertaking, and anticipate establishing direct and in-direct Areas of Potential Effect in cooperation with the project proponents. Previous correspondence did not note that both Little Rock and North Little Rock are Certified Local Governments and that they should be included as consulting parties as this undertaking moves forward. We plan to coordinate our efforts with the Arkansas Archaeology Survey.	Comment noted. As Certified Local Governments, Little Rock and North Little Rock will be included as consulting parties as the project moves forward into the NEPA phase. As part of the NEPA evaluation, the Environmental Design Consultant shall conduct in coordination with the SHPO, non-archeological historic-age resource studies related to compliance with Section 106 and Section 110 of the National Historic Preservation Act (36 CFR 800), as well as an archeological survey if the footprint of the preferred alternative differs from the initial archeological background study previously performed by AHTD personnel and coordinated with the SHPO in 2014.	N/A	JLH/ 1/8/15	✓

2	**Email** 10/09/14	Ann Marie Early, State Archeologist, Arkansas Archeological Survey	I may not have a chance to read all the documents from this meeting before the end of the day, but I do have some comments to offer on what I have read. They pertain to cultural resources as they are associated with likely work along the corridor. I am pleased to see that cultural resources are mentioned, and are included in discussions of potential impacts to human and natural environment. I have read the AHTD archeologist memo in Attachment B2, first document reviewing some elements of known sites and historic documents. My concern is regarding a lack of consideration in the document of potentially NR [National Register] eligible sites that may be under modern developments and currently undocumented. Urban archeology demonstrates worldwide that National Register quality archeological properties can exist under modern developments, and that urban construction can encounter these properties. We do not know what may lie within the project corridor and thus far the documents do not indicate a sensitivity to that fact.	Comment noted. An initial archeology background study was performed by AHTD personnel in 2014. A Request for Technical Assistance was submitted to the SHPO. This initial archeology background study for the proposed project included a 100-foot buffer Area of Potential Effect (APE) on each side of I-30 and I-40 from the existing right-of-way (ROW). An archeological study for potential National Register eligible sites located outside of the APE (and under existing modern developments) is beyond the scope of work for the PEL Study. During the NEPA phase of project development, if the footprint of the preferred alternative differs from the study previously coordinated, additional archeological survey requirements may be required. Accordingly, the Environmental Design Consultant shall coordinate with AHTD to confirm the APE during the development of the NEPA document. The Environmental Design Consultant may prepare an archeology survey, if determined necessary, from the results of the overview report and in consultation with AHTD. The scope of that survey would be developed in coordination with AHTD and SHPO.	N/A	JLH/ 1/8/15	✓

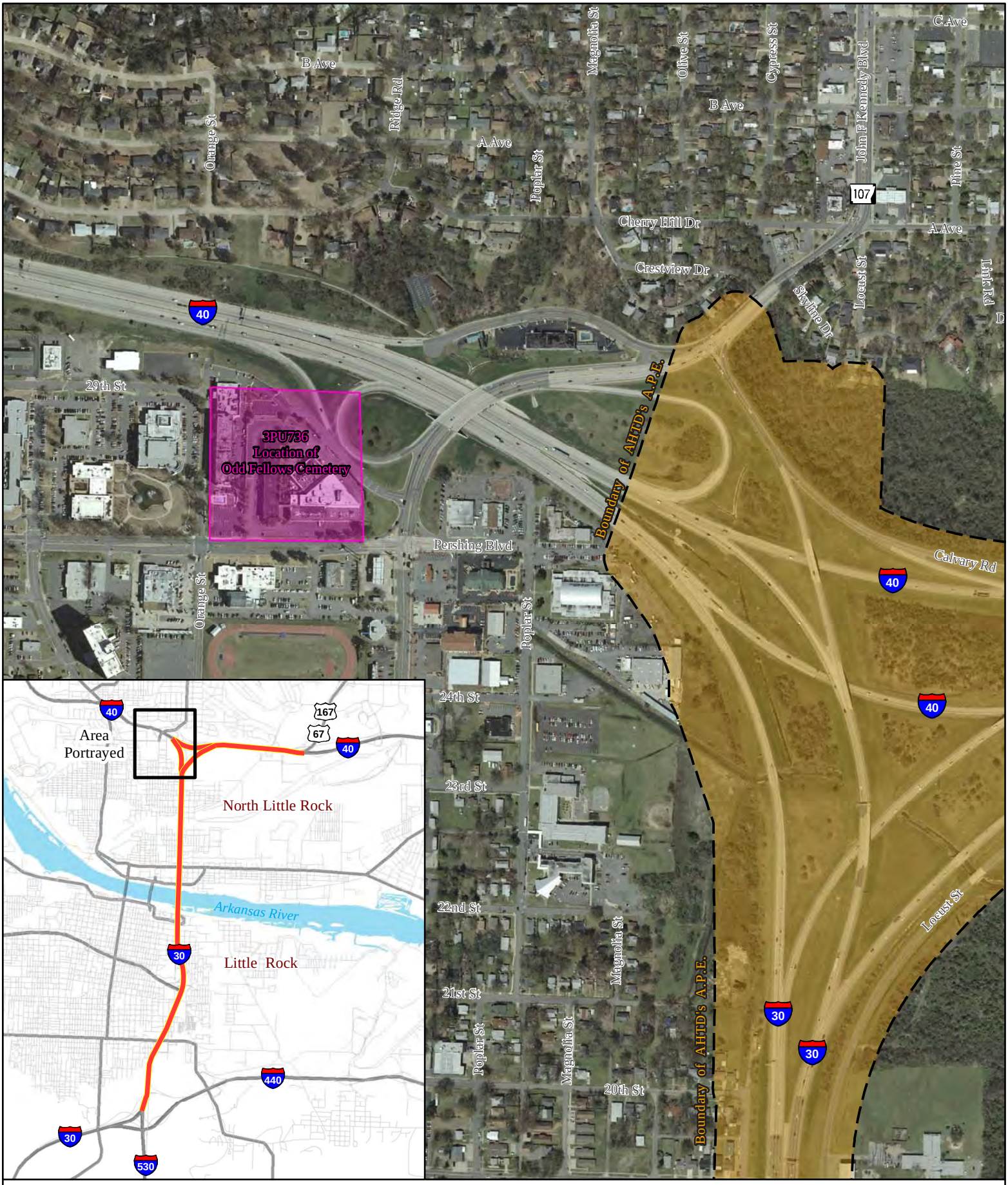
3	**Email** 10/09/14	Ann Marie Early, State Archeologist, Arkansas Archeological Survey	The archeological properties currently on record with the Arkansas Archeological Survey do not constitute a full inventory of the properties that may exist even at the current surface of the urban area. No one has searched the length and breadth of the corridor for existing properties visible on the modern surface, or near surface. The current database reflects a fortuitously collected sample of sites reported to this office.	See response to Comment #2.	N/A	JLH/ 1/8/15	✓
4	**Email** 10/09/14	Ann Marie Early, State Archeologist, Arkansas Archeological Survey	I have found at least one of our recorded archeological sites that lies within the corridor on the maps provided by you and not mentioned in the memorandum in Attachment B2 above. This is the Odd Fellows Cemetery that once stood at the intersection of I-30 and I-40 W, and that was reportedly emptied of remains in advance of the construction of the interstate. There has been controversy over this action and the repopulation of a subsequent cemetery. There is a possibility that features, including graves, might still be present at this location despite subsequent development. The memorandum does not mention this site in its review.	Coordination with AHTD Cultural Resources determined the site of Odd Fellows Cemetery (Site 3PU736) to be located at the northeast corner of W Pershing Blvd. and Orange St. in North Little Rock, which is southwest of the I-40/Hwy. 107 (JFK Blvd.) interchange (location shown in **Attachment A**). This location is outside of the APE (100-foot buffer on each side of I-30/I-40 existing ROW) assessed as part of the initial archeology background study performed by AHTD personnel in 2014 for the PEL Study. It is unknown at this point in the PEL process if any improvements would be required to the I-40/Hwy. 107 interchange. Should the PEL Recommendations include improvements to this interchange, a Ground Penetrating Radar (GPR) survey would likely be required within the proposed and existing ROW within the area where the cemetery was located. Any additional archeological analysis, if determined necessary, would be completed during the NEPA phase of project development, and the scope of that work would be coordinated with AHTD and SHPO.	See Attach. A of this matrix	JLH/ 1/8/15	✓

5	**Email** 10/10/14	Jon Honeywell, Director of Public Works, City of Little Rock	3.1 Purpose and Need 3.1.1 Traffic Congestion CLR [City of Little Rock] would like to insure that the measurements for LOS and Travel Time not only apply to the movements through the entire corridor but also the travelers moving from one location to another within the corridor.	Traffic analysis will include a comprehensive multi-modal analysis of traffic congestion along I-30 and the supporting transportation network, primarily within the I-30 PEL study area. Traffic analysis will be for the existing (2014) and projected traffic (2040) using Metroplan's Travel Demand Model (TDM). The traffic analysis will include the I-30/I-40 freeway components, parallel frontage roads and local arterial roads connecting to the freeway. Qualitative traffic congestion measures will be addressed in the Level 2 Screening. Quantitative traffic congestion measures will be evaluated in the Level 3 Screening using a traffic simulation model. The simulation model will analyze travel time to key destinations, travel speed, duration of congestion, vehicle miles traveled (VMT), vehicle hours traveled (VHT), and average delay per motorist both on I-30/I-40 and the supporting local streets. This methodology is described in Section 3.1.4 of the I-30 PEL Study Purpose and Need Report. An evaluation of future travel characteristics has been added to the Purpose and Need Report (Section 3.1.5), which was coordinated with Metroplan using their TDM. Roadway users were subdivided into 1) those with destinations within the study area, 2) those traveling through the study area, and 3) those traveling to and from I-630. Analysis showed that a high percent of the traffic using the I-30 corridor accesses local interchanges along I-30 to downtown Little Rock and North Little Rock or uses I-630. When the through traffic on I-40 is removed, only a small number of trips use I-30 for through traffic.	P&N Tech Report, Sections 3.1.4 (pg. 4) and 3.1.5 (pg. 6)	JLH/ 1/8/15	✓

6	**Email** 10/10/14	Jon Honeywell, Director of Public Works, City of Little Rock	3.2 Study Goals 3.2.1.2 Improve Local Access to and from Downtown LR and NLR Local agencies should be directly involved in the identification and priority of the access locations used in evaluating this alternative. Local agencies have detailed knowledge of traffic patterns and attractions in the downtown areas.	Local representatives (agency, government, and community) appointed by the Mayors of Little Rock and North Little Rock and the Pulaski County Judge attended a visioning workshop on 11/19/14 where they provided input on access locations, ramping issues, traffic patterns, local attractions, land use plans and other design features to consider when developing and evaluating potential transportation solutions along the I-30/I-40 facility. In addition, the Study Team has been meeting regularly with the city mayors, county judge, and representatives from Metroplan, all Project Partners in the PEL Study. All of these individuals have and will continue to provide valuable planning knowledge used by the Study Team in the development of the proposed alternatives.	N/A	JLH/ 1/8/15	✓

7	**Email** 10/10/14	Jon Honeywell, Director of Public Works, City of Little Rock	[ASM] 3.2.1.3 Improve Opportunity for East-West Connectivity; Connect Bike/Pedestrian Facilities across I-30/40 These goals need to be split into two separate items. Connectivity between the east and west sides of the corridor should encompass not only a physical connection but have aesthetic and visual connectivity also. Elimination of the perceived separation of the east and west downtowns by the controlled access roadway should be a priority for the continued social and economic growth of the area. Locations as outlined on the City's Bike Master Plan should be used in identifying the locations and connections across the corridor.	As part of the ASM, Improve Opportunity for E-W Connectivity (Section 3.2.1.3) and Connect Bike/Pedestrian Facilities across I-30/I-40 (Section 3.2.1.4) have been separated into two different measures. In addition, "Minimize the real, perceived and visual barrier of the freeway" has been added as a guiding principle of the project. The Study Team agrees that connectivity is a multi-faceted issue, encompassing physical and aesthetic aspects. The quality of E-W connections and of bicycle/pedestrian crossings will be evaluated as part of the screening process such that they foster safe connectivity and meet current design standards. Moreover, visioning workshops have been incorporated as part of the PEL process to ensure that the points of E-W connectivity, bike/pedestrian facilities, and other project features are developed in a way that enhance existing and future land uses and incorporate the ideas and priorities for the I-30 corridor as established by local stakeholders. The first visioning workshop was held on 11/19/14 and ideas were shared for improving E-W connectivity, socioeconomic growth, and preserving and enhancing aesthetic, historic and community resources, among other design suggestions (also see Comment #6). During the NEPA/Schematic phase, a second visioning workshop will be held with stakeholders that examines potential context sensitive solutions (CSS) and design concepts in greater detail. Based on stakeholder feedback and available funding, CSS/aesthetic guidelines will be developed following this second visioning workshop and included in the design-build request for proposals, pending AHTD approval. Study Team planners and engineers have and will continue to work with city planners to ensure that city goals for future development, such as those outlined in a bike master plan, are given due consideration and incorporated when practicable.	I-30 PEL Study ASM, Sections 3.2.1.3 and 3.2.1.4	JLH/ 1/8/15	✓

8	**Email** 10/10/14	Jon Honeywell, Director of Public Works, City of Little Rock	[ASM] 3.2.1.9 Improve Safety Ramp Spacing - The measurement criteria for this goal does not take into account the existing infrastructure of the downtown corridors. Simply ranking an alternative higher due to lower number of ramps does not provide a realistic picture of the needs of the corridor. Arterial Connection Conflict Points - The same is true for this goal. Careful consideration should be taken in evaluating the impacts of rewarding the lowering the arterial connection points versus the loss of the access to downtown and arterial corridors used in traveling to other parts of the City.	The existing I-30 facility does not meet AASHTO's recommendation for a maximum of two ramps per direction per mile for urban interstates. It is important for any facility improvements to meet these design standards to ensure the safety of motorists. The Study Team agrees that it is also important to understand the existing infrastructure of the Little Rock and North Little Rock downtown areas, and to facilitate quality connections to and from these areas as to accommodate the needs of the study area. Accordingly, the location and design of ramps and arterial connection points has and will continue to be coordinated closely with local city leaders and stakeholders through visioning workshops and meetings of local city and planning officials (see Comments 6 and 7 for description of visioning workshops and Project Partner meetings). Furthermore, it is also a goal of the project to *Improve Local Access to and from Downtown Little Rock and North Little Rock.* As part of this goal, alternatives will be evaluated based on their ability to provide improved access and travel time into the downtown areas.	N/A	JLH/ 1/8/15	✓
9	**Annotated Document** 10/15/14	Jim McKenzie and Casey Covington, Metroplan	A workshop was held on 10/15/14 between Metroplan and the I-30 PEL Study Team to discuss comments on the Purpose and Need Report. Metroplan provided their comments electronically via track changes in the Purpose and Need Report, which is attached to this comment response matrix.	Responses to Metroplan's comments are provided in the same track changes version of the I-30 PEL Purpose and Need Report provided by Metroplan, which is attached to this comment response matrix (**Attachment B**).	See Attach. B of this matrix	JLH/ 1/8/15	✓



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Scale - 1:24,000

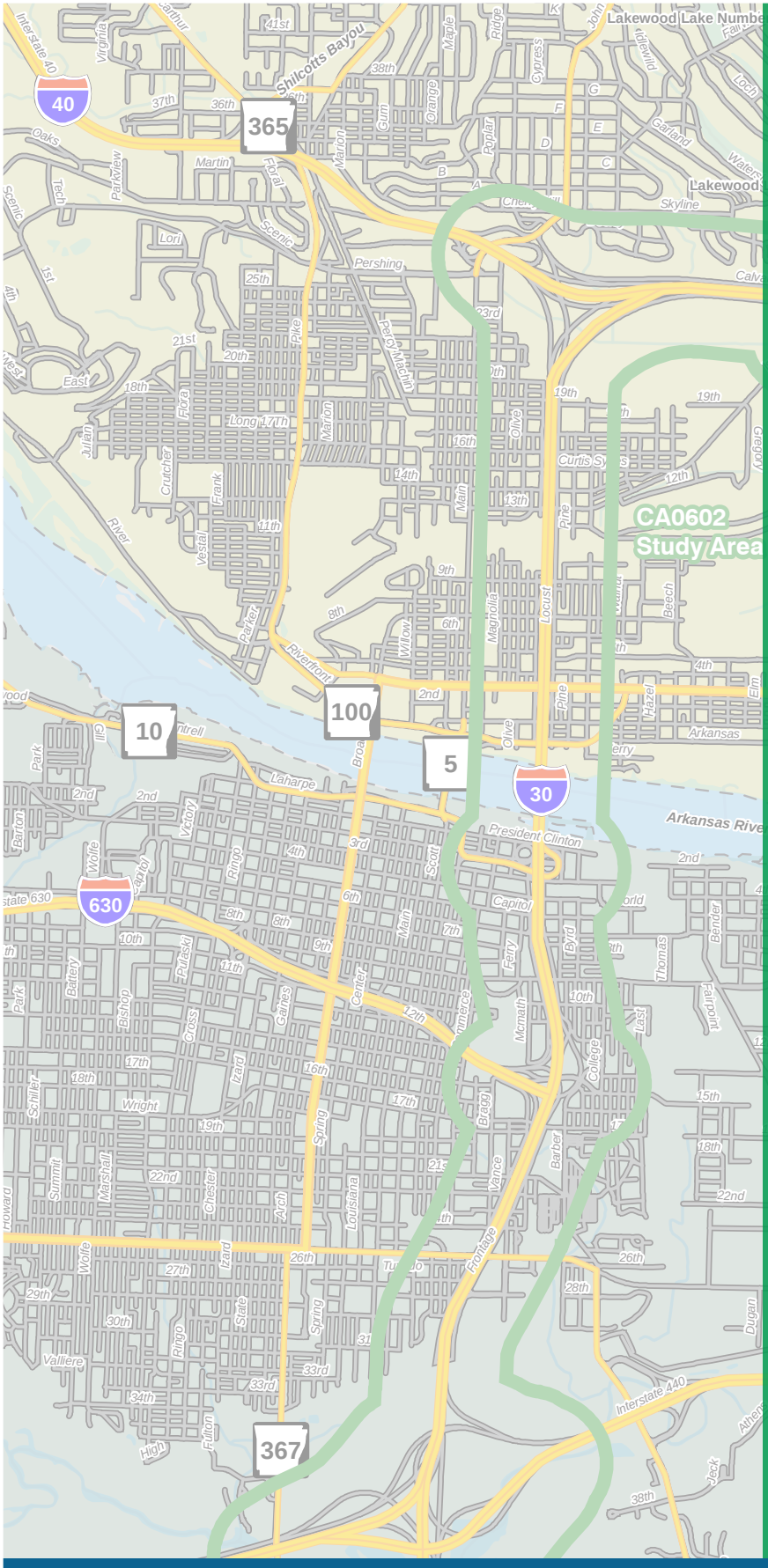
AHTD - Environmental GIS - Strawn
December 10, 2014

Job CA0602.
I-530 - Hwy. 67 (Widening & Reconst.)
(I-30 & I-40).
Pulaski County.

Project Location

Photography: 2013 AHTD Little Rock Orthophotos

Attachment A



PLANNING AND ENVIRONMENTAL LINKAGES PURPOSE AND NEED TECHNICAL REPORT

INTERSTATE 30

CA0602

Interstate 530 – Highway 67

December 2014

CONNECTING ARKANSAS PROGRAM CAP

Arkansas State Highway & Transportation Department

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ATTACHMENTS

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Attachment D ~~Roadway and~~ Bridge Data
Attachment E References

Comment [AE1]: Re-organized Attachments C and D to match the re-organization of Project Needs suggested by Metroplan in the document. All roadway related data (safety and structural and functional roadway deficiencies) is presented in Attachment C. All bridge related data (navigational safety and structural and functional bridge deficiency data) is presented in Attachment D.

1.0 INTRODUCTION

This document provides background information and data to support the purpose and need for improvements along I-30 from I-530 to I-40 and along I-40 from the I-30/I-40 interchange to United States Highway 67/167 (Hwy. 67/167). Data and analysis from previous studies, as well as an assessment of current and future conditions, are provided to assist in defining the key problems and potential solutions to address future mobility needs within the study area. The purpose and need discussed in this document is part of the Planning and Environmental Linkages (PEL) Study process.

2.0 BACKGROUND

2.1 I-30 PEL Study Area

The proposed I-30 PEL study area is located in central Arkansas, and stretches approximately 6.7 miles through Little Rock and North Little Rock. The study area begins at I-530 in the south, extends to I-40 in the north, and then east along I-40 to its interchange with Hwy. 67/167 in North Little Rock, as detailed in **Attachment A-1**.

2.2 Previous Studies and Planning Context

A number of studies have been completed that provide background on the study area. The most recent and relevant to the study area is the *Central Arkansas Regional Transportation Study Areawide Freeway Study, Phase 1 Arkansas River Crossing Study* from 2003. Other past relevant studies, summarized in **Attachment A-2,** include:

- Central Arkansas Regional Transportation Study (CARTS), Areawide Freeway Study, Phase 1 Arkansas River Crossing Study Final Report and Phase 2 Areawide Study, 2003;
- River Rail Airport Study, Phase 2 Final Report, 2011;
- I-630 Fixed Guideway Alignment Study, 2010;
- The Six Bridges Framework Plan 6 Bridges Study, late 1990s; and
- I-630 (from I-430 to I-30) Final Environmental Impact Statement (FEIS), 1978.

2.3 Regional Planning Context

Metroplan, the Metropolitan Planning Organization (MPO) for central Arkansas is responsible for long-range transportation planning for central Arkansas. The most recently approved long range metropolitan transportation plan (LRMTP) is ~~*Metro*~~ *METRO 2030.2*, adopted March 24, 2010. The MPO policy on freeway system capacity improvements, as reflected in *METRO 2030.2* and other policy documents, is to build the regional freeway system to six through lanes and to meet demand over that capacity with a robust regional arterial network and public transit. –The strategy behind the policy, –is to use finite resources to achieve transportation system balance once the regional freeway network is built out to six through lanes. *METRO 2030.2* does identify the ~~freeway~~interstate-to-interstate/highway ~~freeway~~ interchanges at I-40/~~US6~~Hwy. 67/Hwy. 167, I-40/I-30 and I-30/I-530/I-440 as in need of reconstruction to add capacity and improve safety. It also mentions the segment of I-30 between the North Terminal (I-30/I-40 interchange) and South Terminal (I-30/I-530/I-440 interchange) ~~interchanges~~ as needing study because of the very high number of interstate~~freeway~~-to-

interstate/highwayfreeway interchanges and freewayinterstate/highway-to-arterial interchanges in thatose five miles of highwayinterstate.

A description of planned improvements within the study area as well as how the proposed PEL study relates to the LRMTP is presented in **Attachment A-3**. Metroplan's *Policy on Freeways and Expressways* is presented in **Attachment A-4**.

With a view towards achieving consistency with local and regional planning efforts, it is anticipated that the PEL process and its subsequent recommendations will be submitted to the MPO to inform future updates/amendments to the LRMTP financially constrained plan and to the CARTS Transportation Improvement Program (TIP), as well as to the Arkansas State Highway and Transportation Department (AHTD) to inform future Statewide Transportation Improvement Program (STIP) updates/amendments. Additionally, the PEL process and associated documents will be developed in accordance with the CARTS Agreement of Understanding between Metroplan and the local jurisdictions and transit authorities, which is included in **Attachment A-54**.

3.0 NEED FOR IMPROVEMENTS IN THE PEL STUDY AREA

The following sections provide a summary of the current and future conditions in and around the study area which support the need for improvements to the I-30 corridor, with additional supporting data provided in the referenced appendices. These needs include:

- Traffic Congestion (**Section 3.1**);
- Roadway and Navigational Safety Issues (**Section 3.2**);
- Roadway Structural and Functional Deficiencies (**Section 3.3**)
- Navigational Safety Issues (**Section 3.4**)and
- Structural and Functional Roadway and Bridge Deficiencies and Navigational Safety Issues (**Section 3.53**).

3.1 Traffic Congestion

Traffic was analyzed along I-30 and I-40, with the I-30 limits extending from the I-30/I-530/I-440 interchange to the south to the I-30/I-40 interchange to the north; and the I-40 limits extending from the I-30/I-40 interchange to the west to the I-40/Hwy. 67/Hwy. 167 interchange to the east.

3.1.1 Traffic Demand

I-30 and I-40 within Little Rock and North Rock are the As one of the most heaviilyest traveled roads in Arkansas, with I-30 principally serving not only provides local access betweento Little Rock and North Little Rock (including I-630) and I-40 serving a mix of through and local trips, but also serves the longer distance commuter and through trips extending beyond the greater metropolitan area. I-30 and I-40 serves as a part of the interstate transportation system that connects six interstates within the Little Rock and

Comment [AE2]: Per Metroplan's suggestion, added text related to Metroplan's *Policy on Freeways and Expressways* (included in Attachment A-4).

Comment [AE3]: Change made. Per Metroplan's request, document re-organized so that Roadway issues are discussed sequentially and bridge/navigation issues are discussed sequentially.

Comment [AE4]: For organizational purposes, moved this description of the traffic study area from the traffic demand section to the beginning of the traffic congestion section.

Comment [AE5]: Change made per Metroplan's suggested language.

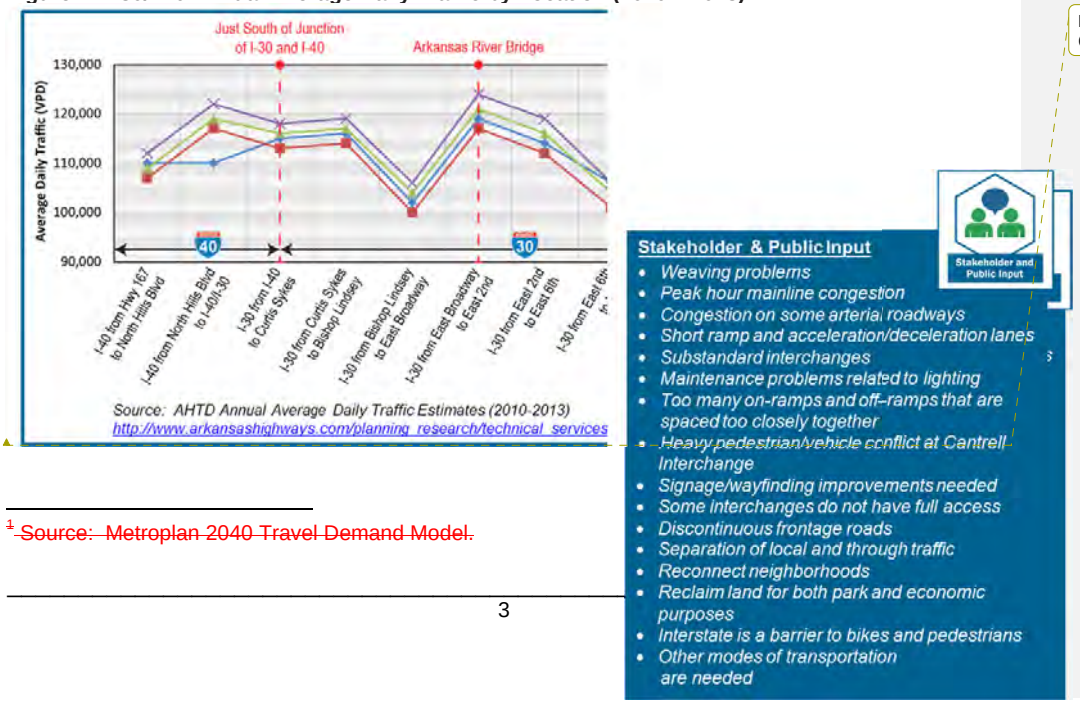
North Little Rock metropolitan area (I-40 northwest, I-40 northeast, I-630, I-30 southwest, I-530 and I-440) ~~and~~ to the larger region. Metroplan maintains the regional travel demand model, which is a tool that forecasts traffic demand and travel characteristics based on future land use assumptions developed by the community.

~~The Study Team coordinated with Metroplan on the travel demand model, which determined that future motorist trip characteristics are substantially different for traffic on the I-40 section of the corridor than on the I-30 section of the corridor. On I-40, a much higher percentage of the traffic is composed of through trips (xx percent) traveling through the study area. While as opposed to only 18% indicate approximately 43 percent of I-30 daily traffic 82% isto be destined for locations withinoutside of the I-30 PEL study area, abutting business districts, and I-630 (outside of the central business districts and abutting job centers).[1] Additional details outlining the regional significance of I-30 are presented in **Attachment B-1**.~~

~~Traffic was analyzed along I-30 and I-40, with the I-30 limits extending from the I-30/I-530/I-440 interchange to the south to the I-30/I-40 interchange to the north; and the I-40 limits extending from the I-30/I-40 interchange to the west to the I-40/Hwy. 67/Hwy. 167 interchange to the east.~~ Daily traffic demand along I-30/I-40 is depicted in **Figure 1.** In order to ensure that the trends are typical, multiple years of data (2010 - 2013) from AHTD were included in the traffic demand analysis.

As shown in **Figure 1**, 2013 traffic volumes on I-30/I-40 range from 94,000 to 119,000 daily vehicles. As expected, the I-30 Bridge has the highest volume at 119,000 daily vehicles.

Figure 1. I-30/I-40 Annual Average Daily Traffic by Location (2010 – 2013)



[1] ~~Source: Metroplan 2040 Travel Demand Model.~~

Comment [AE6]: The six interstates within LR and NLR that I-30 and I-40 connect were added for additional clarification.

Comment [AE7]: Because this text relates to roadway users and trip characteristics, it was moved to a new section, Section 3.1.5 (Roadway Users), and modified with suggestions from Metroplan.

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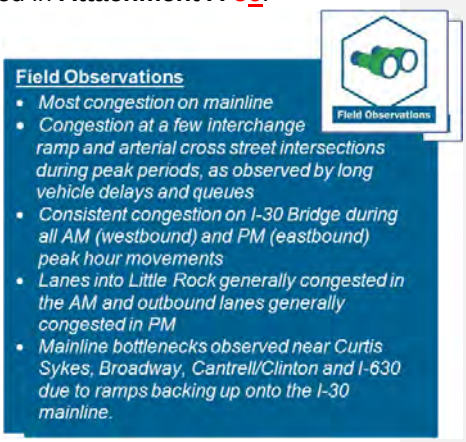
3.1.2 Capacity and Traffic Operations

Motorist mobility and traffic operation problems were based on stakeholder and public input, field observations and technical analysis.

Stakeholder input was obtained via interviews conducted with staff from the Cities of Little Rock and North Little Rock, Metroplan and AHTD in May 2014; and public input was obtained through public meetings held on August 12th and 14th of 2014 in North Little Rock and Little Rock, respectively. Field observations were conducted in the I-30/I-40 study area by driving during the morning and afternoon peak periods in May 2014. A summary of stakeholder and public input, as well as field observations are provided in the adjacent inset boxes. A more comprehensive listing of stakeholder input and field observations are presented in **Attachments B-2** and **B-3** respectively; and feedback obtained from the public meetings is presented in **Attachment A-~~5~~6**.



3.1.3 Causes of ~~C~~congestion

Observed ~~C~~congestion on I-40 is primarily related to 1) the weaving of through traffic on I-40 between I-30 and Hwy. 67, ~~ or~~ 2) queuing from I-30 that spills onto I-40, 3) traffic demand, and 4) non-recurring congestion such as accidents.

Observed ~~C~~congestion on I-30 is primarily caused by 1) high volume merge/diverge ramps (~~at~~ I-630 and Hwy. 10) and inadequate merge distances,~~,~~ 2) number and location ~~and proximate~~ of ramps resulting in high weaving volumes, 3) conflicts between through and local traffic, ~~and~~ 4) high traffic volumes that exceed available capacity, and 5) non-recurring congestion such as accidents.

3.1.4 ~~Level of Service~~Traffic Analysis

~~Technical~~ Traffic a~~A~~nalysis will include a multi-modal comprehensive analysis of I-30/I-40 mobility and safety and the supporting transportation network for the existing traffic (2013) and projected traffic (2040) using Metroplan's Travel Demand Model (TDM). The traffic analysis will include level of service (LOS) operational analysis of the I-30/I-40 mainlines, ramps, weaving, cross roads, and frontage roads. Other mobility measures will include travel time to key destinations, travel speed, duration of congestion, vehicle miles traveled (VMT), vehicle hours traveled (VHT), and average delay per motorist. ~~included an evaluation of level of service (LOS) operations, based on Highway Capacity Manual (HCM) methodology for the I-30/I-40 mainline for the existing traffic (2013) and projected No-Action conditions (2040) using forecasted traffic data derived from historical trends. This Level of Service is used to identify were problems existing or may exists in the future and consequently improvements should be evaluated. More detailed traffic forecasts; operational analysis of I-30/I-40 mainlines, cross roads and ramps; and measures of effectiveness, such as travel time to key destinations, travel speed, vehicle miles traveled, vehicle hours traveled and average delay per motorist, will be performed as the PEL study progresses.~~

~~Table 1. LOS Designations~~

LOS is a standard Federal Highway Administration (FHWA) and AHTD measure of traffic flow. LOS is a letter designation that describes the quality of traffic flow on a particular type of roadway. As shown in **Table 1**, LOS is represented by the letters "A" (most favorable) ~~–~~through "F" (least favorable). **Figure 2** presents a summary of the LOS conditions on I-30/I-40. AHTD's desirable design year LOS is D. Under existing

Table 1. LOS Designations

A	Free Flow Traffic No Delays
B	Light/Moderate Traffic No Delays
C	Steady Traffic Minimal Delays
D	Speeds Begin to Decline Minimal Delays
E	Traffic at Capacity Significant Delays
F	Heaviest Congestion Considerable Delays

Comment [AE8]: A new section "Causes of Congestion" was added per Metroplan suggestion. In addition to Metroplan's suggestions, the Study Team added traffic demand as a cause of congestion on I-40 and non-recurring congestion as cause of congestion on I-40 and I-30.

Comment [AE9]: Metroplan suggested revising the section heading to Level of Service. Retained the Traffic Analysis heading because the context of this section was revised to discuss the comprehensive traffic analysis to be completed as part of the I-30 PEL Study, per the suggestion of Metroplan in Comment JM11.

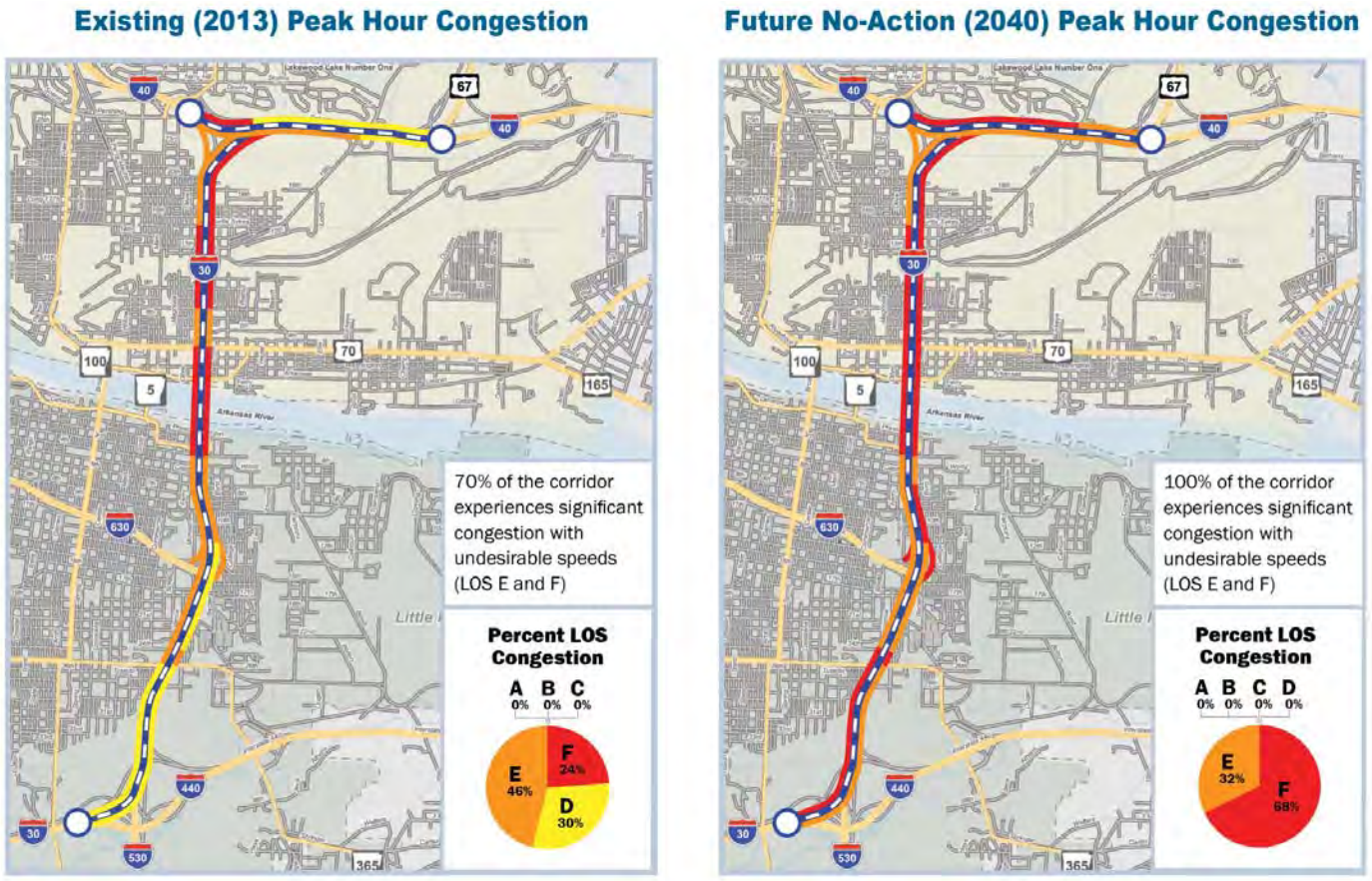
Comment [AE10]: Per Metroplan Comment JM11, revised the context of this section to discuss the comprehensive traffic analysis to be completed as part of the I-30 PEL Study.

conditions, 70 percent of the corridor experiences severe congestion with undesirable speeds (LOS E and F). This percentage increases to 100 percent by 2040 under future No-Action conditions. Without improvements, many sections of I-30 are anticipated to operate under 20 miles per hour (mph) during peak periods. A more detailed breakdown of existing (2013) and future (2040) LOS is presented in **Attachment B-4**. As previously described, the traffic analysis will involve measures of mobility other than LOS, to be completed during subsequent phases of the PEL process. As these analyses are completed, they can be incorporated as part of the purpose and need via attachment or addendum, and will be included as part of the I-30 PEL Traffic and Safety Analysis and PEL Final Report.

Comment [JM11]: Remove or expand significantly to discuss limitations of LOS, how LOS is to be measured, the LOS design standard being used and the system implications of that and the other methods of analysis that will be used and how the results will be weighted to use in evaluating alternatives.

Response: While LOS does have limitations, it is a standard FHWA and AHTD measure of traffic flow. Accordingly, and as acknowledged by the revisions in this section, additional measures of effectiveness will be evaluated as part of the I-30 PEL traffic analysis to ensure a comprehensive evaluation of the network. The Study Team will use Metroplan's model to understand the system implications of the proposed improvements. Document also revised to include AHTD's LOS design year standard of practice. AHTD has indicated to Metroplan that they will consider the trade-offs of using LOS E as the design threshold when determining the PEL recommendations.

Figure 2. Comparison of Existing and Future No-Action LOS for I-30/I-40



Notes: Future 2040 traffic demand grown by one percent annually based on historical trends.

~~3.1.3~~3.1.5 Roadway Users

Roadway users are subdivided into 1) those with destinations within the study area, 2) those traveling through the study area, and ~~2~~3) those traveling to and from I-630~~, and 3) those with destinations within the study area.~~ . Each of these users has different transportation needs~~expectations of congestion~~ within the corridor, as described below.

1) **Local Access** – Local access trips include those with destinations within the I-30 PEL study area. For local access trips providing a reliable travel time, safe merging opportunities and access to jobs and/or entertainment in Little Rock and North Little Rock is paramount.

~~1)~~ **Through Trips** – Through trips include those drivers that travel from the North Terminal ~~(I-40)~~ to the South Terminal ~~(I-530/I-440)~~interchanges. For through trips, congestion is related to slower travel speeds and conflicts that are caused by local traffic on I-30.

2) ~~**Travel to/from I-630** -~~

3) Trips traveling to and from I-630 are interregional trips and likely use I-630 to access downtown Little Rock. These trips ~~and are willing to accept a higher level of congestion than through trips. These interregional trips~~ are concerned with delay and safe merging and diverging to and from ~~onto~~ I-30. These drivers would like to minimize conflicts with traffic using local ramps.

The Study Team coordinated with Metroplan using the travel demand model, which determined future 2040 motorist trip characteristics for traffic on I-30 and I-40. **Table 2** shows that a high percent of the traffic using the I-30 corridor accesses local interchanges along I-30 to downtown Little Rock and North Little Rock or uses I-630.[2] When the through traffic on I-40 is removed, only a small number of trips use I-30 for through traffic. The table does not include local interchange to local interchange trips, but these trip patterns are expected to be low.

Table 2. I-30 Estimated Daily Trip Characteristics in 2040[1, 2]

Trip Type	I-30	From I-40 WB
Local Access	45%	71%
Through ~~[2]~~Trips[3]	17%	4%
Travel to I-630	38%	25%
Total Trips	**100%**~~[43]~~	**100%**~~[34]~~

Notes: [1]Metroplan 2040 Travel Demand Model; [2] Figures B-1 through B-1c in Attachment B-1 further illustrate trip characteristics along I-30. [3]Through trips are vehicle trips that start and end outside the PEL study limits (External trips ~~a~~are considered vehicle trips that are outside the PEL study limits); [4]Does not include local to local trips.

Details outlining the regional significance of I-30 are presented in **Attachment B-1**.

[2] Source: Metroplan 2040 Travel Demand Model.

Comment [CC12]: In the discussion of congestion a new section (similar to this) should be added that discusses the different expectations of drivers

Response: Per Metroplan suggestion, a new section entitled "Roadway Users" was added to the document.

Comment [AE13]: This text was moved from Section 3.1.1 (Traffic Demand) to Section 3.1.5 because it relates to roadway users and trip characteristics. Original text was modified with suggestions from Metroplan, and a new table (Table 2) was added to further illustrate anticipated trip characteristics for the study area.

3.2 Roadway Safety~~Safety~~

3.2.1 Existing Conditions

Crashes from 2010, 2011, and 2012 (the latest three years of available data) were reviewed along I-30 from the I-30/I-530/I-440 interchange to the south to the I-40/Hwy. 107/JFK Boulevard interchange to the north; and along I-40 to just east of the I-40/Hwy. 67/Hwy. 167 interchange. Of the total crashes from 2010 – 2012, approximately 1/3 occurred during the PM peak period from 3:30 PM – 6:00 PM, 1/3 occurred during the daytime hours from 8:30 AM – 3:30 PM; and the remaining 1/3 occurred either during the AM peak period from 6:30 AM – 8:30 AM ~~and~~or during the nighttime hours from 6:00 PM to 6:30 AM. Crash rates were calculated for total collisions (all severity types) as well as fatal (K) and serious injury (A) collisions (KA Crash Rate). A detailed breakdown of the safety analysis is presented in **Attachment C-1**~~.~~ and a summary of the results is presented in **Table 3.**

Table 3. Crash Numbers and Rates along I-30/I-40

Year	# Crashes		Crash Rate per MVMT [1]		Arkansas Average Crash Rate for 6-lane Urban Interstates		Conclusions
	All Severity Types	KA [2]	All Severity Types	KA	All Severity Types	KA	
I-30 from I-530/I-440 to I-630							
2010	99	8	2.19	0.18	1.53	0.06	Total crash rates (all severity types) were slightly higher compared to other 6 or more-lane urban interstates in Arkansas. KA crash rates were generally higher than the statewide average.
2011	62	2	1.37	0.04	1.22	0.06	
2012	64	6	1.42	0.13	0.95	0.05	
I-30 from I-630 to I-40							
2010	471	9	4.74	0.09	1.53	0.06	Total crash rates (all severity types) were three to four times higher compared to other 6 or more-lane urban interstates in Arkansas. KA crash rates were also elevated reaching as high as four and a half times the statewide average.
2011	371	21	3.81	0.22	1.22	0.06	
2012	406	14	4.31	0.15	0.95	0.05	
I-40 from I-30 to Hwy. 67/Hwy. 167							
2010	66	3	0.94	0.04	1.53	0.06	Total crash rates (all severity types) were slightly lower compared to other 6 or more-lane urban interstates in Arkansas, though still higher than desired. KA crash rates were slightly higher than the statewide average.
2011	75	7	1.09	0.10	1.22	0.06	
2012	58	6	0.85	0.09	0.95	0.05	

Notes: [1] MVMT = million vehicle miles traveled; [2] KA = fatal (K) and serious injury (A) collisions
Source: AHTD and Arkansas State Police Database

As shown in **Table 3**, both the overall and the KA crash rates are much higher than the Arkansas average crash rate for 6 or more-lane urban interstates. This study area

Comment [AE14]: After discussion between the I-30 PEL Traffic and Safety Study Team and Metroplan, it was determined that the Study Team would review the safety data to see what time of day crashes were occurring. Text inserted into document to illustrate these findings.

Comment [CC15]: Focus on these

Response: Greater detail on KA Crashes added to Section 3.2.1 (see additional text and figures in this section)

Comment [CC16]: Is this other similar statewide facilities, if so it should say such

Response: Added "for 6-lane Urban Interstates" in the column title.

Comment [CC17]: This is the only thing that really says there is a problem, however it is unclear what the cause is –

Response: Additional detail related to the causes of crashes added to Section 3.2.1 (see additional text and figures in this section).

experienced 6 fatal collisions and 70 serious injury collisions from 2010-2012. These crash rates demonstrate a need for improvements along I-30/I-40. Some key locations on I-30/I-40 in the study area exhibited large clusters of crashes over the three year analysis period (2010 – 2012). For example, **Figure 3** shows that in 2012, crashes were particularly concentrated along the I-30 mainline at the following locations (south to north): along I-30 at the I-630 interchange (30 crashes), at 9th Street (38 crashes), on the Arkansas River Bridge (58 crashes), near E. Washington Avenue (49 crashes), at East Broadway Street (41 crashes), and at Curtis Sykes Drive (46 crashes); and along the I-40 mainline at North Hills Boulevard (52 crashes). Similar crash trends were generally exhibited at these locations in 2010 and 2011, with a particularly high number of crashes experienced in 2010 along the I-30 mainline at E. Broadway Street (80 crashes) and Curtis Sykes Boulevard (76 crashes) in North Little Rock. The number and location of crashes experienced along the I-30/I-40 mainline and cross-streets/ramps within the study area for 2010 - 2012 are graphically depicted in **Attachment C-1.**

Figure 3. Numbers of Crashes on I-30/I-40 Mainline in 2012

Comment [AE18]: Per Metroplan comment CC15 and CC17, added text related to KA crash rates.

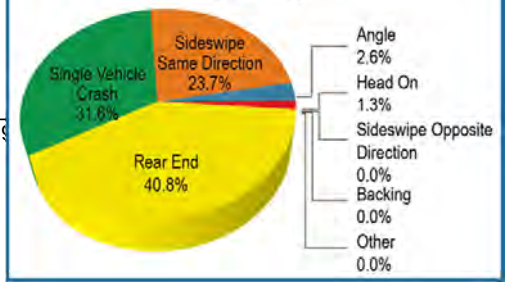


Comment [CC19]: Further evaluation of crashes from the river north is needed to evaluate if impact of proposed improvements on safety

Response: Additional detail on causes of crashes north of the Arkansas River provided in Section 3.2.1 and illustrated in Figures 7 and 8 below.

The safety analysis also evaluated the locations of only fatal and serious injury (KA) crashes, as detailed in **Attachment C-2**. The segment of I-30 between I-630 and I-40 experienced the most serious injury crashes over the three year analysis period; 43 total serious injury crashes from 2010 – 2012. In regard to fatal crashes, the interchange of I-40/Hwy. 67/Hwy. 167 experienced two fatal collisions in 2011 and one fatal collision in 2010. All three of these crashes were rear-end type collisions, and two of the three occurred in the westbound direction. Two fatal collisions occurred along I-30 during the three years analyzed: one near 19th Street in 2012 and one at the interchange of I-30 and I-630 in 2010. Both of these collisions involved a single vehicle travelling westbound, and one collision sited alcohol as a contributing factor.

Figure 5. I-30/I-40 Main Lane KA Crash Types (2010-2012)

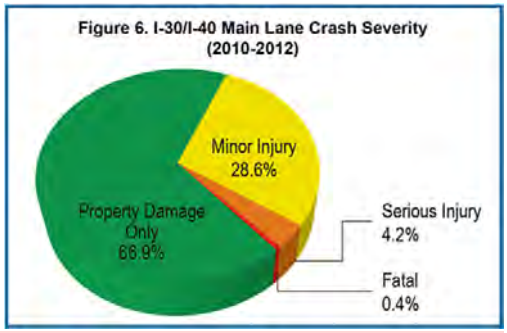


Evaluating collisions by type gives further insight into the reasons that collisions

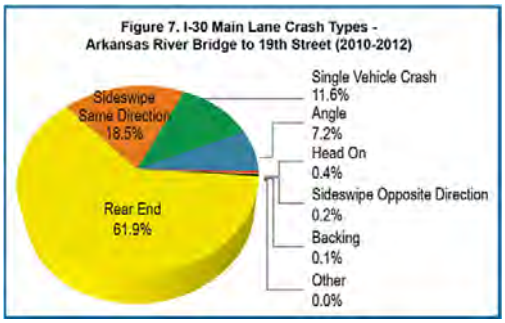
occurred. **Figure 4** depicts the types of crashes experienced along the I-30/I-40 mainline from 2010-2012, the majority of which were rear end collisions followed by sideswipe (same direction) collisions. **Figure 5** shows a similar pattern for KA crashes with rear-end collisions being most predominant. However, the KA crashes showed single vehicle crashes being the second most common followed by sideswipe (same direction) crashes. When evaluating crash severity, the majority of mainline crashes along I-30 and I-40 involved property damage or resulted in minor injuries. Serious injury and fatal crashes accounted for 4.2 percent and 0.4 percent of overall crashes, respectively, from 2010-2012, as shown in **Figure 6**.

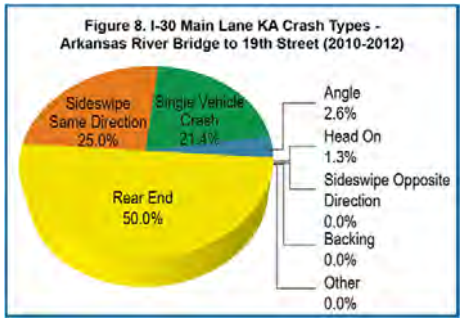
Comment [AE20]: Per Metroplan comments CC15 and CC17 above, additional detail related to crash causes and KA crashes added to discussion.

As was demonstrated in **Figure 3**, large clusters of crashes occurred along I-30 north of the river. Accordingly, crashes from the I-30 Arkansas River Bridge to 19th Street were evaluated separately by crash type and KA crash type as shown in **Figures 7** and **8**. As these figures show, this area experienced especially high percentages of rear-end collisions, most likely attributable to congestion. Sudden stops often occur due to slowing traffic and lengthy queues on the mainline, leading to rear-end collisions. Congestion also likely attributes to sideswipe (same direction) collisions, as impatient vehicles switch lanes suddenly or as merging vehicles experience difficulty finding adequate gaps in traffic for safe merging.

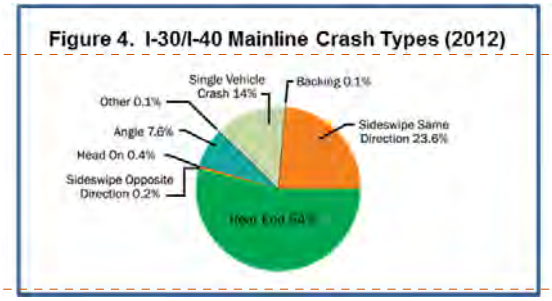


Comment [AE21]: Per Metroplan comment CC19, additional detail on causes of crashes north of the Arkansas River added to discussion.





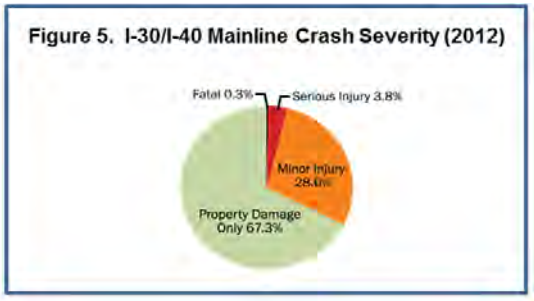
~~Collision types were also evaluated along I-30/I-40. **Figure 4** depicts the types of crashes experienced along the I-30/I-40 mainline in 2012, the majority of which were rear end collisions and sideswipe (same direction) collisions.~~



Comment [CC22]: Why is this just 2012, a similar map should be prepared with just KA Crashes

Response: Document revised to include data spanning 2010 – 2012, the latest safety data available at the time of the analysis. A new graphic, Figure 5, and associated discussion was added to illustrate KA crash types.

~~When evaluating crash severity, the majority of mainline crashes along I-30 and I-40 involved property damage or resulted in minor injuries. Serious injury and fatal crashes accounted for 3.8 percent and 0.3 percent of overall crashes in 2012, respectively, as shown in **Figure 5**.~~



Comment [CC23]: Why is this just 2012

Response: Document revised to include data spanning 2010 – 2012, the latest safety data available at the time of the analysis. New graphics, Figures 4 and 6, and associated discussion, was added to this section.

Wrong-Way Collisions

Each year, AHTD conducts a review of all wrong-way crashes on freeway systems within Arkansas. The reviews for 2010, 2011, and 2012 were investigated to identify any wrong-way collisions occurring within the study area. Upon investigation, no wrong-way collisions were identified within the study area in 2010. In 2011, one wrong-way collision was reported at the I-30/I-630 interchange. The driver at fault was driving westbound on the I-30 eastbound lanes and caused a sideswipe-opposite direction collision that resulted in property damage only. According to the police report, the driver most likely entered I-30 the wrong way via the Exit 140 off-ramp which connects to a frontage road that provides access to 9th Street and 12th Street. All pavement markings and signs were in place according to the Manual of Uniform Traffic Control Devices (MUTCD)[3] standards, but according to the police

[3] The MUTCD defines the standards used by road managers nationwide to install and maintain traffic control devices on all public streets, highways, bikeways, and private roads open to public traffic. The

report, additional signs were needed and some signs were in need of replacing in order to meet AHTD standards. The collision occurred at night, therefore the unusual geometry of this ramp with the frontage road along with the reduced visibility during the night likely both contributed to this collision. In 2012, a head-on collision occurred in this same location. This driver was intoxicated, and the collision resulted in incapacitating injuries. Upon reinvestigation of this site, all signs and pavement markings were found to be in conformance to MUTCD and AHTD standards at the exit ramp. However, plans were made to increase the size of the *Do Not Enter* sign from 36"x36" to 48"x48" and to install a 54"x18" *One Way* sign on the east side of the road. In addition, plans were made to replace the *Wrong Way* signs prior to the 9th Street and 12th Street intersections to be consistent with AHTD standard sizes and to install a *Wrong Way* sign prior to the 10th Street intersection.

~~3.2.2~~

~~3.2.3~~3.2.2 Future No-Action Conditions

To develop the future No-Action conditions, an average crash rate from the 2010-2012 crash data was applied to the projected No-Action traffic volumes. While existing crash rates may not actually remain constant into the future, the existing crash rate was used as a conservative value. Due to vehicle-to-vehicle (V2V) communication technologies and other safety features in the auto industry, the actual number of crashes could be less than the projection. This analysis assumed that roadway conditions and all other factors would remain the same and that no safety measures would be implemented. In summary, a 13 percent increase in crashes was predicted for 2020 compared to 2012; and a 38 percent increase in crashes was projected by 2040 compared to 2012, as shown in **Figure 9**. Average crash rates and projected numbers of crashes under future No-Action conditions for 2020 and 2040 along I-30/I-40 are further detailed in **Attachment C-1**.

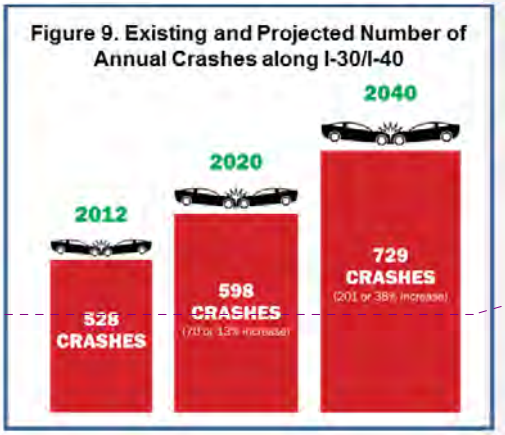


Figure 9. Existing and Projected Number of Annual Crashes along I-30/I-40

In addition to vehicular crashes, pedestrian and bicycle crashes were evaluated from 2001 to 2010, which are summarized below and detailed in **Attachment C-3**:[4]

- High concentration of pedestrian crashes at Broadway Street interchange in North Little Rock and Markham Street interchange in Little Rock (near ramp termination at Cumberland Street);

MUTCD is published by the ~~Federal Highway Administration (~~FHWA~~)~~ under 23 Code of Federal Regulations (CFR), Part 655, Subpart F. Source: http://mutcd.fhwa.dot.gov/

[4] Source: Metroplan's *CARTS Pedestrian/Bicyclist Crash Analysis* (January 9, 2012). Pedestrian and bicycle crash data obtained from the Arkansas State Police Database.

Comment [CC24]: Crashes is an existing issue and it is unrealistic to expect the rate to remain the same into the future

Response: While existing crash rates may not actually remain constant into the future, the existing crash rate was used as a conservative value. For clarification purposes, text explaining this was added to this section.

Comment [JM25]: 38% increase over 2012 or 2020 numbers?

Response: Document revised to explain that the 38% increase was over 2012 numbers.

- Several bicycle crashes at the Curtis Sykes interchange area; and
- Bicycle/pedestrian fatalities: I-630 interchange (one), Broadway Street interchange (one), between the I-30/I-40 interchange and North Hills Boulevard interchange (three); and the Hwy. 67/Hwy. 167 interchange (one).

3.3 Structural and Functional Roadway Deficiencies

~~3.2.4~~3.3.1 Structural Roadway Deficiencies



*Note: Photo also demonstrates inadequate shoulder widths and curb and gutter immediately adjacent to travel lanes (**Section 4.3.2**)*

Cracks are usually the first noticeable sign of pavement deterioration, causing a rough ride and also allowing water to seep into the base beneath the pavement. If cracked pavement is not repaired in a timely manner, water entering the cracks causes the pavement to deteriorate more rapidly, leading to unsafe conditions for the driver.

The 2012 existing surface conditions show moderate to severe levels of cracking along the I-40 and I-30 facilities. Details about the different types of roadway distress experienced along I-30/I-40 are provided in **Attachment ~~D-1~~C-4**. Portions of I-30/I-40 in the study area will likely require some level of pavement rehabilitation within the expected timeframe of this project to meet adequate structural performance for the typical 20 year design life utilized for pavement analysis.

~~3.2.5~~3.3.2 Functional Roadway Deficiencies

Functional deficiencies are features that prevent the roadway from handling the normal traffic volume expected of a major highway. Functional deficiencies within the study area include the following, which are illustrated and mapped in **Attachment C-5**:

- 8 locations with curves that do not meet design standards;
- ~~•~~ 9 ~~-~~locations with inadequate shoulder widths ~~(see above photo)~~, including ~~;~~
- 2 locations where the curb and gutter is immediately adjacent to the travel lanes[5] ~~,~~ ~~-~~(see above photo in **Section 3.3.1**)~~;~~;
- 10 ramps lack recommended lane lengths and/or are below standard acceleration/deceleration and taper lengths; and

*Typically, the desired ramp spacing in an urban area is defined as two ramps per direction per mile. **

*This corridor has 33 ramps in a five mile section – **That is 70% higher than the recommended number.***

** Based on the American Association of State Highway and Transportation Officials' (AASHTO) A Policy on Geometric Design of Highways and Streets (2004)*

[5] Current design standards recommend that curb and gutter not be placed adjacent to travel lanes on high speed facilities because of potential safety issues, such a vehicle vaulting upward and losing control from hitting the curb.

Comment [JM26]: On the surface this appears to be just another case of poor maintenance UNLESS there is underlying issues with the base or reflective cracking from the original concrete surface that should be replaced.

Response: The existing concrete pavement beneath the asphalt overlay was constructed back in the 1960s, and has experienced deterioration over the last 50 years of use. AHTD has periodically milled and overlaid the pavement with asphalt as needed, but there has not been a complete reconstruction performed on the underlying concrete structure since it was built in the 1960s. Much of the cracking in the asphalt is due to reflective cracking from the joints in the concrete pavement. Note that Falling Weight Deflectometer (FWD) measurements have been taken along the project corridor. Once the data analysis is complete, additional data supporting this need can be incorporated into this technical report. No change to the document at this time.

- 12 locations lack required spacing to safely allow weaving operations between entrance/exit ramps.

Additionally, one major weaving area of concern is located between the I-30/I-40 interchange and the I-40/Hwy. 67/Hwy. 167 interchange. This movement is complicated by the existence of the North Hills Boulevard interchange located within this weaving section, which is less than a mile from the adjacent interchanges. ~~Given the roadway deficiencies and heavy traffic volume on this area of I-40, the 2003 CARTS Phase II Areawide Freeway Study recommended I-40 east of the I-30/I-40 interchange to the I-40/Hwy. 67/Hwy. 167 interchange be improved to five lanes in each direction.~~

Comment [JM27]: Map all of these locations

Response: The locations of these functional deficiencies have been mapped and are included in Attachment C-5 and Figures C-5g through C-5j).

Comment [JM28]: This citation from the Areawide Freeway Study comes out of nowhere and doesn't seem to deal with the weaving issues at all. Recommend deleting this sentence.

Response: Sentence deleted.

3.4 Navigational Safety

The I-30 Bridge is one of six bridge structures that cross the McClellan-Kerr Arkansas River Navigation System (MKARNS) within a 1.4 mile stretch of the Arkansas River in the downtown areas of Little Rock and North Little Rock. Having a total length of 445 miles, the MKARNS provides a means for the transportation of commodities from Oklahoma through Arkansas to the Mississippi River. On average, 12 million tons of commodities, valued at $2-3 billion, are transported annually via this economically vital navigation system.[6] –A portion of the MKARNS channel, showing the Clinton, I-30, Junction and Main Street Bridges is shown in **Figure 10**.

For bridges crossing a navigation channel, the two most important features are the vertical clearance provided from the water surface to the bottom of the bridge and the horizontal clearance between the bridge piers (vertical supports within the water). The United States Coast Guard (USCG) typically requires vertical and horizontal clearances of 52 feet and 300 feet, respectively for the section of the MKARNS within the study area. Of the six bridges, only the I-30 Bridge fails to meet the typically prescribed 300-foot minimum horizontal clearance for the MKARNS within the study area, as illustrated in **Figure 10**.[7]

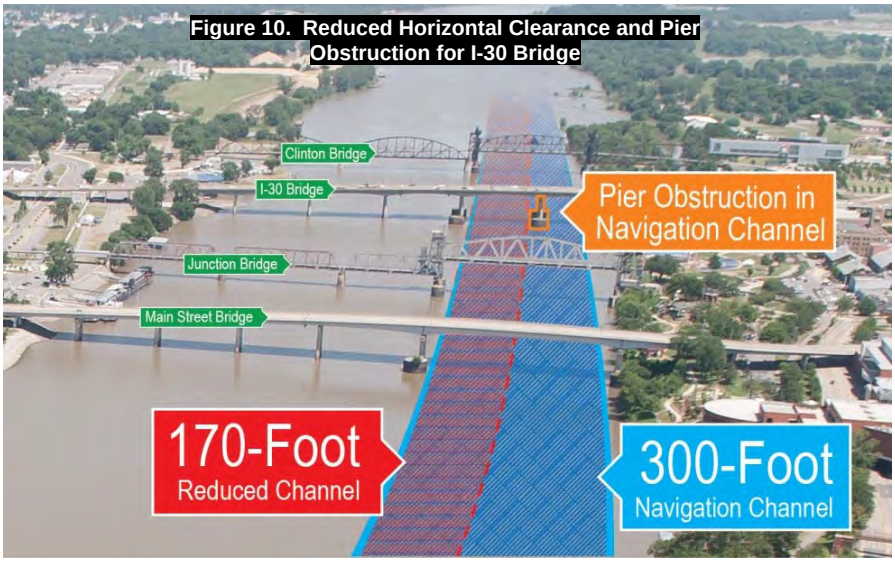
In addition to the substandard horizontal navigation clearance, the pier configuration of the I-30 Bridge poses an obstruction to river navigation. The five other bridge structures have an open span across the entire navigation channel. However, as shown in **Figure ~~7~~10**, the I-30 Bridge has a pier within the middle of the channel which divides the channel into two navigation spans as further discussed in **Attachment ~~C-4~~D-1**. The reduced horizontal clearance and pier obstruction is cumbersome to navigate and restricts the operational speed of the barges. Barge collision data, provided by the

[6] Valued by the Institute for Water Resources and the National Agricultural Statistics Service; Source: United States Army Corps of Engineers (USACE) Little Rock District.
[7] All six bridges meet the USCG vertical clearance requirements.

USCG, indicates a total of five barge strikes have occurred at the I-30 Bridge site since 2001, with the two most recent of these strikes having occurred since August 2013.[8]

On August 21, 2014, the Arkansas Waterways Commission submitted a letter to the AHTD recommending that the I-30 Bridge pier that divides the navigation channel be removed and a navigation channel of 332 feet be established; and that the vertical clearance of the I-30 Bridge be no lower than the soon-to-be constructed Broadway Bridge (vertical clearance of 62.4 feet). A copy of the Arkansas Waterways Commission letter is provided in **Attachment D-42**.

Figure 10. Reduced Horizontal Clearance and Pier Obstruction for I-30 Bridge



[8] The barge collision data provided by the USCG does not differentiate between a strike on the protection cells and the bridge itself; and therefore, there is no information available to quantify the damage the bridge sustained during each strike.

~~3.3~~ 3.5 Structural and Functional Bridge Deficiencies

~~3.3.1~~3.5.1 Structural Bridge Deficiencies

The 2003 *Arkansas River Crossing Study* rated the I-30 Bridge across the Arkansas River to be in fair condition. As the result of an October 2013 inspection by AHTD, the I-30 Bridge has been downgraded to Structurally Deficient[9]. The Structure Inventory and Appraisal Sheet developed following the 2013 inspection indicates that the substructure of the bridge is rated as "Poor". An AHTD memorandum outlining some of the major deficiencies identified as a result of the October 2013 inspection is presented in **Attachment D-3.**

The fact that a bridge is classified as "structurally deficient" does not imply that it is unsafe. A structurally deficient bridge, when left open to traffic, typically requires maintenance and repair to remain in service and eventual rehabilitation or replacement to address deficiencies.

Source: Federal Highway Administration, Status of the Nation's Highways, Bridges and Transit: Conditions and Performance Report to Congress, 2008

~~3.3.2~~3.5.2 Functional Bridge Deficiencies



In addition to structural deficiencies of the I-30 Bridge, the width of the existing bridge is less than desirable. Although the bridge meets the minimum width requirements, the shoulders on the bridge are below current standards for new construction. The reduction in the shoulder width can lead to driver discomfort resulting in decreased speed and increased congestion. A reduced bridge width can also lead to an increase in traffic accidents because there is no additional space to maneuver around an obstacle in the roadway. Furthermore, the lack of adequate shoulders doesn't allow for the storage of disabled vehicles and the passage of emergency response, which causes further congestion after an accident.

~~3.4~~3.6 Summary of Needs

As presented in **Sections 3.1** through **3.5~~3~~**, the need for improvements to I-30 and I-40 in the study area include:

- Traffic Congestion;
- Roadway Safety Issues;

[9] Bridges are considered structurally deficient if significant load carrying elements are found to be in poor condition due to deterioration. Source: *FHWA 2010 Status of the Nation's Highways, Bridges, and Transit: Conditions and Performance*; *AHTD Bridge Inspection, Oversight, and Maintenance Performance Audit (November 2008).*

- Structural and Functional Roadway Deficiencies
- ~~and~~ Navigational Safety Issues; and
- Structural and Functional ~~Roadway and~~ Bridge Deficiencies.

4.0 PURPOSE AND STUDY GOALS AND OBJECTIVES

4.1 Purpose

The purpose of the proposed project is to address the transportation needs identified in **Section 3.4** by:

- Relieving Traffic Congestion;
- Improving Roadway ~~and Navigational~~ Safety ~~Issues~~; ~~and~~
- Addressing Structural and Functional Roadway ~~and Bridge~~ Deficiencies; and
- Improving Navigation Safety; and
- Addressing Structural and Functional Bridge Deficiencies ~~and Navigation Safety Issues.~~.

Comment [AE29]: Purpose of the project re-organized to match the re-organization of the project needs.

4.2 Study Goals/Objectives

In addition to the purpose and need, other project elements were established to balance transportation and environmental goals and objectives. Input sought from agencies and the public was incorporated to develop goals and guiding principles.[10] A listing of the study goals/objectives is presented in the inset box and a listing of the guiding principles is provided below. Goals identified by the public and/or agencies are notated by asterisks, as described in the inset box. A more comprehensive summary of the feedback obtained from the public meetings is presented in **Attachment A-~~5~~6**.

Study Goals/Objectives
(Listed in no particular order)

- *Improve opportunity for east-west connectivity***
- *Enhance mobility**
- *Improve local vehicle access to downtown Little Rock and North Little Rock**
- *Connect bicycle pedestrian friendly facilities**
- *Accommodate existing transit and future transit**
- *Minimize roadway disruptions during construction**
- *Minimize river navigation disruptions during/after construction*
- *Follow through on commitment to voters to improve I-30 as part of the CAP*
- *Optimize opportunities for economic development*
- *Avoid and/or minimize impacts to the human and natural environment*, including historic and archeological resources***
- *Sustain public and agency input and support for the I-30 corridor improvements**
- *Improve system reliability**
- *Maximize I-30 cost efficiency*
- *Improve safety**

***Notes:** * indicates a goal identified mutually by the Study Team and agencies/public; ** indicates a new goal identified by agencies/public that was incorporated into the goals and objectives or guiding principles*

Guiding principles that will influence the overall project include (listed in no particular order):

- Accelerated Project Delivery;
- Context Sensitive Solutions*/Aesthetically Pleasing Facility*;
- Minimize the real, perceived and visual barrier of the freeway**;

Comment [AE30]: Guiding principle added per the suggestion of Metroplan.

[10] Agency (local, state and federal) input gathered through technical work groups; public input gathered through public meetings held on August 12, 2014 in North Little Rock and August 14, 2014 in Little Rock.

- Open public participation process**; and
-
- Support of Local, Regional and Statewide Transportation Plan.

~~ATTACHMENT A: BACKGROUND INFORMATION~~
~~Attachment A-1: Study Area~~
~~Attachment A-2: Previous Studies~~
~~Attachment A-3: Regional Planning Context~~
~~Attachment A-4: Regional Plan and Policies on Freeways~~
~~Attachment A-5: CARTS Agreement~~
~~Attachment A-6: Public Meeting Feedback~~

Comment [AE31]: A new attachment, Attachment A-4, Regional Plan and Policies on Freeways was added per Metroplan suggestion.

Attachment A-3
Regional Planning Context

Paragraphs 1,2 and 3 no change
Replace last paragraph with:

The MPO policy on freeway system capacity improvements, as reflected in METRO 2030.2 and other policy documents, is to build the regional freeway system to six through lanes and to meet demand over that capacity with a robust regional arterial network and public transit. The strategy behind the policy is to use finite resources to achieve transportation system balance once the regional freeway network is built out to six through lanes. METRO 2030.2 does identify the freeway-to-freeway interchanges at I-40/US67/167, I-40/I-30 and I-30/I-530/I-440 as in need of reconstruction to add capacity and improve safety. It also mentions the segment of I-30 between the North Terminal and South Terminal interchanges as needing study because of the very high number of freeway-to-freeway interchanges and freeway-to-arterial interchanges in that five miles of highway.New Attachment 4
Metroplan Policy and Plan Statements on Freeway Capacity

Metroplan Policy on Freeways and Expressways
The Metroplan Board has adopted the following policy with regard to Freeways and Expressways in the CARTS area:

The metropolitan freeway system should be built to six through lanes. It is the Metroplan Board's intent that demand over that capacity be met with a robust regional arterial network and public transit.

If the Arkansas State Highway and Transportation Department sees the need to widen metropolitan freeways beyond six through lanes, it should consult with the Metroplan Board for its concurrence. Prior to planning for widening beyond six through lanes, the Department is expected to do a thorough analysis of alternative methods of meeting travel demand in the corridor with improved arterials and public transit. A thorough analysis of the impact of the induced traffic demand on local roadways as a result of the widening beyond six through lanes would also be required. The Metroplan Board may also consider conducting an independent analysis of widening proposals over six through lanes for its use and benefit.

METRO 2030.2

METROPOLITAN FREEWAY SYSTEM-CAPACITY IMPROVEMENTS

The freeway network within the metropolitan area should be completed and expanded to six through travel lanes by 2030. That means completing the Northbelt Freeway. It also means widening I-40 to six lanes between I-430 and Conway at Hwy. 65 and eastward into

Comment [AE32]: The MPO policy of highway system capacity improvements added to Attachment A-3 per request. However, The last paragraph of Attachment A-3 was retained because it highlights the importance of consistency between the PEL and local and regional planning efforts. This same verbiage is included in the P&N Technical Report (see Section 2.3 – Regional Planning Context).

Lonoke County. It calls for extending the widening of Hwy. 67/167 beyond its planned terminus at Redmond Road in Jacksonville to the Vandenberg/LRAFB exit in the short-term and then on to Cabot and Hwy. 89 by the end of the plan period, plus extending the widening of I-30 southwest from Sevier Street in Benton to at least Hwy. 67.

Nearly all the freeway-to-freeway interchanges in the metropolitan area need some level of reconstruction to increase capacity and safety. The I-630/I-430 Interchange is one of the highest needs, but the I-630/I-30, I-40/Hwy. 67/167, I-430/I-40, I-30/I-40 (North Terminal) and the I-30/I-530/I-440 (South Terminal) also need attention.

- The recently completed Areawide Freeway Study also indicated that additional capacity may be needed at some point in the future on a) I-30 between the North and South Terminals where five interstate highways merge and diverge within five miles, b) I-430 south of I-40 to I-630, c) I-630 from I-430 to University Avenue, d) I-30 from South Terminal to 65th Street and e) I-440 from South Terminal to Lindsey Road (Map 17-2). At an appropriate time, these highway segments should be studied consistent with the regional policy on freeway capacity.

ATTACHMENT B: TRAFFIC DATA

Attachment B-1
• Trip Characteristics:
Correct per mutual agreement on how to measure through trips and local trips.

Attachment B-3
Attachment B-3, page 3
(7) LaHarpe Boulevard and Markham Street
Scratch "which can attribute to vehicle backups."

Attachment B-4, page 2
LOS colors and letters are not consistent
Define Density
PAGE 2 – bottom paragraph – LOS bias toward unsustainable design criteria. Seems to define "severe congestion as LOS E/F even though LOS E is estimated at up to 54 mph. Should define how long Peal period is, how LOS is calculated over that time frame and how long segments operate under 20 mph.

ATTACHMENT C: SAFETY
Attachment C-1 Crash Data – all maps show crashes outside the study corridor. Are those crashes included in the crash data? If so, do they skew the conclusions?

Attachment C-2 Serious Injury and Fatal Crash Data - all maps show crashes outside the study corridor. Are those crashes included in the crash data? If so, do they skew the conclusions?

C-2, Page 3 – What happened in 2012 to vastly reduce crashes at East Broadway from previous years?
C-3 Bicycle and Pedestrian Crash Data

Comment [AE33]: A new attachment, Attachment A-4 was created with this suggested content from Metroplan.

Comment [AE34]: Attachment B-1 was revised per mutual agreement of trip characteristics. The trip characteristics table from Section 3.1.5 was added to Attachment B-1.

Comment [AE35]: Per Metroplan suggestion, this text was deleted from Attachment B-3.

Comment [AE36]: Per Metroplan suggestion, Attachment B-4 revised as follows:

LOS colors in Table B-4b revised to be consistent

Density was defined in Tables B-4a and B-4b

Revised text to indicate that the undesirable LOS was according to current AHTD standards.

The VISSIM analysis to be completed as part of the Level 3 screening analysis will analyze how long the peak hour LOS is sustained as well as the length of time segments operate under 20 mph. No change to Attachment B-4 in response to this comment.

Comment [AE37]: Response: Attachments C-1 and C-2 revised. Crashes that were shown outside of the study corridor have been removed. Those crashes were not included in the crash data.

Comment [AE38]: The Study Team has reviewed the data obtained from AHTD/Arkansas State Policy Database and confirmed the data to be correct. Per the City of Little Rock Traffic Department (Traffic Engineer Director), *"From the police and some of my Traffic Department personnel, several factors might have accounted for the reduction in crashes. They're as follows:*

- *Widening/drainage improvements along the East Broadway corridor that were completed a few years ago. I was told drainage was pretty bad prior to the AHTD widening/drainage improvements.*
- *NLR Citizens learning how to use Riverfront drive during events to by-pass downtown. In other words, Riverfront drive provides a good east-west route to get out of downtown versus Broadway during events.*
- *During the last few years, the Police report there has been a reduction in the number of events held at Verizon Arena."*

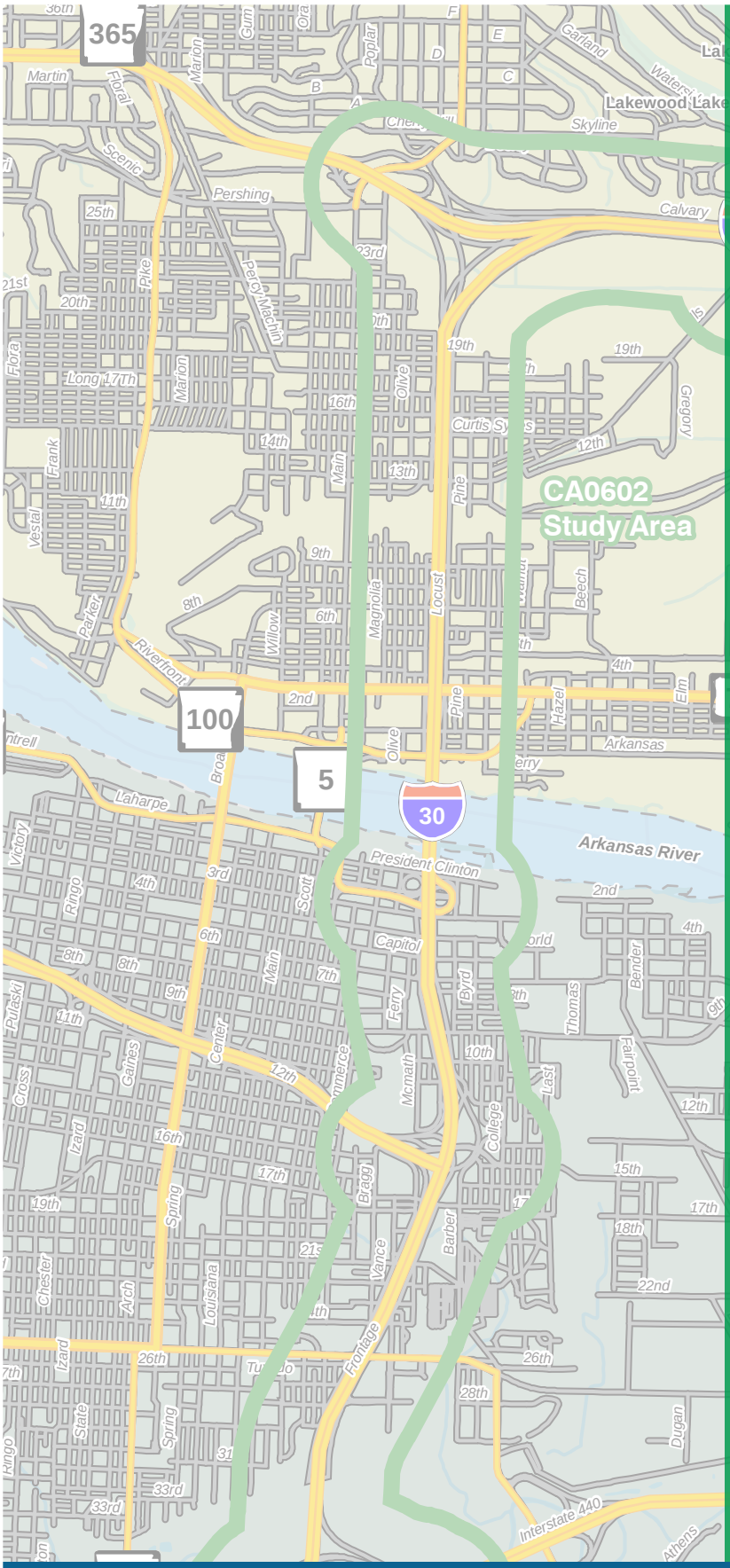
A note has been added to Table C-2b in Attachment C-2 that describes these potential reasons for the decrease in collisions.

~~Page 1 para 2 and page 2para 1 be definitive where the pedestrian accidents are occurring. It is at the Markham/Cumberland/La Harpe intersection primarily.~~
~~Attachment D-2 Functional Roadway Deficiencies~~
~~Map ALL of the deficiencies on aerial photographs.~~

Comment [AE39]: Response: Page 1, paragraph 2 – This refers to data presented in Figure C-3b. Based on the scale of Figure C-3b, it is difficult to ascertain specific details, but instead is better suited for establishing general areas of high pedestrian crash clusters. Figure C-3d on page 2 provides the additional clarification on crash locations, which is further detailed on page 2 of the attachment.

Page 2, paragraph 2 – This refers to data presented in Figure C-3d. Based on the available data, additional detail added to the text regarding the crashes occurring at the intersection of Markham and Cumberland/LaHarpe; and E Broadway and Magnolia.

Comment [AE40]: Response: The locations of these functional deficiencies have been mapped and are included in Attachment C-5 and Figures C-5g through C-5j).



PLANNING AND ENVIRONMENTAL LINKAGES TECHNICAL WORK GROUP MEETING #3 COMMENT DOCUMENTATION

CA0602

Interstate 530 – Highway 67

April 2015

CONNECTING ARKANSAS PROGRAM CAP

Arkansas State Highway & Transportation Department

CAP Deliverable QC Comment Review Form

Project Number:	CA0602
Document:	TWG #3 Meeting (Jan. 13, 2015) and Materials Distributed to TWG Members on USB/Flash Drive
Consultant/Authors:	CA0602 Study Team
Date Submitted for QC Review:	N/A

Cmnt No.	Section/ Page No.	Reviewer	Review Comment	Response	Change Verified		Agency Verified **
					New Pg.	Initials / Date	
1	**Email** 01/21/15	Michael Sprague, State Trails Coordinator & Project Officer, Ark. Dept. of Parks and Tourism	Bicycle and pedestrian trails along the Interstate-30 corridor will relieve local traffic congestion and improve residents' quality of life. The opportunity to design and implement such trails through Little Rock and North Little Rock is tremendous and timely. I implore Arkansas Highway and Transportation Department to consider such a plan. This transportation corridor may be the only right of way to link the southeast and northeast areas of the Little Rock metro area to the amenities of Downtown, the River Market District and the Arkansas River Trail. Residents around this corridor and visitors would see real benefits and an increase in their quality of life to have the option to use an attractive, non-stressful trail to access parks, schools, shopping, libraries, museums, entertainment, recreation, other trails, etc. Along with getting places, trails also make other great impacts on society. Using trails not only helps folks get in shape and provides an excellent state of mind, and it also helps build communities.	Connecting bicycle and pedestrian friendly facilities is one of the study goals for the I-30 project. The quality of bicycle/pedestrian crossings will be evaluated as part of the screening process such that they foster safe connectivity and meet current design standards. Visioning workshops have been incorporated as part of the PEL process to ensure that bike/pedestrian facilities, E-W connectivity, and other project features are developed in a way that enhance existing and future land uses and incorporate the ideas and priorities for the I-30 corridor as established by local planners and stakeholders. The first visioning workshop was held on 11/19/14 and ideas were shared for improving bicycle/pedestrian connectivity, E-W connectivity, socioeconomic growth, and preserving and enhancing aesthetic, historic and community resources, among other design suggestions. During the NEPA/Schematic phase, a second visioning workshop will be held with stakeholders that examines potential context sensitive solutions (CSS) and design concepts in greater detail.	N/A	JLH/ 3/11/15	✓

1	**Email** 01/21/15 (cont)		When people walk or bicycle to get places, it gets them out of their cars and allows people to see, talk to and get to know others in their neighborhood they would otherwise never meet. This increases local communication and involvement and decreases misunderstanding and distrust. Having this attractive alternative way to get around would also decrease the impact of local vehicles using the interstate highway (and local streets) and help alleviate demand for parking for amenities located near the corridor. The time to design and implement a quality trail linking these areas of town is right now; the next opportunity may not come for decades, if ever. If plans were made in the early part of the design process, a great design could be made so that people traveling along the trail could have a well-thought-out, unimpeded route parallel to I-30. The possible trail routes don't all need to be confined to the Interstate right of way. They may be coordinated with the cities for the most optimum route. For example, linking MacArthur Park to the River Market District, which would give people a great way to go between Little Rock's large inner-city park, the Arkansas Arts Center and adjacent neighborhoods to one of Little Rock's premiere destinations, could be made using part of Ferry Street near the park and also the interstate right of way near the River Market District (see maps – **Attachment A**).	Based on stakeholder feedback and available funding, CSS/aesthetic guidelines will be developed following this second visioning workshop and included in the design-build request for proposals, pending AHTD approval. Thank you for suggestions for the trail layout. These comments will be shared with the Environmental Design Consultant (EDC) and will be considered during the next Visioning Workshop. Study Team planners and engineers have and will continue to work with city planners to ensure that city goals for future development are given due consideration and incorporated when practicable.			

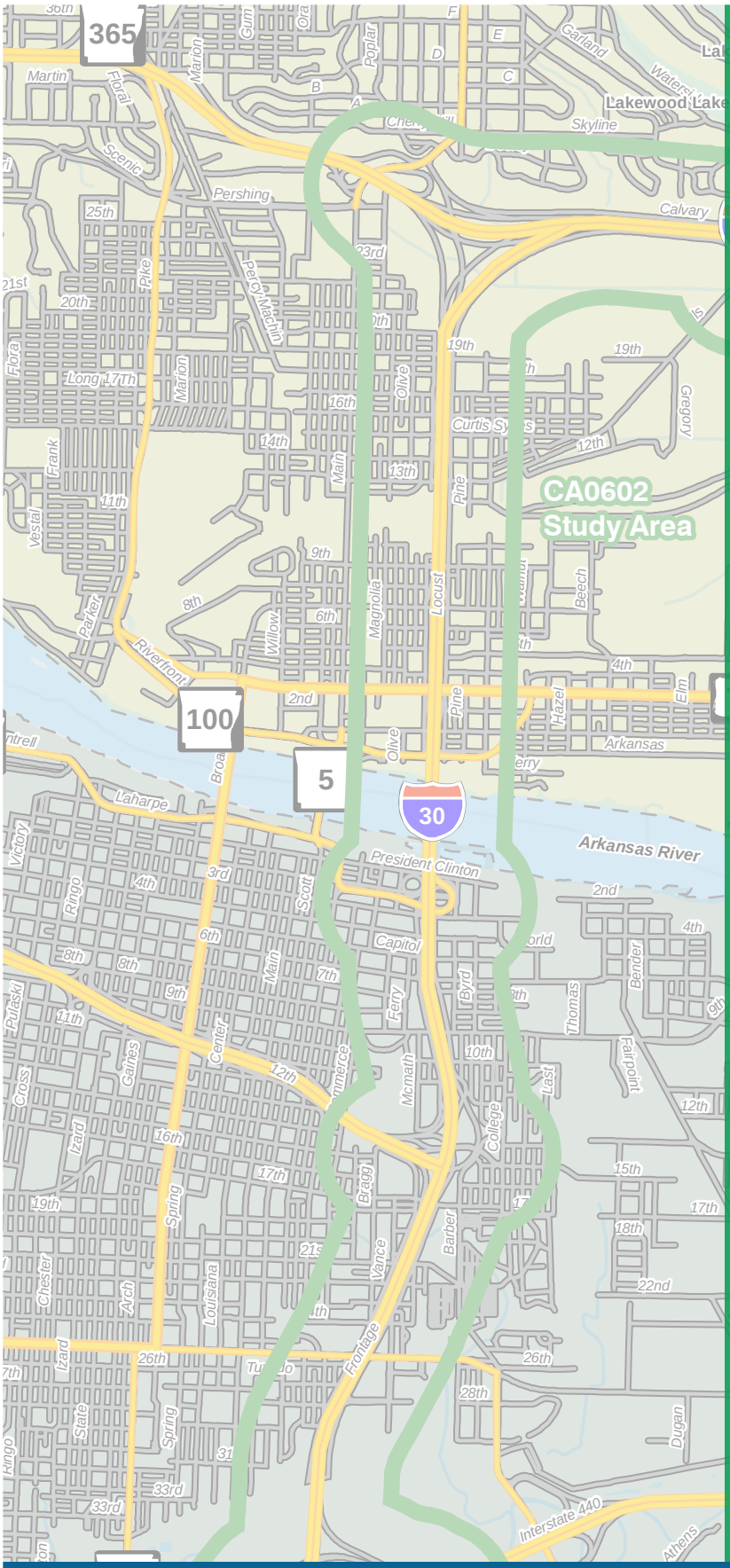
1	**Email** 01/21/15 (cont)		A loop trail could also be created circling the I-30—I-630 interchange (see maps – **Attachment A**). This trail would give locals a great walking loop, which would also go near area schools. The trails would also improve locals' perceptions and expand people's conceptions of the park because once someone got on to the trail they would have almost unimpeded access to the park. Residents on the other side of the interstates could feel less separate from it. Trail connections to other places along this corridor would also benefit residents immensely, such as a link to Interstate Park, which is where the Southwest Trail (a long distance bicycle trail to link to Hot Springs) is planned to go through; Verizon Arena (or close to it); North Little Rock Neighborhoods (Park Hill, Dixie, City Center); North Hills Boulevard. I encourage the planning and development of trails alongside this corridor during this process while everyone is focused on it to help benefit the communities of Little Rock and North Little Rock. This opportunity is great, and trail facilities along this corridor would be a tremendous asset for the community.				

2	**Email** 1/12/15	Ann M. Early, State Archeologist	Thank you for sending me the information about your TWG meeting tomorrow regarding CAP planning for the LR/NLR Metropolitan area. One of my representatives, Dr. Elizabeth Horton, will be attending in my place. I've read the document that you enclosed with your invitation. I continue to be deeply concerned that there is no place in your decision making matrices, or in you itemization of Cultural Resources issues, for the prospect that there are Currently Unknown cultural resources in the rights of way. You offer no provision for a search to find out if there are resources in the area, or provision to deal with what is often referred to as 'unanticipated discovery' situations during development. I want to reiterate that this part of Arkansas, at the location of a convenient and long used crossing of the Arkansas River, was used by humans intensively for a very long time. There is no reason to expect that we currently know where all cultural resources in this corridor might be. Like virtually every urban center on the planet, there are older remains of human settlement buried under modern constructions in Little Rock. We just don't know where the significant ones are at this point. Any large scale modification of the corridor is bound to encounter historic era deposits. The sooner that this potential situation is factored into plans, the better any project as large and complex as this one will be.	In response to concerns about currently unknown cultural resources in the I-30 project rights of way (ROW), a Cultural Resources Survey Methodology Memo was developed by the Study Team and coordinated with the Arkansas Historic Preservation Program (AHPP). A copy of the memo is included as **Appendix G**. In a letter dated February 6, 2015 to AHTD, the AHPP outlined their concurrence with the Cultural Resources Survey Methodology Memo. The letter acknowledges the Area of Potential Effect (APE) to be all existing and new ROW for archeological sites and the area within 100 feet of the edge of the ROW for historic structures. AHPP agreed with the methodology that surveys shall be conducted at the toe slopes in areas of bridge widening and areas where construction is anticipated to impact soils within two feet of the original ground surface. AHPP also concurred with the designation of the four potential scenarios that may trigger additional coordination and/or investigations which will vary based upon specific site conditions after the preferred alternative has been determined during the NEPA process. These include: 1) areas where additional ROW would be acquired; 2) bridge widening due to potential excavation beyond depths of previous disturbance and existing construction fill; 3) previously recorded archeological sites; and 4) areas of high probability based on the identification of previous structures that no longer exist as shown on the Sanborn 1913 maps or upland areas based on an overlay of the USGS topographic map, soil type and contours. The memo also outlines the procedures for situations of unanticipated discovery.	N/A	JLH/ 3/11/15	✓

Surveys seeking public input on the various scenarios that had been developed by the Study Team to improve I-30 were distributed to attendees of the November 6, 2014 public meeting. The same surveys were distributed to TWG #3 attendees and six were filled-out and returned. The results of the surveys are presented in the table below. Survey forms are included in **Attachment B**. Although only a few TWG members responded to the survey, three identified the 10-lane scenario as preferable, five identified bridge replacement as preferable to rehabilitation, and other various highway-build, congestion management, other mode and non-recurring congestion management alternatives were identified as preferable for further evaluation.

Table: Scenario Survey Results from TWG #3

Group	Description	Number of Times Circled
Survey Instructions: Circle the scenario you prefer to be further evaluated in the PEL Study		
Scenario	Scenario 1 - 6 lanes	0
	Scenario 2 - 8 lanes	0
	Scenario 3 - 10 lanes	3
	Scenario 4 - 12 lanes	0
Group	**Description**	**Number of Times Checked**
Survey Instructions: Check the box next to the Preliminary Alternatives you prefer to be further evaluated in the PEL Study		
Highway Build Alternatives	Main Lane Pavement Rehabilitation	2
	Collector / Distributor (C/D) Roads	3
	Auxiliary Lanes	0
	Frontage Road Improvements	0
	Intersection Improvements	2
	Interchange Improvements	4
	Ramp Consolidation/Elimination	1
	Roadway Shoulder Improvements	3
	Horizontal/Vertical Curve Improvements	1
	Bottleneck Removal	1
	Bypass Route	1
Congestion Management	Information Systems/Advanced Traveler Information	3
	Managed Lanes	0
	Reversible Lanes	0
	Ramp Metering	0
	Hard Shoulder Running	0
	Travel Demand Management	2
	Transportation System Management (TSM)	1
	Wayfinding/Signage	3
	Arterial Improvements	5
	Land Use Policy	1
I-30 Bridge	I-30 Arkansas River Bridge Rehabilitation	0
	I-30 Arkansas River Bridge Replacement	5
Other Modes	Arterial Bus Transit	2
	I-30 Express Bus Transit	0
	Bus on Shoulder	3
	Bus Lanes	0
	Arterial Bus Rapid Transit	2
	Light Rain (Streetcar)	1
	Bicycle/Pedestrian	2
	Commuter Rail	2
Non-Recurring Congestion Management	Crash Investigation Sites	3
	Roadside/Motorist Assist Enhancements	4
	Improvements to Detour Routes	1
	Variable Speed Limits (Speed Harmonization)	3
	Queue Warning	1



PLANNING AND ENVIRONMENTAL LINKAGES TECHNICAL WORK GROUP MEETING #4 COMMENT DOCUMENTATION

INTERSTATE 30

CA0602

Interstate 530 – Highway 67

April 2015

CONNECTING ARKANSAS PROGRAM CAP

Arkansas State Highway & Transportation Department

CAP Deliverable QC Comment Review Form

Project Number:	CA0602
Document:	TWG #4 Meeting (March 31, 2015) and Materials Distributed to TWG Members on USB/Flash Drive
Consultant/Authors:	CA0602 Study Team
Date Submitted for QC Review:	N/A

Cmnt No.	Section/ Page No.	Reviewer	Review Comment	Response	Change Verified		Agency Verified **
					New Pg.	Initials / Date	
1	**Email** 04/01/15	Walter Malone, Planning Manager, City of Little Rock	Need to redo the matrix to show the benefits, etc. without any outside non-funded projects assumed completed (and the speed/LOS profiles). We need this to truly understand what the community is getting with this project.	The following capacity improvements outside the PEL study limits ("outside areas/ improvements") were determined necessary to accurately evaluate the PEL study area during the PEL Study: 1. I-630 westbound lane added from Louisiana Street west beyond the model limits; and 2. I-30 eastbound and westbound lane added in each direction southwest of the south terminal to 65th Street beyond the model limits. Because these two outside areas are known points of future year (2041) congestion as determined using Vissim, modeling without their assumed implementation would prevent the identification of mobility problems within the PEL study limits, thereby leading to an inaccurate assessment of how the proposed improvements would actually perform. AHTD has acknowledged both of these outside areas warrant additional study. Plans exist to study and improve, as determined necessary, these two outside study corridors.	N/A	JLH/ 4/24/15	✓

				The I-30 PEL Study is the first step in planning for impending congestion issues along the I-30/I-40, setting the foundation for future planning studies of adjacent corridors located outside of the PEL study limits. As part of the NEPA process, the PEL Recommendation would be evaluated without the outside improvements along I-30 and I-630.			
2	**Email** 04/01/15	Walter Malone, Planning Manager, City of Little Rock	Also need to share when these outside non-funded improvements to I-630 (west) and I-30 (south) beyond of the study area would be needed. Show when the impacts start to appear or are they there always? When do the impacts get to a point that the proposed improvements' benefits would be lost?	As part of the NEPA phase, traffic volumes will be extrapolated based on known existing and future traffic volumes with the objective of determining when the referenced outside improvements would be needed due to increased congestion. The extrapolation discussed above will provide AHTD with an approximate time frame for when the benefits of the proposed I-30 PEL improvements would be reduced because of outside congestion.	N/A	JLH/ 4/24/15	✓

3	**Email** 04/01/15	Walter Malone, Planning Manager, City of Little Rock	Also need to address what impacts there might be to the trolley line and Central Arkansas Library facility on 2nd Street between River Market Avenue and Cumberland Street. If currently there is not the design detail to assure what-if any impact there will be, then it should be stated there could be impacts and that the bid documents for design/construction would require the ultimate design address these issues.	Based on the preliminary, planning-level I-30 PEL Recommendation alignment, permanent direct adverse impacts to the Central Arkansas Library and River Rail Streetcar system are not anticipated. Temporary construction impacts could be possible; however best management practices during construction would be implemented, as applicable, to minimize potential impacts to the greatest degree possible. Noise associated with the construction of the project is difficult to predict. Heavy machinery, the major source of noise in construction, is constantly moving in unpredictable patterns. However, construction normally occurs during daylight hours when occasional loud noises are more tolerable. Noise receivers are not expected to be exposed to construction noise for a long duration; therefore, any extended disruption of normal activities is not expected. Provisions will be included in the plans and specifications that require the contractor to make every reasonable effort to minimize construction noise through abatement measures such as work-hour controls and proper maintenance of muffler systems. As more detailed schematic development occurs during the Schematic/NEPA portion of project development, temporary construction impacts would be more clearly defined, and potential direct impacts to the library and streetcar system, as well as other environmental constraints would be reassessed, as necessary. In addition, indirect and cumulative impact evaluations would be completed as part of the NEPA analysis.	N/A	JLH/ 4/24/15	✓

4	**Email** 04/24/15	Kathleen Lambert, Rock Region METRO	The screen/ modeling process thus far have provided the conclusion that the 10 lane C/D collector road is the best build alternative for peak road performance in 2040. The transportation modeling indicates that the 8 lane C/D reasonable alternative has potential to be the most effective build and best for transit ridership potential. We agree that since the potential for driver delays in this alternative is higher; transit would play a larger role. Since transit ridership was not modeled the quantity is unknown. It is assumed that transit would be a more attractive alternative given the highway volumes but does not account for transit as a mode choice.	A transit study was performed for the I-30 PEL and provided to Rock Region METRO. Transit ridership was modeled for a highway-based express route system in the I-30 PEL study area at a high level based on forecasted work trip patterns from the MPO and empirical data from the I-35 express bus on shoulder service that opened in Kansas City in 2012. To date, the I-35 bus on shoulder project has demonstrated an 8% increase in transit ridership along an existing urban commuter route to downtown. Transit ridership along the I-30 corridor was estimated in the range of 2,000 to 2,600 daily trips. It was estimated that 560 to 710 peak hour-peak direction transit riders would cross the Arkansas River on I-30 for a 6-lane facility. When capacity is added to the I-30 corridor, forecasted transit ridership for the express bus on shoulder route is expected to decline. Forecasted 2040 design year highway volumes were reduced by the forecasted transit ridership in the study corridor. Although transit is expected to perform better for an 8-lane alternative compared to a 10-lane alternative, it should be noted that those differences are fairly minimal: • **I-30 Express Bus Transit over the I-30 Arkansas River Bridge:** during peak periods, reduction of 565 vehicles for 8 lanes compared to 523 vehicles for 10 lanes, a difference of 42 vehicles. * • **Bus on shoulder over the I-30 Arkansas River Bridge:** during peak periods, reduction of 34 vehicles for 8 lanes compared to 31 vehicles for 10-lanes, a difference of 3 vehicles. * (continued next page)	N/A	JLH/ 4/24/15	✓

4	**Email** 04/24/15	Kathleen Lambert, Rock Region METRO	(Continued from previous page)	Moreover, transit is only one of 60 performance measures grouped into mobility, safety, cost and environmental categories analyzed in relation to the project's study goals. The 10-Lane C/D Alterative was identified as the top alternative because it comprehensively best addressed the I-30 study goals.			
5	**Email** 04/24/15	Kathleen Lambert, Rock Region METRO	The added highway lanes on the 10 lane options could be advantageous for transit use. If one of the additional lanes were designated as HOV and could be used by transit at peak hours; even with the traffic projected volumes could easily accommodate transit used in shared ramp conditions. Another concept for the 10 lane design would be to use the "extra" lane as a dedicated bus lane until the traffic volume warranted use of the complete build out. The "extra" lane could be used by Transit as a BRT/ Express Bus lane building the transit capacity up front. The extra lane would then transition to HOV and Express Bus providing future transportation mode options as the community population expands. Rock Region METRO has future plans which include expanded Express Bus and BRT service in the greater Pulaski County area.	Comment noted. Projected design year traffic volumes are expected to warrant two additional lanes in each direction to attain desired I-30 PEL study goals. If the number of lanes in the corridor were reduced by designating it as a High Occupancy Vehicle (HOV) lane or transit only lane, congestion would be expected. This is evidenced by the fact that the 8-lane C/D Alternative demonstrated congestion problems. The shoulder acts as a dedicated, limited speed flex lane during congested periods or during an incident. Additionally, it is anticipated that buses would not need a dedicated "extra" lane immediately following opening year because all lanes would be operating at a good level of service with no advantage to transit. HOV lanes around the country are being converted to high occupancy toll (HOT) lanes because public sentiment has shifted to the view that HOV lanes are under-utilized. HOT lanes are selling the excess capacity from an HOV lane to single occupancy vehicles as a toll. It was determined early in the study that a HOT lane should be part of a system-wide approach studied by Metroplan, rather than a solution for just this portion of the metropolitan highway system. (continued next page)	N/A	JLH/ 4/24/15	✓

5	**Email** 04/24/15	Kathleen Lambert, Rock Region METRO	(Continued from previous page)	The PEL Recommendation avoids infrastructure that would appear underutilized. Even with the 10-lane facility, all lanes would be necessary to accommodate peak travel volumes. Current transit plans do not include transit service levels that would warrant dedicated lanes or give the impression that the "extra" lane was utilized. Shoulder use by buses is considered a more efficient use of infrastructure. In the spirit of cooperation, collaboration and transparency, the Study Team met with CATA (Rock Region METRO) on August 28, 2015 to review the CATA Master Plan, discuss how the I-30 PEL Study transit alternatives related to this master plan, and to present the draft I-30 PEL Transit Report. CATA was given the opportunity to provide input on the draft transit report and the Study Team incorporated this input, as applicable. The Study Team subsequently met with CATA on November 6, 2014 to present and discuss the final I-30 PEL Study Transit Report. Throughout both of these meetings, CATA expressed favor for the bus on shoulder concept.			

6	**Email** 04/24/15	Kathleen Lambert, Rock Region METRO	The package we received did not include ramp design options as shown in the meeting; however we would like to comment on a few points. Expanding ramp capacity in North Little Rock would accelerate the neighborhood deterioration along the I-30 corridor by cutting off pedestrian and bicycle options at street level. Pedestrian access to transit stops is a primary driver for ridership.	Ramp configurations were modified to improve mobility and safety throughout the corridor. Some of the existing ramps were closed and others were modified to meet current safety standards. Although designed to handle higher capacities, ramp configurations would also include considerations for bicyclists/pedestrians at each location. Furthermore, bridges along the project corridor would be widened/lengthened, thereby opening up east-west connectivity as well as allowing more open space for bicycle/pedestrian access. Accommodating bicycle/pedestrian access was identified as an important goal of the study, but also by stakeholders in the first visioning workshop held as part of the PEL Study. Bicycle/pedestrian access would continue to be coordinated with stakeholders and planners as part of the second visioning workshop scheduled to occur during the NEPA process.	N/A	JLH/ 4/24/15	✓
7	**Email** 04/24/15	Kathleen Lambert, Rock Region METRO	The proposed simplification of the ramp to downtown Little Rock and the Clinton Center we concur is a good idea. It will help street connectivity in downtown, benefitting both bus and streetcar service. The only design request is to provide a left hand turn onto Cumberland Street so the bus can access the highway in both inbound and outbound directions from our central hub the River City Travel Center. Currently, we are able to move in the outbound directions but must route via I-630 in the inbound direction. Accessing the RCTC from the I-30 inbound direction would speed service and relive bus/ car traffic conflicts on the I-630 ramps in tough crossing traffic conditions.	Comment noted. Design refinements at the Cantrell Road and Cumberland Street intersection would be evaluated under NEPA with the goal of enlarging the turning radius for buses, thereby providing buses inbound access to Rock Region METRO's central hub facility (River City Travel Center) from I-30. This evaluation of the Cantrell Road and Cumberland Street intersection has been included in the *I-30 PEL to NEPA Transition Report* as an "analysis to be studied in greater detail through NEPA."	N/A	JLH/ 4/24/15	✓

8	**Email** 04/24/15	Kathleen Lambert, Rock Region METRO	Lastly any new overpass bridges which connect east and west within the city must maintain pedestrian and bicycle connections. As mentioned previously it is important for existing and future transit service.	See response to Comment #6.	N/A	JLH/ 4/24/15	✓
** See the Transit Report included as part of the I-30 PEL Traffic and Safety Report (**Appendix F** of the PEL Report)*							

Appendix C-4:

Additional Outreach Documentation

FHWA Meetings

Project Partners Meetings

Metroplan Meetings

Stakeholder Advisory Group Meetings

Various Public and Agency Outreach Meetings

Community Meetings

FHWA Meetings and Topics Discussed

Meeting	Date	Location	Purpose and Meeting Highlights
1	April 30, 2014	Garver Office	• Connecting Arkansas Program Overview • General Discussion
2	May 7, 2014	Garver Office	• Connecting Arkansas Program Overview • General Discussion
3	June 6, 2014	Garver Office	• General Discussion
4	July 2, 2014	FHWA Office	• Future Meetings • Email from Rob Ayers with FHWA Resource Center • PEL Methodology and Framework • I-30 Bridge Replacement • Meeting Close-out
5	March 17, 2015	FHWA Office	• Connecting Arkansas Program Overview • Planning Environmental Linkages Study Process • Environmental and Schematic Development • Design-Build Delivery • General Discussion

Project Partners Meetings and Topics Discussed

Meeting	Date	Location	Purpose and Meeting Highlights
1	May 27, 2014	Garver Office	• Connecting Arkansas Program Overview • Planning Environmental Linkages Study Overview • NEPA and Schematic Development • Design-Build Delivery • General Discussion
2	July 28, 2014	Garver Office	• Stakeholder Presentations • Technical Work Group No. 1 Summary • Planning Environmental Linkages Study and Public Involvement Agency Coordination Plan • Context Sensitive Solutions and Visioning Workshop
3	September 4, 2014	Garver Office	• Review of Public Meeting No. 1 • Purpose and Need Document Review • Community Meetings • Stakeholder Meetings • Vision Workshop Meeting • General Discussion
4	September 23, 2014	Garver Office	• Stakeholder Presentations Update • Community Meetings • Stakeholder Advisory Group • Visioning Workshop • Environmental Design Consultant Procurement Update • Purpose and Need / Alternative Screening Methodology • Universe of Alternatives • Level 1 Screening / Preliminary Alternatives
5	October 27, 2014	Garver Office	• Stakeholder Presentations Update • Community Meetings • Stakeholder Advisory Group • Visioning Workshop • Technical Work Group • Public Meeting No. 2 • Environmental Design Consultant Procurement Update • Updated PEL Meeting Schedule
6	November 17, 2014	Garver Office	• Stakeholder Presentations Update • Community Meetings • Stakeholder Advisory Group • Public Meeting No. 2 • PEL Update • Environmental Design Consultant Procurement Update • Visioning Workshop • Updated PEL Meeting Schedule

Project Partners Meetings and Topics Discussed (continued)

Meeting	Date	Location	Purpose and Meeting Highlights
7	December 18, 2014	Garver Office	• Stakeholder Presentations Update • Stakeholder Advisory Group • Visioning Workshop • PEL Update • Environmental Design Consultant Procurement Update • Updated PEL Meeting Schedule
8	January 22, 2015	Garver Office	• Stakeholder Presentations Update • Environmental Design Consultant Procurement Update • Technical Work Group • Public Meeting No. 3 • Updated PEL Meeting Schedule
9	February 12, 2015	Garver Office	• Public Meeting No. 3 • Vissim Model Update • Design-Build Schedule Update • Updated PEL Meeting Schedule • Next Project Partner's Meeting
10	March 9, 2015	Garver Office	• I-30 Corridor Project Overview • Level 1 Screening • Level 2 Screening • Level 3 Screening • General Information
11	March 17, 2015	Garver Office	• Vissim Model Update • 10 Lane General Purpose Alternative • 10 Lane Collector / Distributer Alternative • Review Reasonable Alternative Roll Plots • Updated PEL Meeting Schedule • Next Project Partner's Meeting

Metroplan Meetings and Topics Discussed

Meeting	Date	Location	Purpose and Meeting Highlights
1	July 1, 2014	Metroplan Office	• General Discussion
2	August 13, 2014	Metroplan Office	• I-30 Corridor Project Overview • Schedule • Public Involvement and Agency Coordination Plan • Technical Work Group • Elected / Local Official Briefings • Coordination Stakeholder Advisory Group Meetings • Visioning Workshops • Public Meetings • Other Communications Tools • Design-Build Delivery • General Discussion
3	December 19, 2014	Metroplan Office	• Level 2A Screening • Level 2B Screening
4	January 28, 2015	Metroplan Office	• Connecting Arkansas Program Overview • I-30 and the Planning Environmental Linkages Study Process • Screening Methodology • Design-Build Delivery • General Discussion
5	March 25, 2015	Metroplan Office	• I-30 Study Area and Schedule Overview • Screening Process o Universe of Alternatives o Screened Out through Lev el 1 o Screened Out through Level 2 o Advancing to Level 3 • Schedule • General Discussion

Stakeholder Advisory Group Meetings and Topics Discussed

Meeting	Date	Location	Purpose and Meeting Highlights
1	September 16, 2014	Garver Office	• Welcome by Scott Bennett, AHTD Director • Introductions • Connecting Arkansas Program Overview • Planning Environmental Linkages Study Overview • Environmental and Schematic Development • Design-Build Delivery • Public Meeting #1 Overview • Review of Provided Notebook • General Discussion
2	September 26, 2014	Garver Office	• Welcome and Introductions • Connecting Arkansas Program Overview • Planning Environmental Linkages Study Overview • Environmental and Schematic Development • Design-Build Delivery • Public Meeting #1 Overview • Review of Provided Notebook • General Discussion
3	October 15, 2014	North Little Rock Chamber of Commerce	• Welcome and Introductions • Public Information Overview • Corridor Issues and Concerns • Next Meeting and Time
5	November 12, 2014	Garver Office	• Welcome by Scott Bennett, AHTD Director • Public Information Overview • Planning Environmental Linkages Study Update • Vision Workshop • Next Meeting and Time
6	December 15, 2014	Garver Office	• Welcome by Scott Bennett, AHTD Director • Public Information Overview • Planning Environmental Linkages Study Update • Vision Workshop • Next Meeting and Time
7	January 26, 2015	Little Rock Chamber of Commerce	• Public Information Overview • Environmental Design Consultant Procurement Update • Planning Environmental Linkages Study Update • Next Meeting and Time
8	March 9, 2015	Clinton Presidential Center	• Public Information Overview • Environmental Design Consultant Procurement Update • Public Meeting #3 Debrief • VISSIM Modeling Overview • CA0602 Schedule Going Forward • General Discussion and Questions • Next Meeting and Time
9	April 6, 2015	Clinton Presidential Center	• Public Information Overview • Level 3 Screening • Roll Plot Review • Next SAG Meeting

Various Public and Agency Outreach Meetings and Topics Discussed

Meeting	Date	Location	Purpose and Meeting Highlights
Downtown Little Rock Partnership	June 11, 2014	Little Rock Main Library	• Connecting Arkansas Program Overview • Planning Environmental Linkages Study Overview • Environmental and Schematic Development • Design-Build Delivery • General Discussion
Clinton Foundation	June 24, 2014	Choctaw Building, Clinton Presidential Center	
Little Rock Chamber of Commerce	June 26, 2014	Little Rock Chamber of Commerce	
Central Arkansas Transit Authority	July 15, 2014	CATA Board Room in North Little Rock	
Little Rock Chamber of Commerce – Fifty for the Future	August 7, 2014	Little Rock Chamber of Commerce	
Little Rock Historic District Commission	September 8, 2014	Board Chambers in Little Rock City Hall	
Coalition of Greater Little Rock Neighborhoods	November 8, 2014	Hinton Resource Center	
Little Rock City Board	November 10, 2014	Board Chambers in Little Rock City Hall	
North Little Rock City Council	November 10, 2014	Board Chambers in North Little Rock City Hall	
SAME	November 13, 2014	Regions Building	
Park Hill Neighborhood Association	January, 6 2015	Trinity Lutheran Church	
Lent Lunch Series	March 4, 2015	First United Methodist Church	
Central Arkansas Transit Authority	November 6, 2014	CATA Office	• CATA Master Plan • I-30 PEL Transit Alternatives

Job CA0602

Interstate 30 Planning and Environmental Linkages (PEL) Study

I-530-Hwy. 67

Pulaski County

October 20, 21, 27, 28, 2014

Four open-house public meetings were held to present and discuss the I-30 PEL study and to identify and document transportation needs and potential improvements for the study area, which includes I-30 from I-40 to I-530, including the Arkansas River Bridge, as well as I-40 form JFK Boulevard to Highway 67. The meetings were held at the following locations:

- King Solomon Baptist Church (Sanctuary) at 1304 Pine Street in North Little Rock from 4-6 p.m. on Oct. 20, 2014.
- St. John Baptist Church (Fellowship Hall) at 2501 South Main Street in Little Rock from 4-6 p.m. on Oct. 21, 2014.
- Ward Chapel A.M.E. Church (Sanctuary) at 1301 Hanger Street in Little Rock from 4-6 p.m. on Oct. 27, 2014.
- Shorter College (S.S. Morris Student Center) at 604 Locust Street in North Little Rock from 4-6 p.m. on Oct. 28, 2014.

Efforts to involve minorities and the community in the meetings included:

- Calling, emailing, and hand-delivering fliers to local minority churches
- Emailing local public officials
- Asking local representatives to help deliver the information

The following information was available for inspection and comment.

- Three 24" x 36" exhibits explained the Connecting Arkansas Program
- One 34" x 40" exhibit showed a map of the I-30 PEL study area
- Three 34" x 40" exhibits showed a map of constraints in the study area
- One 12' long roll plot showed an aerial of the corridor

Handouts for the public included a comment sheet, a PEL fact sheet with a small-scale map illustrating the PEL study area, and a flier providing information for the Nov. 6 public meeting.

Table 1 describes the results of public participation at the meetings.

Table 1	
Public Participation	**Total**
Attendance at meetings (including AHTD and CAP staff)	61

Several comments were written on Post-It notes and placed on the roll plot. The summary of comments listed below reflects the personal perception or opinion of the person or organization making the statement. The sequencing of the comments is random and is not intended to reflect importance or numerical values.

- Drainage problem that will affect Dark Hollow.: (Post-It Note to the west of the I-40 East to I-30 West ramp.)
- Drainage problem: (Post-It Note to the east of the I-30 East to I-40 East ramp)
- Gas station - Mobile: (Post-It Note north of Curtis Sykes Drive and east of North Locust Street. Across the street from a Super Stop)
- Drainage problem: Walnut, Hickory
- Drainage Problem: (Post-It Note northeast of the intersection of North Hills Boulevard and North Beech Street.)

Residents were interested in having their questions answered and taking comment forms with them, but no attendees filled out comment forms and turned them in during the meetings.

Handouts and Exhibits:

- Exhibits:
  - One 34" x 40" exhibit showed a map of the I-30 PEL study area
  - Three 34" x 40" exhibits showed a map of constraints in the study area
- Public handouts:
  - Comment form
  - Sign-in sheet
  - PEL fact sheet
  - November 6 public meeting flier

Appendix C-5:

Visioning Workshop Documentation



Visioning Workshop #1

November 19, 2014

CA0602

I-530 TO HWY 67



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Chapter 1

INTRODUCTION

Visioning Workshop #1

INTRODUCTION

Overview of CAP

The Connecting Arkansas Program (CAP) is one of the largest highway construction programs ever undertaken by the Arkansas State Highway and Transportation Department (AHTD). In 2012, through a voter-approved constitutional amendment, the people of Arkansas passed a 10-year, half-cent sales tax to improve the state's intermodal transportation system, including projects that widen and improve approximately 200 miles of highways and interstates. The Interstate 30 corridor improvement project is one of 35 CAP projects that comprise $1.8 billion worth of improvements.

The Connecting Arkansas Program:

- Improves transportation connections between cities throughout the state
- Increases capacity by widening highways to move people and goods more efficiently
- Provides a revenue source for new highway projects
- Accelerates the completion of highway improvement projects
- Improves traveler safety
- Eases congestion
- Supports job growth and improves Arkansas's economy

Overview of I-30 Corridor

The I-30 corridor project, also known as CA0602 includes I-30 in Little Rock and North Little Rock from I-40 to I-530, including the Arkansas River Bridge, as well as I-40 from JFK Boulevard to Highway 67.



I-30 corridor with right of way

VISIONING WORKSHOP MEMBERS

The mayors of Little Rock and North Little Rock and the Pulaski County judge each appointed members of the community to represent their respective constituents at the Visioning Workshop.

Little Rock

Mayor Mark Stodola

- **Larry Carpenter**
  Holiday Inn Presidential
- **Brad Cazort**
  Little Rock Board of Directors
- **Tony Curtis**
  Little Rock Downtown Neighborhood Association
- **Chris East**
  studioMAIN and Cromwell Architects Engineers
- **Michael Eliason**
  Acxiom
- **Gretchen Hall**
  Little Rock Convention and Visitors Bureau
- **Dean Kumpuris**
  Little Rock Board of Directors
- **Bruce Moore**
  Little Rock City Manager
- **Sharon Priest**
  Downtown Little Rock Partnership
- **Stephanie Streett**
  Clinton Foundation
- **Bill Worthen**
  Historic Arkansas Museum

North Little Rock

Mayor Joe Smith

- **Belinda Burney**
  Dark Hollow Resident
- **Charley Foster**
  TAGGART / Architects
- **George Glover**
  Property Owner
- **Jerome Green**
  Shorter College
- **Donna Hardcastle**
  Argenta Downtown Council
- **Terry Hartwick**
  North Little Rock Chamber of Commerce
- **Bob Major**
  North Little Rock Visitors Bureau
- **Clark McGlothin**
  CBM Construction
- **Gregg Thompson**
  North Little Rock School District

Pulaski County

Judge Buddy Villines

- **Sandra Brown**
  Verizon Arena
- **Ronnie Dedman**
  The Arkansas Innovation Hub
- **Mason Ellis**
  Witsell Evans Rasco Architects
- **Lawrence Finn**
  The Village at Hendrix
- **Jeff Hathaway**
  Little Rock Chamber of Commerce
- **Jennifer Herron**
  Herron Horton Architects
- **Fredrick Love**
  State Representative – District 29
- **Jimmy Moses Moses Tucker**
  Real Estate
- **Martie North**
  Simmons First National Bank
- **Bobby Roberts**
  Central Arkansas Library System

INTRO TO VISIONING WORKSHOP

Visioning Workshop Purpose and Scope

This first Visioning Workshop invited stakeholders in the community to provide input and prioritize their ideas for the I-30 corridor. This included insight into preserving and enhancing aesthetic, historic, and community resources. A second Visioning Workshop will be held during the NEPA/Schematic phase to examine potential Context Sensitive Solutions (CSS) and design concepts in greater detail. Based on stakeholder feedback and available funding, CSS/aesthetic guidelines will be developed following this second Visioning Workshop and included in the Design-Build request for proposals, pending AHTD approval.

Visioning Workshop Quick Facts

WHAT: **I-30 Visioning Workshop**

JOB: **CA0602 I-530-Hwy. 67 (Widening & Reconst.) (I-30 & I-40)**

JOB OWNER: **Arkansas State Highway and Transportation Department**

DATE: **November 19, 2014**

TIME: **8:15 a.m. – 4:00 p.m.**

WHERE : **Garver**

ADDRESS: **4701 Northshore Drive, North Little Rock, Arkansas**

NEEDS (PROBLEMS)	PURPOSE (SOLUTIONS)
Traffic Congestion	To improve mobility on I-30 and I-40 by providing comprehensive solutions that improve travel speed and travel time to downtown North Little Rock and Little Rock and accommodate the expected increase in traffic demand. I-30 provides essential access to other major statewide transportation corridors, serves local and regional travelers and connects residential, commercial and employment centers.
Roadway Safety	To improve travel safety within and across the I-30 corridor by eliminating and/or improving inadequate design features.
Structural and Functional Roadway Deficiencies	To improve I-30 roadway conditions and functional ratings.
Navigational Safety	To improve navigational safety on the Arkansas River Bridge by eliminating and/or improving inadequate design features.
Structural and Functional Bridge Deficiencies	To improve I-30 Arkansas River Bridge conditions and functional ratings.



The I-30 Corridor Visioning Workshop was held at Garver Headquarters in the Northshore Industrial Park in North Little Rock. Not all appointed members were able to attend the workshop, but those who did were divided up into three teams—Red Team, Blue Team, and Green Team.

Red:

- Tony Curtis (LR)
- Chris East (LR)
- Debbie Shock (LR) – representing Stephanie Streett
- Clark McGlothin (NLR)
- Jeff Hathaway (Pulaski County)
- Martie North (Pulaski County)

Green:

- Doug Carmichael (LR) – representing Michael Eliason
- Sharon Priest (LR)
- James Jones (LR) – representing Bruce Moore
- Stephanie Slagle (NLR) representing Bob Major
- Mason Ellis (Pulaski County)
- Fredrick Love (Pulaski County)

Blue:

- Larry Carpenter (LR)
- Jim Rice (LR) – representing Gretchen Hall
- Bill Worthen (LR)
- Belinda Burney (NLR)
- Charley Foster (NLR)
- George Glover (NLR)
- Jennifer Herron (Pulaski County)
- Jimmy Moses (Pulaski County)

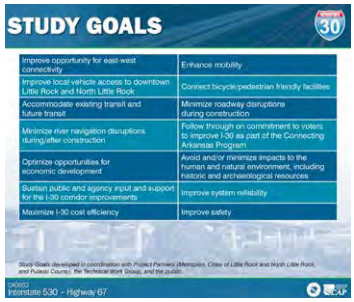
Unable to attend: Brad Cazort (LR), Dean Kumpuris (LR), Jerome Green (NLR), Donna Hardcastle (NLR), Terry Hartwick (NLR), Gregg Thompson (NLR), Sandra Brown (Pulaski County), Ronnie Dedman (Pulaski County), Lawrence Finn (Pulaski County), Bobby Roberts (Pulaski County)

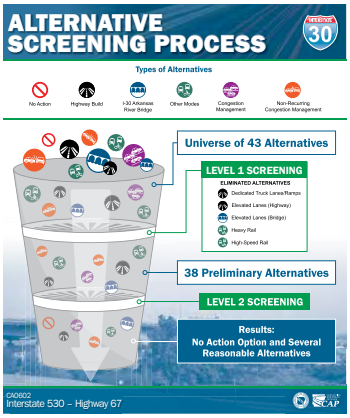
The teams rotated through three different breakout sessions. James Frye and Kip Strauss facilitated the Mobility and Connectivity Breakout Session, Ryan Bricker facilitated the Urban Design and Aesthetics Breakout Session, and Jerry Holder facilitated the Economic Development Breakout Session.

EXAMPLES OF GRAPHICS USED AT VISIONING WORKSHOP

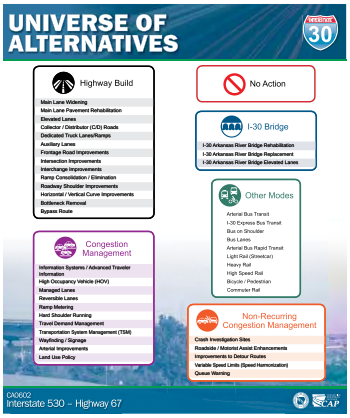
FOR FULL SIZE, SEE APPENDIX

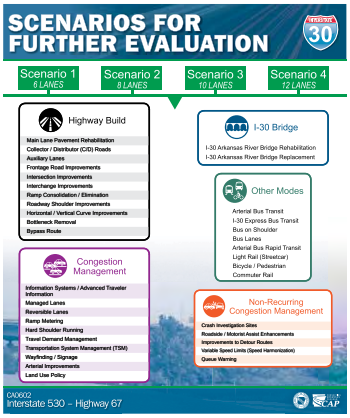


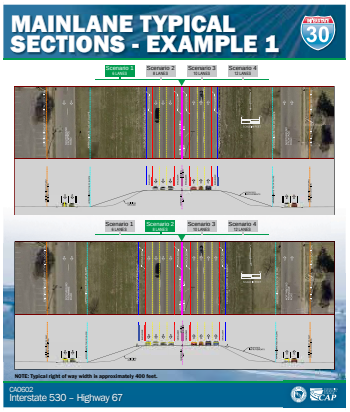


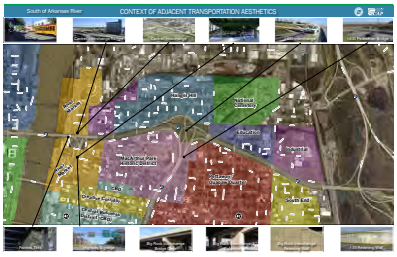




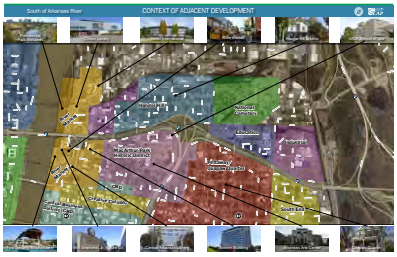
















ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

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Director
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www.ArkansasHighways.com

AGENDA

AHTD CSS Visioning Workshop
Garver Academy Room
11/19/14
8:15 am – 4:30 pm

8:15-9:15 Welcome and Project Overview
- PEL Presentation
- Schedule
- Progress to Date

9:15-9:45 CSS Visioning Overview
- Study Goals / Objectives
  - Mobility / Connectivity
  - Economic Development
  - Urban Design / Aesthetics
  - Built Work Examples

9:45-10:15 Break

We will create three groups of 10-people each. Breakout Sessions will consist of each of the three groups meeting at 1 of the 3 topic tables for a discussion and rotating through to each of the 3 Breakout Session topic tables through the day.

Breakout Session Topic – 1: <u>Mobility / Connectivity</u> (James Frye / Kip Strauss)
- Corridor Access (on / off ramps)
- Interchange Reconfigurations
- Frontage Roads
- Cross-Street Connectivity
- Bike / Pedestrian Connectivity
- Transit Connectivity

AHTD CSS Visioning Workshop
11/19/14

Breakout Session Topic – 2: <u>Economic Development</u> (Jerry Holder)

- Growth Trends / Demographics / Traffic Forecasting
- Planned Developments / CIP / Access
- ROW opportunities
- Public / Private Partnerships / Value Capture Alternatives
- TRZ / TIF / Bonds

Breakout Session Topic – 3: <u>Urban Design / Aesthetics</u> (Ryan Bricker)

- View To & View From
- Corridor Conditions (at grade / fill, below grade, on-structure)
- Corridor Aesthetics (elements: bridge, walls, mainlane, landscape, lighting)
- Aesthetic Character (historic, progressive, neutral)
- Aesthetic Application (continuous, focused, community zoned gateways)

10:15-11:30	**Breakout Session - #1**
11:30-12:30	Lunch (provided)
12:30-1:30	**Breakout Session - #2**
1:30-2:00	Break
2:00-3:00	**Breakout Session - #3**
3:00-3:30	Break and Organize for Summary
3:30-4:30	Summaries Discussion
4:30	Adjourn

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Chapter 2

BREAKOUT SESSION: MOBILITY/CONNECTIVITY

Visioning Workshop #1



BREAKOUT SESSION: Mobility/Connectivity

Each of the Mobility and Connectivity breakout sessions began with a broader discussion related to the goals and objectives of the workshop and a discussion pertaining to analysis done by the CAP Team related to current and future traffic demands and needs. The discussion also covered many broad aspects of mobility and connectivity for consideration, direction and needed input along the I-30 corridor from I-440 to the south to I-40 to the north. After the brief introduction, the group was asked to engage in a dialog about what is currently working or not working. They also discussed what needs to be improved to enhance mobility, safety, connectivity, and quality of life for Little Rock and North Little Rock citizens and motorists using the I-30 corridor. For purposes of the workshop, the mobility and connectivity work group was organized separately from urban design and economic development, but, in reality, all will be integral parts of a harmonious corridor design solution. For organizational and discussion purposes, the mobility and connectivity sessions centered around seven major categories. Those seven categories consisted of Corridor Access or On/Off Ramps, Frontage Roads, Interchanges, Cross-Street Connections, Bicycle and Pedestrian Connectivity, Mass Transit Connectivity, and Visual Connectivity.

The mobility and connectivity sessions centered around seven major categories:

- Corridor Access
- Frontage Roads
- Interchanges
- Cross-Street Connections
- Bicycle and Pedestrian Connectivity
- Mass Transit
- Visual Connectivity

CORRIDOR ACCESS RAMPS

Corridor access ramps in North Little Rock were seen as unsafe providing motorists with insufficient weaving distances and decision making time. One specific location was singled out by many as needing a higher level of attention. This location is the ramp at Curtis Sykes northbound onto I-30. The time allowed to merge onto I-30 and prepare for a west-bound exit to I-40 was seen as unsafe and insufficient. The Bishop Lindsey Avenue off ramp for south-bound motorists was also viewed as a problem as it forces vehicles to travel south across the river bridge if the exit is missed. An additional access point south of this location but north of the river may help solve this problem. South of the river in Little Rock some suggested removing access points in the urban area such as the Sixth Street ramps where on and off ramps were seen as being too close to one another. Groups even suggested making Capitol Avenue accessible by ramps giving it a more prominent access point and serving as a gateway into Little Rock and the state government complex to the west.

FRONTAGE ROADS

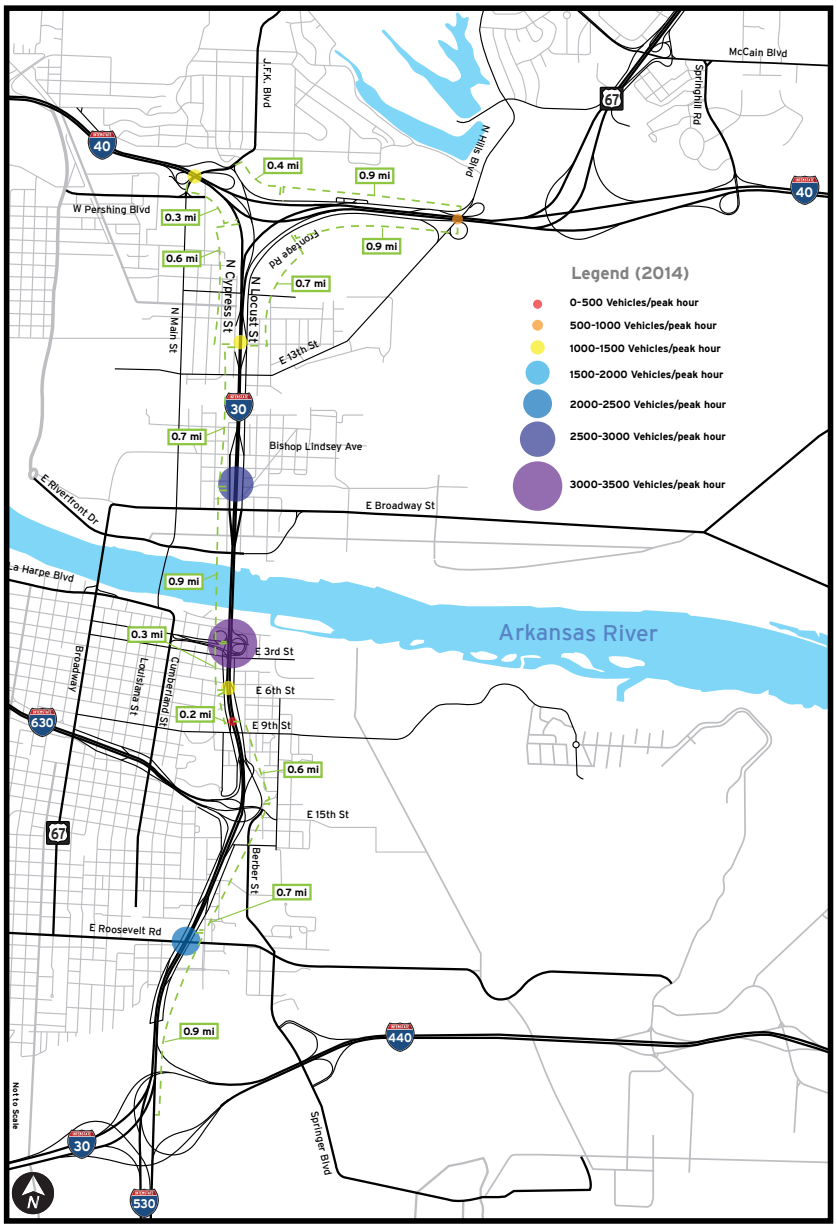
The work groups did not focus an abundant amount of time on frontage roads. However one area seemed to receive the most attention related to this issue. The area is in North Little Rock between East 13th Street and East 9th Street to the South. All groups felt that a continuation of frontage roads between these two streets along the west side of I-30 would be an immense improvement. The two-way traffic along the east side of I-30 was viewed as dangerous and inconsistent with other frontage road conditions along I-30 and a perceived traffic safety concern. A second area discussed was at the southern end of the corridor south of East 28th and east of I-30 north of the railroad tracks. This area was seen as underserved and better frontage road access with a ramp may help spur development opportunities at this location. The groups also discussed the use of collector distributors with slower design speeds to improve access and to potentially increase access points while behaving more as city streets rather than more typical higher speed interstate frontage roads. Other items for consideration in the design of the I-30 frontage roads were to make them more bicycle and pedestrian friendly and to consider exploring the use of Texas U-Turns where possible to help solve traffic congestion issues at intersections with higher traffic volumes.



INTERCHANGE CONFIGURATIONS

Overwhelmingly, each group desired to see the Cantrell Interchange reconfigured. The land is considered too valuable as prime urban real estate for its current use with circular on and off ramps to the freeway. A more formal boulevard or diverging diamond was seen as more desirable with long-term development potential for the area and increased tax base potential. The ramp sections west of I-30 to Cumberland Street were viewed as a north-south barrier and each team would like to see these ramps reconfigured into an urban boulevard or at-grade urban street cross-section more conducive to pedestrian traffic and urban redevelopment. The blocks between River Market to the west, President Clinton Avenue to the north, East 3rd Street to the south and Mahlon Martin Street to the east were viewed as opportunity blocks. A new ramp configuration could open them for potential development and reconnection of the urban grid. The teams also viewed the parking under the structures as missed opportunity zones for more people-friendly uses and urban redevelopment.

The interchange of I-30 and I-40 was also singled out by many and described as confusing and counterintuitive. North-bound traffic attempting to exit to I-40 west can often be misled by the ramp configurations and motorists mistakenly find themselves at the intersection of JFK Boulevard. Better or more intuitive ramp configurations could help solve this problem.



BICYCLE AND PEDESTRIAN CONNECTIVITY

The importance of improving the environment for citizens traveling the I-30 corridor by bicycle or on foot was prevalent. Each of the three breakout groups expressed desires for safer movement of people along the I-30 corridor whether traveling north or south or east to west. Zones for safe travel for pedestrians and children to and from neighborhoods, businesses and schools at all hours were viewed as mandatory. Some areas of distinction included East Roosevelt Road, East 21st Street, the entire two to three blocks of the Cantrell Interchange, areas north and south of the Arkansas River under the bridge, multiple locations in North Little Rock including the Dark Hollow neighborhood and the future Pentecostal School near I-40 east of I-30, and the blocks between East 17th and East 19th Streets. Opportunities to improve the Arkansas River Trail along the North Little Rock bank of the river were strongly emphasized, and all groups stressed the need for wider sidewalks, improved lighting and safe identification of pedestrian crossings at frontage roads and cross streets.



CROSS-STREET CONNECTIVITY

Attendees expressed concerns about the missed opportunities or disconnect between east and west created by the current design of I-30. They expressed strong desires for a future I-30 corridor that would serve as a catalyst for redevelopment providing greater street and neighborhood connectivity. In all, stakeholders viewed better east and west connectivity as one of the most important components to renewed and sustained neighborhood safety, vibrancy and health. One specific area between East 6th and East 9th was targeted by most groups as an opportunity for greater physical connection across the I-30 corridor or restoration of the urban street grid. Groups suggested a cap over the freeway or deck park as a potential solution with the realization that ultimate funding feasibility scenarios would need to be determined.



MASS TRANSIT CONNECTIVITY

Each group would like for the I-30 corridor to become more multimodal to serve the cities of Little Rock and North Little Rock well into the twenty-first century, but very little time was spent discussing mass transit connections. Teams did discuss greater utilization of the trolley system in Little Rock and the opportunities presented by the reconfiguration of the circular Cantrell Interchange.

VISUAL CONNECTIVITY

Opportunities to enhance safety and reconnect east and west sides of I-30 would be heightened through better visual connections and safe sight lines and vistas over and under the interstate. Attendees requested a future design that minimizes large areas of fill or walls blocking views east and west. Where possible, longer bridge spans should be explored minimizing column placements and depressing of corridor sections at strategic locations should be studied. Visibility under bridges was also emphasized to improve pedestrian and bicycle safety. This could be achieved through greater sidewalk widths, longer bridge spans or sloped abutments where necessary and enhanced pedestrian and vehicular safety lighting under bridge structures and along pathways.



BREAKOUT SESSION DISCUSSION SUMMARY

Much of the mobility and connectivity emphasis was associated with the desires for greater cross-connectivity throughout the corridor both physically and visually helping to unify neighborhoods to the east and west of the freeway separated from one another for decades. These connectivity desires would potentially impact future roadway and structural design solutions and configurations helping minimize visual disruptions and increasing physical connection opportunities. Each of the groups stressed the importance of removing the obsolete circular interchange between President Clinton Avenue and East 3rd Street also referred to as the Cantrell Interchange. They see great potential for redevelopment of these urban blocks with reconnection of the urban grid as a long-term asset to the City of Little Rock with opportunities to further engage the trolley system currently in place. The groups also desire consistent frontage or collector distributor roads that behave more like city streets designed with a more multi-modal cross-section delivering safe access to adjacent properties and businesses and offering mobility choices to citizens whether it be driving an automobile, riding a bicycle, or walking. In addition, mobility goals including the potential use of Texas U-turn lanes in conjunction with enhanced pedestrian connectivity and increased visual connectivity goals may necessitate structural alternatives such as sloped abutments and possible multi span bridges. Long-term maintenance of improved lighting and enhanced and wider pedestrian corridors under bridges will require agreements between parties to determine long-term maintenance responsibilities.



Chapter 3

BREAKOUT SESSION: URBAN DESIGN/AESTHETICS

Visioning Workshop #1



BREAKOUT SESSION: Urban Design/Aesthetics

The Urban Design and Aesthetics breakout sessions began with a discussion on the various aspects of the corridor to consider when developing and prioritizing urban design and aesthetic design solutions.

CORRIDOR GRADE CONDITIONS

The corridor grade condition is a foundational aspect for understanding the visual impact of the corridor and developing appropriate urban design and aesthetic solutions.

The **At Grade** condition is characterized by mainlanes positioned at relatively the same elevation as the adjacent access or frontage roads, as well as the adjacent property. This condition creates an open view across the corridor and typically is only interrupted by local cross street and interchange bridges on fill crossing over the corridor.



The **At Grade, On Fill** condition is characterized by mainlanes elevated on earthen embankment that is either a sloped embankment or held up with structural walls. This condition creates a visual and physical barrier across the corridor.



The **Below Grade** condition is characterized by mainlanes depressed below the adjacent access or frontage roads, as well as adjacent property. This "canyon condition" is characterized by earthen embankment that is either a sloped embankment or held up with structural walls.



The **On Structure** condition is characterized by the mainlanes being on a bridge structure. This bridge condition is characteristically crossing over railroads, local cross streets beneath fill conditions, and over the river and river approach conditions.



VIEW FROM (THE ROADWAY)



VIEW TO (THE ROADWAY)



FOR FULL SIZE, SEE APPENDIX

VIEW FROM AND VIEW TO THE ROADWAY

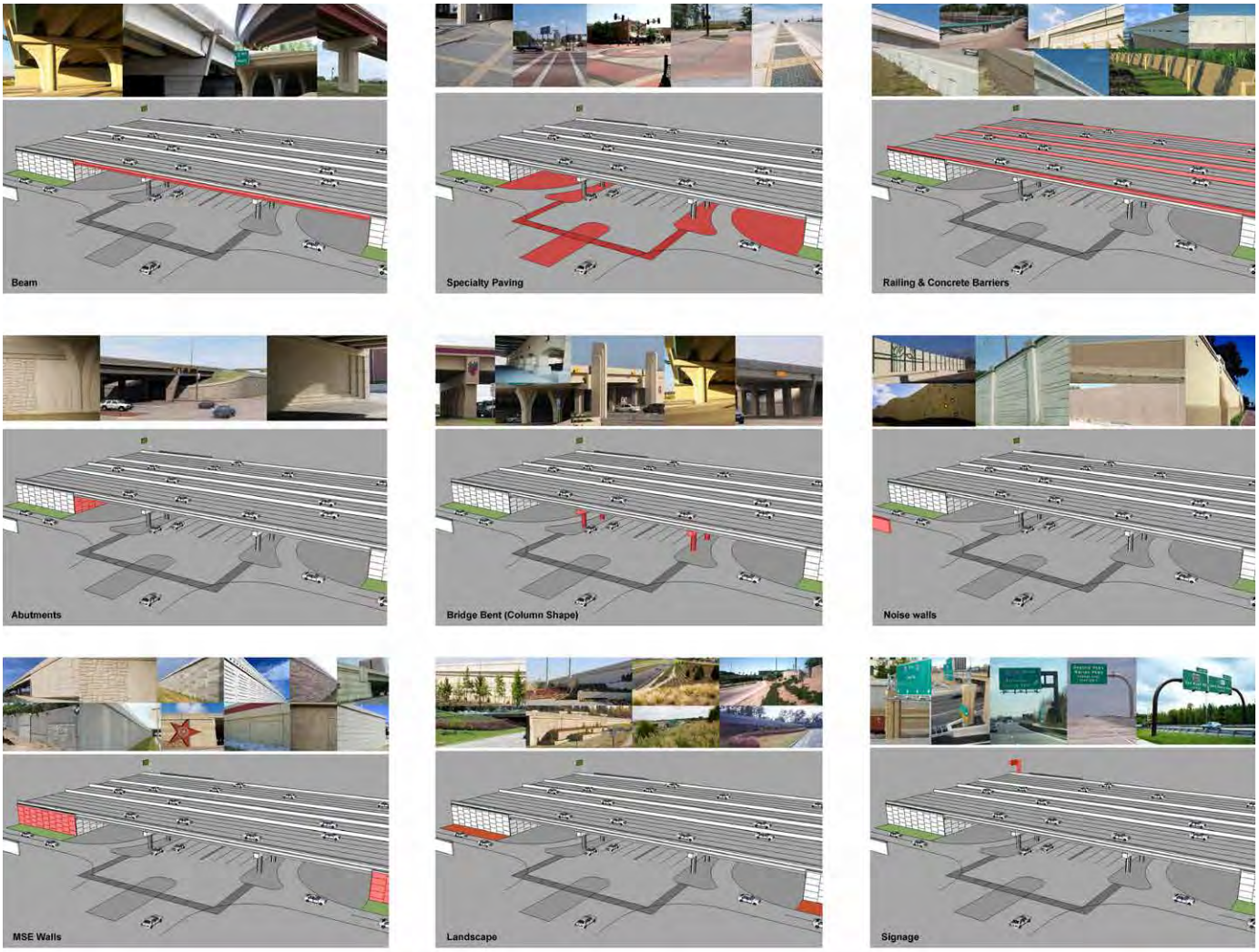
Understanding how the driver's visual experience changes along the corridor relative to the corridor grade condition is critical to understand in applying effective, targeted urban design and aesthetics solutions. Equally important is to have the understanding and sensitivity of the adjacent visual experience of drivers and neighbors abutting the corridor. To illustrate these distinctions, the corridor can be evaluated in the "View From" and the "View To" the roadway perspective.

The "View From" the roadway condition is the primary visual environment the driver experiences while driving along the mainlanes of the corridor. For example, along the study corridor the predominant View From experience of the driver is on fill and at grade, meaning the driver primarily is viewing the roadway, mainlane traffic barriers, signage, and predominantly a view off to adjacent neighborhood. Structural elements such as bridges only come into view when interchanges are crossing over the mainlanes or when the mainlane condition changes to a depressed condition where local street bridges cross over the mainlanes. Conversely the "View To" the roadway is predominantly along frontage roads, along local cross streets going under and over the corridor, and from beneath large elevated segments downtown and along the river. Within the study corridor the View To the roadway condition is predominantly of bridge structures and grassy fill embankments.

AESTHETIC ELEMENTS

Designing for aesthetics within constructability, feasibility and budgetary constraints requires the use of standardized engineering elements. However, finding opportunities to architecturally sculpt and shape these elements, as well as selecting structure types that best achieve a corridor's aesthetic goals, can create unique aesthetic design enhancements that are built "into" the design, rather than inefficient added-on elements. Understanding which elements and to what degree they can be shaped, sculpted, and enhanced is important in developing aesthetic priorities. These elements include: Bridge Beams, Bridge Bents (columns), Abutments, Walls, Railings / Barriers, Noise Walls, Signage, Specialty Sidewalk Paving, and Landscape Opportunities.

AESTHETIC ELEMENTS BOARD



FOR FULL SIZE, SEE APPENDIX

AESTHETIC CHARACTER

The study corridor travels through a variety of land uses from forested wetlands, industrial, suburban residential, downtown urban and riverfront development areas with a wide variety of architectural character developed over many decades. The downtown, Capitol area and adjacent neighborhoods reflect a strong historic and nostalgic variety of architecture styles. Conversely and most notably characterized by the Clinton Library, a significant contingency of progressive and modern architecture plays a substantial visual role in the downtown and adjacency.

The current roadway corridor itself is somewhat neutral of any architectural character and reflects a simplistic unarticulated infrastructure style.

Understanding the architectural character of the corridor and individual districts or neighborhoods is important to developing an aesthetic character of the corridor elements that integrates into the adjacency and reflects the values of the community.

PROGRESSIVE / MODERN







NEUTRAL / TRANSITIONAL







NOSTALGIC / HISTORIC









FOR FULL SIZE, SEE APPENDIX

AESTHETIC APPLICATION

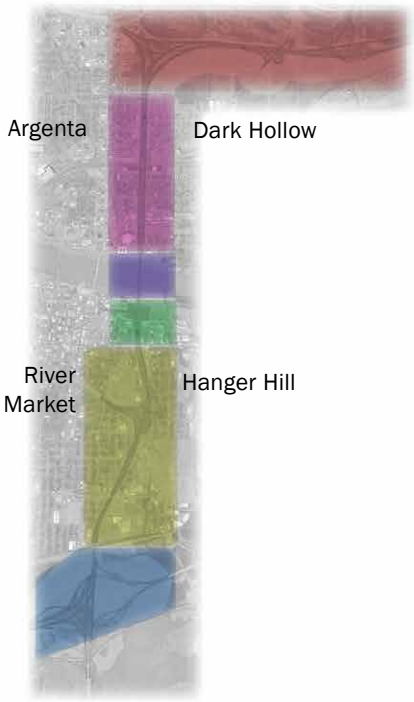
Given the scale, complexity and varied condition of the study corridor, the opportunity exists to develop differing aesthetic approaches relative to differing conditions or proximities. Differing application approaches of aesthetic styles could reflect the following arrangement:

The **District Application** approach would be to define specific "districts" or neighborhoods and allow all the elements within each district to reflect a specific architectural character.

The **Corridor Application** approach would be to reflect a specific architectural character in all the elements within each specific roadway corridor (I-30, I-40, IH 440)

The **Focused Application** approach would be a common aesthetic along the entire corridor but select key focal areas, such as the river bridge, downtown elevated section and or arena area to create a focused individual architectural enhancement in those areas.

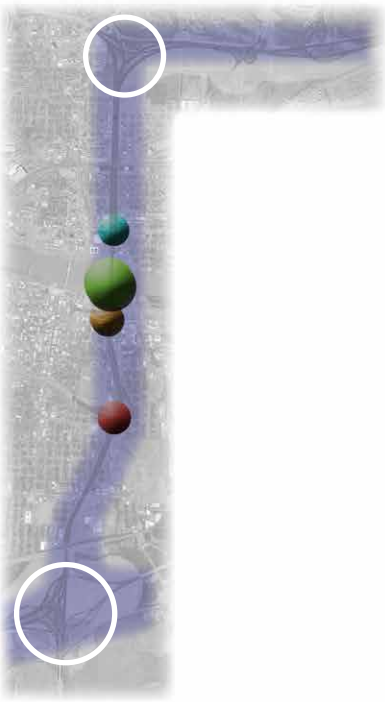
DISTRICT APPLICATION



CORRIDOR APPLICATION



FOCUSED APPLICATION



BREAKOUT SESSION DISCUSSION SUMMARY

Discussions during the session from each of the workshop three groups shared very similar priorities and concerns focused on the following:

Aesthetic Application

All of the workshop groups agreed after evaluating the various approaches that the best alternative would be to create a corridor aesthetic that was consistent throughout the entire corridor area to provide an overall corridor identity aesthetic for drivers in all the varied conditions in both the view from and view to scenario. However, the groups also strongly agreed that smaller individual opportunities at cross street bridges should be developed to provide site and neighborhood specific identity. This would reflect the unique neighborhoods, schools and district identities without distracting form the overall corridor aesthetic.

Architectural Character

The overall consensus from the workshop groups was that trying to define the appropriate architectural style amongst such varied conditions only led to the conclusion that the corridor should remain as neutral as possible and become the transitionary style along the corridor. To that end, the architecture visual style should be characterized by clean, simple, unadorned aesthetics. This simplicity should be defined by “honesty in materials” in expressing concrete to look like concrete with architectural form and rustication that simplifies each element, rather than applying a faux finish to replicate another material (i.e. stone or brick patterning). The cost and complication of creating aesthetic enhancement opportunities became of secondary importance to achieving more important urban design principles (below). The desire is less about drawing attention to the corridor structure rather than to and through to its adjacency.

Urban Design

The urban design goals are principally associated with the mobility goals of greater cross-connectivity through the corridor. These connectivity issues relate to roadway and structure configuration and structure type design, and provide for a prioritization of aesthetic adornment.

Mobility goals for U-turn lanes in conjunction with pedestrian connectivity and increased visual connectivity goals necessitate layback abutments and possible multi-span bridges.

Maximizing views through and across the corridor create priorities for maximizing span distances on bridge structures at local cross streets and especially in the downtown elevated structure areas. Minimizing the amount of and massing of the columns will be critical to the under bridge environment. Equally important to the visual openness is appropriate lighting conditions for the under bridge environment.

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Chapter 4

BREAKOUT SESSION: ECONOMIC DEVELOPMENT

Visioning Workshop #1



BREAKOUT SESSION: Economic Development

Each of the Economic Development breakout session groups discussed how the Arkansas State Highway and Transportation Department (AHTD) typically develops a budget to build a basic corridor with a small percentage of funds dedicated to the aesthetics. However, the local agencies—the cities of Little Rock and North Little Rock, and Pulaski County—can subsidize AHTD funds in order to enhance the aesthetics in the final product. Options discussed for the funding included general funds, a bond election from the agencies, the development of tax increment financing (TIF), a transportation reinvestment zone (TRZ) to generate funds, or the creation of a regional mobility authority (RMA) that could have taxing authority in order to raise funds for this as well as other projects in the region.

The three teams discussed how economic development along the I-30 corridor is beginning to be stifled due to the lack of mobility along the corridor. Discussion led to the idea that if the central business districts (CBDs) of Little Rock and North Little Rock are not easily accessible to those living in close proximity or in the suburbs, citizens won't make the effort to travel to the area to spend their tax dollars on entertainment, restaurants, etc. The teams stressed the importance of keeping mobility at an acceptable level for the travelling public, but also for the economic vitality of the CBDs.

Along these lines, the quality of life of those traveling and patronizing the I-30 corridor is a key influencer on economic development. The economic vitality of the CBDs is directly related to and dependent upon the quality of life. The teams

agreed improving the quality of life will have a positive impact on the economic development of the area.

Some of the ways the teams want to accomplish this is through the development of east-west connectivity through the inclusion of pedestrian/bike paths and the possibility of a deck park on the Little Rock side of the river. Elements like this attract businesses and customers for those businesses. The area must get past the tipping point where people view it as a desired destination. The I-30 corridor needs this type of quality development to help it reach that tipping point. It's imperative citizens in the area feel safe while gathering together, going to concerts and attending functions in the downtown areas on both sides of the river. With that, businesses can thrive and the CBDs will become vibrant.

One area discussed was the Cantrell Interchange from I-30 over to Cumberland Street. The area from 4th Street to President Clinton Avenue is critical to the economic vitality of the Little Rock River Market area. This area is divided by the interchange connector ramps located between East 2nd Street and East 3rd Street. It was noted there are significant north-south pedestrian movements from condominiums and hotels north of the connector ramp to the River Market and Convention Center areas. There was significant discussion on the La Harpe and Markham intersection. Although first seen as a mobility problem, it was also identified as an inhibitor to economic continuity along the River Market area.

From the funding perspective, it was noted that an RMA has not been established in the Central Arkansas area at this time.

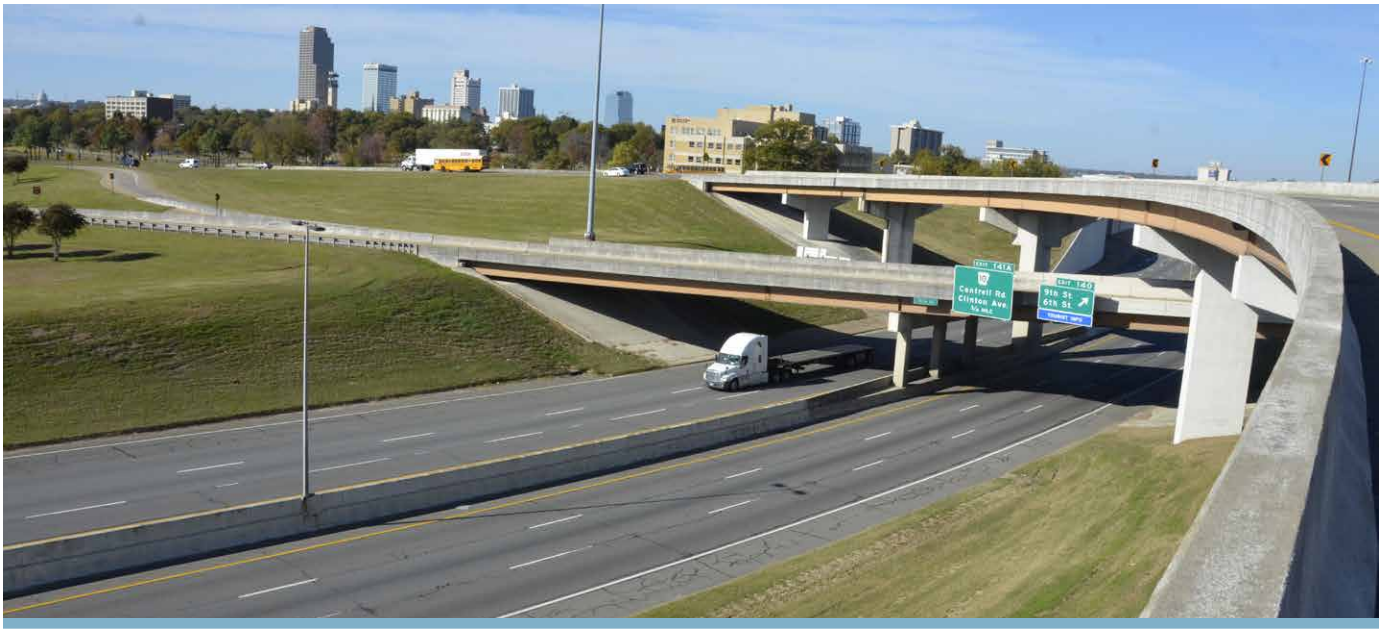
Despite being three years out from beginning construction, all three teams realized there are only two years to have funding in place for the project.



Chapter 5

TEAM REPORT SUMMARIES

Visioning Workshop #1



TEAM REPORT SUMMARIES

The Connecting Arkansas Project Team would like to thank all our Visioning Workshop participants for their valuable input and their interest in helping shape the future of this project and this city.

CHRIS EAST (RED)

Aesthetics

- Overall principles – simple, clean, open. Well lit. Landscaping. Trees. Experience of corridor is not iconic bridge or program statement but focusing on experience of place itself.
- Opportunities to connect neighborhoods – visually open, good lighting. Keeping simple.
- Honest in materials – if using concrete, let it look like concrete, not fake stone or brick. Beauty in simplicity.
- Views and access are important.
- Maintain corridor consistency, continuity in roadway. Same signage, railings, etc. for driver. Overpasses, crossings, and exits have the identity. That is the opportunity for specificity and neighborhood character.
- Adding sidewalks, longer bridge spans, U-turns. If bridges are expanded, don't have solid wall by sidewalk, it makes it safer and more open. Slope backs.
- Bridges – important to keep views low. Limit blocking views of cities. Buildings become main view.



RED TEAM

Economic Development

- AHTD likely will not have money for full wish list. How to come up with extra funding to improve neighborhood connectivity and character of corridor. Options: bond issues, TIF improvement, speak to general funds, create regional mobility authority, and/or other improvement district. Take away is AHTD doesn't have the funding for all we want to do. Need to pick up improvements above and beyond basic improvements.

Connectivity

- Depending where you live impacts whether you want mobility or connectivity. Connectivity is important at neighborhoods.
- Needs to be considered for better improvement – lighting, visibility, safety.
- LR side - visual connectivity across the corridor from river to I-630 interchange. Past that, southern end of corridor, future possibility of improvement at Hasting property. Future trolley lines possible, too.
- Jeff Hathaway said reworking ramps at River Market. Chris East said taking out circular turn arounds for split hybrid. Removing parking under those bridges. Make space for people.
- Deck park between 6th and 9th. Infrastructure for future development. Splitting lanes to make wide enough for future column line.
- Divided boulevard at Cantrell. Make a usable space.

MASON ELLIS (GREEN)

Economic Development

- Future economic developments – Hanger Hill neighborhood redevelopment. Assisted living neighborhood.
- TIF/TRZ
- Growth on eastern side as development comes south from Clinton Library.
- 9th Street turning into important corridor, access to airport.
- Cloverleaf development at Cantrell – better use of space.
- MacArthur Park area – prime development area for campus feel.
- Dark Hollow location – Pentecostal school and development. Inaccessible to this area. Need access to future development.



GREEN TEAM

Mobility

- Access to I-40. One lane to I-40. Expand, increase capacity to get on.
- Frontage roads in North Little Rock. Reconnect frontage road across railroad tracks.
- 15th Street exit – short time to get across interstate from 40. Move to 13th street exit. More time to move over. 13th is a through street to main street.
- Discussed Texas U-turns.
- Better pedestrian bridge, connection at Broadway. Bring back pedestrian connection on Broadway.
- Additional Broadway off ramp. If miss, have to go across river. Add a second off-ramp only.
- Arkansas River Trail loops through parking lot. Opportunity to enhance trail below I-30 on North Little Rock side. Create safe, separate path.
- Cantrell ramps. Valuable land. Rather than loops, use diverging diamond.
- Change off ramp southbound to Little Rock so people slow down. Hit light after getting off and heading west on Cantrell. Slow down, entering city streets. Reconnect River Market to downtown.
- Remove 6th street exit. Too many access points too close. Potential to create access for Capitol Avenue. Provide flyover at southbound Cantrell interchange down to Capitol. Access by getting off at Cantrell.
- Three schools on the south. The bridge locations. Kids walking to school not safe. Wider sidewalks would improve. Design to encourage walking safety 100% of the time.

Aesthetics

- Overpasses tell story on south end by schools. Painted school colors. Extension of the school.
- Consistency throughout corridor for the driver. In neighborhoods, have their own feel/appearance.
- On corridor, do not create signature I-30 bridge, but make it serve as gateway into cities.
- Importance of low maintenance. Stain over paint.
- Building aesthetics into design. Look at each location individually.
- Sharon Priest – tighten specs on concrete. Make sure it looks better than just a slab of concrete.
- I-30 disrupted communities. Need to recognize communities that have been neglected, weave back east to west. Knit back community.



BLUE TEAM

JENNIFER HERRON (BLUE)

Aesthetes / Economic / Mobility

- I-30 corridor be neutral, lighting, signage.
- Aesthetics/uniqueness at cross connections to help identify neighborhoods. Example is bridge connections on I-70 in Kansas City. Nice connection piece for pedestrians and bicyclists. Gateway to communities.
- I-30 bridge. Likes the skyline with series of bridges. Don't want iconic bridge. Connections east to west where money should be focused.
- Southern neighborhoods, schools. Treacherous for families. Design undersides of bridges and make sure well lit.
- There is not much excitement as getting closer to I-630 and downtown.
- 9th street is important.
- Introduced collective distributors to include bicycle, pedestrian, more friendly, different type of frontage.
- Blow up Cantrell interchange. Cantrell exit is terrible. Connection to LaHarp. Turn into boulevard. Different ways to access east and west. Ramps use up a lot of space.
- Possibly eliminate 6th and/or 9th street.
- Frequency of off and on ramps in North Little Rock hard to navigate.
- Corridor is dark. Needs good lighting.
- Improve connections to Argenta and communities to the east.
- From the railroad tracks north, area is cut off. Better integrate access.
- Potential for sunken freeway.
- Difficult transitions from I-30 to I-40.
- Bill Worthen – "interchange that ate downtown" - Cantrell. One way to get more money could be made off surplus property and go back into the project.
- Jim McKenzie - C/D road concept. Southbound into Little Rock, get off north of Broadway, get off distributor road at 40 mph. Instead of reducing access points, increase the number of access points because you have a local street that you're on. Through lanes just go through. Cantilever C/D roads.

We look forward to the discussion at the next Visioning Workshop, which will take place during the summer of 2015.



APPENDIX

Visioning Workshop #1

VISIONING WORKSHOP - MATERIALS ON FLASH DRIVE

Sign In

Visioning Workshop Sign In Sheet.pdf

Group Materials

Board1_Purpose and Need.pdf
Board2_Purpose and Need Study Goals.pdf
Board3_Universe of Alternatives.pdf
Board4_Alternative Screening Process.pdf
Board5_Scenarios for Further Evaluation.pdf
Board6_Typical Sections.pdf
Handout1_Visioning Workshop Agenda.pdf
Handout2_Context of Adjacent Transportation Aesthetics Sheet.pdf
Handout3_Context of Adjacent Development Sheet.pdf
Handout4_I-30 Corridor Project Area Context Sheet.pdf
Handout5_Sample Project Aesthetics Sheets.pdf
Map1_Aerial with ROW.pdf
Map2_Aerial with ROW.pdf
PowerPoint1_I30 Corridor Project Overview.pdf
PowerPoint2_CSS Visioning Workshop.pdf

Mobility/Connectivity

Board1_Mobility Connectivity Overall Study Area with Aerials.pdf
Board2_Mobility Connectivity Overall Study Area with Local Photos.pdf
Board3_Level of Service.pdf
Board4_Safety.pdf
Board5_Mobility Connectivity.pdf

Urban Design/Aesthetics

Board1_Urban Design Aesthetics Overall Study Area with Aerials.pdf
Board2_Urban Design Aesthetics Overall Study Area with Local Photos.pdf
Board3_View From and View To.pdf
Board4_Roadway Grade Condition.pdf
Board5_Aesthetic Elements.pdf
Board6_Architectural Character.pdf
Board7_Aesthetic Application.pdf

Economic Development

Board1_Economic Development Overall Study Area with Aerials.pdf
Board2_Economic Development Overall Study Area with Local Photos.pdf

Breakout Session Notes

Blue

- Blue_Corridor Map with Notes.pdf
- Blue_Note Pad 1.jpg
- Blue_Note Pad 2.jpg

Green

- Green_Corridor Map with Notes.pdf
- Green_Example Sheets.pdf
- Green_Note Pad 1.jpg
- Green_Note Pad 2.jpg
- Green_Note Pad 3.jpg
- Green_Note Pad 3.jpg
- Green_Note Pad 4.jpg
- Green_Note Pad 5.jpg

Red

- Red_Corridor Map with Notes.pdf
- Red_Example Sheets.pdf
- Red_Note Pad 1.jpg
- Red_Note Pad 2.jpg
- Red_Note Pad 3.jpg
- Red_Note Pad 4.jpg
- Red_Note Pad 5.jpg
- Red_Note Pad 6.jpg

Whiteboards

- 2014-11-19-PH_CA0602_Visioning_SessionNotes_Session1WhiteBoard (1).jpg
- 2014-11-19-PH_CA0602_Visioning_SessionNotes_Session2Whiteboard (1).jpg
- 2014-11-19-PH_CA0602_Visioning_SessionNotes_Session2Whiteboard (2).jpg
- 2014-11-19-PH_CA0602_Visioning_SessionNotes_Session2Whiteboard (3).jpg

REPORT

Visioning Workshop Report.pdf

Appendix D:

Alternatives Development and Evaluation

Appendix D-1 Universe of Alternatives

Appendix D-2 Alternatives Screening Methodology

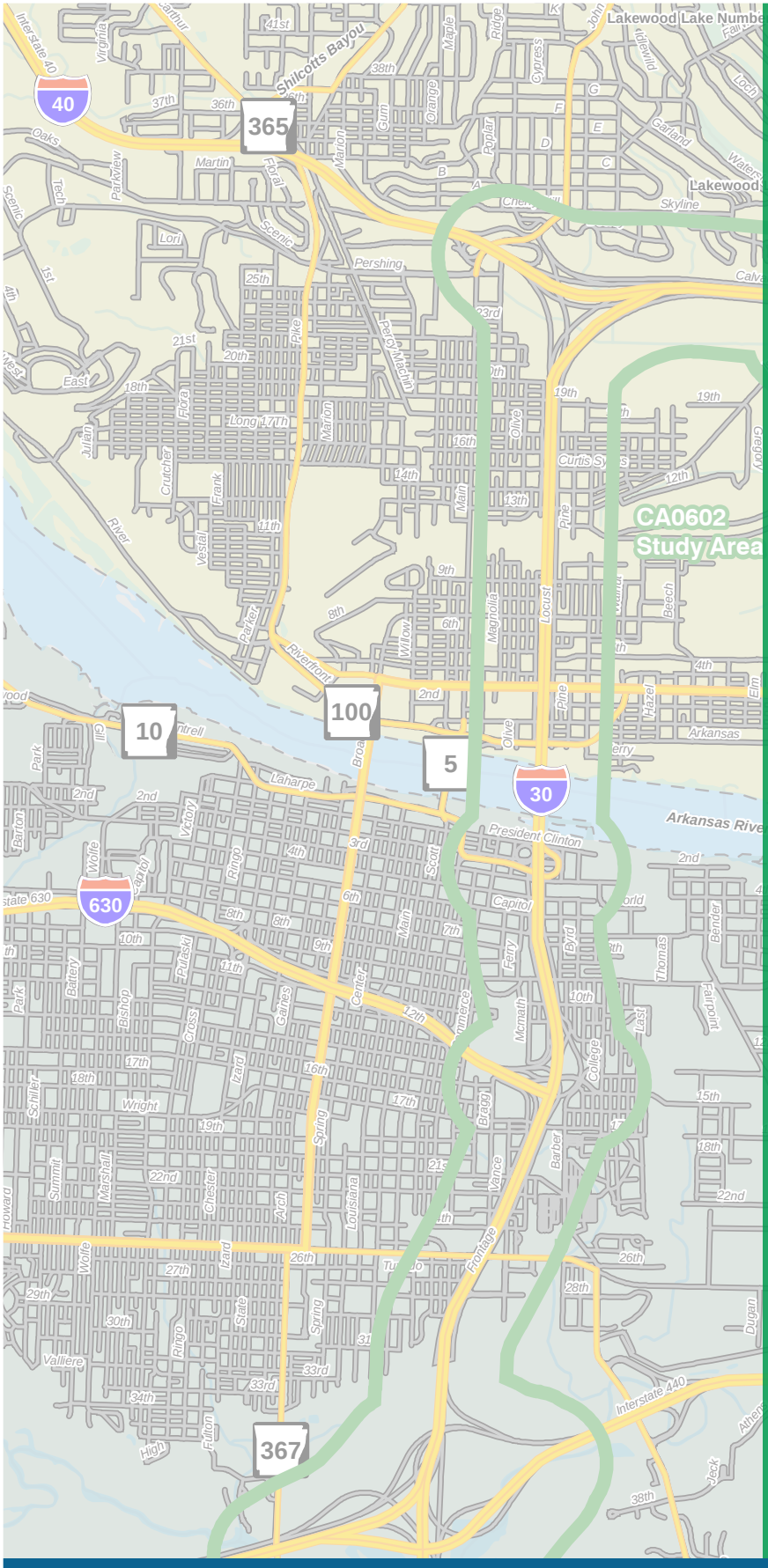
Appendix D-3 Level 1 Screening Methodology and Results Memorandum

Appendix D-4 Level 2 Screening Methodology and Results Memorandum

Appendix D-5 Level 3 Screening Methodology and Results Memorandum

Appendix D-1:

Universe of Alternatives



PLANNING AND ENVIRONMENTAL LINKAGES UNIVERSE OF ALTERNATIVES

INTERSTATE 30

CA0602

Interstate 530 – Highway 67

December 2014

CONNECTING ARKANSAS PROGRAM CAP

Arkansas State Highway & Transportation Department

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1.0 INTRODUCTION

The initial set of possible solutions to the transportation issues identified in the *I-30 PEL Purpose and Need Report* (**Appendix A**), along I-30/I-40 within the study area,[1] is referred to herein as the *Universe of Alternatives* (Universe). Each alternative in the Universe will be screened in the areas of engineering, cost, environmental, and public input, as described in the *I-30 PEL Alternative Screening Methodology* (**Appendix D-2**), to determine how well it meets the purpose and need and the study goals that have been established for the project. Alternatives that do not satisfy the criteria will be eliminated from consideration, while successful alternatives will be refined and moved to the next level of screening. As the study progresses, more data will become available, which will allow for more detailed analysis. In the final screening stage, roadway, transit, bike/pedestrian, and congestion management alternatives will be combined to create the PEL Recommendations that best address the transportation needs for the corridor, which will then be moved into the NEPA process for further development.

2.0 BACKGROUND

The Universe of Alternatives for the I-30 PEL Study has been developed utilizing information from the following sources: the *2003 Central Arkansas Regional Transportation Study (CARTS) Areawide Freeway Study, Phase 1 Arkansas River Crossing Study*, *the Long Range Metropolitan Transportation Plan* for the CARTS area (METRO 2030.2), and *the I-30 PEL Purpose and Need Report* **(Appendix A)**, along with input from the Technical Work Group, public, and other stakeholders. Other past relevant studies include:

- *Central Arkansas Regional Transportation Study (CARTS), Areawide Freeway Study, Phase 2 Areawide Study*, 2003;
- *River Rail Airport Study, Phase 2 Final Report*, 2011;
- *I-630 Fixed Guideway Alignment Study*, 2010;
- *The Six Bridges Framework Plan 6 Bridges Study*, late 1990s; and
- *I-630 (from I-430 to I-30) Final Environmental Impact Statement (FEIS)*, 1978.

3.0 PURPOSE AND NEED

The *I-30 PEL Purpose and Need Report* (**Appendix A**) serves as the guiding document for the alternative's development based on the following primary needs identified for the I-30 PEL study area.

3.1 Traffic Congestion

Traffic congestion addresses the need to improve mobility through the study area and to provide more efficient access into the downtown areas of Little Rock and North Little Rock. Alternatives were developed that included adding lanes to the existing I-30 corridor in the study area while optimizing access control to provide better access into

[1] The proposed I-30 PEL study area is located in central Arkansas, and stretches approximately 6.7 miles through Little Rock and North Little Rock. The study area begins at I-530 in the south and extends to I-40 in the north, and along I-40 eastwardly to its interchange with Hwy. 67 in North Little Rock.

the downtown areas. Other alternatives were developed to reduce the amount of traffic on the I-30 corridor such as adding parallel routes on new location and providing travel options by other modes such as transit and bicycle / pedestrian facilities.

3.2 Roadway Safety

Safety is important to all modes of travel in the corridor. The high traffic volumes in the study area combined with functional deficiencies of the roadway are important safety factors to be considered. Safety issues will be addressed by reducing congestion and improving geometric features along I-30/I-40 that contribute to the high crash rate through the corridor. Most of the entrance and exit ramps do not meet the current length or spacing requirements, and the weaving areas along the corridor do not provide adequate length for safe lane changes. Alternatives were developed utilizing access management principles to improve road geometry and reduce the number of conflict points at intersections and weaving areas. Vehicle conflicts with bicyclists and pedestrians were also considered. Alternatives such as wayfinding/signage improvements were also proposed to enhance driver awareness.

3.3 Structural Roadway Deficiencies

Roadway structural deficiencies are due to the deterioration of concrete and asphalt over the 50 plus years since the roadway was initially constructed. Portions of the I-30/I-40 corridor will need some level of rehabilitation within the expected timeframe of the project. Options for the Mainline Pavement Rehabilitation alternative include a simple asphalt overlay, mill and overlay, and complete reconstruction, depending on the results of structural analyses recently performed by AHTD on the existing roadway.

3.4 Functional Roadway Deficiencies

Roadway functional deficiencies include geometric features that do not meet current design standards, such as narrow lanes and shoulders, and inadequate ramp lengths and spacing as defined by the American Association of State Highway and Transportation Officials (AASHTO) and the Arkansas State Highway and Transportation Department (AHTD). Alternatives were developed to provide an adequate number of lanes for the projected traffic, remove horizontal and vertical curves that do not meet current standards, improve sub-standard shoulder widths, provide adequate ramp lengths for acceleration / deceleration, and improve ramp spacing to improve weaving operations.

3.5 Navigational Safety

The I-30 Bridge over the Arkansas River has a history of being struck by barges due to the location of a pier in the navigational channel. An August 2014 letter from the Arkansas Waterways Commission requested that the bridge provide a horizontal clearance of 332 feet and a vertical clearance of 62.4 feet. Two bridge rehabilitation alternatives and one bridge replacement alternative were developed to address these issues.

3.6 Structural Bridge Deficiencies

The I-30 Bridge over the Arkansas River was rated as Structurally Deficient[2] with a substructure rating of "poor" as a result of an October 2013 inspection by AHTD. One proposed alternative was developed to rehabilitate the existing substandard bridge components, and other alternatives were developed to replace the entire bridge to either the east or west of the existing location.

3.7 Functional Bridge Deficiencies

The width if the existing bridge is insufficient for the current peak hour traffic demands and the narrow shoulders do not meet current design standards. Alternatives were developed to widen or replace the existing bridge, with both alternatives providing the number of lanes required to support the projected future traffic and shoulder widths that meet current design standards.

4.0 GOALS

The following study goals, as listed in the *I-30 PEL Purpose and Need Report* **(Appendix A)**, provided guidance for the alternatives development process:

- Improve opportunity for east-west connectivity;
- Enhance mobility;
- Improve local vehicle access to and from downtown Little Rock/North Little Rock;
- Connect bicycle/pedestrian friendly facilities across I-30/I-40;
- Accommodate existing transit and future transit;
- Improve system reliability;
- Minimize roadway disruptions during construction;
- Minimize river navigation disruptions during/after construction;
- Follow through on commitment to voters to improve I-30 as part of the CAP
- Maximize cost efficiency;
- Optimize opportunities for economic development;
- Avoid and/or minimize impacts to the human and natural environment, including historic and archeological resources;
- Sustain public support for the I-30 Corridor improvements; and
- Improve safety.

Guiding principles that will influence the overall project include:

- Accelerated Project Delivery;
- Context Sensitive Solutions/Aesthetically Pleasing Facility;
- Minimize the real, perceived and visual barrier of the freeway;
- Open Public Participation Process; and

[2] Bridges are considered structurally deficient if significant load carrying elements are found to be in poor condition due to deterioration. Source: *FHWA 2010 Status of the Nation's Highways, Bridges, and Transit: Conditions and Performance*; *AHTD Bridge Inspection, Oversight, and Maintenance Performance Audit (November 2008).*

- Support of Local, Regional, and Statewide Transportation Plans.

5.0 ALTERNATIVES

5.1 No-Action

The No-Action Alternative represents the baseline condition in the I-30 PEL study area as if no additional improvements are implemented other than those already programmed in the fiscally constrained Central Arkansas Regional Transportation Study (CARTS) Long-Range Metropolitan Transportation Plan (MTP).

The No-Action Alternative provides a baseline to gauge how effective various alternatives will be at accomplishing the purpose and need and study goals for the project. This alternative is required to be considered in the PEL and NEPA analyses.

In addition to the programmed transportation improvements that have been identified as fiscally constrained in the MTP, the No-Action Alternative includes the preservation of the existing transportation network and all of the short-term operational and maintenance improvements currently underway and planned within the study area.

5.2 Highway Build

Highway Build Alternatives represent capital improvements to the I-30/I-40 mainline, associated ramps and functional interchange areas.

5.2.1 Mainline Widening

This alternative includes the addition of lanes to the existing interstate mainline roadway, which is one of the most common methods used to increase roadway capacity.

5.2.2 Mainline Pavement Rehabilitation

This alternative rehabilitates pavement along the existing I-30/I-40 mainline.

5.2.3 Elevated Lanes

This alternative includes increasing roadway capacity in the existing right-of-way (ROW) by adding express lanes on structure directly above the existing roadway.

5.2.4 Collector/Distributor (C/D) Roads

C/D roads consist of local access lanes, usually parallel to, but separated from the existing corridor, in order to remove local traffic from the mainline through traffic. This alternative eliminates a significant amount of weaving from the mainline, allowing through traffic to flow more freely.

5.2.5 Auxiliary Lanes

This alternative provides an extra lane between on and off ramps to allow for safer weaving and merge / diverge movements.

5.2.6 Dedicated Truck Lanes / Ramps

The addition of trucks to the traffic stream reduces travel speeds and safety due to their large size and slow response time. This alternative provides truck-only lanes and ramps in order to separate trucks from mainline traffic.

5.2.7 Frontage Road Improvements

This alternative improves the geometry and connectivity of the frontage road system, allowing for more efficient separation of local traffic from the mainline.

5.2.8 Intersection Improvements

Intersection improvements consist of modifications to existing intersections near I-30/I-40 to improve traffic flow and reduce conflict points. This could include the addition or modification of signals, additional turning lanes, or control of traffic movement.

5.2.9 Interchange Improvements

Congested interchanges cause traffic to back up onto the mainline of the interstate, causing further congestion and unsafe conditions. This alternative replaces, or makes geometric improvements to, existing interchanges that are not functioning at an acceptable level.

5.2.10 Ramp Consolidation / Elimination

Current standards suggest a maximum of two ramps, per direction, per mile for urban interstates. One section of the study corridor has 10 ramps in one direction in a 2.5 mile span, and most of the ramps do not meet current length requirements for safe acceleration and deceleration. This alternative improves mainline traffic flow and safety by decreasing the number of entrance and exit points along the study corridor.

5.2.11 Roadway Shoulder Improvements

Adequate shoulders provide space for emergency stops, emergency vehicle access, provide the driver with a sense of comfort in congested areas, and improves the capacity of the mainline travel lanes. This alternative increases the width of shoulders in the corridor to current design standards.

5.2.12 Horizontal / Vertical Curve Improvements

The I-30/I-40 facility within the study area has several substandard horizontal and vertical curves that make the road less safe due to limited sight distance. This alternative will modify the roadway to meet existing American Association of State Highway and Transportation Officials (AASHTO) standards for horizontal and vertical curves.

5.2.13 Bottleneck Removal

Spot locations with recurring high congestion, or bottlenecks, cause significant delay and unsafe conditions. Many times these areas can be improved with alternatives focused on the immediate area in order to reduce the congestion at a lower cost than improvements to the whole corridor.

5.2.14 Bypass Route

The addition of an alternate route on new location can draw traffic from a congested route, thereby improving the level of service of the original route. This alternative involves a fourth connection across the Arkansas River, to the east or west of I-30.

5.3 I-30 Arkansas River Bridge

The I-30 Arkansas River Bridge alternatives represent capital investments to improve travel on I-30 across the Arkansas River.

5.3.1 Bridge Rehabilitation

The I-30 Bridge over the Arkansas River has been rated as structurally deficient, and the existing 6 lanes cause recurring bottlenecks during peak travel times. This alternative rehabilitates and widens the existing structure.

5.3.2 Bridge Replacement

This alternative provides a new improved I-30 Arkansas River Bridge to meet current design standards and provides acceptable horizontal clearance for navigational traffic on the Arkansas River.

5.3.3 Bridge - Elevated Lanes

This alternative constructs additional lanes within the existing ROW by building elevated lanes directly above the existing I-30 Arkansas River Bridge. This could be in combination with the *Elevated Lanes* roadway alternative, or as a stand-alone bridge option, with northbound traffic traveling on one level and southbound traffic traveling on the other.

5.4 Other Modes

Other travel mode alternatives represent capital and operating improvements to non-highway modes including transit, rail, bike, and pedestrian.

5.4.1 Arterial Bus Transit

This alternative provides new or expanded bus service along existing roadways.

5.4.2 I-30 Express Bus Transit

This alternative provides or expands bus service that operates on existing arterials or freeways to provide modal options to commuters who follow consistent work trip patterns. Buses usually stop every 3 to 5 miles in the suburban area and then travel non-stop into the downtown area.

5.4.3 Bus on Shoulder

Similar to *Express Bus Transit*, bus on shoulder provides the option for buses to travel on the highway shoulder during peak travel times or incidents.

5.4.4 Arterial Bus Lanes

This alternative provides exclusive lanes for bus transit on arterial routes.

5.4.5 Arterial Bus Rapid Transit

This alternative provides bus service that operates on exclusive ROW or in the existing traffic stream for advantages similar to rail transit with lower cost. Stops are usually at distances of ½ mile or greater.

5.4.6 Light Rail (Streetcar)

This alternative provides rail service that operates with a single railcar or multiple connected cars, either on exclusive ROW or in the traffic stream. Stops are usually at distances of ½ mile or greater.

5.4.7 Heavy Rail

This alternative provides rail service that operates on exclusive ROW with multiple connected passenger railcars. Stops are usually at distances of ½ mile or greater.

5.4.8 Commuter Rail

This alternative provides rail service that operates on freight rail corridors between city centers and suburbs with multiple connected cars. Stops are usually at distances of greater than 2 miles.

5.4.9 High Speed Rail

This alternative provides rail service that operates in exclusive ROW at significantly higher speeds than traditional rail. Stops are usually located at large cities along the rail corridor.

5.4.10 Bicycle / Pedestrian

This alternative provides improved or new sidewalks and bicycle lanes for better non-motorized connectivity.

5.5 Congestion Management

Congestion management strategies represent alternatives to general purpose highway lanes that focus on reducing congestion on I-30/I-40 by either adding capacity or reducing demand.

5.5.1 Information Systems / Advanced Traveler Information

This alternative includes use of en route traveler information systems and/or pre-trip advanced traveler information. Traveler information systems provide messages to drivers related to weather, travel times, emergencies, delays, upcoming construction projects, etc. For use en route, dynamic message signs display short messages to drivers, and radio broadcasts can provide information in greater detail. To disseminate advanced traveler information (pre-trip), a wide range of media can be used. Radio broadcasts, internet sites, and mobile devices can all be used to inform drivers of travel conditions before and during a trip.

5.5.2 Managed Lanes

This alternative provides a travel lane for transit, vehicles with more than one occupant and/or vehicles willing to pay a toll for travel time savings. Managed lanes provide many mobility benefits to motorists.

5.5.3 Reversible Lanes

Reversible lanes are useful in areas with high directional flow during peak hours. This alternative provides lanes that can be quickly modified to allow travel in either direction in response to peak travel periods.

5.5.4 Ramp Metering

This alternative includes signals placed at the end of entrance ramps to manage the number of vehicles entering the traffic stream. Ramp meters improve the rate of traffic flow and safety on the major roadway by reducing the number of vehicles entering the weaving area from minor roadways.

5.5.5 Hard Shoulder Running

Hard shoulder running is an active traffic management alternative that allows vehicles to use a paved shoulder as an additional lane during peak congestion periods. These lanes can allow all vehicles or certain vehicles such as transit, HOVs, or High Occupancy Toll (HOT) vehicles. Dynamic overhead signs are used to inform drivers if the shoulder is open for use. In addition to mitigating peak-period congestion, this technology can also mitigate congestion related to traffic incidents.

5.5.6 Travel Demand Management (TDM)

This alternative includes alternative work hours, telecommuting and ridesharing. Alternative work hours can help decrease the intensity of the peak congestion period by shifting some commuters to other times of the day. For some, telecommuting or working from home can eliminate the need to drive in to work altogether, resulting in a lower daily traffic volume. These alternatives both depend on whether or not employers allow for nontraditional work hours. Ridesharing is an alternative that can be used in accordance with Hard Shoulder Running or other managed lanes. By providing an incentive (the ability to use an HOV lane), commuters may be encouraged to carpool, resulting in a lower daily traffic volume. Other incentives, such as employer incentives, can also encourage the use of rideshare.

5.5.7 Transportation System Management (TSM)

TSM is a planning tool that increases the efficiency of the transportation system by using technology to minimize the effects of vehicle congestion. TSM can involve equipment, such as signals and communications equipment, and technology to monitor traffic and make adjustments to traffic operations on a real-time basis when more vehicles are using the road than can pass through without causing congestion. TSM can also involve improvements to the street and highway network such as lane modifications and parking configuration.

5.5.8 Wayfinding / Signage

This alternative improves signage along the study area to provide the traveler better information to aid in decision making, and allowing for a safer travel experience, i.e. last minute weaving to reach a desired exit.

5.5.9 Arterial Improvements

This alternative includes increasing capacity and safety on existing parallel arterial roads, which can reduce demand on the interstate mainline. Improvements could be, but are not limited to, additional lanes or traffic signal improvements.

5.5.10 Land Use Policy

This alternative includes the careful consideration of land use in relation to transportation, which plays a large role in mitigating congestion. Effective land use policy varies from place to place, depending on the area's specific needs and limitations.

5.6 Non-Recurring Congestion

Non-recurring traffic represents traffic incidents, bad weather, work zones, and special events.

5.6.1 Crash Investigation Sites

This alternative involves the implementation of crash investigation sites, which are designated zones off of the mainline where crashes can be investigated safely. By removing the vehicles from the original incident location, the persons and vehicles involved in the crash are safe from additional harm. Also, the mainline is less likely to experience secondary incidents. In the case of major incidents, these locations can serve as staging areas. These zones are typically placed in locations where crashes tend to occur more frequently.

5.6.2 Roadside / Motorist Assist Enhancements

Roadside and motorist assistance is an alternative or set of alternatives that can reduce the amount of time that an incident is impeding traffic flow. Quick response time can be vital not only to the incident at hand, but also to preventing secondary incidents from occurring. Frequent mile markers (as frequent as a tenth of a mile) help motorists to more precisely communicate their location. Service patrols also decrease response time and prevent incidents by removing obstructions or dealing with other possible sources of congestion.

5.6.3 Improvements to Detour Routes

This alternative includes increasing capacity and safety on detour routes during construction by using existing shoulders as additional lanes, widening the detour route to accommodate additional lanes, and improving the road surface to allow for higher speeds.

5.6.4 Variable Speed Limits (Speed Harmonization)

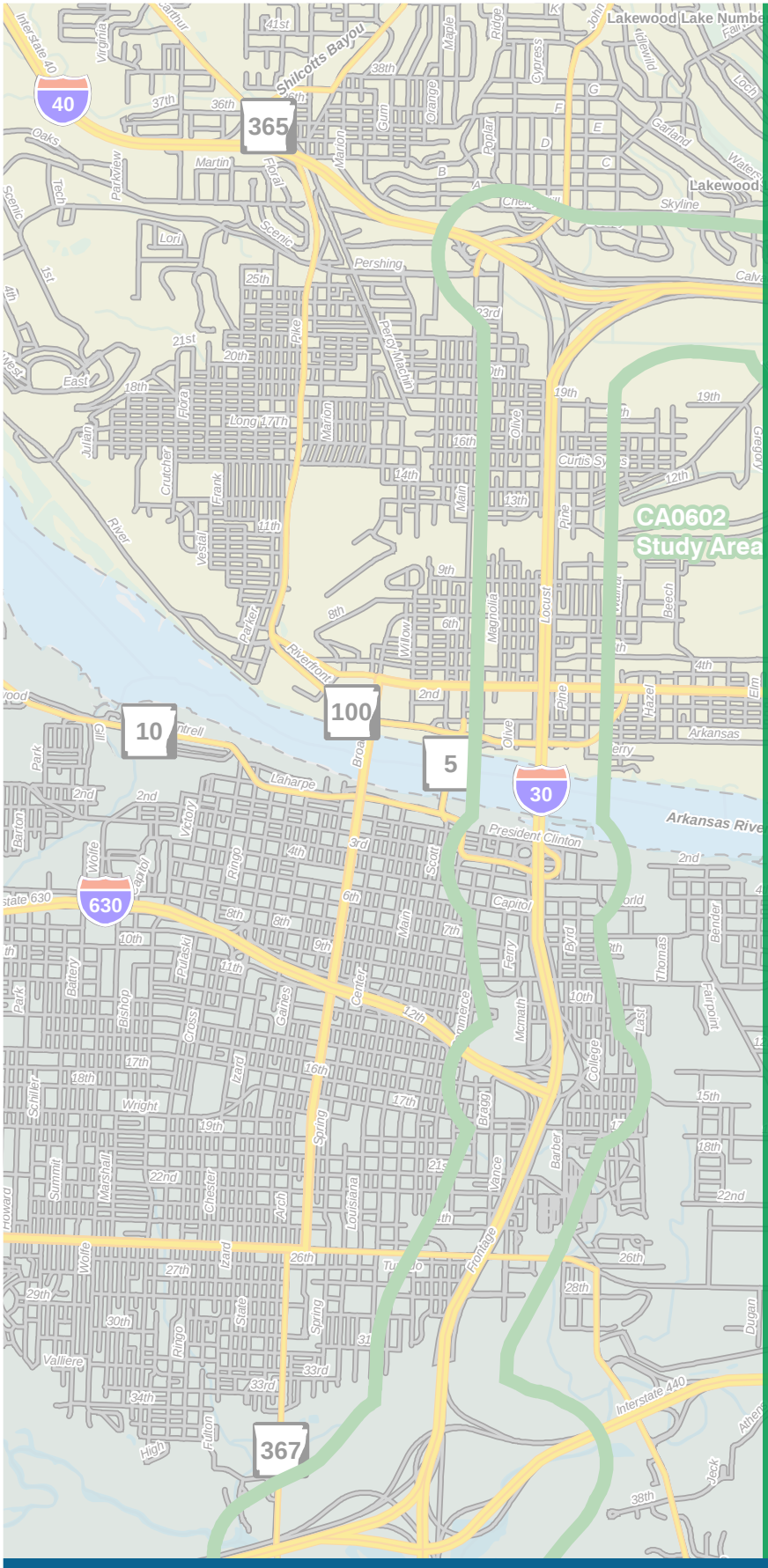
Speed harmonization is an incident management alternative that can include the use of dynamic overhead signs to communicate a variable speed limit on a freeway during an incident. Non-recurring reasons to vary the speed include construction, adverse weather conditions, traffic incidents, concerts, football games, etc. Variable speed limits in non-recurring conditions help reduce secondary crashes. The dynamic overhead signs can be multifunctional. Not only can they display the speed limit, they can communicate a lane closure due to an incident, or operate along with Hard Shoulder Running and Queue Warning.

5.6.5 Queue Warning

This alternative includes use of a queue warning system, which is typically utilized in addition to Speed Harmonization. Dynamic signs are mounted on the sides of the same gantries used for the speed harmonization signs, and a congestion icon is lit when congestion downstream is present. Queue warning systems have been reported to reduce the frequency of traffic incidents.

Appendix D-2:

Alternatives Screening Methodology



PLANNING AND ENVIRONMENTAL LINKAGES ALTERNATIVES SCREENING METHODOLOGY



CA0602

Interstate 530 – Highway 67

December 2014

CONNECTING ARKANSAS PROGRAM CAP

Arkansas State Highway & Transportation Department

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1.0 INTRODUCTION AND PLANNING CONTEXT

The purpose of the I-30 PEL Alternative Screening Methodology (ASM) is to provide a decision-making framework to determine how well each of the developed alternatives meets the I-30 PEL purpose and need and the study goals. The I-30 PEL Study will be used to develop and evaluate transportation alternatives using a tiered screening process to identify the alternatives that will best solve the transportation problems in the corridor. The recommendations identified in the PEL Study will be moved into subsequent stages of project development in accordance with planning guidelines established in Moving Ahead for Progress in the 21st Century (MAP-21) and in the Long-Range Metropolitan Transportation Plan (MTP) for the Central Arkansas Regional Transportation Study (CARTS), as described in the *I-30 PEL Study Purpose and Need Report* (**Appendix A**).

The first step in the alternative screening process is the development of the *Universe of Alternatives* (**Appendix D-1**), which includes all possible solutions to the transportation problems in the I-30 PEL study area **(Figure 1)**. The ASM will be used to evaluate the alternatives in a sequential process to narrow the results to a set of *Preliminary Alternatives*, then *Reasonable Alternatives*, and ultimately, to the *PEL Recommendations* for continued project development. The alternative development and screening evaluation is based upon the purpose and need (**Table 1**) and the study goals (**Table 2**) as referenced from the *I-30 PEL Purpose and Need Report* (**Appendix A**).

Table 1. Purpose and Need

Need	Purpose
• Traffic congestion • Roadway safety issues • Roadway structural and functional deficiencies • Navigational safety issues • Structural and functional bridge deficiencies	To develop, compare and recommend solutions to the transportation problems outlined in the *I-30 PEL Purpose and Need Report* (**Appendix A**) that: • Relieve traffic congestion; • Improve roadway safety; • Address structural and functional roadway deficiencies; • Improve navigational safety; and • Address structural and functional bridge deficiencies.

Table 2. Study Goals

(Listed in no particular order)

- Improve opportunity for east – west connectivity
- Enhance mobility
- Improve local vehicle access to and from downtown Little Rock and North Little Rock
- Connect bicycle / pedestrian friendly facilities
- Accommodate existing transit and future transit
- Minimize roadway disruptions during construction
- Minimize river navigation disruptions during/after construction
- Improve safety
- Follow through on commitment to voters to improve I-30 as part of the Connecting Arkansas Program (CAP)
- Optimize opportunities for economic development
- Avoid and/or minimize impacts to the human and natural environment, including historical and archeological resources
- Sustain public and agency input and support for the I-30 corridor improvements
- Improve system reliability
- Optimize cost

Guiding principles that will influence the overall project include (listed in no particular order):

- Accelerated Project Delivery;
- Context Sensitive Solutions/Aesthetically Pleasing Facility;
- Minimize the real, perceived and visual barrier of the freeway;
- Open public participation process; and
- Support of Local, Regional and Statewide Transportation Plans.

Figure 1. I-30 PEL Study Area



2.0 ALTERNATIVE SCREENING FRAMEWORK

The ASM is established before any alternatives are developed to ensure that each alternative is examined consistently and evaluations are unbiased. Each of the alternatives, including the No-Action Alternative, will be evaluated using this methodology. The No-Action Alternative represents the baseline condition in the I-30 PEL study area as if no improvements are implemented other than normal operations and maintenance (which also includes those already programmed within the fiscally constrained MTP).

The three screening levels that comprise the ASM include:

- **Level 1** qualitative screening of the Universe of Alternatives based on the purpose and need;
- **Level 2** qualitative (with some quantitative) screening of the Preliminary Alternatives based on the study goals; and
- **Level 3** quantitative screening of the Reasonable Alternatives based on the study goals.

The effectiveness of each alternative (Universe, Preliminary and Reasonable), in terms of meeting the needs of the study area, will be measured by a wide range of criteria defined by the purpose and need and the study goals. The potential impacts of each alternative will be analyzed and documented by the ASM evaluation criteria (e.g. congestion, order of magnitude cost estimates, displacements, etc.). The alternatives at each screening level that meet the established criteria will be advanced to the next screening level for further evaluation, while those that do not will be eliminated from further consideration.

The alternative screening process is similar to a funnel with multiple levels of screening, blending a varied group of strategies, corridor needs and goals into a set of refined transportation alternatives through an elaborate “filtering”, or evaluation process. Definitions of the various screening stages are listed below and shown graphically in **Figure 2**.

- **Level 1, Concept or Fatal Flaw Screening**, involves the evaluation of the Universe of Alternatives across a spectrum of modes and strategies. The Study Team will develop the Universe of Alternatives with input received from the Technical Work Group (TWG), stakeholders and the public. Fatal flaw criteria will be utilized to evaluate and screen the Universe of Alternatives against the purpose and need using the screening matrix depicted in **Table 4** (page 18). In Level 1 Screening, alternatives will be given a *pass* or *fail* rating for each of the screening criteria. A *pass* rating is not required on all criteria for an alternative to move to the next level; alternatives must show an overall positive impact on the I-30/I-40 corridor in order to advance for further analysis. Practicable alternatives that meet the purpose and need of the project will be advanced to Level 2 Screening as Preliminary Alternatives. For transportation projects, generally, an

alternative is practicable if it: 1) meets the purpose and need; 2) is available and capable of being done (i.e., it can be accomplished within the financial resources that could reasonably be made available, and it is feasible from the standpoint of technology and logistics); and 3) will not create other unacceptable impacts such as severe operation or safety problems, or serious socioeconomic or environmental impacts.[1] Alternatives that are clearly impractical based on cost or effectiveness in Little Rock and North Little Rock will be eliminated at this level.

- **Level 2, the Refinement Process**, will consist of 2 steps. In each step, the qualitative analysis of each Preliminary Alternative will be summarized in a five-level rating system as defined in **Table 3** below.

Table 3. Qualitative Rating System

Rating	Meaning
+ +	Substantial positive effects
+	Some positive effects
O	Neutral effects
–	Some negative effects
– –	Substantial negative effects

Level 2A will evaluate the Preliminary Alternatives individually to determine those that most successfully meet the study goals. The remaining alternatives after Level 2A screening will be categorized into two groups:

- *Primary Alternatives,* which are capable of making a substantial impact on the congestion problems on I-30/I-40 as stand-alone options; and
- *Complimentary Strategies*, such as Transportation System Management (TSM) and Intelligent Transportation Systems (ITS), which will be combined with the Primary Alternatives to improve the efficiency of the transportation system.

After Level 2A screening, various combinations of Primary Alternatives and Complimentary Strategies will be grouped to form *Basic Scenarios* for further evaluation in Level 2B. At this stage, the Basic Scenarios will begin to take the shape of traditional transportation alternatives, consisting of designs showing number of highway lanes and bridge layouts, supplemented with other modes of transportation and congestion management strategies to form complete, multi-modal transportation options.

In **Level 2B**, each Basic Scenario will be developed to a level of detail to define the corridor's general location and basic right-of-way (ROW) requirements. The level of alternative development will be sufficient to allow for the qualitative

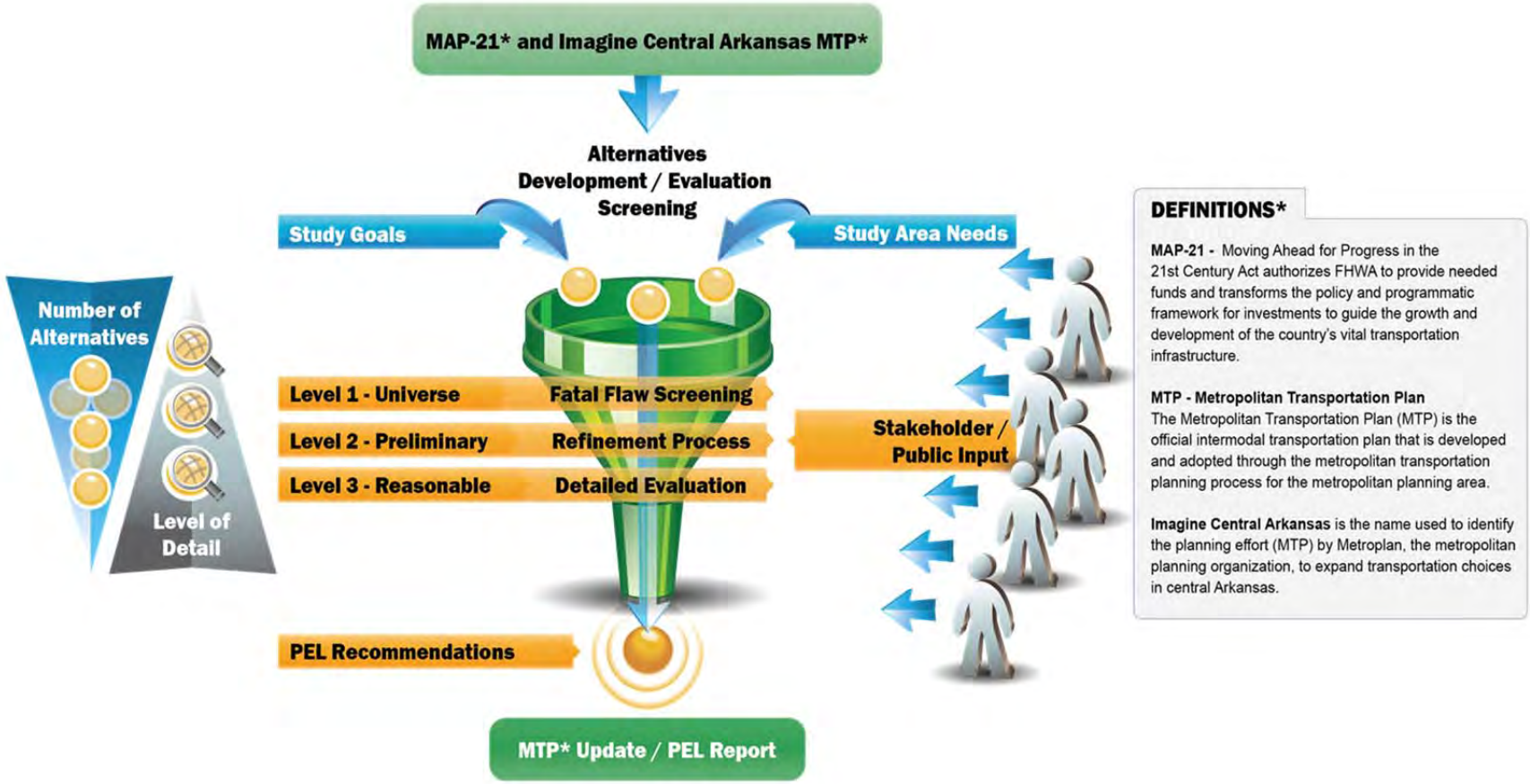
[1] The evaluation of alternatives must consider a reasonable range of options that could fulfill the project sponsor's purpose and need. Reasonable alternatives include those that "are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant" (Council on Environmental Quality, 1981).

evaluation of a range of criteria and measures including engineering, cost, environmental and public input, which correlate to the study goals as shown in **Table 5** (page 19). This level of screening may use quantitative data for traffic analysis, while qualitatively assessing land use, utility impacts, natural terrain and other constraints. In Level 2B, the study goals may be prioritized and weighted in order to emphasize the critical needs of the project.

Based on the Refinement Process analyses, alternatives that best meet the established study goals will be advanced to the next development phase of the project as Reasonable Alternatives.

- **Level 3, Detailed Evaluation**, involves the Reasonable Alternatives being developed to a higher level of detail and evaluated using quantitative measures as shown in **Table 6** (page 20). The alternatives will be designed to a level of detail as to define the entrance and exit points for ramps and any ROW needs associated with implementation of the alternatives. More detailed cost estimates for each alternative will also be developed at this level. In Level 3, the study goals may be prioritized and weighted in order to emphasize the critical needs of the project. This level of screening will quantitatively assess future traffic, land use, parcel boundaries, major structures, utility impacts, natural terrain, and other constraints. The Level 3 screening process will identify the alternative or alternatives that best address the transportation needs of the I-30/I-40 corridor while minimizing the negative impacts to the surrounding area. The remaining alternative(s) will be recommended for further development/study during the National Environmental Policy Act (NEPA) process.

Figure 2. Alternative Screening Process



3.0 ALTERNATIVE EVALUATION CRITERIA AND MEASURES

Alternative evaluation criteria and measures for the I-30 PEL Study are based upon both the purpose and need and the established study goals. The following sections provide detailed definitions for each of the evaluation criteria and measures, as well as the evaluation matrix process to be utilized during the screening process.

3.1 Purpose and Need – Level 1

3.1.1 Traffic Congestion

Congestion relief is an important part of the purpose and need for the project. Study alternatives must provide an improvement in mobility and travel time along the I-30/I-40 corridor and an improvement in access into the downtown areas in the design year, as compared to the No-Action Alternative. The overall traffic analysis for the PEL Study will include a multi-modal comprehensive analysis of I-30/I-40 mobility and safety and the supporting transportation network for the existing traffic (2013) and projected traffic (2040) using Metroplan's Travel Demand Model (TDM). For the Level 1 screening, mobility will be evaluated in terms of Level of Service (LOS), which is an industry standard measure of congestion and travel performance within a corridor or roadway facility. It provides a way of quantifying attributes of congestion such as freedom to maneuver in the travel stream, traffic interruptions, comfort, and convenience. LOS is represented by letter designations (A through F), with LOS A being the most favorable (free flow traffic – no delays) and LOS F being the least favorable (heaviest congestion – considerable delays). Travel time is a standard of how people measure their travel/transportation experience. Generally, alternatives which provide the largest improvement to the LOS and travel time along I-30/I-40 will have the highest ratings. Note that in subsequent phases of the alternative screening process, measures of mobility other than LOS such as travel time to key destinations, travel speed, duration of congestion, vehicle miles traveled (VMT), vehicle hours traveled (VHT), and average delay per motorist will be utilized to evaluate mobility.

3.1.2 Roadway Safety

Safety is important to all modes of travel in the corridor. The high traffic volumes in the study area combined with functional deficiencies of the roadway, are important safety factors to be considered. Alternatives which improve roadway safety for all modes of travel will receive higher ratings.

3.1.3 Structural Roadway Deficiencies

Roadway structural deficiencies are due to the deterioration of concrete and asphalt over time. Portions of the I-30/I-40 corridor will need some level of rehabilitation within the expected timeframe of the project. Alternatives that correct structural deficiencies will receive higher ratings.

3.1.4 Functional Roadway Deficiencies

Roadway functional deficiencies include geometric features that do not meet current design standards, such as narrow lanes and shoulders, and inadequate ramp lengths

and spacing as defined by the American Association of State Highway and Transportation Officials (AASHTO) and the Arkansas State Highway and Transportation Department (AHTD). Alternatives that correct these issues will receive higher rankings.

3.1.5 Navigational Safety

The I-30 Bridge over the Arkansas River has a history of being struck by barges due to the location of a pier in the navigational channel. Alternatives which provide greater horizontal clearance (navigation span) will receive higher ratings.

3.1.6 Structural Bridge Deficiencies

The I-30 Bridge over the Arkansas River was rated as Structurally Deficient[3] with a substructure rating of "poor" as a result of an October 2013 inspection by AHTD. Alternatives that improve the structural integrity of the bridge will receive higher ratings.

3.1.7 Functional Bridge Deficiencies

The width of the existing bridge is insufficient for the current peak hour traffic demands and the narrow shoulders do not meet current design standards. Those alternatives that improve the bridge to current design standards will receive higher ratings.

3.2 Study Goals – Levels 2 and 3

Additional or secondary alternative evaluation criteria and measures are derived from the study goals. These goal and associated criteria have been categorized by engineering, cost, environmental, and public involvement and are summarized as follows:

3.2.1 Engineering

Engineering criteria includes traffic, operational and design measures such as mobility, accessibility, safety, design standards, and constructability.

3.2.1.1 Enhance Mobility

Congestion Relief

Level 2 screening will be a quantitative assessment based on spot Highway Capacity Manual (HCM) analysis of the ability of an alternative to provide an improved mobility as compared to the No-Action Alternative. Level 3 screening will be a quantitative comprehensive mobility analysis of an alternative to provide improved mobility along the mainline and in weaving areas as compared to the No-Action Alternative using a simulation model. The simulation model will provide additional mobility measures such as travel time to key destinations, travel speed, duration of congestion, VMT, VHT, and average delay per motorist. Generally, alternatives which provide the largest improvement in mobility along the I-30/I-40 corridor will have the highest ratings.

[3] Bridges are considered structurally deficient if significant load carrying elements are found to be in poor condition due to deterioration. Source: *FHWA 2010 Status of the Nation's Highways, Bridges, and Transit: Conditions and Performance*; *AHTD Bridge Inspection, Oversight, and Maintenance Performance Audit (November 2008).*

Transportation Efficiency

Transportation efficiency is measured by an assessment of changes in travel times and average speeds through the study area transportation network resulting from the implementation of an alternative. Level 2 screening will be based on a quantitative assessment based on spot HCM analysis of the ability of an alternative to provide an improved travel time and speed as compared to the No-Action Alternative. Level 3 screening will be a quantitative comprehensive travel time and speed analysis of the corridor's efficiency for each alternative compared to the No-Action Alternative using a simulation model. Generally, alternatives which provide the largest improvement to travel time and average speed along the I-30/I-40 corridor will have the highest ratings. Level 3 screening will also include highway system measures of effectiveness from a micro-simulation model, including total VMT, VHT, and average delay per motorist in comparison to the future No-Action Alternative.

3.2.1.2 Improve Local Access to and from Downtown Little Rock and North Little Rock

Mobility

Alternatives should provide improved capacity for through traffic and more efficient connections into downtown Little Rock/North Little Rock. Level 2 screening will be a qualitative assessment of capital improvements to provide improved access into the downtown areas. Level 3 screening will be a quantitative comprehensive mobility analysis of the access provided by each alternative into the downtown areas as compared to the No-Action Alternative using a simulation model (mobility measures from the simulation model described in **Section 3.2.1.1**). Generally, alternatives which provide the largest improvement in mobility into the downtown areas will have the highest ratings.

Travel Time

Alternatives should enable traffic to move efficiently along the I-30 main lane into the downtown areas. Level 2 screening will be a quantitative assessment of spot HCM analysis to evaluate travel time into the downtown areas as compared to the No-Action Alternative. Level 3 screening will be a quantitative comprehensive travel time analysis of an alternative's access into the downtown areas to provide an improved travel time as compared to the No-Action Alternative using a simulation model. Generally, alternatives which provide the largest improvement to the travel time along I-30/I-40 will have the highest ratings.

3.2.1.3 Improve Opportunity for East-West Connectivity

Since its initial construction, I-30 through Little Rock and North Little Rock has been seen as a barrier, creating a real and perceived obstruction to connectivity in the metropolitan area. Alternatives should consider locations and design features that allow local governments to reconnect their jurisdictions with streets and green spaces. Level 2 and Level 3 screening will be based on a qualitative assessment of the ability of each alternative to allow these connections.

3.2.1.4 Connect Bike/Pedestrian Facilities across I-30/I-40

Bicycle and pedestrian connectivity is measured by how well an alternative accommodates bicycle and pedestrian access across the I-30/I-40 corridor. Level 2 screening will be based on a quantitative assessment of each alternative's ability to allow these connections. Level 3 screening will be based on a count of the number of locations that accommodate bicycle/pedestrian crossings and the quality of those bicycle/pedestrian crossings such that they foster safe connectivity and meet current design standards.

3.2.1.5 Accommodate Existing Transit and Future Transit

Transit accommodation is measured by the ridership potential of an alternative along the I-30/I-40 corridor. Level 2 screening will be a qualitative assessment of the potential transit ridership of an alternative using the Metroplan travel demand model, and a conceptual transit scenario model developed for the I-30 PEL Study. The potential diversion from auto trips to transit trips and the contribution of transit reducing demand for the highway will be assessed. Level 3 screening will be a quantitative assessment of the potential transit ridership of the alternative using the same Metroplan and conceptual transit scenario models described above.

3.2.1.6 Improve System Reliability

Incident Management

This criterion addresses the impacts of alternatives on the occurrence of incidents in the study area. A higher rating will be given to an alternative that reduces the number of conflict points along the I-30/I-40 corridor. Level 2 screening will be a qualitative assessment of the potential crash reduction of an alternative based on the number of conflict points (vehicle, bicycle, and pedestrian) along I-30/I-40. Level 3 screening will be a quantitative assessment of the potential crash reduction of an alternative based on the number of conflict points (vehicle, bicycle and pedestrian) along I-30/I-40.

Emergency Vehicle Access

Alternatives should provide access for emergency vehicles responding to incidents within the study corridor. Level 2 screening will be a qualitative assessment of the travel time from a first responder site to an incident as compared to the No-Action Alternative. Level 3 screening will be a quantitative assessment of the of the travel time from a first responder site to an incident as compared to the No-Action Alternative using a simulation model.

3.2.1.7 Minimize Roadway Disruptions during Construction

Construction generally requires temporary lane closures and detours. It is important that the alternatives minimize disruption to neighborhood businesses and residential neighborhoods during construction. An alternative that has little or no effect during construction will generally have a neutral rating. An alternative that is likely to cause greater inconvenience to the public during construction, because of its proximity to more intense development, or in areas where ROW is limited, will be given a more negative

rating. Level 2 (qualitative) and Level 3 (quantitative) screening will be based on engineering judgment of the number and severity of road/lane closings impacting existing mobility and access for each alternative.

3.2.1.8 Minimize River Navigation Disruptions during Construction

The Arkansas River provides a means for the transportation of commodities from Oklahoma through Arkansas to the Mississippi River. It is important that the construction of any I-30 improvements minimize disruption to barges traveling on the river. Those alternatives that have substantial closures of the river will receive lower ratings. Level 2 (qualitative) and Level 3 (quantitative) screening will be based on engineering judgment.

3.2.1.9 Minimize River Navigation Disruptions after Construction

The existing I-30 Bridge does not provide the recommended clearance across the Arkansas River, and there have been a number of pier strikes by barges as a result. The Arkansas Waterways Commission has recommended a horizontal clearance of 332 feet and a vertical clearance of 62.4 feet if any improvements are made to the I-30 Bridge. The Level 2 qualitative screening will be based on engineering judgment of the ability of the alternatives to provide adequate clearance of the navigational channel based on pier alignment. Level 3 quantitative screening will be based on the designed distance for horizontal and vertical clearances for each alternative.

3.2.1.10 Improve Safety

The high number of traffic crashes in the study area makes safety a priority for this study. Substantial improvements in road geometry and roadway/bridge structural condition are needed to make I-30/I-40 a safer route.

I-30/I-40 Conflict Points

Conflict points exist where vehicles need to cross paths to reach desired destinations. Proper access management techniques reduce the number of conflicts in order to provide a safer route. Alternatives that provide the fewest conflict points along the mainline will receive the highest rankings. Level 2 qualitative screening will be based on the probable number of conflict points for the preliminary layout of each alternative. Level 3 quantitative screening will be based on the number of conflict points of each alternative.

Ramp Spacing

AASHTO recommends a maximum of two ramps per direction per mile for urban interstates. Alternatives that come closest to meeting this threshold will receive higher rankings. Level 2 qualitative screening will be based on the probable number of ramps per direction for the preliminary layout of each alternative. Level 3 quantitative screening will be based on the number of ramps per direction of each alternative.

Ramp Acceleration and Deceleration Lengths

Proper ramp lengths are required to allow motorists to accelerate to freeway speeds when entering the interstate, and to decelerate as they approach intersections when leaving the interstate. Level 2 will include a qualitative analysis based on the ability of an alternative to improve ramp junctions. Ramp acceleration and deceleration lengths will be evaluated in greater detail in Level 3 when interchange types and configurations have been identified. Screening will be based on the percentage of ramps meeting AASHTO standards for ramp lengths based on design speeds.

I-30 Roadway and Bridge Structural Condition

Alternatives must improve the structural condition of the I-30 roadway and the Arkansas River Bridge, which are showing signs of deterioration due to age. Level 2 and Level 3 screenings will be a qualitative evaluation of the alternatives' ability to improve the roadway and bridges to acceptable structural conditions.

Arterial Connection Conflict Points

Conflict points exist where vehicles need to cross paths to reach desired destinations on the arterial network. Proper access management techniques reduce the number of conflicts in order to provide a safer route. Alternatives that provide the fewest conflict points at arterial connections will receive highest rankings. Level 2 qualitative screening will be based on the probable number of arterial conflict points for the preliminary layout of each alternative as compared to the No-Action Alternative. Level 3 quantitative screening will be based on the number of arterial conflict points as compared to the No-Action Alternative.

3.2.1.11 Optimize Opportunities for Economic Development

This criterion addresses how well an alternative provides a supportive climate for economic development and how well an alternative accommodates economic development. Alternatives that provide access to existing/potential areas of economic activity within the PEL study area without negatively impacting the surrounding area will receive higher rankings. Level 2 qualitative screening will be based on the probable number of highway entrance and exit points to / from the downtown areas for the preliminary layout of each alternative as compared to the No-Action Alternative. Level 3 screening will be based not only on the number of highway entrance and exit points to / from the downtown areas, but also on the quality of access provided by those ramps (e.g., to prime development areas) as compared to the No-Action Alternative. Input provided by the cities and stakeholders will be obtained and incorporated, as applicable, to assist in the determination of the quality of proposed access locations and their impact on economic development.

3.2.2 Optimize Cost

Funding for this project is limited to the amount set forth in the CAP; therefore, the alternatives must be viable and cost-effective to ensure that they provide the best solution for the money available. The following criteria have been identified to ensure alternatives are cost effective.

3.2.2.1 Construction Cost

Level 2 screening will be based on planning level (i.e., per mile) cost estimates. In Level 3, planning level costs will be supplemented with conceptual-level cost estimates using estimated quantities and unit costs for major construction items such as structures when information is available. A contingency will be added to account for items not listed in the conceptual assessment. Alternatives with lower construction costs will be ranked higher than alternatives with high construction costs.

3.2.2.2 ROW Acquisition

ROW acquisition costs consist of acquiring land (parcels) and the cost of displacements. The ROW footprint of each alternative will be determined and compared. Those alternatives that have substantial ROW requirements and costs will be ranked lower than alternatives with minor ROW requirements and costs. Level 2 screening will be based on ROW required for typical highway sections for each alternative. In Level 3, more precise alternative layouts will be used for accurate measures.

3.2.2.3 Utilities and Infrastructure

Existing utilities and infrastructure information will be obtained by contacting utility companies and conducting field investigations. Each alternative's impact to major utilities and infrastructure will be documented and compared. Alternatives with substantial impacts to major utilities and infrastructure will be ranked lower than alternatives with minor impacts to major utilities and infrastructure. Level 2 screening will be based on costs for utilities required for typical highway sections for each alternative. Level 3 screening will be based on the cost of the utilities impacted by each alternative.

3.2.2.4 Investment Required by Others

Construction of some improvements to the I-30/I-40 corridor may require expenditures by local governments to accommodate the resulting change in traffic patterns. Level 2 screening will be based on an assessment of potential financial impact to local governments. Level 3 screening will be based on a more detailed cost analysis of the financial impact to local governments. Alternatives with lower financial impacts to others will receive higher rankings.

3.2.3 Avoid and/or Minimize Impacts to the Human and Natural Environment

Environmental impacts are evaluated to ensure that the alternatives blend with and complement the resources of the communities within the study area. The environmental impacts are subdivided into the following classifications:

- Community Impacts;
- Cultural Resources Impacts;
- Natural Resources Impacts; and
- Other Impacts.

3.2.3.1 Community Impacts

Community impacts are evaluated to ensure that the alternatives complement the study area community and enhance community qualities. The community impacts that will be evaluated in this category include neighborhood characteristics and Environmental Justice (EJ)/Limited English Proficiency (LEP) populations impacted.

Neighborhood Characteristics

The alternatives should avoid impacts to existing and proposed neighborhoods, have minimal effect on community cohesion, and should enhance neighborhoods qualities. Alternatives with substantial impacts to neighborhoods, school districts, and other community features will be ranked lower than other alternatives. Level 2 screening will use preliminary designs and the County Assessors Mapping Program (CAMP) - Pulaski County Parcel Data to assess the potential number of acres, parcels and structures impacted, and the number of displacements. Level 3 will use refined alternative designs and CAMP data to quantify the number of parcels/structures impacted, number of displacements, and acreage of ROW to be taken by each alternative.

EJ and LEP

Potential impacts to the social and economic environment of the study area will be identified. EJ and LEP issues will be analyzed in order to prevent the potential for discrimination and disproportionately high and adverse effects to minority, low-income, and non-English speaking populations. Demographics from the 2010 U.S. Census Bureau regarding minority, low-income, and LEP populations will be documented and compared. For Levels 2 and 3 screening purposes, the following three measures will be evaluated: 1) Are EJ/LEP populations present in the study area?; 2) Is there a potential for adverse impacts to EJ/LEP populations (e.g., displacements, changes to access, etc.)?; and 3) Is there a potential for beneficial impacts and/or mitigation to offset any potential adverse impacts to EJ/LEP populations (e.g., improved community cohesion, improved mobility and safety, etc.)? Alternatives which could potentially adversely impact EJ/LEP populations while not providing potential beneficial impacts and/or the likelihood of mitigation for any potential adverse impacts will be ranked lower than alternatives which do not result in potential adverse impacts or could potentially provide beneficial impacts and/or mitigate for adverse impacts.

3.2.3.2 Cultural Resources Impacts

The study should avoid impacts to existing cultural resources because they preserve the rich history of the Central Arkansas area. The cultural resource properties evaluated include archaeological sites and historic resources.

Archaeological Sites

Alternatives should avoid or minimize impacts to archaeological sites. Recorded archaeological sites will be determined through Arkansas Archeological Survey (AAS) record searches. Level 2 screening will be based on an assessment of each alternative's probable impact to cemeteries and archeological sites listed or eligible for listing in the National Register of Historic Places (NRHP). Level 3 screening will be

based on the number of cemeteries and archeological sites listed or eligible for listing in the NRHP, which are impacted by each alternative.

Historic Resources

Alternatives should avoid or minimize impacts to historic resources. For screening purposes, historic resources are considered to be historic-age properties (45 years or older) and those listed or eligible for the NRHP as determined through record searches from the Department of Arkansas Heritage – Arkansas Historic Preservation Program (AHPP). Level 2 screening will be based on an assessment of each alternative's probable impact to NRHP listed or eligible structures and historic districts. Level 3 screening will be based on the number of NRHP listed or eligible structures or historic districts impacted by each alternative.

3.2.3.3 Natural Resources Impacts

The alternatives should have minimal effects on the study area's natural resources, including park land, water resources, and biological resources.

Park Land

The alternatives should avoid or minimize impacts to park land. Park land will be identified through field reconnaissance and coordination with the AHTD Environmental Division, as well as with the Arkansas Department of Parks and Tourism and the Cities of Little Rock and North Little Rock Parks and Recreation Departments, all of which will have the opportunity to provide input and comments on the project as members of the I-30 PEL Study Technical Work Group. The potential impact of each alternative will be documented and compared. Alternatives that potentially impact park land will receive a negative rating, while the alternatives that do not will receive a neutral rating. Level 2 screening will be based on an assessment of each alternative's probable impact to known parks. Level 3 screening will be based the number of parks and acres of park lands impacted by each alternative.

Water Resources

Alternatives should avoid or minimize impacts to jurisdictional waters of the U.S., including wetlands. The number of surface water crossings and acres of jurisdictional features potentially affected by each of the alternatives will be identified and compared. Level 2 screening will be based on an assessment of each alternative's probable impact to jurisdictional waters. Level 3 screening will be based on the number/linear feet of surface water crossings and the acres of wetlands impacted by each alternative.

Biological Resources

Biologically sensitive areas will be identified such as state and federally listed, threatened and endangered species and their habitat. The potential for occurrence of impacts to threatened and endangered species and their habitat, as well as other wildlife habitat areas will be evaluated and compared for each alternative. Level 2 screening will be based on each alternative's probable impact to listed and non-listed species and/or habitat, and rare locally important species. Level 3 screening will be

based each alternative's impact to listed and non-listed species and/or habitat (in acres), and rare locally important species.

3.2.3.4 Other Impacts

The alternatives will be assessed to determine the impacts to the existing environment and constraints such as hazardous materials and traffic noise.

Hazardous Materials

A list of existing known hazardous materials sites will be obtained from the U.S. Environmental Protection Agency (EPA) and Arkansas Department of Environmental Quality (ADEQ) databases. Level 2 screening will be based on an assessment of the sites that may negatively affect construction of each alternative. Level 3 screening will be based on the number and types of potential hazardous material sites present.

Traffic Noise Receivers

Sensitive traffic noise receivers (schools, hospitals, parks, residences, daycares, etc.) directly adjacent to each alternative will be determined. Alternatives which would move potential sources of increased noise to sensitive receivers (e.g., main lane widening alternatives) will be ranked lower than alternatives which would not move potential noise sources closer to sensitive receivers. Level 2 screening will be based on an assessment of existing land use (e.g., residential, commercial, industrial, etc.), potential impacts by each alternative, and the likelihood of mitigation. Level 3 screening will be based on the number of adjacent sensitive noise receivers, potential impacts by each alternative, and the likelihood of mitigation.

3.2.4 Public Input

Public input addresses the public perception of an alternative's overall benefit. Methods to gauge public input include written or verbal comments received at public meetings, resolutions of local agency support, and the compatibility of an alternative with regional transportation plans.

3.2.4.1 Follow Through on Commitment to Voters to Improve I-30 as Part of the CAP

The citizens of Arkansas voted to pass a one-half cent sales tax over a ten year period to provide additional funding for highways, county roads, city streets, bridges, and surface transportation. I-30 extending through Little Rock and North Little Rock was among the list of routes to be improved through this Constitutional Amendment. Those alternatives that make improvements to the I-30 facility will receive higher rankings.

3.2.4.2 Sustain Public and Agency Input and Support for the I-30/I-40 Corridor Improvements

The citizens of Arkansas showed their support for major transportation improvements when they passed Constitutional Amendment No. 1 on the November 2012 ballot. The I-30 project will be developed in a manner that continues to earn their support. The project team will listen to the public and local agencies to ensure the project addresses

their vision for the study area. Alternatives that have broad public and agency support will be ranked higher than those that do not.

4.0 EVALUATION SCREENING MATRICES

The methodology described in this document will be followed to evaluate the various alternatives to determine their comparative advantages and disadvantages. The alternative screening process depicted in **Tables 4, 5** and **6** contains the primary evaluation categories as well as the individual criteria within those categories. Units of measure for the criteria are also provided, where applicable. Utilizing this screening process and decision making framework will ultimately lead to the selection of PEL Recommendations for continued development during the NEPA process.

Table 4. Concept/Fatal Flaw Screening Process

Level 1		
Need	**Purpose**	**Measure**
Traffic Congestion		
Congestion along I-30, at interchanges and ramp terminals.	Improving reliability and optimizing flow	Does alternative improve mobility and travel time along I-30 mainline and at interchanges/intersections to reduce congestion?
Roadway Safety		
Roadway - High crash rates in the I-30 Corridor	Improving transportation facilities to reduce roadway crash rates	Does the alternative have the potential to reduce vehicle crash rates?
Structural Roadway Deficiencies		
Structural deficiencies - Aging roadway	Improving roadway to state of good repair	Does alternative improve roadway structural conditions?
Functional Roadway Deficiencies		
Functional deficiencies - lane/shoulder widths, ramp spacing, ramp lengths	Bringing roadway up to current design standards	Does alternative improve roadway functional deficiencies?
Navigational Safety Issues		
Navigational - Accident history of Arkansas River Bridge being struck by marine traffic	Improving transportation facilities to reduce navigational bridge strikes	Does the alternative have the potential to reduce navigational bridge strikes?
Structural Bridge Deficiencies		
Structural deficiencies - Aging bridge	Improving bridge to state of good repair	Does alternative improve bridge structural conditions?
Functional Bridge Deficiencies		
Functional deficiencies - lane/shoulder widths	Bringing bridge up to current design standards	Does alternative improve Arkansas River Bridge functional deficiencies?

Table 5. Refinement Screening Process

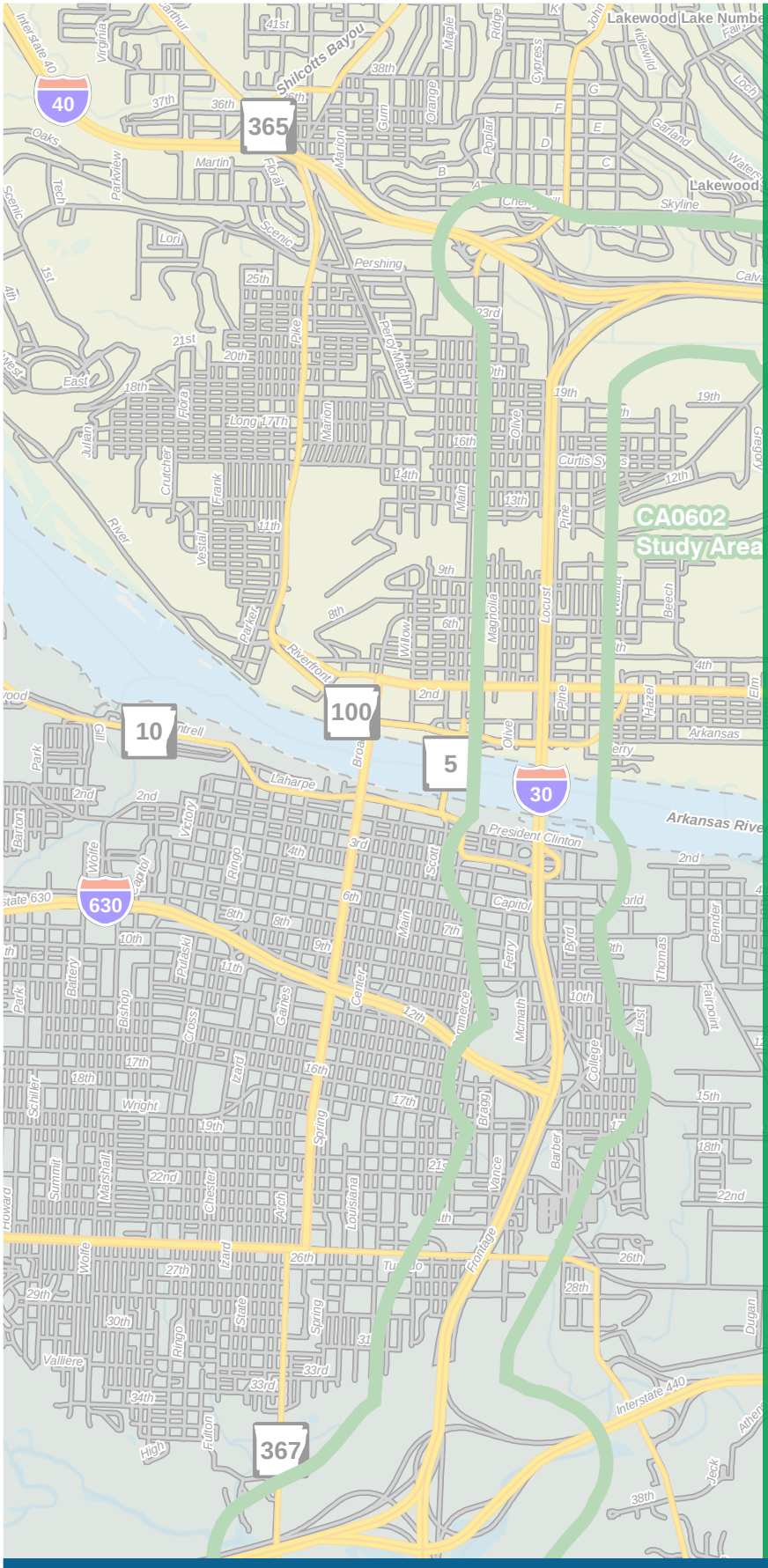
Level 2				
Study Goals	**Criteria**		**Measure**	**Source**
Engineering				
Enhance mobility	Travel Performance	Congestion Relief	Mobility in the PEL Study Area	Spot Location HCM
		Efficiency	Total travel time savings	Spot Location HCM
			Average peak hour travel speed through corridor	Spot Location HCM
Improve local vehicle access to and from downtown Little Rock and North Little Rock	Mobility		Mobility at key intersections within PEL Study Area	Spot Location Synchro
	Travel Time		Travel time to key destinations in PEL Study Area	Spot Location HCM
Improve opportunity for east - west connectivity	Provide opportunity to reconnect the street grid		Locations allowing for local street connectivity	Opportunities for road crossings
	Provide opportunity to connect green spaces		Designs that allow for open spaces across I-30	Opportunity for open spaces across I-30
Connect bicycle / pedestrian friendly facilities	Bicycle and pedestrian accommodations		Grade separated bike / ped accommodations across I-30	Number of grade separated crossings
Accommodate existing / future transit	Transit effectiveness		Transit ridership in PEL Study Area	Metroplan Travel Model, I-30 PEL Scenario Model
Improve system reliability	Incident management		Potential accident reductions	Potential Accident reductions
	Emergency Vehicle Access		Emergency vehicle travel time (from Fire Station/Hospital to locations along mainline)	Estimated travel time
Minimize roadway disruptions during construction	Effectively move roadway traffic during construction		Severity of I-30 lane closures, detours during construction	Number of roadway closures
Minimize river navigation disruptions during construction	Effectively move river traffic during construction		Severity of river closures during construction	Number of river closures
Minimize river navigation disruptions after construction	Effectively move river traffic after construction		Location of navigational impediments (bridge piers)	Pier alignment
Improve safety	I-30 conflict points		I-30 mainline conflict points in weaving / merge / diverge areas	Number of conflict points
	Ramp spacing		Number of ramps per mile on I-30 in the study area	Number of ramps per mile
	Ramp acceleration and deceleration lengths		Ability to improve ramp junctions	Ramp lengths
	I-30 roadway and bridge structural conditions		Improved structural conditions	Qualitative assessment
	I-30 connection conflict points		Number of arterial connection conflict points	Number of arterial conflict points
Optimize opportunities for economic development	Economic development opportunities		Access to existing/potential business sites within the PEL Study Area	Access to existing / potential business sites within the PEL Study Area
Cost				
Optimize Cost	Construction Cost		Total conceptual cost to AHTD	Planning level cost estimates
	ROW acquisition		Total cost of ROW acquisition	ROW costs for typical sections
	Utilities and infrastructure		Impact to major utilities and infrastructure	Utilities cost for typical sections
	Investment required by others		Total investment required by others	Required investment by others
Environmental				
Avoid and/or minimize impacts to the human and natural environment	Community Impacts	Neighborhood Characteristics	ROW / Parcels / Structures impacted	Source: CAMP Pulaski County parcel data (Geostor); Method: Assessment of each alternative's potential to impact parcels / structures
			Displacements	Source: CAMP Pulaski County parcel data (Geostor); Method: Assessment of each alternative's potential to result in a displacement.
		EJ / LEP	Are EJ / LEP populations present?	Source: 2010 Census Data; Method: Review of 2010 Census Data specific to each alternative.
			Are potential impacts to EJ / LEP populations beneficial?	Source: 2010 Census Data; Method: Review of 2010 Census Data specific to each alternative.
			Are potential impacts to EJ / LEP populations detrimental?	Source: 2010 Census Data; Method: Review of 2010 Census Data specific to each alternative.
	Cultural Resource Impacts	Archaeological Sites	Recorded archaeological sites potentially impacted	Source: Arkansas Archeological Survey (AAS) for previously recorded archeological sites. Method: Assessment of each alternative's potential impact to potentially eligible and eligible for listing in the National Register of Historic Places (NRHP) archeological sites.
		Historic Resources	Number of NRHP, NRHP-eligible sites potentially impacted	Source: Department of Arkansas Heritage - Arkansas Historic Preservation Program (AHPP); Method: Assessment of each alternative's potential impact to NRHP eligible/listed structures and historic districts.
	Natural Resource Impacts	Park Land	Park impacts	Source: AHTD Environmental and Arkansas Department of Parks and Tourism; Method: Assessment of each alternative's potential impact to known mapped parks.
		Water Resources	Surface water crossings, wetlands	Source: AHTD field reconnaissance, desktop review and review of National Wetland Inventory maps. Method: Assessment of each alternatives' potential to impact to mapped water and wetland features.
		Biological Resources	Potential to impact threated/endangered, rare locally important species; Habitat	Source: AHTD Environmental; Method: Assessment of each alternative's potential impact to listed and non-listed, species and/or habitat.
	Other Impacts	Hazardous Materials	High risk hazardous material sites impacted	Source: Environmental Protection Agency (EPA) and Arkansas Department of Environmental Quality (ADEQ) geodatabases.; Method: Review of sites that may negatively affect the construction of each alternative.
		Traffic Noise Receivers	Noise receivers directly adjacent	Source: Most recent existing land use files, AHTD provided information on schools, churches and other public facilities; Method: Review of existing land use (residential, commercial, industrial, etc.)
Public involvement				
Follow through on commitment to voters to improve I-30 as part of the CAP	Make improvements to the I-30 corridor		Mobility and safety on I-30 mainline	Spot Location HCM
Sustain public and agency input and support for the I-30 Corridor Improvements	Public and agency input		Meeting comments and local resolutions	Source: Input gained from TWG and pubic meetings.

Table 6. Detailed Evaluation Screening Process

Level 3				
Study Goals	**Criteria**		**Measure**	**Source**
Engineering				
Enhance mobility	Travel Performance	Congestion Relief	Mobility in the PEL Study Area	VISSIM or other quantitative methods
		Efficiency	Total travel time savings	VISSIM or other quantitative methods
			Average peak hour travel speed through corridor	VISSIM or other quantitative methods
			VMT, VHT, VHD and other system performance measures	VISSIM or other quantitative methods
Improve local access to and from downtown Little Rock and North Little Rock	Mobility		Mobility at key intersections within PEL Study Area	VISSIM or other quantitative methods
	Travel Time		Travel time to key destinations in PEL Study Area	VISSIM or other quantitative methods
Improve opportunity for east - west connectivity	Provide opportunity to reconnect the street grid		Locations allowing for local street connectivity	Opportunities for road crossings
	Provide opportunity to connect green spaces		Designs that allow for open spaces across I-30	Opportunity for open spaces across I-30
Connect bicycle / pedestrian friendly facilities	Bicycle and pedestrian accommodations		Number of grade separated bike / ped accommodations across I-30	Number of crossings that meet current design standards
Accommodate existing / future transit	Transit effectiveness		Transit ridership in PEL Study Area	Metroplan Travel Model, I-30 PEL Scenario Model
Improve system reliability	Incident management		Potential accident reductions	Potential Accident reductions
	Emergency Vehicle Access		Emergency vehicle travel time (from Fire Station/Hospital to locations along mainline)	VISSIM or other quantitative methods
Minimize roadway disruptions during construction	Effectively move roadway traffic during construction		Severity of I-30 lane closures, detours during construction	Number of roadway closures
Minimize river navigation disruptions during construction	Effectively move river traffic during construction		Severity of river closures during construction	Number of river closures
Minimize river navigation disruptions after construction	Effectively move river traffic after construction		Location of navigational impediments (bridge piers)	Pier alignment
Maximize safety	I-30 conflict points		I-30 mainline conflict points in weaving / merge / diverge areas	Number of conflict points
	Ramp spacing		Number of ramps per mile on I-30 in the study area	Preliminary designs
	Ramp acceleration and deceleration lengths		Percentage of ramps meeting design standards	Preliminary designs
	I-30 Roadway and bridge structural conditions		Improved structural conditions	Qualitative assessment
	I-30 connection conflict points		Number of arterial connection conflict points	Number of arterial conflict points
Optimize opportunities for economic development	Economic development opportunities		Access to existing/potential business sites within the PEL Study Area	Access to existing / potential business sites within the PEL Study Area
Cost				
Optimize Cost	Construction Cost		Total conceptual cost to AHTD	Planning level costs with supplemental cost data
	ROW acquisition		Total cost of ROW acquisition	Cost per acre
	Utilities and infrastructure		Impact to major utilities and infrastructure	Cost of utilities to be impacted
	Investment required by others		Total investment required by others	Required investment by others
Environmental				
Avoid and/or minimize impacts to the human and natural environment	Community Impacts	Neighborhood Characteristics	Acres of ROW Impacted	Source: CAMP Pulaski County parcel data (Geostor); Method: Number of parcels / structures potentially impacted by each alternative
			Number of parcels impacted	
			Number of structures impacted	
			Displacements	Source: CAMP Pulaski County parcel data (Geostor); Method: Number of potential displacements resulting from each alternative
		EJ / LEP	Are EJ / LEP populations present?	Source: 2010 Census Data; Method: Review of 2010 Census Data specific to each alternative.
			Are potential impacts to EJ / LEP populations beneficial?	Source: 2010 Census Data; Method: Review of 2010 Census Data specific to each alternative.
			Are potential impacts to EJ / LEP populations detrimental?	Source: 2010 Census Data; Method: Review of 2010 Census Data specific to each alternative.
	Cultural Resource Impacts	Archaeological Sites	Recorded number of archaeological sites potentially impacted	Source: Arkansas Archeological Survey (AAS) for previously recorded archeological sites. Method: Number of cemeteries and archeological sites listed, eligible, or potentially eligible for the NRHP potentially impacted by each alternative
		Historic Resources	Number of NRHP, NRHP-eligible sites potentially impacted	Source: Department of Arkansas Heritage - Arkansas Historic Preservation Program (AHPP); Method: Number of NRHP eligible / listed structures and historic districts potentially impacted by each alternative.
	Natural Resource Impacts	Park Land	Number, acreage of park impacts	Source: AHTD Environmental and Arkansas Department of Parks and Tourism; Method: # and Acres of known mapped parks impacted.
		Water Resources	LF/number of surface water crossings, acreage of wetlands	Source: AHTD field reconnaissance, desktop review and review of National Wetland Inventory maps. Method: Acres of waters or wetlands potentially impacted.
		Biological Resources	Potential to impact threated / endangered, rare locally important species. Acreage of habitat	Source: AHTD Environmental; Method: Acreage of habitat potentially impacted.
	Other Impacts	Hazardous Materials	Number of high-risk hazardous material sites impacted	Source: Environmental Protection Agency (EPA) and Arkansas Department of Environmental Quality (ADEQ) geodatabases; Method: Number and type of potential hazardous material site present.
		Traffic Noise Receivers	Number of noise receivers directly adjacent	Source: Most recent existing land use files, AHTD provided information on schools, churches and other public facilities (from MPO, cities, or AHTD). Method: Number of adjacent receivers (residential parcels, schools, churches, daycares, and parks).
Public involvement				
Follow through on commitment to voters to improve I-30 as part of the CAP	Make improvements to the I-30 corridor		Mobility and safety on I-30 mainline	VISSIM or other quantitative methods
Sustain public and agency input and support for the I-30 Corridor Improvements	Public and agency input		Meeting comments and local resolutions	Source: Input gained from TWG and pubic meetings.

Appendix D-3:

Level 1 Screening Methodology and Results Memorandum



PLANNING AND ENVIRONMENTAL LINKAGES LEVEL 1 SCREENING METHODOLOGY AND RESULTS MEMORANDUM

INTERSTATE 30

CA0602

Interstate 530 – Highway 67

December 2014

CONNECTING ARKANSAS PROGRAM CAP

Arkansas State Highway & Transportation Department

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1.0 INTRODUCTION

The Arkansas State Highway and Transportation Department (AHTD) is conducting the I-30 Planning and Environmental Linkages (PEL) Study to identify the purpose and need for improvements within the I-30/I-40 study area, determine possible viable alternatives for a long-term solution, and recommend alternatives that can be carried forward seamlessly into a National Environmental Policy Act (NEPA) study.

The proposed I-30 PEL study area is located in central Arkansas, and stretches approximately 6.7 miles through Little Rock and North Little Rock. The study area begins at I-530 in the south and extends to I-40 in the north, and along I-40 eastwardly to its interchange with Hwy. 67 in North Little Rock as detailed in **Figure 1**.

A number of studies have been completed that provide background on the study area. The most relevant to the study area was the *Central Arkansas Regional Transportation Study Areawide Freeway Study, Phase 1: Arkansas River Crossing Study* from 2003. Other past relevant studies include:

- *Central Arkansas Regional Transportation Study (CARTS), Areawide Freeway Study, Phase 1 Arkansas River Crossing Study Final Report and Phase 2 Areawide Stud*y, 2003;
- *River Rail Airport Study, Phase 2* Final Report, 2011;
- I-630 Fixed Guideway Alignment Study, 2010;
- *The Six Bridges Framework Plan 6 Bridges Study*, late 1990s; and
- *I-630 (from I-430 to I-30) Final Environmental Impact Statement (FEIS)*, 1978.

As documented in the *I-30 PEL Study Purpose and Need Report* (**Appendix A**), the I-30 PEL Study intends to identify improvements to the existing transportation network to address the following needs:

- Traffic Congestion;
- Roadway Safety Issues;
- Structural and Functional Roadway Deficiencies;
- Navigational Safety Issues; and
- Structural and Functional Bridge Deficiencies.

These issues lead to increased vehicle delay for area residents, commuters, businesses, and emergency vehicles. Further issues may be identified during the PEL public involvement process through coordination with technical work groups and the public.

The purpose of the I-30 PEL Study is to develop conceptual transportation alternatives that would address transportation system capacity, safety, and roadway and bridge deficiencies mentioned above by:

- Relieving Traffic Congestion;

- Improving Roadway Safety Issues;
- Addressing Structural and Functional Roadway Deficiencies
- Improving Navigation Safety; and
- Addressing Structural and Functional Bridge Deficiencies.

In addition to the purpose and need, the following goals have been established to balance transportation and environmental goals and objectives (Listed in no particular order).

- Improve opportunity for east – west connectivity
- Enhance mobility
- Improve local vehicle access to and from downtown Little Rock and North Little Rock
- Connect bicycle / pedestrian friendly facilities
- Accommodate existing transit and future transit
- Minimize roadway disruptions during construction
- Minimize river navigation disruptions during/after construction
- Follow through on commitment to voters to improve I-30 as part of the Connecting Arkansas Program (CAP)
- Optimize opportunities for economic development
- Avoid and/or minimize impacts to the human and natural environment, including historical and archeological resources
- Sustain public and agency input and support for the I-30 corridor improvements
- Improve system reliability
- Optimize cost
- Improve safety

Guiding principles that will influence the overall project include (listed in no particular order):

- Accelerated project delivery;
- Context sensitive solutions/aesthetically pleasing facility;
- Minimize the real, perceived and visual barrier of the freeway;
- Open public participation process; and
- Support of local, regional and statewide transportation plans.

Metroplan, the Metropolitan Planning Organization (MPO) for central Arkansas**,** identifies operational improvements on I-30 and rehabilitation improvements on I-40 in the study area as part of the 2040 long range metropolitan transportation plan (LRMTP) financially constrained plan. The financially constrained LRMTP notes that an amendment may be required upon completion of the PEL Study once the number of through lanes has been determined. No other projects within the PEL study area are identified in the 2040 LRMTP financially constrained plan; however several rehabilitation projects leading into/out of the PEL study area are included in the financially constrained plan, as detailed in the *I-30 PEL Purpose and Need Report* (**Appendix A**).

The recommendations identified in the I-30 PEL Study will be moved into subsequent stages of project development in accordance with planning guidelines established in Moving Ahead for Progress in the 21st Century (MAP-21), in the LRMTP and in the CARTS Agreement of Understanding between Metroplan and the local jurisdictions and transit authorities (i.e., *Metroplan Policy on Freeways and Expressways*), as described in the *I-30 PEL Study Purpose and Need Report* (**Appendix A**). With a view towards achieving consistency with local and regional planning efforts, it is anticipated that the PEL Recommendation(s) will be submitted to Metroplan to inform future updates/amendments to the LRMTP financially constrained plan and to the CARTS Transportation Improvement Program (TIP), as well as to the AHTD to inform future Statewide Transportation Improvement Program (STIP) updates/amendments.

Figure 1. I-30 PEL Study Area



2.0 ALTERNATIVE SCREENING PROCESS

The alternative screening process is similar to a funnel with multiple levels of screening blending a varied group of strategies, corridor needs and goals, into a set of refined transportation alternatives through an elaborate "filtering", or evaluation, process. Definitions of the various screening stages follow below and are shown graphically in **Figure 2**, and described in detail in the *I-30 PEL Alternatives Screening Methodology* (**Appendix D-2**).

3.0 CONCEPTUAL LEVEL ALTERNATIVE DEVELOPMENT PROCESS

The Universe of Alternatives for the I-30 PEL Study has been developed utilizing the following precedents, processes and guiding documents:

- 2003 *Areawide Freeway Study*;
- 2040 LRMTP ;
- I-30 PEL Study travel demand modeling;
- *I-30 PEL Study Purpose and Need Report* (**Appendix A**);
- *I-30 PEL Study Alternative Screening Methodology* (**Appendix D-2**);
- *I-30 PEL Study Constraints Report* (**Appendix B**);
- Input from the I-30 PEL Study Technical Work Group (TWG) (**Appendix C-3**);
- Input from the public through I-30 PEL Study public meetings (**Appendix C-2**); and
- Coordination with individual stakeholder groups (**Appendix C-4**).

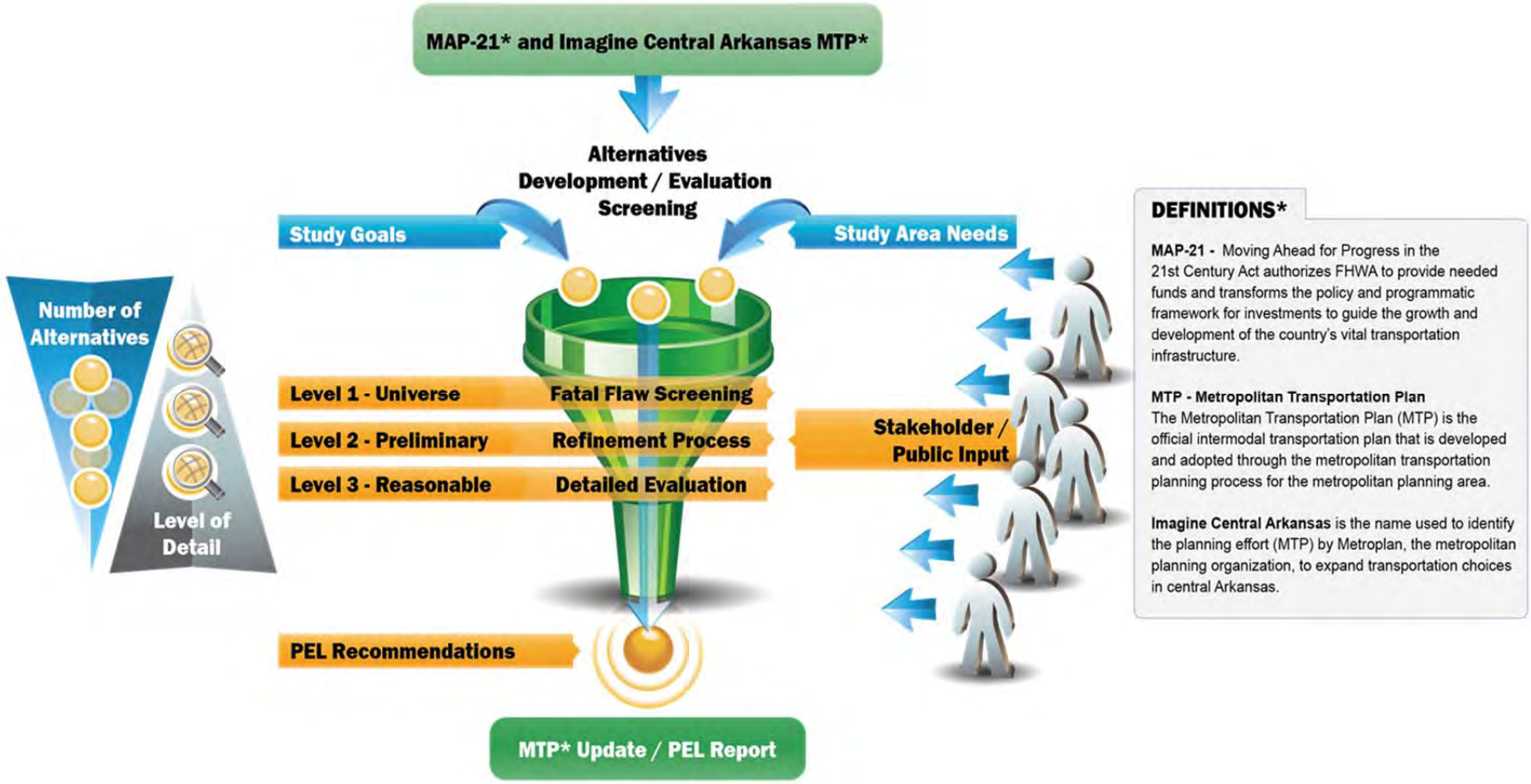
Both the *I-30 PEL Study Purpose and Need Report* (**Appendix A**) and the *I-30 PEL Study Alternative Screening Methodology* (**Appendix D-2**) served as the guiding documents for the alternative groupings based on the primary needs identified for the I-30 PEL study area including: traffic congestion, roadway safety, structural and functional roadway deficiencies, navigational safety, and structural and functional bridge deficiencies.

Traffic Congestion addresses transportation mobility through the study area, including access into the downtown areas of Little Rock and North Little Rock. Transportation solutions were identified to address congestion in the study area including (but not limited to) adding capacity to the existing facility; building on new location; and adding or improving transit, Intelligent Transportation Systems (ITS) and Transportation Systems Management (TSM) strategies to improve traffic flow and safety along the study corridor.

Roadway Safety addresses the high crash rates for vehicles, cyclists and pedestrians in the study area. Transportation alternatives were identified to reduce the number of conflict points along the corridor and improve ramp lengths and spacing to provide safer weaving areas.

Roadway Structural and Functional Deficiencies addresses the need to improve the deteriorating pavement and to correct the geometric deficiencies that do not meet current design standards, such as narrow lanes and shoulders.

Figure 2. Alternative Screening Process



Navigational Safety addresses the high number of bridge strikes by barges to the I-30 Bridge over the Arkansas River. These strikes were caused by the location of a bridge pier in the middle of the navigational channel, which divides the channel into two navigation spans and reduces the horizontal clearance. Bridge alternatives seek to provide solutions for the pier obstruction and adequate horizontal and vertical clearance across the channel.

Structural and Functional Bridge Deficiencies addresses the need to improve the aging substructure of the bridge, and also to provide an adequate number of lanes for the projected traffic and shoulders that meet current design standards.

4.0 DESCRIPTION OF ALTERNATIVES

This section provides a description of the *I-30 PEL Universe of Alternatives* (**Appendix D-1**) under consideration in the I-30 PEL Study. The initial qualitative fatal flaw analysis for each of these alternatives is provided in **Section 5.0**.

4.1 No-Action

The No-Action Alternative represents the baseline condition in the I-30 PEL study area as if no additional improvements are implemented other than those already programmed in the fiscally constrained LRMTP.

The No-Action Alternative provides a baseline to gauge how effective various alternatives will be at accomplishing the purpose and need and study goals for the project. This alternative is required to be considered in PEL and NEPA analyses.

In addition to the programmed transportation improvements that have been identified as fiscally constrained in the LRMTP, the No-Action Alternative includes the preservation of the existing transportation network and all of the short-term operational and maintenance improvements currently underway and planned within the study area.

4.2 Highway Build

Highway Build Alternatives represent capital improvements to the I-30/I-40 main lanes, associated ramps and functional interchange areas.

4.2.1 Main Lane Widening

This alternative includes the addition of lanes to the existing interstate main lanes, which is one of the most common methods used to increase roadway capacity.

4.2.2 Main Lane Pavement Rehabilitation

This alternative rehabilitates pavement along the existing I-30/I-40 main lanes.

4.2.3 Elevated Lanes

This alternative includes increasing roadway capacity in the existing right-of-way (ROW) by adding express lanes on structure directly above the existing roadway.

4.2.4 Collector/Distributor (C/D) Roads

C/D roads consist of local access lanes, usually parallel to, but separated from the existing corridor, in order to remove local traffic from main lane through traffic. This alternative eliminates a significant amount of weaving from the main lanes, allowing through traffic to flow more freely.

4.2.5 Auxiliary Lanes

This alternative provides an extra lane between on and off ramps to allow for safer weaving and merge/diverge movements.

4.2.6 Dedicated Truck Lanes / Ramps

The addition of trucks to the traffic stream reduces travel speeds and safety due to their large size and slow response time. This alternative provides truck-only lanes and ramps in order to separate trucks from main lane traffic.

4.2.7 Frontage Road Improvements

This alternative improves the geometry and connectivity of the frontage road system, allowing for more efficient separation of local traffic from the main lanes.

4.2.8 Intersection Improvements

Intersection improvements consist of modifications to existing intersections near I-30/I-40 to improve traffic flow and reduce conflict points. This could include the addition or modification of signals, additional turning lanes, or control of traffic movement.

4.2.9 Interchange Improvements

Congested interchanges can cause traffic to back up onto the main lanes of the interstate, causing further congestion and unsafe conditions. This alternative replaces or makes geometric improvements to existing interchanges that are not functioning at an acceptable level.

4.2.10 Ramp Consolidation / Elimination

Current standards suggest a maximum of two ramps per direction per mile for urban interstates. One section of the study corridor has 10 ramps in one direction in a 2.5 mile span, and most of the ramps do not meet current length requirements for safe acceleration and deceleration. This alternative improves main lane traffic flow and safety by decreasing the number of entrance and exit points along the study corridor.

4.2.11 Roadway Shoulder Improvements

Adequate shoulders provide space for emergency stops and emergency vehicle access, provide the driver with a sense of comfort in congested areas, and improve the capacity of the main lanes of travel. This alternative increases the width of shoulders in the corridor to current design standards.

4.2.12 Horizontal/Vertical Curve Improvements

The I-30/I-40 facility within the study area has several horizontal and vertical curves that make the road less safe due to limited sight distance. This alternative will modify the roadway to meet existing American Association of State Highway and Transportation Officials (AASHTO) standards for horizontal and vertical curves.

4.2.13 Bottleneck Removal

Spot locations with recurring high congestion, or bottlenecks, cause significant delay and unsafe conditions. Many times these areas can be improved with alternatives focused on the immediate area in order to reduce the congestion at a lower cost than improvements to the whole corridor.

4.2.14 Bypass Route

The addition of an alternate route on new location can draw traffic from a congested route, thereby improving the level of service of the original route. This alternative involves a fourth connection across the Arkansas River, to the east or west of I-30.

4.3 I-30 Arkansas River Bridge

The I-30 Arkansas River Bridge alternatives represent capital investments to improve travel on I-30 across the Arkansas River.

4.3.1 Bridge Rehabilitation

The I-30 Bridge over the Arkansas River has been rated as structurally deficient and the existing 6 lanes cause recurring bottlenecks during peak travel times. This alternative rehabilitates and widens the existing structure.

4.3.2 Bridge Replacement

This alternative provides a new, improved I-30 Arkansas River Bridge to meet current design standards and provides acceptable horizontal and vertical clearance for navigational traffic on the Arkansas River.

4.3.3 Bridge - Elevated Lanes

This alternative constructs additional lanes within the existing ROW by building elevated lanes directly above the existing I-30 Arkansas River Bridge. This could be in combination with the *Elevated Lanes* roadway alternative, or as a stand-alone bridge option, with northbound traffic traveling on one level and southbound traffic traveling on the other.

4.4 Other Modes

Other travel mode alternatives represent capital and operating improvements to non-highway modes including transit, rail, bike and pedestrian.

4.4.1 Arterial Bus Transit

This alternative provides new or expanded bus service along existing roadways.

4.4.2 I-30 Express Bus Transit

This alternative provides or expands bus service that operates on existing arterials or freeways to provide modal options to commuters who follow consistent work trip patterns. Buses usually stop every 3 to 5 miles in the suburban area and then travel non-stop into the downtown area.

4.4.3 Bus on Shoulder

Similar to *Express Bus Transit*, bus on shoulder provides the option for buses to travel on the highway shoulder during peak travel times or incidents.

4.4.4 Arterial Bus Lanes

This alternative provides exclusive lanes for bus transit on arterial routes.

4.4.5 Arterial Bus Rapid Transit

This alternative provides bus service that operates on exclusive ROW or in the existing traffic stream for advantages similar to rail transit with lower cost. Stops are usually at distances of ½ mile or greater.

4.4.6 Light Rail (Streetcar)

This alternative provides rail service that operates with a single railcar or multiple connected cars, either on exclusive ROW or in the traffic stream. Stops are usually at distances of ½ mile or greater.

4.4.7 Heavy Rail

This alternative provides rail service that operates on exclusive ROW with multiple connected passenger railcars. Stops are usually at distances of ½ mile or greater.

4.4.8 Commuter Rail

This alternative provides rail service that operates on freight rail corridors between city centers and suburbs with multiple connected cars. Stops are usually at distances of greater than 2 miles.

4.4.9 High Speed Rail

This alternative provides rail service that operates in exclusive ROW at significantly higher speeds than traditional rail. Stops are usually located at large cities along the rail corridor.

4.4.10 Bicycle / Pedestrian

This alternative provides improved or new sidewalks and bicycle lanes for improved non-motorized connectivity.

4.5 Congestion Management

Congestion management strategies represent alternatives to general purpose highway lanes that focus on reducing congestion on I-30/I-40 by either adding capacity or reducing demand.

4.5.1 Information Systems / Advanced Traveler Information

This alternative includes use of en route traveler information systems and/or pre-trip advanced traveler information. Traveler information systems provide messages to drivers related to weather, travel times, emergencies, delays, upcoming construction projects, etc. For use en route, dynamic message signs display short messages to drivers, and radio broadcasts can provide information in greater detail. To disseminate advanced traveler information (pre-trip), a wide range of media can be used. Radio broadcasts, internet sites, and mobile devices can all be used to inform drivers of travel conditions before a trip begins.

4.5.2 Managed Lanes

This alternative provides a travel lane for transit, vehicles with more than one occupant and/or vehicles willing to pay a toll for travel time savings. Managed lanes provide many mobility benefits to motorists.

4.5.3 Reversible Lanes

Reversible lanes are useful in areas with high directional flow during peak hours. This alternative provides lanes that can be quickly modified to allow travel in either direction in response to peak travel periods.

4.5.4 Ramp Metering

This alternative includes signals placed at the end of entrance ramps to manage the number of vehicles entering the traffic stream. Ramp meters improve the rate of traffic flow and safety on the major roadway by reducing the number of vehicles entering the weaving area from minor roadways.

4.5.5 Hard Shoulder Running

Hard shoulder running is an active traffic management alternative that allows vehicles to use a paved shoulder as an additional lane during peak congestion periods. These lanes can allow all vehicles or certain vehicles such as transit, High Occupancy Vehicles (HOV), or High Occupancy Toll (HOT) vehicles. Dynamic overhead signs are used to inform drivers about whether the shoulder is open for use. In addition to mitigating peak-period congestion, this technology can also mitigate congestion related to traffic incidents.

4.5.6 Travel Demand Management (TDM)

This alternative includes alternative work hours, telecommuting and ridesharing. Alternative work hours can help decrease the intensity of the peak congestion period by shifting some commuters to other times of the day. For some, telecommuting or working from home can eliminate the need to drive in to work altogether, resulting in a lower daily traffic volume. These alternatives both depend on whether or not employers allow for nontraditional work hours. Ridesharing is an alternative that can be used in accordance with *Hard Shoulder Running* or other *Managed Lanes*. By providing an incentive (the ability to use an HOV lane), commuters may be encouraged to carpool,

resulting in a lower daily traffic volume. Other incentives, such as employer incentives, can also encourage the use of rideshare.

4.5.7 Transportation System Management (TSM)

TSM is a planning tool that increases the efficiency of the transportation system by using technology to minimize the effects of vehicle congestion. TSM can involve equipment, such as signals and communications equipment, and technology to monitor traffic and make adjustments to traffic operations on a real-time basis when more vehicles are using the road than can pass through without causing congestion. TSM can also involve improvements to the street and highway network such as lane modifications and parking configuration.

4.5.8 Wayfinding / Signage

This alternative improves signage along the study area to provide the traveler better information to aid in decision making, and allowing for a safer travel experience, i.e. last minute weaving to reach a desired exit.

4.5.9 Arterial Improvements

This alternative includes increasing capacity and safety on existing parallel arterial roads, which can reduce demand on the interstate main lanes. Improvements could be, but are not limited to, additional lanes or traffic signal improvements.

4.5.10 Land Use Policy

This alternative includes the careful consideration of land use in relation to transportation, which plays a large role in mitigating congestion. Effective land use policy varies from place to place, depending on the area's specific needs and limitations.

4.6 Non-Recurring Congestion

Non-recurring traffic represents traffic incidents, bad weather, work zones and special events.

4.6.1 Crash Investigation Sites

This alternative involves the implementation of crash investigation sites, which are designated zones off of the main lanes where crashes can be investigated safely. By removing the vehicles from the original incident location, the persons and vehicles involved in the crash are safe from additional harm. Also, main lanes are less likely to experience secondary incidents. In the case of major incidents, these locations can serve as staging areas. These zones are typically placed in locations where crashes tend to occur more frequently.

4.6.2 Roadside / Motorist Assist Enhancements

Roadside and motorist assistance is an alternative or set of alternatives that can reduce the amount of time that an incident is impeding traffic flow. Quick response time can be vital not only to the incident at hand, but also to preventing secondary incidents from

occurring. Frequent mile markers (as frequent as a tenth of a mile) help motorists to more precisely communicate their location. Service patrols also decrease response time and prevent incidents by removing obstructions or dealing with other possible sources of congestion.

4.6.3 Improvements to Detour Routes

This alternative includes increasing capacity and safety on detour routes during construction by using existing shoulders as additional lanes, widening the detour route to accommodate additional lanes, and improving the road surface to allow for higher speeds.

4.6.4 Variable Speed Limits (Speed Harmonization)

Speed Harmonization is an incident management alternative that can include the use of dynamic overhead signs to communicate a variable speed limit on a freeway during an incident. Non-recurring reasons to vary the speed include construction, adverse weather conditions, traffic incidents, concerts, football games, etc. Variable speed limits in non-recurring conditions help reduce secondary crashes. The dynamic overhead signs can be multifunctional. Not only can they display the speed limit, they can communicate a lane closure due to an incident or operate along with *Hard Shoulder Running* and *Queue Warning*.

4.6.5 Queue Warning

This alternative includes use of a queue warning system, which is typically utilized in addition to speed harmonization. Dynamic signs are mounted on the sides of the same gantries used for the *Speed Harmonization* signs, and a congestion icon is lit when congestion downstream is present. Queue warning systems have been reported to reduce the frequency of traffic incidents.

5.0 LEVEL 1 ALTERNATIVE SCREENING METHODOLOGY AND RESULTS

As detailed in the *I-30 PEL Alternative Screening Methodology* (**Appendix D-2**), qualitative, fatal flaw criteria were utilized to evaluate and screen the Universe of Alternatives against the purpose and need. **Figure 2** provides an overview of the alternative development and screening process for the I-30 PEL Study.

5.1 Level 1 Screening Approach

In Level 1, alternatives were given a *pass* or *fail* rating for each of the screening criteria. A *pass* rating was not required on all criteria for an alternative to move to the next level; alternatives must have shown an overall positive impact on the I-30/I-40 corridor and be determined practicable. For transportation projects, generally, an alternative is practicable if it: 1) meets the purpose and need; 2) is available and capable of being done (i.e., it can be accomplished within the financial resources that could reasonably be made available, and it is feasible from the standpoint of technology and logistics); and 3) will not create other unacceptable impacts such as severe operation or safety

problems, or serious socioeconomic or environmental impacts.[1] Alternatives that did not meet the purpose and need, and those that were clearly impractical based on cost or effectiveness in Little Rock and North Little Rock, were eliminated at this level.

The output of the Level 1 screening analysis will be used as a basis for further quantitative evaluation in Level 2 of the alternative development and screening process.

5.2 Level 1 Screening Results

This section presents the results from the fatal flaw screening process and provides rationale as to why alternatives were either eliminated or carried forward for further study in Level 2.

Table 1 contains the matrix for Level 1 screening, including the rating for each alternative compared to the purpose and need criteria.

5.2.1 Alternatives Eliminated from Further Study

The following alternatives were eliminated from further consideration because they did not meet the purpose and need of the project, or they were deemed impractical. Two roadway alternatives, one bridge alternative, and two rail alternatives were eliminated from further study based on the justifications below.

- Elevated Lanes (Roadway) – This alternative was deemed impractical and eliminated because of the high construction cost and the difficulties associated with constructability.

- Truck Lanes/Ramps – This alternative was eliminated because it would have minimal effect due to the low percentage of trucks currently using I-30.

- Elevated Lanes (Bridge) – This alternative was deemed impractical and eliminated because of the high construction cost and the difficulties associated with constructability.

- Heavy Rail – This alternative was deemed impractical and eliminated because of the high construction and operating cost.

- High Speed Rail – This alternative was deemed impractical and eliminated because of the high construction and operating cost.

[1] The evaluation of alternatives must consider a reasonable range of options that could fulfill the project sponsor's purpose and need. Reasonable alternatives include those that "are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant" (Council on Environmental Quality, 1981).

Table 1. Level 1 Screening Matrix

	Alternative	Congestion	Roadway Safety	Roadway Structural Deficiencies	Roadway Functional Deficiencies	Navigation Safety	Bridge Structural Deficiencies	Bridge Functional Deficiencies	Practicality	Pass/Fail, and Justification for Fail Rating
4.1	**No-Action**	Fail	Fail	Pass	Fail	Fail	Pass	Fail	Fail	Pass - Required to be carried forward by NEPA
4.2	**Highway-Build**									
4.2.1	Main Lane Widening	Pass	Pass	Pass	Pass	Fail	Fail	Fail	Pass	Pass
4.2.2	Main Lane Pavement Rehabilitation	Fail	Pass	Pass	Pass	Fail	Fail	Fail	Pass	Pass
4.2.3	Elevated Lanes	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Fail	Fail - Very high cost, difficult to maintain traffic during construction
4.2.4	Collector/Distributor (C/D) Roads	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Pass
4.2.5	Auxiliary Lanes	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Pass
4.2.6	Dedicated Truck Lanes / Ramps	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Fail	Fail - Minimal effect because of low truck percentage on I-30
4.2.7	Frontage Road Improvements	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Pass
4.2.8	Intersection Improvements	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Pass
4.2.9	Interchange Improvements	Pass	Pass	Pass	Pass	Fail	Fail	Fail	Pass	Pass
4.2.10	Ramp Consolidation / Elimination	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Pass
4.2.11	Roadway Shoulder Improvements	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Pass
4.2.12	Horizontal / Vertical Curve Improvements	Pass	Pass	Pass	Pass	Fail	Fail	Fail	Pass	Pass
4.2.13	Bottleneck Removal	Pass	Pass	Pass	Pass	Fail	Fail	Fail	Pass	Pass
4.2.14	Bypass Route	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Pass
4.3	**Arkansas River Bridge**									
4.3.1	I-30 Arkansas River Bridge Rehabilitation	Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Pass
4.3.2	I-30 Arkansas River Bridge Replacement	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
4.3.3	I-30 Arkansas River Bridge Elevated Lanes	Pass	Pass	Pass	Fail	Fail	Pass	Pass	Fail	Fail - Very high cost, difficult to maintain traffic during construction
4.4	**Other Modes**									
4.4.1	Arterial Bus Transit	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Pass
4.4.2	I-30 Express Bus Transit	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Pass
4.4.3	Bus on Shoulder	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Pass
4.4.4	Arterial Bus Lanes	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Pass
4.4.5	Arterial Bus Rapid Transit	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Pass
4.4.6	Light Rail (Street Car)	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Pass
4.4.7	Heavy Rail	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Fail	Fail - Very high cost per mile
4.4.8	Commuter Rail	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Pass
4.4.9	High Speed Rail	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Fail	Fail - Very high cost per mile
4.4.10	Bicycle / Pedestrian	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Pass
4.5	**Congestion Management**									
4.5.1	Information Systems / Advanced Traveler Information	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Pass
4.5.2	Managed Lanes	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Pass
4.5.3	Reversible Lanes	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Pass
4.5.4	Ramp Metering	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Pass
4.5.5	Hard Shoulder Running	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Pass
4.5.6	Travel Demand Management	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Pass
4.5.7	Transportation System Management (TSM)	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Pass
4.5.8	Wayfinding / Signage	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Pass
4.5.9	Arterial Improvements	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Pass
4.5.10	Land Use Policy	Pass	Pass	Fail	Fail	Fail	Fail	Fail	Pass	Pass
4.6	**Non-Recurring Congestion**									
4.6.1	Crash Investigation Sites	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Pass
4.6.2	Roadside / Motorist Assist Enhancements	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Pass
4.6.3	Improvements to Detour Routes	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Pass
4.6.4	Variable Speed Limits (Speed Harmonization)	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Pass
4.6.5	Queue Warning	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Pass

5.2.2 Alternatives Moving Forward to Level 2 Screening

The following alternatives, called Preliminary Alternatives, were determined to have met the criteria of the purpose and need, and therefore, will be advanced for further analysis in Level 2.

Highway Build

- Main Lane Widening
- Main Lane Pavement Rehabilitation
- C/D Roads
- Auxiliary Lanes
- Frontage Road Improvements
- Intersection Improvements
- Interchange Improvements
- Ramp Consolidation / Elimination
- Roadway Shoulder Improvements
- Horizontal / Vertical Curve Improvements
- Bottleneck Removal
- Bypass Route

I-30 Arkansas River Bridge

- Bridge Rehabilitation
- Bridge Replacement

Other Modes

- Arterial Bus Transit
- I-30 Express Bus Transit
- Bus on Shoulder
- Arterial Bus Lanes
- Arterial Bus Rapid Transit
- Bicycle/Pedestrian
- Commuter Rail
- Light Rail (Streetcar)

Congestion Management

- Information Systems/Advanced Traveler Information
- Managed Lanes
- Reversible Lanes
- Ramp Metering
- Hard Shoulder Running
- Travel Demand Management (TDM)

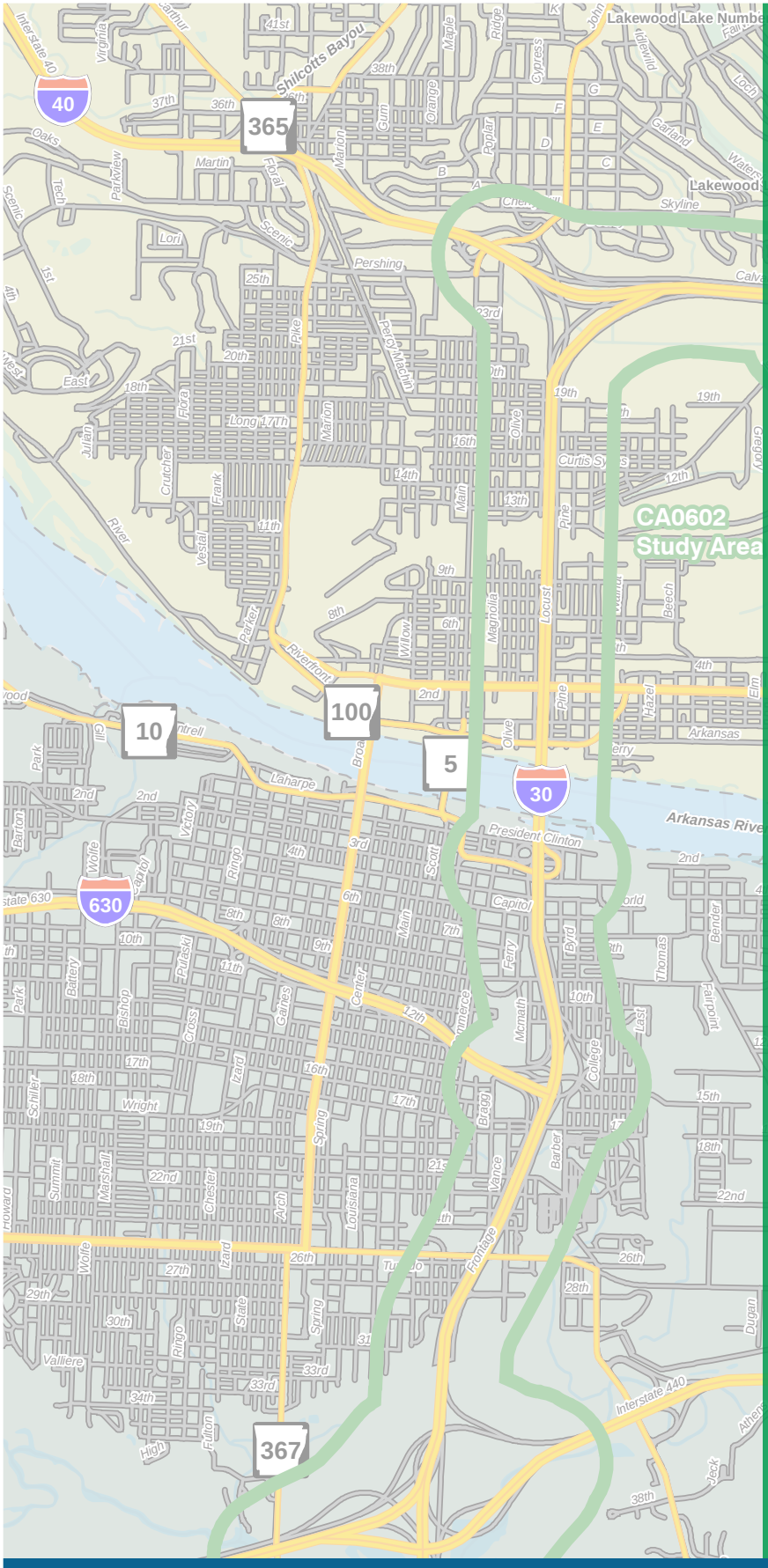
- Transportation System Management (TSM)
- Wayfinding/Signage
- Arterial Improvements
- Land Use Policy

Non-Recurring Congestion

- Crash Investigation Sites
- Roadside / Motorist Assist Enhancements
- Improvements to Detour Routes
- Variable Speed Limits (Speed Harmonization)
- Queue Warning

Appendix D-4:

Level 2 Screening Methodology and Results Memorandum



PLANNING AND ENVIRONMENTAL LINKAGES LEVEL 2 SCREENING METHODOLOGY AND RESULTS MEMORANDUM

INTERSTATE 30

CA0602

Interstate 530 – Highway 67

January 2015

CONNECTING ARKANSAS PROGRAM CAP

Arkansas State Highway & Transportation Department

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1.0 INTRODUCTION

The Arkansas Highway and Transportation Department is conducting the Interstate 30 (I-30) Planning and Environmental Linkages (PEL) Study to identify the purpose and need for improvements within the I-30 PEL study area, determine possible viable alternatives for a long-term solution, and recommend alternatives for further evaluation. The study team, with public and agency input, developed the *I-30 PEL Study Purpose and Need Report* (**Appendix A**), which identified the purpose and need for the project, along with the goals of the study. The team then developed the *I-30 PEL Universe of Alternatives* (**Appendix D-1**), which contains a wide range of possible solutions to the issues in the study corridor identified in the purpose and need and the study goals.

The *I-30 PEL Study Alternative Screening Methodology (ASM)* (**Appendix D-2**) describes the measures and the scoring system utilized to evaluate the alternatives in a tiered screening process as described below:

- **Level 1** is a qualitative screening of the Universe of Alternatives based on the purpose and need. Those alternatives that passed Level 1 Screening were advanced to Level 2 as Preliminary Alternatives. Details of Level 1 Screening are documented in the *I-30 PEL Level One Screening Methodology and Results Memorandum* (**Appendix D-3**)*.*
- **Level 2** is primarily a qualitative screening (with some quantitative analysis) of the Preliminary Alternatives based on the study goals, which produced the Reasonable Alternatives.
- **Level 3** is a quantitative screening of the Reasonable Alternatives based on the study goals. Level 3 Screening will result in a recommended solution(s) which will be advanced for further development/study during the subsequent National Environmental Policy Act (NEPA) study.

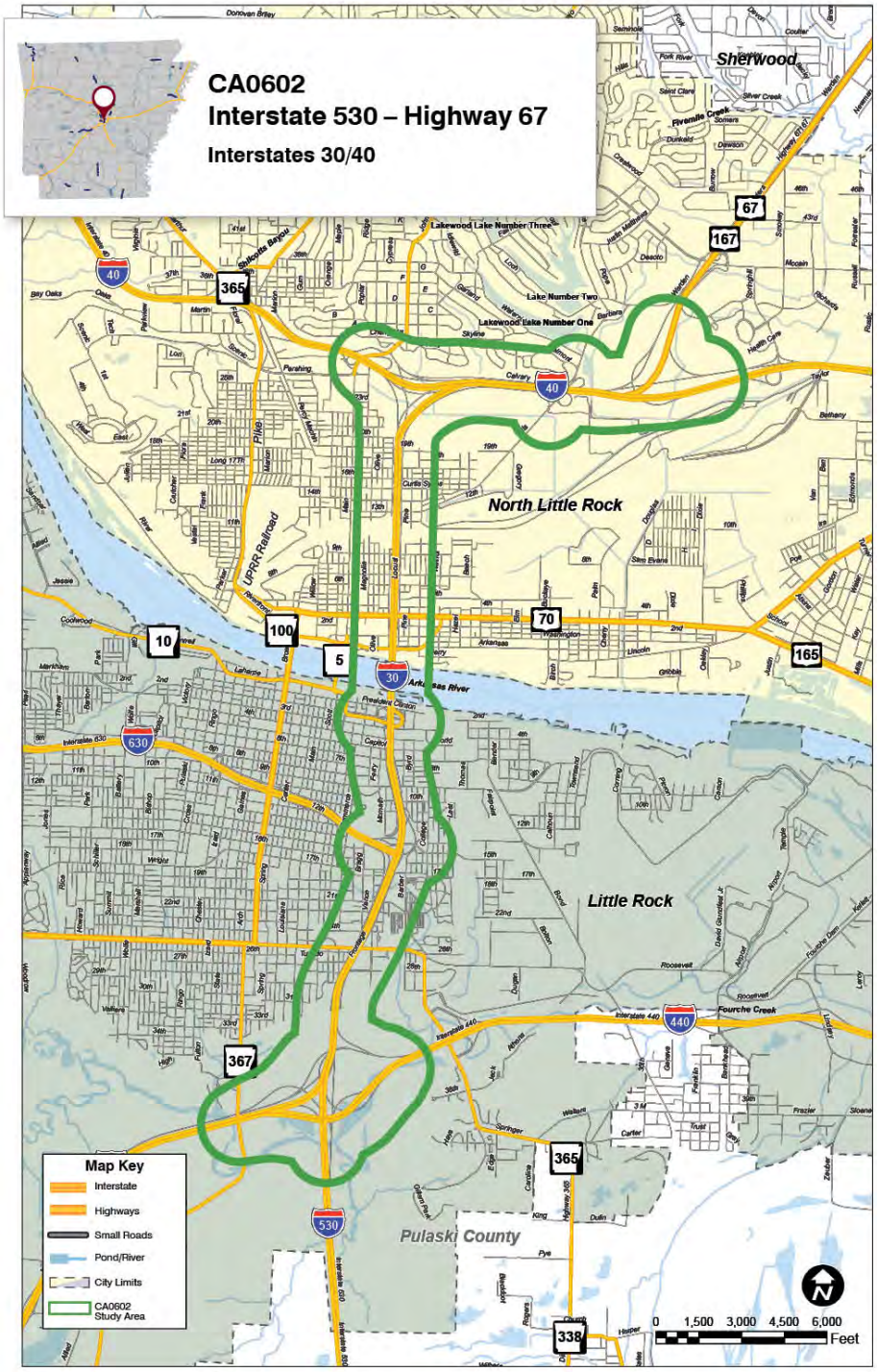
The documents and analysis previously produced that were relied upon for the development of the Level 2 Screening include:

- *I-30 PEL Purpose and Need Report* (**Appendix A**)*;*
- *I-30 PEL Universe of Alternatives* (**Appendix D-1**) *;*
- *I-30 PEL Alternative Screening Methodology* (**Appendix D-2**)*; and*
- *I-30 PEL Level 1 Screening Methodology and Results Memorandum* (**Appendix D-3**).

This document presents the results of the Level 2 Screening process.

The proposed I-30 PEL study area is located in central Arkansas and stretches approximately 6.7 miles through Little Rock and North Little Rock. The study area begins at Interstate 530 (I-530) in the south and extends to Interstate 40 (I-40) in the north, and along I-40 eastwardly to its interchange with United States Highway 67 (Hwy. 67) in North Little Rock as shown in **Figure 1**.

Figure 1. I-30 PEL Study Area



2.0 LEVEL 2 ALTERNATIVE SCREENING METHODOLOGY AND RESULTS

Level 2 Screening analyzed the Preliminary Alternatives, which passed the fatal flaw screening based on the purpose and need in Level 1. In Level 2, qualitative (and some quantitative) criteria were utilized to evaluate and screen the Preliminary Alternatives against the study goals in a two-step process. In Level 2A, the Preliminary Alternatives were screened individually against the study goals. In Level 2B, the remaining Preliminary Alternatives were grouped and screened as multimodal *Basic Scenarios.*

For most measures, alternatives were rated on how well they were able to achieve the study goals using the scale presented in **Table 1**.

Table 1. Qualitative Rating System

Rating	Evaluation
+ +	Substantial positive effects
+	Some positive effects
O	Neutral effects
–	Some negative effects
– –	Substantial negative effects

After ratings were assigned for each measure, scores for each alternative were tallied according to the values in **Table 2**.

Table 2. Scoring System

Rating	Score
+ +	2
+	1
O	0
–	-1
– –	-2

One variation from the above methodology relates to the assessment of potential direct impacts to Environmental Justice/Limited English Proficiency (EJ/LEP) populations. For this measure, the following questions were asked for each alternative:

- **Question 1:** Are EJ/LEP populations present in the study area?
- **Question 2:** Is there a potential for adverse direct impacts to EJ/LEP populations?
- **Question 3:** Is there a potential for beneficial impacts and/or mitigation to offset direct adverse impacts to EJ/LEP populations?

"Yes" or "No" answers were determined for each question; and scores associated with the "Yes" and "No" answers were dependent on the anticipated degree of potential impacts. For example, a response of "Yes" to Question 2 would receive a negative rating and the score would be dependent on the number of potential displacements in census areas reporting EJ/LEP populations. Additional explanation about the methodology, rating and scoring system for the EJ/LEP measure, as well as other environmental measures, is included in **Attachment D**.

2.1 Level 2A Screening

In Level 2A, Preliminary Alternatives were evaluated individually to determine those most capable of meeting the study goals.

Because Level 2A was mostly a qualitative screening process, the ratings given were based on assumptions. Assumptions used in the analysis are presented in **Table 3** below. These assumptions drive the results of the analysis, so any changes could affect the results.

After evaluating each alternative against the screening criteria, the scores were totaled and compared to other alternatives within the respective groupings identified in **Table 4** (Highway Build, Bridge, Other Modes, Congestion Management, and Non-Recurring Congestion) in order to allow the best in each group to emerge. The matrix presented in **Table 4** shows the ratings for each alternative against each of the Level 2A Screening criteria, based on the study goals. For the Level 2A Screening, the No Action Alternative was considered to be the baseline condition and all Preliminary Alternatives were scored in comparison to the No Action Alternative.

Table 3. Level 2A Screening Assumptions

Alternatives		Mobility / Safety	Cost	Environmental [1]
Action Alternatives	**Highway**	• Impacts analyzed in the PEL study area. • Only peak hour benefits were analyzed. • Used Metroplan's Travel Demand Model to determine the change in travel demand with varying number of through lanes. • Bypass was assumed to be at Chester Street. • CATA 10-Year Strategic Plan was used. • I-30 PEL Transit Analysis was used (see **Attachment B**). • Arterial bus lane and Bus Rapid Transit would remove a general purpose lane during peak hours as a starting point to maximize their benefits. Buses could use a shared lane but benefits would be compromised. • Managed lane was assumed to be barrier separated and tolled. • Ramp meter assumed to include a queue bypass lane for buses. • Non-recurring congestion assumed off-peak hour benefits. • Either of the Arkansas River Bridge alternatives, replacement or rehabilitation, would require complete reconstruction of the approaches. Therefore, either option would offer the opportunity for better east-west connectivity near the river.	• Conceptual ROW and utility costs to AHTD were assumed to increase as the roadway/bridge width increased.	• The qualitative rating system described in **Tables 1** and **2** were utilized for all the environmental measures, except EJ/LEP, which utilized the qualitative scale described in **Attachment D, Table D-2.** • Because potential direct impacts to environmental resources were evaluated based on the anticipated footprints of the Preliminary Alternatives, impacts were generally assumed to be neutral ("0") if additional ROW was not anticipated for all environmental measures. • If additional ROW was anticipated, potential for displacements was assumed. • If added capacity is anticipated, noise impacts were assumed. • EJ/LEP rated based on the anticipated level of potential impacts to the following three questions: 1. Are EJ/LEP populations present within the study area? 2. Is there a potential for adverse direct impacts to EJ/LEP populations? *Note: If additional ROW was anticipated and EJ/LEP populations were determined present in the study area, then the potential for displacements (adverse impacts) was assumed.* 3. Is there a potential for beneficial impacts and/or mitigation to offset any potential adverse impacts to EJ/LEP populations (e.g., improved mobility, safety, community cohesion, etc.)? *Note: Given that all of the Preliminary Alternatives would be designed to either improve mobility, safety, other transportation modes, community cohesion, etc., all of which would be beneficial to all populations, including EJ/LEP, then the potential for beneficial impacts or the ability to mitigate for adverse direct impacts to EJ/LEP populations was assumed.* **Attachment D** provides details related to the EJ/LEP screening methodology. • For alternatives without a general footprint or potential location, one of the following was assumed when assessing impacts to environmental measures only: 1. Alternative has not yet been designed to a level of detail allowing for the assessment of potential environmental impacts (e.g., interchange improvements) – more detailed design to occur in Level 3; or 2. Alternative is likely to be designed and implemented by others (e.g., improvements to detour routes); and the location will likely be determined by the implementing agency. For both categories, it is difficult to determine the nature (beneficial or adverse) and level/severity of potential environmental impacts, thus impact to environmental measures scored neutral ("0").
	I-30 Arkansas River Bridge			
	Other Modes		• Other mode costs were based on similar projects.	
	Congestion Management		• Costs for alternatives that increased roadway width were considered more substantial than those that were technology based.	
	Non-recurring Congestion		• Costs for alternatives requiring some roadway construction were considered moderate.	

[1] *See **Attachment D** for additional details on the screening of environmental measures, including EJ/LEP.*

Table 4. Level 2A Screening Matrix

Goals	Enhance Mobility			Access to Downtown		East -West Connectivity		Bicycle/ Pedestrian	Accommodate Transit	System Reliability		Minimize Roadway Disruptions	Minimize River Disruptions		Improve Safety					Opportunity for Economic Development	Optimize Cost				Community Impacts[1,2]					Cultural Resource Impacts[1,2]		Biological Resource Impacts[1,2]			Other Impacts[1,2]		Commitment to Voters	Public / Agency Input	
Measures[3] / Alternatives	Mobility in PEL Study Area	Total travel time savings	Average peak hour travel speed through corridor	Mobility of key intersections within PEL Study Area	Travel time to key destinations in PEL Study Area	Locations allowing for local street connectivity	Designs allowing for open spaces across I-30	Grade separated bike / ped accommodations across I-30	Transit ridership in the PEL Study Area	Potential accident reductions	Emergency Vehicle Travel Time	Severity of I-30 lane closures, detours during construction	Severity of river closures during construction	Location of navigational impediments (Bridge Piers)	I-30 mainline conflict points in weaving / merge / diverge areas	Number of ramps per mile on I-30 in the study area	Ramp acceleration and deceleration lengths	I-30 Roadway and bridge structural conditions	Arterial connection conflict points	Access to existing / potential business sites within the PEL Study Area	Total conceptual cost to AHTD	Total cost of ROW acquisition	Impact to major utilities and infrastructure	Total investment required by others	ROW / parcels / structures potentially directly impacted	Potential Displacements	Are EJ/LEP populations present in the study area?	Is there a potential for adverse direct impacts (displacements) to EJ/LEP populations?[4]	Is there potential for beneficial impacts and/or mitigation to offset any potential adverse effects to EJ/LEP populations (e.g., improved mobility, safety, community cohesion, etc.)[4]	Recorded archaeological sites potentially directly impacted	NRHP or NRHP-eligible sites potentially directly impacted	Potential direct park impacts	Potential direct surface water crossings, wetlands impacts	Potential direct impacts to listed and non-listed species and/or habitat, and rare locally important species	High risk hazardous material sites potentially directly impacted	Potential noise impacts	Mobility on I-30 Main Lane	Meeting comments and local resolutions	SCORE
Highway - Build																																					
Main Lane Widening	++	++	++	-	++	0	0	0	-	0	++	-	0	0	0	0	0	+	0	+	- -	-	-	0	-	-	yes	yes	yes	0*	0*	0*	-	-	0*	-	++	+	3
Main Lane Pavement Rehabilitation	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	++	0	0	0	0	0	0	0	0	yes	no	yes	0	0	0	0	0	0	0	+	+	5
Collector/Distributor (C/D) Roads	+	+	+	-	+	0	0	0	0	+	+	+	0	0	++	0	+	0	0	+	-	-	-	0	-	-	yes	yes	yes	0*	0*	-	-	-	0*	-	+	+	3
Auxiliary Lanes	+	+	+	0	+	0	0	0	0	+	+	0	0	0	+	0	++	0	0	+	-	0	0	0	0	0	yes	no	yes	0	0	0	0	0	0	0	+	+	13
Frontage Road Improvements	+	+	+	+	+	0	0	0	0	+	+	+	0	0	0	0	0	0	+	+	-	-	0	0	-	-	yes	yes	yes	0*	0*	0*	0*	0*	0*	-	+	+	7
Intersection Improvements	+	+	+	++	+	+	+	0	0	+	+	0	0	0	0	0	0	0	+	+	-	-	-	0	-	-	yes	yes	yes	0*	0*	0*	0*	0*	0*	-	+	+	8
Interchange Improvements	++	+	+	++	+	+	+	+	-	++	+	-	0	0	0	0	0	+	+	+	-	-	-	0	-	-	yes	yes	yes	0*	0*	0*	-	-	0*	-	++	+	9
Ramp Consolidation / Elimination	+	+	+	0	+	+	+	0	0	++	+	0	0	0	++	++	+	0	++	- -	-	0	0	0	0	0	yes	yes	yes	0*	0*	0*	0*	0*	0*	0*	+	++	16
Roadway Shoulder Improvements	+	+	+	0	+	0	0	0	0	+	+	-	0	0	0	0	+	0	0	0	-	0	0	0	0	0	yes	no	yes	0	0	0	0	0	0	0	+	+	9
Horizontal / Vertical Curve Improvements	+	+	+	0	+	0	0	0	0	+	+	- -	0	0	0	0	0	0	0	0	-	0	0	0	0	0	yes	no	yes	0	0	0	0	0	0	0	+	+	7
Bottleneck Removal	+	+	+	0	+	0	0	0	0	+	+	-	0	0	0	0	0	0	0	+	-	0	0	0	0	0	yes	no	yes	0	0	0	0	0	0	0	+	+	9
Bypass Route	+	+	+	-	+	0	0	0	0	0	+	+	-	0	0	0	0	0	0	0	0	-	-	- -	-	-	yes	yes	yes	0*	0*	-	-	-	0*	-	0	+	-5
I-30 Arkansas River Bridge																																					
Rehabilitation	++	++	++	0	++	+	+	+	-	0	+	-	- -	- -	0	0	+	+	0	+	- -	- -	- -	0	- -	-	yes	yes	yes	0*	0*	-	-	-	0*	-	++	- -	-4
Replacement	++	++	++	0	++	+	+	+	-	0	++	-	-	++	0	0	+	++	0	+	- -	- -	- -	0	- -	-	yes	yes	yes	0*	0*	-	-	-	0*	-	++	++	7
Other Modes																																					
Arterial Bus Transit	+	0	0	+	0	0	0	0	+	0	0	0	0	0	0	0	0	0	0	+	0	0	0	-	0	0	yes	no	yes	0	0	0	0	0	0	0	0	++	7
I-30 Express Bus Transit	+	+	+	+	+	0	0	0	++	+	+	0	0	0	0	0	0	0	0	+	0	0	0	-	0	0	yes	no	yes	0	0	0	0	0	0	0	0	++	13
Bus on Shoulder	+	+	+	+	+	0	0	0	++	0	+	0	0	0	0	0	0	0	0	+	-	0	0	0	0	0	yes	no	yes	0	0	0	0	0	0	0	0	++	12
Arterial Bus Lanes	+	0	0	+	+	0	0	0	+	0	+	0	0	0	0	0	0	0	0	+	0	0	0	-	0	0	yes	no	yes	0	0	0	0	0	0	0	0	0	7
Arterial Bus Rapid Transit	+	0	0	+	+	0	0	0	+	0	+	0	0	0	0	0	0	0	0	+	0	0	0	-	0	0	yes	no	yes	0	0	0	0	0	0	0	0	+	8
Light Rail (Street Car)	0	0	0	0	0	0	0	0	+	0	0	0	0	0	0	0	0	0	0	+	0	-	-	- -	-	-	yes	yes	yes	0*	0*	0*	0*	0*	0*	-	0	+	-4
Commuter Rail	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	- -	0	0	yes	yes	yes	0	0	0	0	0	0	0	0	0	-3
Bicycle / Pedestrian	+	0	0	0	0	0	0	++	+	+	0	0	0	0	0	0	0	++	0	+	-	0	0	-	0	0	yes	no	yes	0	0	0	0	0	0	0	0	++	10
Congestion Management																																					
Information Systems / Advanced Traveler Information	+	+	+	+	+	0	0	0	+	+	+	0	0	0	0	0	0	0	0	+	-	0	0	0	0	0	yes	no	yes	0	0	0	0	0	0	0	+	+	12
Managed Lanes	+	+	+	-	+	0	0	0	+	0	+	-	0	0	-	0	0	0	0	+	- -	-	-	0	-	-	yes	yes	yes	0*	0*	0*	-	-	0*	-	+	0	-4
Reversible Lanes	+	+	+	0	+	0	0	0	-	0	+	-	0	0	-	0	0	0	0	+	- -	-	-	0	-	-	yes	yes	yes	0*	0*	0*	-	-	0*	-	+	+	-4
Ramp Metering	+	+	+	0	+	0	0	0	+	+	+	0	0	0	0	0	0	0	0	+	-	0	0	0	0	0	yes	no	yes	0	0	0	0	0	0	0	+	+	11
Hard Shoulder Running	+	+	+	0	+	0	0	0	-	-	- -	-	0	0	-	0	+	0	0	+	-	0	0	0	-	-	yes	no	yes	0*	0*	0*	0*	0*	0*	-	+	0	-1
Travel Demand Management (TDM)	+	+	+	+	+	0	0	0	+	+	+	0	0	0	0	0	0	0	0	+	0	0	0	0	0	0	yes	no	yes	0	0	0	0	0	0	0	+	+	13
Transportation System Management (TSM)	+	+	+	+	+	0	0	0	0	+	++	0	0	0	0	0	0	0	0	+	0	0	0	0	0	0	yes	no	yes	0	0	0	0	0	0	0	+	+	13
Wayfinding / Signage	+	+	+	+	+	0	0	0	0	+	0	0	0	0	0	0	0	0	0	+	0	0	0	0	0	0	yes	no	yes	0	0	0	0	0	0	0	+	+	11
Arterial Improvements	+	0	0	+	+	+	0	0	0	+	+	0	0	0	0	0	0	0	++	+	0	-	-	-	-	-	yes	yes	yes	0*	0*	0*	0*	0*	0*	-	0	+	4
Land Use Policy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	- -	0	0	yes	yes	yes	0	0	0	0	0	0	0	- -	0	-4
Non-Recurring Congestion																																					
Crash Investigation Sites	+	+	+	+	+	0	0	0	0	+	+	0	0	0	-	0	0	0	0	+	-	0	0	0	0	0	yes	no	yes	0	0	0	0	0	0	0	+	+	10
Roadside / Motorist Assist Enhancements	+	+	+	+	+	0	0	0	0	+	+	0	0	0	0	0	0	0	0	+	0	0	0	0	0	0	yes	no	yes	0	0	0	0	0	0	0	+	+	12
Improvements to Detour Routes	+	+	+	+	+	0	0	0	0	+	+	+	0	0	0	0	0	0	+	+	-	-	-	-	-	-	yes	yes	yes	0*	0*	0*	0*	0*	0*	-	+	+	5
Variable Speed Limits (Speed Harmonization)	0	0	0	0	0	0	0	0	0	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	yes	no	yes	0	0	0	0	0	0	0	+	+	5
Queue Warning	0	0	0	0	0	0	0	0	0	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	yes	no	yes	0	0	0	0	0	0	0	+	+	5

Legends:

Shaded alternatives were eliminated in Level 2A

Color Codes for Measures	
	Mobility
	Safety
	Cost
	Environmental

Scoring Legend	
++	Substantial Positive Effects
+	Some Positive Effects
0	Neutral Effects
-	Some Negative Effects
- -	Substantial Negative Effects

[1] Potential direct impacts to environmental resources evaluated based on anticipated footprints of the alternatives.

*[2] See **Attachment D** for additional details on the environmental screening scoring and methodology for environmental measures, including EJ/LEP.*

[3] Measures used to evaluate alternatives in Level 2 screening are defined in the accompanying document CA0602 PEL Alternative Screening Methodology.

**Score of neutral "0" assigned because at this level of screening, the nature (beneficial or adverse) and level/severity of potential direct environmental impacts is difficult to determine due to 1) the alternative has not yet been designed to a level of detail allowing for assessment of potential direct environmental impacts (e.g., intersection improvements) and more detailed design will occur during the Level 3 analysis; OR 2) the alternative will likely be designed and implemented by others (e.g., improvements to detour routes) and the location/alternative footprint will be determined by the implementing agency. Applies to environmental measures only.*

2.2 Level 2A Screening Results

2.2.1 Level 2A Categories

The Level 2A Screening resulted in the alternatives being grouped into three categories:

1. **Alternatives Screened Out from Further Study -** Defined as those alternatives that did not adequately address the goals of the study due to negative environmental impacts, costs, difficulties from an engineering standpoint such as geometric issues or constructability, and not meeting the mobility or safety goals. Alternatives that scored zero (0) or less in Level 2A were screened out from further consideration.

2. **Primary Alternatives -** Defined as those alternatives considered to have the potential to substantially address the study goals as stand-alone alternatives. The Primary Alternatives were the Highway Build main lane widening, C/D roads, interchange improvements and Arkansas River Bridge replacement.

3. **Complementary Alternatives -** Defined as those alternatives that when combined with the Primary Alternatives address the study goals. The Complementary Alternatives were the Highway Build (other than main lane widening and interchange improvements), Other Modes, Congestion Management, and Non-Recurring Congestion alternatives.

2.2.2 Alternatives Screened Out From Further Study

The following alternatives were screened out from further consideration.

Highway Build

- **Bypass Route** – Metroplan's Travel Demand Model runs showed that the addition of a bypass route would reduce peak hour traffic on I-30 by approximately 3.5%. This alternative was screened out due to the moderate reduction in I-30 traffic, environmental impacts (e.g., anticipated ROW impacts; potential displacements; and potential park, surface waters, and habitat impacts associated with a new Arkansas River Bridge crossing), and lack of a dedicated funding source identified in the Metroplan Long Range Metropolitan Transportation Plan (LRMTP).

I-30 Arkansas River Bridge

- **Rehabilitation** – As shown in **Table 4**, poor scoring in categories related to structural condition, project cost, and navigational impediments resulted in the elimination of the Arkansas River Bridge rehabilitation alternative from further consideration.

With the rehabilitation alternative, necessary repairs to the existing main river pier foundations would be costly and would result in further restriction of the navigation span and frequent closure to navigation traffic during construction. Because of the extent of existing and anticipated fatigue cracking, replacing all of the existing approach bridge spans and supports in their entirety would be necessary, further adding significant cost. Cracking and spalling present in the existing bridge deck may be indicators that the deck concrete is near the limits of its useful life, therefore, it would be prudent to consider future replacement of the deck, further adding to life-cycle costs. Implementing other repairs or measures to eliminate the fracture critical status[1], to retrofit for increased seismic resistance, and to increase the navigational clearance are neither cost effective nor feasible.

The anticipated service life of a typical bridge, when designed, is between 50 and 75 years. If all feasible repair and modifications were made to the existing I-30 Bridge, it can be assumed that the bridge would perform adequately for its remaining service life – approximately 20 to 25 years. However, concerns regarding the lack of redundancy[1] inherent in a two-girder and pin-and-hanger system, the poor functionality resulting from narrow shoulder widths, and the inadequate seismic capacity and navigational clearance would remain.

In response to letters from AHTD (letter date December 3, 2013) notifying the United States Army Corps of Engineers (USACE) and the United States Coast Guard (USCG) that either widening or replacement of the I-30 Bridge were planned as part of the overall I-30 project, and seeking their respective input on these construction options, the USACE (letter date January 10, 2014) noted their concern that the existing pier bisecting the channel creates a problem aligning tow barges; and the USCG (letter date January 29, 2014) recommended replacing the existing bridge with a new structure that provides a minimum horizontal navigation opening of at least 320.0 feet and minimum vertical clearance of 63.0 feet (above normal pool stage). The USCG also noted that any reduction of the existing horizontal clearance of the left descending channel (preferred navigation span) would be unacceptable unless otherwise approved by the USCG. As mentioned above, the rehabilitation option would result in further restriction of the navigation span. Additionally, in an August 21, 2014 letter to AHTD, the Arkansas Waterways Commission recommended similar horizontal and vertical clearances as the USCG and removal of the existing pier dividing the navigation channel. Bridge rehabilitation would not address the cited concerns of the USACE, USCG and Arkansas Waterways Commission.

[1] The two girder system in the main river span, the pin-and-hangers at the ends of the suspended spans, and the steel bent caps in the approach spans of the I-30 Arkansas River Bridge have been designated as “fracture critical” elements in accordance with the National Bridge Inspection Standards. A fracture critical element is defined as any element whose failure would cause whole or partial collapse. Collapse following fracture of these elements is possible because of the inability to transfer load to other supporting elements, also known as a lack of redundancy.

Attachment A-1 provides a detailed summary of the condition of the existing I-30 Bridge and further discussion regarding the disadvantages of a rehabilitation option. The referenced AHTD, USACE, USCG and Arkansas Waterways Commission correspondence letters are provided in **Attachment A-2**.

Other Modes

- **Light Rail (Street Car)** – The Central Arkansas Transit Authority (CATA) Strategic Plan (10-year plan) does not include light rail improvements. Light Rail is part of CATA's long range plan; however, CATA has indicated that they would implement Bus Rapid Transit (BRT) before implementing Light Rail along future Light Rail corridors. This alternative was screened out as a result of CATA not including light rail in their 10-year Strategic Plan and the lack of a dedicated funding source identified in the Metroplan LRMTP. Metroplan modeled Light Rail under the category of Fixed Guideway which included both Light Rail and Commuter Rail and found that together under the most aggressive "Supportive" land use policy, fixed guideway attracts approximately 6,400 person trips.

- **Commuter Rail** – The CATA Strategic Plan (10-year plan) does not include commuter rail, nor is it included in CATA's long range plan. This alternative was screened out as a result of CATA not including commuter rail in any of their future planning documents and the lack of a dedicated funding source identified in the Metroplan LRMTP. Metroplan modeled Light Rail under the category of fixed guideway which included both Light Rail and Commuter Rail and found that together under the most aggressive "Supportive" land use policy, fixed guideway attracts approximately 6,400 person trips.

Congestion Management

- **Managed Lanes** – This alternative was screened out due to the increase in conflict points in weaving areas, the high initial cost given the lack of an existing managed lane system, the continued operational costs, and potential negative impact to low-income populations given the added monetary cost for use of these lanes.

- **Reversible Lanes** – This alternative was screened out due to high initial cost, continued operational cost, increased conflict points in the weaving areas, and ROW requirements.

- **Hard Shoulder Running** – This alternative was screened out due to potential safety impacts resulting from interference with emergency vehicles and conflict with the Bus on Shoulder transit option, which CATA identified as a preferential congestion management alternative for possible future implementation.

- **Land Use Policy** – The region's adopted land use policies are incorporated into the Metroplan regional transportation models and are represented as the

"Emerging Trend", also considered the *Base* land use condition. Metroplan also modeled a "Supportive" land use trend which represents substantial land use policy changes that would support increased transit such as commuter rail, light rail, and local bus transit service. This alternative would not result in near-term benefits to the I-30/I-40 facility, nor does it meet a study goal to "follow through on commitment to voters to improve I-30 as part of the CAP." Elimination of this alternative does not mean that land use is not important to the corridor or region, but that it is not considered to be a main solution for addressing safety, mobility and associated roadway deficiencies along I-30/I-40. Land use has been and will continue to be a component of the stakeholder led visioning workshops throughout the PEL and NEPA phases of project development. Future plans through the visioning workshops, such as providing connectivity across I-30 and ensuring access and mobility to support existing and planned development, will be coordinated with city planners.

2.2.3 Primary Alternatives

The following were advanced as Primary Alternatives due to their potential to substantially address the study goals as stand-alone alternatives.

Highway-Build

- **Main Lane Widening** – This alternative includes the addition of lanes to the existing interstate main lanes, which is one of the most common methods used to increase roadway capacity.

- **Collector/Distributor (C/D) Roads** – This alternative includes the addition of lanes, separated from the main lanes by a barrier, to facilitate efficient traffic movement into and out of the downtown areas with minimal disruption to through traffic.

- **Interchange Improvements** – This alternative includes improvements to highway connections that allow travelers to move from one route to another without directly crossing any other traffic stream.

I-30 Arkansas River Bridge

- **Replacement** - This alternative includes construction of a new I-30 Bridge. The design and construction of a full replacement structure would adhere to current standards and codes and structural and functional deficiencies would not be present in the new structure. The navigation clearances and alignment would meet current Coast Guard standards and barge operator preferences, and the "design life" of the structure would be equal to or in excess of 75 years. The seismic resistance would meet current code and the bridge would provide preferred levels of redundancy eliminating the fracture critical classification present in a rehabilitation option. With full replacement there would be a new wider deck with safer barriers providing the maximum desired functionality.

Main lane widening and bridge replacement were included in the Basic Scenarios and further evaluated in Level 2B Screening. Specific interchange improvements will be reflected in each reasonable alternative that will be evaluated in Level 3 after interchange locations and configurations have been identified.

2.2.4 Complementary Alternatives

The following were advanced to Level 2B Screening as Complementary Alternatives.

Highway – Build - These alternatives will be incorporated as needed into the new I-30 facility designs to improve mobility and meet current design standards.

- Main Lane Pavement Rehabilitation
- Auxiliary Lanes
- Frontage Road Improvements
- Intersection Improvements
- Ramp Consolidation/Elimination
- Roadway Shoulder Improvements
- Horizontal/Vertical Curve Improvements
- Bottleneck Removal

Other Modes – These alternatives were advanced and evaluated separately to determine the amount of traffic that would be diverted or attracted from/to I-30 by other modes. Then the group of alternatives were evaluated to determine the total improvement in peak hour mobility that could be expected from their implementation.

- Arterial Bus Transit
- I-30 Express Bus Transit
- Bus on Shoulder
- Arterial Bus Lanes
- Arterial Bus Rapid Transit
- Bicycle/Pedestrian

Congestion Management – These alternatives were advanced and evaluated as a group to determine the total improvement in peak hour mobility that could be expected from their implementation.

- Information Systems/Advanced Traveler Information
- Ramp Metering
- Travel Demand Management (TDM)
- Transportation System Management (TSM)
- Wayfinding/signage
- Arterial Improvements

Non-Recurring Congestion – These alternatives were advanced and evaluated as a group to determine the total improvement in mobility that could be expected from their implementation.

- Crash Investigation Sites
- Roadside/Motorist Assist Enhancements
- Improvements to Detour Routes
- Variable Speed Limits (Speed Harmonization)
- Queue Warning

2.3 Level 2B Screening

In Level 2B, the remaining alternatives were grouped to form Basic Scenarios for further evaluation.

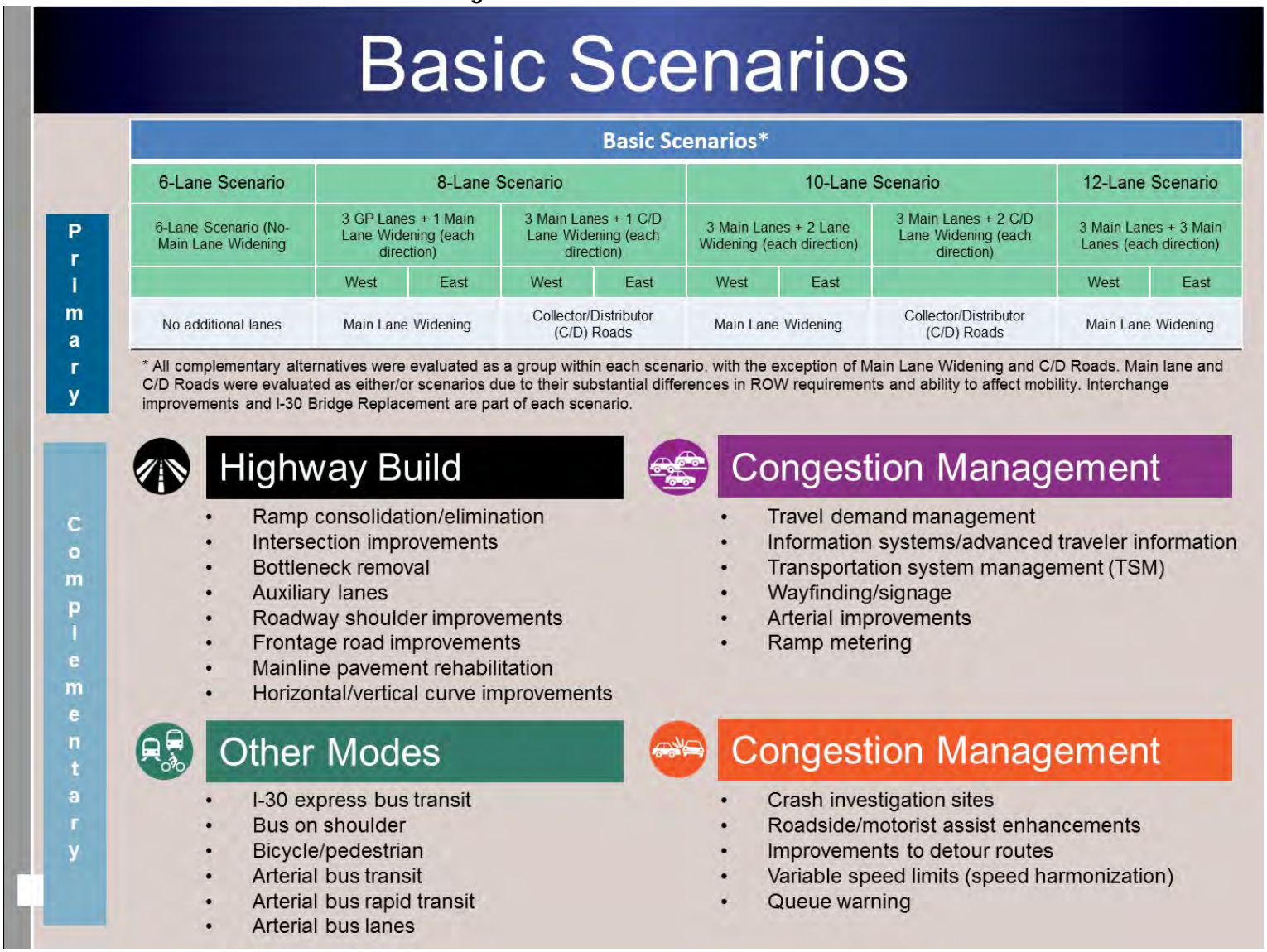
2.3.1 Basic Scenarios

The Basic Scenarios were developed to evaluate a reasonable range of combinations of Primary and Complementary Alternatives. The Primary Alternatives by definition have the most direct ability to meet the goals and objectives of the project, so varying the specifics of the Primary Alternatives in the Basic Scenarios provides the most insight into that scenario's overall performance. Thus, Basic Scenarios were developed based upon the number of lanes throughout the I-30 corridor, including 6, 8, 10, and 12-lane options. Because I-30 is a 6-lane facility currently, the 6-Lane Basic Scenario would not add any additional main lane capacity.[2] The 8-lane Basic Scenario adds one additional lane in each direction, the 10-lane Basic Scenario adds two additional lanes in each direction, and the 12-lane Basic Scenario adds 3 lanes in each direction. In addition, the I-30 Bridge Replacement was included in all Basic Scenarios, with the overall width of the bridge replacement driven by the number of main lanes in the scenario. Interchange Improvements were also identified as a Primary Alternative. However, to focus the analysis on the number of main lanes and the bridge replacement across the Arkansas River, interchange improvements were not evaluated in Level 2. Interchange improvements and options will be further developed and evaluated as part of Level 3.

The Basic Scenarios as described above were further defined for analysis by adding the remaining Complementary Alternatives. The Basic Scenarios represent complete transportation solutions that incorporate other modes and the latest technologies with highway build improvements to develop comprehensive transportation scenarios for analysis. The compilation of these Basic Scenarios is illustrated in **Figure 2** and further described below.

[2] Assumed that the 6-lane facility would occur within the existing project footprint and that bridge replacement would occur on the existing project centerline. However, should it be determined that the bridge replacement needs to be constructed to the east or west of the existing centerline to maintain traffic flow resulting in a change to the project footprint, adverse direct impacts to environmental measures would be anticipated.

Figure 2. Level 2B Basic Scenarios



As shown in **Figure 2**, the 6-Lane Basic Scenario (no main lane widening) was developed with the I-30 Arkansas River Bridge Replacement and remaining Complementary Alternatives (those that passed Level 2A Screening) in an effort to achieve the study goals without adding lanes to the existing roadway.

Also shown in **Figure 2**, the 8, 10, and 12-lane Basic Scenarios were developed with the I-30 Arkansas River Bridge Replacement and the remaining Complementary Alternatives. However, given the agency and public input regarding C/D lanes in lieu of main lanes, the team developed scenarios for each type of capacity addition. A C/D system is a freeway main lane that is separated from the through traffic main lanes. The C/D system provides access to the local service interchanges, thereby eliminating most of the weaving areas from the I-30 main lanes.

In addition, the team tested the same set of Complementary Alternatives with each main lane or C/D scenario. The dependence and relative importance of the Complementary Alternatives is more significant with a fewer number of added main lanes or C/D roads. The ultimate goal is to find the optimal combination of lane widening and Complementary Alternatives to meet the study goals.

For evaluation purposes, the C/D roads were located in the sections of the I-30 facility with heavy traffic moving into and out of the downtown areas. The C/D road for the southbound 10-lane scenario was assumed to begin north of 15th Street in North Little Rock and terminate just south of 6th Street in Little Rock. The C/D road for the northbound 10-lane scenario was assumed to begin south of 6th Street in Little Rock and terminate north of 9th Street in North Little Rock. C/D roads for the 8-lane scenario were assumed to begin near Broadway Street in North Little Rock and terminate south of 6th Street in Little Rock. The addition of C/D roads results in Basic Scenarios with wider footprints than the main lane widening Basic Scenarios (190 feet for the 8-lane C/D compared to 142 feet for the 8-lane with main lane widening, and 214 feet for the 10-lane C/D compared to 166 feet for the 10-lane with main lane widening). Outside the beginning and end points of the C/D system, the roadway would narrow to the same width as the main lane options (142 feet for 8-lanes with main lane widening and 166 feet for 10-lanes with main lane widening). As a result of the beginning and end points of the C/D road, 2 C/D lanes plus auxiliary lanes between interchanges would be required in each direction to serve the demand.

Each widening Basic Scenario, with the exception of the 10-lane C/D Basic Scenario, also has an east and a west option. This represents the location of the bridge replacement, with staged construction of the new bridge beginning to the east or west of the existing bridge. The first stage will include construction of a new structure wide enough to carry at least 6 lanes of traffic, built as closely as possible to the existing bridge while the old bridge is still open to traffic. Once the first stage of the new bridge construction is completed, traffic will be diverted to the new structure and the old bridge will be removed. The remaining portion of the new bridge will then be constructed while traffic remains open on the recently completed section. In this way, the bridge is constructed taking as little ROW as possible, while keeping at least 6 lanes of traffic

open at all times. Separate Basic Scenarios (east and west) were created for each lane option due to the different environmental impacts on either side of the bridge. The 10-lane C/D Basic Scenario widens to both sides of the existing bridge location, and therefore does not have an east/west option.

2.3.2 Level 2B Process

Historical growth rates and the CARTS travel demand model were used to estimate 2040 traffic volumes in the study area (existing and forecasted traffic volumes are presented in the *CA0602 Traffic and Forecast Plan*, December 2014, included as part of the project file with AHTD). Analysis was performed to quantify the volume of traffic that could be attracted to or diverted away from I-30 as a result of changes in corridor capacity and Complementary Alternative improvements, such as transit in the study area. These volumes were then added to or subtracted from the projected 2040 volumes to produce modified I-30 traffic demand. The resulting volumes were then used as the basis for a high level evaluation of the various lane scenarios and the impact that C/D roads could provide compared to main lane analysis only. This analysis is only a snapshot at three locations along the corridor and does not take into account downstream queuing or main lane merge, diverge or weaving. The target Level-of-Service (LOS) of D is AHTD's standard for an urban corridor during the peak hour of travel. Additional analyses were completed to measure the Basic Scenarios performance against the alternate performance standard of LOS E as shown on **Attachment C**. Should that standard be adopted by AHTD for this project, the congestion relief related evaluation scoring for the Basic Scenarios will be reconsidered.

The Level 2B Transportation Analysis described above is provided in **Attachment C**.

Impacts to environmental resources were assessed using the general footprint for each Basic Scenario. Utilizing ArcGIS, each footprint was overlaid with the identified environmental constraints of the I-30 PEL study area. Given that many of the Complementary Alternatives would either be implemented by other agencies in the future (e.g., arterial improvements, express bus transit, etc.) or the design has not been fully developed at this level of screening (e.g., intersection improvements, ramp consolidation/elimination, etc.) the footprint and location of many Complementary Alternatives remain unknown. Accordingly, at the Level 2B Screening, all environmental impacts were assessed within the known footprints of the 6-lane, 8-lane, 8-lane C/D, 10-lane, 10-lane C/D, and 12-lane Basic Scenarios, exclusive of interchanges.

Costs for construction, ROW and utilities were assumed to vary proportionately to the width of the typical sections for the alternatives. More detailed cost estimates will be developed in Level 3 when interchange locations, ramp configurations, and cross street layouts are known.

2.3.3 Level 2B Scoring

In Level 2B, the qualitative rating system shown in **Table 1** was used to score each Basic Scenario against the measures established based on the study goals. The measures utilized to evaluate the Basic Scenarios fall into the following 4 groups:

Mobility

1. Mobility in the PEL study area
2. Total travel time savings
3. Average peak hour travel speed through corridor
4. Mobility of key intersections within PEL study area
5. Travel time to key destinations in PEL study area
6. Locations allowing for local street connectivity
7. Designs that allow for open spaces across I-30
8. Grade separated bicycle/pedestrian accommodations across I-30
9. Transit ridership in the PEL study area
10. Severity of I-30 lane closures, detours during construction
11. Severity of river closures during construction
12. Location of navigational impediments (Bridge Piers)
13. Access to existing/potential business sites within the PEL study area
14. Mobility on I-30 main lane

Safety

1. Potential accident reductions
2. Emergency vehicle travel time
3. I-30 main lane conflict points in weaving/merge/diverge areas
4. Number of ramps per mile on I-30 in the study area
5. Ramp acceleration and deceleration lengths
6. I-30 roadway and bridge structural conditions
7. Arterial connection conflict points

Cost

1. Total conceptual cost to AHTD
2. Total cost of ROW acquisition
3. Impact to major utilities and infrastructure
4. Total investment required by others

Environmental

1. Potential direct impacts to ROW/parcels/structures
2. Potential displacements
3. Are EJ/LEP populations present in the study area?
4. Is there potential for adverse impacts to EJ/LEP populations?
5. Is there potential for beneficial impacts and/or reasonable mitigation to offset any potential adverse impacts to EJ/LEP populations?
6. Potential direct impacts to recorded archaeological sites
7. Potential direct impacts to National Register of Historic Places (NRHP) or NRHP-eligible sites
8. Potential direct impacts to parks
9. Potential direct impacts to surface water crossings, wetlands
10. Potential direct impacts to listed and non-listed species and/or habitat, and rare locally important species
11. Potential direct impacts to high risk hazardous material sites

12. Potential noise impacts
13. Meeting comments and local resolutions

The study team's goal was to ensure an equitable scoring system in Level 2B that gave equal proportionate weighting to the four groups of project measures. However, if the scores for each of the measures were simply added for each alternative, the Safety and Cost groups would have been undervalued due to their low number of measures (7 for Safety and 4 for Cost compared to 14 for Mobility and 13 for Environmental).

In order to give the four groups equal weight, the scores were averaged within each group and then summed for each scenario so that each group provided 25% of the scoring. The resulting scores were then multiplied by 38, the number of measures in the Level 2B analysis.

The scoring process for the 10-Lane C/D scenario is provided below in **Tables 5 – 9** as an example.

Table 5. Example Scoring for Mobility – 10-lane C/D Scenario

	Mobility Measures	**Rating**	**Score**
1	Mobility in PEL Study Area	++	2
2	Total travel time savings	++	2
3	Average peak hour travel speed through corridor	++	2
4	Mobility of key intersections within PEL Study Area	+	1
5	Travel time to key destinations in PEL Study Area	++	2
6	Locations allowing for local street connectivity	+	1
7	Designs that allow for open spaces across I-30	+	1
8	Grade separated bike / pedestrian accommodations across I-30	+	1
9	Transit ridership in the PEL Study Area	+	1
10	Severity of I-30 lane closures, detours during construction	-	-1
11	Severity of river closures during construction	-	-1
12	Location of navigational impediments (Bridge Piers)	++	2
13	Access to existing / potential business sites within the PEL Study Area	++	2
14	Mobility on I-30 main lanes	++	2
	Total		17

Table 6. Example Scoring for Safety – 10-lane C/D Scenario

	Safety Measures	**Rating**	**Score**
1	Potential accident reductions	++	2
2	Emergency vehicle travel time	++	2
3	I-30 main lane conflict points in weaving / merge / diverge areas	+	1
4	Number of ramps per mile on I-30 in the study area	+	1
5	Ramp acceleration and deceleration lengths	++	2
6	I-30 roadway and bridge structural conditions	++	2
7	Arterial connection conflict points	+	1
	Total		11

Table 7. Example Scoring for Cost – 10-lane C/D Scenario

	Cost Measures	Rating	Score
1	Total conceptual cost to AHTD	--	-2
2	Total cost of ROW acquisition	--	-2
3	Impact to major utilities and infrastructure	--	-2
4	Total investment required by others	-	-1
	Total		-7

Table 8. Example Scoring for Environmental – 10-lane C/D Scenario

	Environmental Measures	Rating	Score
1	ROW / parcels / structures impacted	-	-1
2	Displacements	-	-1
3	Are EJ populations present within the I-30 PEL study area?	yes	0
4	Is there a potential for adverse impacts to EJ/LEP populations (e.g., displacements within EJ/LEP areas)?	yes	-1
5	Is there potential for beneficial impacts and/or mitigation to offset any potential adverse effects to EJ/LEP populations (e.g., improved mobility, safety, community cohesion, etc.)?	yes	1
6	Recorded archaeological sites potentially impacted	O	0
7	NRHP or NRHP-eligible sites potentially impacted	O	0
8	Park impacts	--	-2
9	Surface water crossings, wetlands	--	-2
10	Potential impacts to listed and non-listed species and/or habitat, and rare locally important species	--	-2
11	High risk hazardous material sites impacted	-	-1
12	Noise receivers directly adjacent	-	-1
13	Meeting comments and local resolutions	O	0
	Total		-10

The scores within each group were averaged, and then summed to give a total score for the scenario, as shown below.

Table 9. Example Scoring for all Groups – 10-lane C/D Scenario

Group	Score/Number of Measures	Average
Mobility	17 / 14	1.214
Safety	11 / 7	1.571
Cost	-7 / 4	-1.750
Environmental	-10 / 13	-0.769
	Total	0.266

The total was then divided by 4 to give the average for all 4 measures.

0.266 / 4 = 0.0665

This number was then multiplied by 38, the number of measures, to give the final score.

0.0665 x 38 = 2.53

Each scenario was scored in this manner.

Assumptions used in the Level 2B Screening analysis are presented in **Table 10** below. Supporting qualitative data is included in **Attachments B**, **C and D**. The matrix presented in **Table 11** shows the ratings for the Basic Scenarios against each of the Level 2B Screening measures, based on the study goals. For the Level 2B Screening, the No Action Alternative was scored in the same manner and against the same mobility, safety, cost and environmental measures as the Basic Scenarios. Evaluating the No Action Alternative in this manner gave a quantifiable score that was compared to the various Basic Scenarios and which provided a better understanding of the performance and impacts resulting from the No Action Alternative.

Table 10. Level 2B Screening Assumptions

<table>
<tr><th colspan="3">Alternatives</th><th>Mobility</th><th>Safety</th><th>Cost</th><th>Environmental [1]</th></tr>
<tr><td colspan="3">No Action</td><td colspan="2">• Normal operations and maintenance only.
• Other regional projects identified in the Metroplan Long Range Plan would be implemented.
• No Action Alternative scored against same measures for Mobility and Safety as other Action Alternatives for baseline comparison.</td><td>• No capital improvements would be made to I-30 or I-40.
• Other regional projects identified in the Metroplan Long Range Plan would be implemented.
• No Action Alternative scored against the same measures for Cost as other Action Alternatives for baseline comparison.</td><td>• No additional ROW required. No Action Alternative scored against the same criteria for Environmental Impacts as other Action Alternatives for baseline comparison.</td></tr>
<tr><td rowspan="6">Action Alternatives</td><td>Scenario</td><td>Description</td><td colspan="2"></td><td></td><td></td></tr>
<tr><td>6-lane Basic Scenario [2]</td><td>No Main Lane Widening</td><td colspan="2" rowspan="5">• Impacts located in the PEL study area.
• Only peak hour benefits were analyzed.
• Used Metroplan’s Travel Demand Model results to determine the change in travel demand with varying number of through lanes.
• Bypass was assumed to be at Chester Street.
• Transportation assessment of Complementary Alternatives (except for the 12-lane Scenario, which used Metroplan model results)(Attachment C)
• I-30 PEL Transit Analysis was used (Attachment B)
• CATA 10-Year Strategic Plan was used.
• 8-lane Basic Scenario – C/D lanes would run from approximately Broadway Street in North Little Rock to south of 6th Street in Little Rock. For this C/D system, a 1-lane plus auxiliary lane C/D system would be needed.
• 10-lane Basic Scenario – The southbound C/D lanes would run from near 15th Street in North Little Rock to south of 6th Street in Little Rock. The northbound C/D lanes would begin south of 6th Street in Little Rock and terminate north of 9th Street in North Little Rock. For this C/D system, a 2-lane plus auxiliary lane C/D system would be needed.
• Adding 1-lane C/D would operate better than adding 1 main lane.</td><td rowspan="5">• Conceptual ROW and utility costs to AHTD were assumed to increase as the roadway/bridge width increased.</td><td rowspan="5">• Impacts to environmental resources assessed using the general footprint for each Basic Scenario.
• Footprints overlaid with environmental constraints.
• Because footprint/location of many Complementary Alternatives is unknown, all environmental impacts were assessed within the known footprints of the 6-lane, 8-lane, 8-lane C/D, 10-lane, 10-lane C/D and 12-lane Basic Scenarios.
• Assumptions for environmental measures:
o ROW/parcels/structures: rated based on the number of parcels where new ROW would potentially be required.
o Potential displacements: rated based on the number of structures potentially affected by new required ROW.
o EJ/LEP: rated based on the anticipated level of potential impact to the following three questions:
1. Are EJ/LEP populations present within the study area?
2. Is there a potential for adverse direct impacts (displacements) to EJ/LEP populations?
3. Is there a potential for beneficial impacts and/or mitigation to offset any potential adverse impacts to EJ/LEP populations (e.g., improved mobility, safety, community cohesion, etc.)?
o Potential direct impacts to recorded archaeological sites and NRHP or NRHP-Eligible Sites: rated based on the number of sites potentially directly impacted within the proposed alternative footprint.
o Potential direct impacts to parks: rated based on the number of parks potentially impacted multiplied by the typical section width at the Arkansas River Bridge crossing (all potential park impacts to occur near the river crossing). The wider the typical section, the greater anticipated impacts.
o Potential direct impacts to surface water crossings: rated based on the typical section width at the Arkansas River Bridge crossing, with the wider the typical section, the greater anticipated impacts.
o Potential direct impacts to listed and non-listed species and/or habitat, and rare locally important species: rated based on the number of new habitat areas potentially crossed.
o Potential direct impact to high risk hazardous material sites: rated based on the number of encroachments on hazardous material sites and potential impacts to sites.
o Potential noise impacts: rated based on the potential impact to parcels containing sensitive receptors and the likelihood of feasible and reasonable noise mitigation.</td></tr>
<tr><td rowspan="2">8-lane Basic Scenario</td><td>3 Main Lanes + 1 Main Lane Widening (each direction)</td></tr>
<tr><td>3 Main Lanes + 1 C/D Lane Widening (each direction)</td></tr>
<tr><td rowspan="2">10-lane Basic Scenario</td><td>3 Main Lanes + 2 Main Lane Widening (each direction)</td></tr>
<tr><td>3 Main Lanes + 2 C/D Lane Widening (each direction)</td></tr>
<tr><td>12-lane Basic Scenario</td><td>3 Main Lanes + 3 Main Lane Widening (each direction)</td></tr>
</table>

[1] *See **Attachment D** for additional details on the screening methodology for environmental measures, including EJ/LEP.*

[2] *Assumed that the 6-lane Basic Scenario would occur within the existing project footprint and that bridge replacement would occur on the existing project centerline. However, should it be determined that the bridge replacement need to be constructed to the east or west of the existing centerline to maintain traffic flow resulting in a change to the project footprint, additional adverse direct impacts to environmental measures would be anticipated.*

Table 11. Level 2B Screening Matrix

Goals	Color Codes for Measures: Mobility / Safety / Cost / Environmental	No Action	6-lane Scenario	8-lane Scenario				10-lane Scenario			12-lane Scenario	
			6-lane Scenario[7] (No-Main Lane Widening)	3 Main Lanes + 1 Main Lane Widening (each direction)		3 Main Lanes + 1 C/D Lane[2] Widening (each direction)		3 Main Lanes + 2 Main Lane Widening (each direction)		3 Main Lanes + 2 C/D Lane[3] Widening (each direction)	3 Main Lanes + 3 Main Lane Widening (each direction)	
	Maximum Main Lane Width[1] (Sq. Ft. of Pavement)	102	118	142 (3.55M)		190 (3.85M)		166(4.15M)		214(4.58M)	190(4.75M)	
	Measures[4] / Bridge Location			West	East	West	East	West	East		West	East
Enhance Mobility	Mobility in PEL Study Area	- -	- -	0	0	0	0	+	+	++	++	++
	Total travel time savings	- -	- -	0	0	0	0	+	+	++	++	++
	Average peak hour travel speed through corridor	- -	- -	0	0	0	0	+	+	++	++	++
Access to Downtown	Mobility of key intersections within PEL Study Area	- -	+	+	+	+	+	+	+	+	+	+
	Travel time to key destinations in PEL Study Area	- -	- -	0	0	0	0	+	+	++	++	++
East-West Connectivity	Locations allowing for local street connectivity	- -	-	+	+	+	+	+	+	+	+	+
	Designs that allow for open spaces across I-30	- -	-	+	+	+	+	+	+	+	+	+
Connect Bicycle/Pedestrian Friendly Facilities	Grade separated bike / ped accommodations across I-30	0	+	+	+	+	+	+	+	+	+	+
Accommodate Existing Transit and Future Transit	Transit ridership in the PEL Study Area	+	++	++	++	++	++	+	+	+	+	+
System Reliability	Potential accident reductions	- -	-	0	0	+	+	++	++	++	++	++
	Emergency Vehicle Travel Time	- -	-	0	0	+	+	++	++	++	++	++
Minimize Roadway Disruptions	Severity of I-30 lane closures, detours during construction	++	- -	- -	- -	-	-	-	-	-	-	-
Minimize River Disruptions	Severity of river closures during construction	++	0	-	-	-	-	-	-	-	-	-
	Location of navigational impediments (Bridge Piers)	- -	++	++	++	++	++	++	++	++	++	++
Improve Safety	I-30 main lane conflict points in weaving / merge / diverge areas	- -	+	+	+	+	+	+	+	+	+	+
	Number of ramps per mile on I-30 in the study area	- -	+	+	+	+	+	+	+	+	+	+
	Ramp acceleration and deceleration lengths	- -	++	++	++	++	++	++	++	++	++	++
	I-30 Roadway and bridge structural conditions	- -	++	++	++	++	++	++	++	++	++	++
	Arterial connection conflict points	- -	+	+	+	+	+	+	+	+	+	+
Opportunity for Economic Development	Access to existing / potential business sites within the PEL Study Area	- -	- -	-	-	0	0	+	+	++	++	++
Optimize Cost	Total conceptual cost to AHTD	++	0	-	-	-	-	-	-	- -	- -	- -
	Total cost of ROW acquisition	++	0	-	-	-	-	-	-	- -	- -	- -
	Impact to major utilities and infrastructure	++	0	-	-	-	-	-	-	- -	- -	- -
	Total investment required by others	0	-	-	-	-	-	-	-	-	-	-
Community Impacts[5]	ROW / parcels / structures potentially directly impacted	0	0	-	-	-	-	-	-	-	- -	- -
	Potential displacements	0	0	-	-	-	-	-	-	-	- -	- -
	Are EJ populations present within the I-30 PEL study area?[6]	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
	Is there a potential for adverse direct impacts (displacements) to EJ/LEP populations ?[6]	no	no	yes	yes	yes	yes	yes	yes	yes	YES	YES
	Is there potential for beneficial impacts and/or mitigation to offset any potential adverse effects to EJ/LEP populations (e.g., improved mobility, safety, community cohesion, etc.)?[6]	no	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Cultural Resource Impacts[5]	Recorded archaeological sites potentially directly impacted	0	0	0	0	0	0	0	0	0	0	0
	NRHP or NRHP-eligible sites potentially directly impacted	0	0	0	0	0	0	0	0	0	- -	- -
Natural Resource Impacts[5]	Potential direct park impacts	0	0	-	-	- -	- -	-	-	- -	- -	- -
	Potential direct surface water crossings, wetlands impacts	0	0	-	-	- -	- -	-	-	- -	- -	- -
	Potential direct impacts to listed and non-listed species and/or habitat, and rare locally important species	0	0	-	-	- -	- -	- -	- -	- -	- -	- -
Other Impacts[5]	High risk hazardous material sites potentially directly impacted	0	0	-	-	-	-	-	-	-	- -	- -
	Potential noise impacts	0	0	-	-	-	-	-	-	-	-	-
Commitment to Voters	Mobility on I-30 Main Lanes	- -	-	+	+	+	+	++	++	++	+	+
Public / Agency Input	Meeting comments and local resolutions	- -	-	+	+	+	+	+	+	0	0	0
	SCORE	-25	-4	2	2	3	3	12	12	11	4	4
	Weighted Score	-16.39	-0.97	-0.99	-0.99	0.89	0.89	8.46	8.46	2.53	-10.13	-10.13
	Mobility 14	-1.071	-0.643	0.357	0.357	0.500	0.500	0.857	0.857	1.214	1.143	1.143
	Safety 7	-2.000	0.714	1.000	1.000	1.286	1.286	1.571	1.571	1.571	1.571	1.571
	Cost 4	1.500	-0.250	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.750	-1.750	-1.750
	Environmental 13	-0.154	0.077	-0.462	-0.462	-0.692	-0.692	-0.538	-0.538	-0.769	-1.231	-1.231

Scoring Legend	
++	Substantial Positive Effects
+	Some Positive Effects
0	Neutral Effects
-	Some Negative Effects
- -	Substantial Negative Effects

[1] *Maximum roadway and bridge width does not include interchanges, cross streets and ramps in Level 2.*

[2] *8-lane C/D extends from near Broadway Street in North Little Rock to just south of 6th Street in Little Rock (Approximately 20% of the study corridor.)*

[3] *10-lane Southbound C/D extends from near 15th Street in North Little Rock to south of 6th Street in Little Rock. 10-Lane northbound C/D begins south of 6th Street in Little Rock and terminates north of 9th Street in North Little Rock. (Approximately 40% of the study corridor.)*

[4] *Measures used to evaluate alternatives in Level 2 Screening are defined in the accompanying document CA0602 PEL Alternative Screening Methodology.*

[5] *Potential direct impacts to environmental resources evaluated based on anticipated footprints of the alternatives.*

[6] *See **Attachment D** for additional detail on the screening methodology for environmental measures, including EJ/LEP.*

[7] *Assumed that the 6-lane Basic Scenario would occur within the existing project footprint and that bridge replacement would occur on the existing project centerline. However, should it be determined that the bridge replacement needs to be constructed to the east or west of the existing centerline to maintain traffic flow resulting in a change to the project footprint, additional adverse direct impacts to environmental measures would be anticipated.*

2.3.4 Level 2B Screening Results

In summary, the Cost and Environmental category evaluation results are mostly tied directly to the footprint size of the Basic Scenario. In other words, the wider the typical section and ROW needs, generally the greater the Cost and Environmental evaluation impacts. Mobility and Safety categories do not necessarily correlate to the footprint size the same way as Cost and Environmental. Based on the future traffic demand in the 2040 design year, a wider typical section than existing conditions would better accommodate mobility. There is a point where additional lanes would not have an incremental benefit to mobility. Also, because there is a significant amount of traffic destined to either downtown North Little Rock or Little Rock, separation of the through traffic and local traffic with a C/D system would be beneficial from a mobility stand point. Other Cost and Environmental impacts are introduced with a C/D system as described above. Finally, both additional lanes and a C/D system can provide solutions to existing safety problems. However, a typical section with additional lanes does increase weaving and the potential for crashes. A C/D system can help reduce crashes by separating local traffic from through traffic, but Cost and Environmental impacts are introduced with a C/D system as described above, due to the increased typical section.

As mentioned in **Section 3.0**, east and west Basic Scenarios were created for each lane option (except the 10-lane C/D) because different environmental impacts are anticipated depending on the location of the bridge replacement. However, as shown in **Table 11**, the east and west options of each respective Basic Scenario showed no differentiation between the ratings of potential direct impacts for the environmental measures. This is because at the Level 2B Screening stage, scoring was based on threshold ranges associated with each specific environmental measure. For example, the threshold range for potential direct impacts to parcels was 1-40 parcels potentially impacted = single negative (-) with a score of -1; and 40 or more parcels potentially impacted = double negative (--) with a score of -2. Although there are differences between the potential impacts to the respective environmental measures resulting from the east and west options, these differences were not large enough to differentiate the ratings at this high level of screening. For those Basic Scenarios moving forward, the detailed and highly specific nature of the Level 3 Screening will quantify the differences in potential impacts between east and west options.

The following section summarizes the Basic Scenarios that were screened out from Level 2B and the Basic Scenarios that are proposed to move forward to Level 3.

2.3.5 Screened Out Scenarios

The following Basic Scenarios were screened out from further consideration due to their low scores in the Level 2B qualitative screening.

- **6 Main Lanes** (3 main lanes in each direction) – This Basic Scenario was screened out because it failed to substantially improve mobility and safety in the study area, and as traffic volumes continue to increase, the conditions will grow progressively worse over the next 20 years. Because traffic volumes are expected to increase approximately 1% annually, congestion in the

corridor is expected to be significantly worse than today. As a result, peak hour ease of travel, travel time and travel speed, as well as the other 11 mobility measures, are expected to worsen whereas the duration of congestion would increase substantially. The increased congestion would have an impact on access to existing and potential business sites within the PEL study area. Furthermore, increased congestion is expected to have a negative effect on safety by having an adverse impact on emergency vehicle travel time.

- **8 Main Lanes** (4 main lanes in each direction) East and West Basic Scenarios – These scenarios were screened out because they incurred costs and environmental impacts while not adequately addressing mobility and safety in the study area.

  Because traffic volumes are expected to increase approximately 1% annually, congestion in the corridor is expected to be significantly worse than today. With added capacity of a general purpose lane in each direction, portions of the corridor are expected to have traffic volumes that exceed 8 Main Lanes of capacity. As a result, peak hour ease of travel, travel time and travel speed are expected to be unacceptable, in addition to 11 other mobility measures, whereas the duration of congestion would be worse than today in the design year. The increased congestion would have a substantial impact on access to existing and potential business sites within the PEL study area. Furthermore, increased congestion is expected to have a negative effect on safety by having an adverse impact on emergency vehicle travel time. One of the primary issues associated with the I-30/I-40 facility in the PEL study area are the closely spaced interchanges. The 8 Main Lanes Basic Scenario does not address the closely spaced interchanges and the high weaving volume between Broadway Street and Cantrell Road.

  Although this scenario would require additional ROW, particularly near the I-30 Bridge over the Arkansas River, which resulted in impacts to parks, water crossings, endangered species, and hazardous material sites, this scenario had fewer environmental impacts than all other scenarios except the No Action and 6-lane Basic Scenario.

- **12 Main Lanes** (6 main lanes in each direction) East and West Basic Scenarios – These scenarios were screened out because forecasted design year traffic levels indicate that the 10-lane alternatives were capable of addressing mobility and safety along the study corridor, and therefore the extra lanes were not needed. These scenarios also had high construction, ROW and utility costs, along with the most serious impacts to parks, water crossings, endangered species, hazardous material sites, and parcels, many of which resulted in displacements, as compared to all other main lane widening and C/D scenarios.

2.3.6 Scenarios Moving Forward To Level 3 Screening

The following Basic Scenarios received the highest scores in the Level 2B Screening process, and therefore will be advanced as *Reasonable Alternatives*, along with the No Action alternative.

- **No Action –** Although the No Action has few environmental impacts and costs are low, mobility and safety were rated poorly as a result of the No Action not meeting the study's goals. **(Level 2B Score = -16.39)**

- **8-lane C/D** (3 main lanes + 1 C/D lane in each direction) East and West Scenarios – This scenario included adding 1 C/D lane in each direction from near 7th Street in North Little Rock to just south of Broadway Street in North Little Rock. Outside the location of the C/D road, the new facility included 4 main lanes in each direction, with the same footprint as the 8 Main Lane Basic Scenarios. This scenario will also include replacement of the I-30 Bridge over the Arkansas River, with the new bridge width extending to the east or to the west of the existing bridge location. These scenarios were advanced because the scenarios work toward minimizing the cost and environmental impacts to parks, water crossings, endangered species, hazardous material sites, and parcels.

  While this scenario received neutral or positive ratings on the 14 mobility measures, the cost and environmental impacts of the footprint required to incorporate the C/D roads (wider than the 8 Main Lane Scenarios) caused some negative impact on the score. Both east and west options are being carried forward because environmental impacts vary based upon the location of the proposed bridge, which will be differentiated during the Level 3 Screening analysis.

  High level analysis indicates that a 2-lane C/D would be needed to meet the demand for the assumed C/D beginning and end points near 7th Street in North Little Rock to just south of 6th Street in Little Rock. In order for a 1-lane C/D to operate at a desirable level of mobility, the beginning and end points would have to be modified to near 7th Street in North Little Rock to just south Broadway in North Little Rock. **(Level 2B Score = 0.89)**

- **10 Main Lanes** (5 main lanes in each direction) East and West Basic Scenarios – These scenarios included widening on both sides of the current 6-lane facility to 10 Main Lanes throughout the corridor, 5 lanes in each direction, with the new I-30 Bridge over the Arkansas River being constructed to the east or to the west of the existing bridge. Most of the widening will occur within the existing ROW, except for at the Arkansas River Bridge, the proposed frontage road extension over the Union Pacific Railroad to the west of I-30, and a few smaller parcels. Other areas may be impacted depending

on the location of interchanges, which will be determined in Level 3. These scenarios scored high due to improvements expected to the 14 mobility and 7 safety measures, and the relatively smaller footprint than the scenarios with C/D roads. Both east and west options are being carried forward because environmental impacts vary based upon the location of the proposed bridge, which will be differentiated during the Level 3 Screening analysis. **(Level 2B Score = 8.46)**

- **10-lane C/D** (3 Main Lanes + 2 C/D lane in each direction) – This scenario included adding 2 C/D lanes in each direction from near 7th Street in North Little Rock to just south of 6th Street in Little Rock. Outside the location of the C/D roads, the new facility included 5 main lanes in each direction, with the same footprint as the 10 Main Lane Basic Scenarios. This scenario will also include replacement of the I-30 Bridge over the Arkansas River, with the new bridge width extending to the east and west of the existing bridge location. This scenario received high scores for the 14 mobility and access measures and 7 safety measures, but had lower environmental and cost scores due to the larger footprint of the C/D roads. The total score was still higher than all other scenarios other than the 10 Main Lane Basic Scenarios. **(Level 2B Score = 2.53)**

The Basic Scenarios moving forward to Level 3 Screening will be refined to include intersection and interchange improvements in order to evaluate the connections to the local street grid and to other modes. In Level 3, a micro-simulation model will be used to perform a comprehensive quantitative mobility assessment within the I-30 PEL study area. The No Action will also be analyzed in the Level 3 Screening.

Attachment A: I-30 Arkansas River Bridge

Attachment A-1: Evaluation of Existing Conditions and Improvement Alternatives for Level 2 Screening

Attachment A-2: Agency Correspondence Letters

THE EXISTING I-30 BRIDGE OVER THE ARKANSAS RIVER: EVALUATION OF EXISTING CONDITIONS AND OF IMPROVEMENT ALTERNATIVES FOR LEVEL 2 SCREENING

THE I-30 BRIDGE OVER THE ARKANSAS RIVER

The I-30 Bridge crossing the Arkansas River is a critical component of the study corridor. It carries almost three times the number of vehicles as the other bridges in the Little Rock/North Little Rock downtown area combined. Not only does it provide local access between the Little Rock and North Little Rock business districts, it also serves longer distance commuter trips and through traffic.

Any river bridge improvements considered for evaluation during this study will likely be the greatest single contributor to project cost. The Bridge's selected configuration, alignment, typical section, and construction phasing will have significant impacts on the surroundings and will be crucial to identifying, selecting, and evaluating preferred transportation improvements. Therefore, as part of the I-30 PEL process, the existing Arkansas River Bridge will be evaluated to assist in determining the most effective approach, rehabilitation or replacement, that should be consider during further project development. The following is a summary of the existing bridge condition and recommendations for rehabilitation or replacement. The information presented will be considered while evaluating improvement alternatives in the Level 2 screening process that has been implemented as part of the I-30 PEL study.

EXISTING BRIDGE CONFIGURATION

Construction of the I-30 Bridge over the Arkansas River (AHTD Bridge No. 02768) began in 1958. Because of its magnitude, the project was built under different contracts over several years with the river piers being constructed separate from the main span superstructure and the south and north approaches.

The total bridge length is 3040 feet. The main plate girder units over the river consist of a continuous 858-foot south unit, a continuous 597-foot north unit, and a simply supported 126-foot suspended segment between the longer south and north units. Starting from the southern end, the 858-foot unit has a 196-foot span, two 210-foot spans, a 205-foot span, and a 37-foot cantilevered span at the north end. The adjacent 210-foot and 205-foot spans serve as the navigation spans. The 597-foot unit consists of a 37-foot cantilevered span at the south end, two 200-foot spans, and a 160-foot span at the north end.

The south approach structure extends from just south of 3rd Street to a concrete cellular support at the south end of the main unit. The south approach structure consists of thirteen w-beam simple spans of varying length. The northern approach structure extends from another concrete cellular support at the north end of the main unit to just north of Riverfront Drive (State Hwy. 100). The north approach structure consists of seven w-beam simple spans ranging in length from 47 to 64.5 feet.

Currently, the I-30 Bridge carries six 12-foot through lanes, three in each direction, and the typical shoulder widths are 2 feet adjacent to the median barrier and 3 feet to the outside. There is a "modified trumpet" interchange at the south end of the bridge providing access to and from the Little Rock River Market area and the I-30 Frontage roads. There are diagonal ramps at the north end of the bridge providing access to and from the Downtown North Little Rock area. These interchanges do require additional outside lanes at the north and south approach, varying the total bridge and outside shoulder width at the bridge ends.

Main River Spans

The main plate girder structure over the river is a riveted two-girder system with stringers, intermediate and end floorbeams, diaphragms, horizontal lateral bracing, and a concrete deck. The spacing between the two main girders is 50 feet with the remaining deck width cantilevering to the outside of the main girders and fully supported by the floorbeam cantilever and the stringers spanning between them. Large finger joints exist at the south and north ends of the main plate girder structure as well as at the south end of the suspended span. Pin and hanger mechanisms are located at both ends of the suspended span. Steel rocker bearings support the main girders and are located directly over the support columns.

The main plate girder structure is supported at the ends by cast-in-place concrete cellular structures placed on the riverbank. The south cellular structure varies in width to accommodate a northbound on-ramp and it includes a support at mid-span effectively dividing the overall cell span length in two simply supported w-beams with a concrete deck span between the end and internal supports of the cellular structures. Supports 18 through 24, the main river piers, are a cast-in-place, two column configuration, with web walls and spread footings. According to the construction plans, the footings were founded a minimum of 3 feet into sound rock. The web walls extend 2 feet above anticipated high water and provide addition structural capacity against accidental vessel collision. To help prevent the possibility of a direct barge strike on the piers, 40-foot diameter pier protection cells are located at each upstream and downstream end of piers 19, 20, and 21.

Approaches

Generally, the south and north approaches are simply supported, composite, 33" or 36" w-beam spans spanning between steel bent caps. The concrete deck span between the beams varies from 5'-8" to 8'-4" with some beams flared to accommodate varying deck widths and entrance and exit ramps. Steel diaphragms are included to assist in lateral support and distribution of load and additional 30" stringers frame into the exterior beams at the entrance and exit ramp locations at the south approach. One inch joints and small steel rocker bearings exist at the expansion ends; whereas, the beams frame into the steel bent caps at the fixed ends of the spans.

The south and north approaches are supported at the bridge ends by cast-in-place spill-through type abutments. The other ends of the approach units are supported by the cast-in-place cellular structures. The steel bent caps at bents 2 through 13 and 28

through 33 are supported by two or three steel columns founded on pile footings. The ramps framing into the approach spans are supported by single steel columns with steel bent caps. All bents on the south approach are founded on steel H-Piles whereas on the north approach all foundations consist of concrete bearing piles.

Vertical and Horizontal Clearances

The planned vertical clearances shown on the construction plans are a minimum of 14'-6" for all roadways. The latest inspection reports indicate a minimum vertical clearance of 14.3 feet and a minimum horizontal clearance of 4.3 feet.

The vertical navigation clearance provided on the plans is shown as 60 feet above elevation 233.0 and the planned horizontal clearance is shown as a minimum of 180 feet between the protection cells. The latest inspection reports indicate a minimum vertical clearance of 59.7 feet and a minimum horizontal clearance of 179.8 feet. The US Army Corps of Engineer's navigation charts show a vertical clearance of 56 feet above the 2% flow line and 65.6 feet above navigation pool. The horizontal clearance shown in the charts is 174.5 feet in the main navigation span and 168.5 feet in the alternate span.

SUMMARY OF EXISTING BRIDGE CONDITION

Structural and Functional Bridge Deficiencies

The National Bridge Inspection Standards (NBIS) require each state transportation department to inspect and evaluate all highway bridges located on all public roads on a bi-annual basis. Obviously, the I-30 Bridge over the Arkansas River (AHTD Bridge No. 02768) is included in the list of affected bridges. In accordance with the NBIS regulations, AHTD has and continues to perform regularly scheduled routine inspections on this bridge to ensure the safety of the traveling public. Because of its complexity and importance, other more in-depth special inspections are also performed on a more frequent and as-needed basis.

Currently, the bridge is on the same 24 month cycle for the "Routine," "Element," and "Underwater" type inspections, with the last inspections being performed on 10/28/13. "Fracture-Critical" and "Special" inspections are also performed on a more frequent 12 month schedule, with these inspections last being performed on 10/28/13 as well. The presence of fracture critical members, whose failure would most likely cause a portion of or the entire bridge to collapse, warrant these special, more frequent inspections. The main girders and hangers in the river spans and the steel bent caps in the approaches fall into this category of member type.

The following is a summary list of structural deficiencies that are noted in the most recent inspection reports for Bridge No. 02768 (I-30 over Arkansas River):

- General
    - The reinforced concrete deck has moderate scale throughout with transverse sealable cracks in all spans. There are numerous shallow spalls throughout with exposed rebar at some locations.

- The metal bridge railing and approach guardrail has collision damage and needs repair and/or replacement at several locations.
- Most bearings are rusting and are exhibiting active corrosion. Broken anchor bolts and “floating bearings” exist at several locations.
- The original drains have been filled with concrete. During heavy rain events, large amounts of water are pouring into and through the failed joint openings.
- The vessel collision protection cells have 3 broken cables and are in need of minor repair.
- Minor repair is needed to utility conduit and light pole bases at several locations.

- Main Spans
  - Substructure (Piers 18 thru 24)
    - During the latest underwater inspection it was reported that the channel and banks are stable. Local scour holes are present at Piers 19 thru 23 and it was noted that several footings and seals are partially or fully exposed. The channel bottom is 20’ lower than at date of original construction.
    - Vertical and horizontal hairline cracks with efflorescence and map cracking are visible in all columns and web walls (Piers 18 thru 24).The web wall for Pier 19 is heavily cracked at the top near the centerline of the pier. Cracks range from ¼” to ½” in width.
    - The footing for Pier 20 has documented problems. The footing is fully exposed due to a large diameter scour hole. The top of footing was constructed at nearly 10’ higher elevation than shown in the original plans. There is a large horizontal crack that passes through the entire footing and is visible on all four sides. The crack has been monitored and a recent underwater inspection indicates that the crack is not stable and has become active (moving or widening) with a maximum opening of 1”. There is a 1.5’ X 4’ spall at the northwest corner of the footing.
    - The footing at Pier 21 is fully exposed and the seal is partially exposed due to a large diameter scour hole. The top of footing was constructed at nearly 16’ higher elevation than shown in the original plans. There are cracks visible on the upstream and downstream nose of the footing. These cracks vary from 1/16” to 1/4” in width.
    - Cracking and spalling has occurred at beam seats throughout the main spans.
  - Superstructure
    - Active corrosion has set in at the top flanges with minor section loss. Pack rust is beginning to deform the web stiffeners.
    - Corrosion has been identified at the fracture critical pin and hanger assemblies. These pin and hangers support the 126 foot suspended span over the river. Regular ultrasonic testing is necessary to ensure adequate material remains.

        - Section loss of 1/16” to 3/16” has occurred to the wind lock plates and the rivet heads show approximately 50% section loss. Area has been cleaned and painted but corrosion is still active.
        - The finger joint at Pier 14 is ¾” high on the back side.
        - None of the navigation lights are working on Span 20. On the upstream side of Span 19 the white channel marker lights are not working.
- Approach Spans
    - Substructure
        - Fatigue cracks and section loss from corrosion are present in the fracture critical steel bent caps for the north and south approach spans. Also, there is section loss from corrosion in the steel columns at the top of the concrete encasement and repairs have been made in an effort to stop further corrosion.
        - The beam seats inside the cellular units continue to degrade. Many beam seats are cracked and spalled.
        - Vertical cracks are evident in the caps in the south abutment and the backwall is cracked and broken at the centerline.
        - Approach slabs at each end of the bridge have experienced on-going settlement and have cracked.
    - Superstructure
        - Recent inspections have identified over 200 fatigue cracks, up to 7” in length, at 41 different diaphragm connection plate locations in the approach spans. Some of these cracks have progressed from welds into the web of the w-beams or have originated in the web itself. Repairs have been attempted at some locations with very limited success. Cracks continue to propagate and other new cracks are identified with each inspection cycle.
        - Paint loss, rust, and corrosion of the bottom flanges and up to 40% section loss is present at most bearing locations.
        - Recent inspections identified holes due to corrosion in the diaphragm webs at 11 locations near the cast-in-place concrete support cells.
        - All joint material in the approach spans has failed and the joints are leaking.

Following every routine inspection, the standard Structure Inventory and Appraisal (SI&A) form that is associated with each bridge in the State’s inventory is updated to reflect findings in the field. The condition ratings provided in items 58 through 62 on the SI&A form describe each major bridge component’s current condition as compared to the original, as-built condition. Item 67 is the appraisal rating value used to reflect the structural evaluation of the bridge in relation to the level of service which it provides. The condition and appraisal ratings for the I-30 Bridge over the Arkansas River (AHTD Bridge No. 02768), as reported after the most recent inspections (10/28/13), are as follows:

- Item No. 58 – Deck: 5 (Fair Condition)

- Item No. 59 – Superstructure: 5 (Fair Condition)
- Item No. 60 – Substructure: 4 (**Poor Condition**)
- Item No. 61 - Channel/Channel Protection: 7 (Good Condition)
- Item No. 67 – Structural Evaluation: 4 (Meets **Minimum Tolerable Standards**)

The Structural Evaluation appraisal rating of 4 for the bridge qualifies the bridge as "Structurally Deficient," as noted at the top of the most current SI&A form. A Structurally Deficient (SD) classification means that the condition of the bridge includes one or more significant defects that require action. Structurally Deficient classifications can often lead to the implementation of speed or weight limitations to ensure the public's safety.

The current poor and substandard condition and appraisal ratings noted above (Item No. 60 & 67) are the result of the large crack in the footing of Pier No. 20 that has been identified during underwater inspections. As noted above, this 1" wide horizontal crack passes through the entire footing and is visible on all four sides. Recent underwater inspections indicate that the crack is not stable and has become active (moving or widening). AHTD engineers and underwater inspection personnel expect that future inspections will show further widening or propagation of foundation cracking.

It should also be mentioned that between the September 2009 and October 2010 routine inspections, the superstructure condition rating (Item No. 59) was recorded as 4, again warranting a Structurally Deficient classification. This poor condition rating was the result of over 200 fatigue cracks identified in the approach span beam webs as noted in the 2009 inspection. Following subsequent and lengthy repairs by AHTD heavy bridge maintenance personnel, the superstructure condition rating was upgraded to 6 after the 2010 inspection. However, the most recent inspection (October 2013) has noted failed fatigue repairs and additional fatigue cracking at new locations.
As a result, the current superstructure condition rating has once again been downgraded, this time to a 5. AHTD heavy bridge maintenance engineers report that this has been an on-going cycle; inspection-downgrade-repair-upgrade-inspection-downgrade-etc.

It is expected that the next round of inspections will reveal additional fatigue cracking and other deficiencies with a possible reduction in superstructure condition rating to a 4 or less.

The structural deficiencies noted above have not had a significant effect on the load rating of the bridge. As reported in items 66 & 64 on the SI&A form, the current load rating values are HS20 (inventory) and HS33 (operating). Item 70 is a value 5, therefore structural analysis results must indicate calculated capacities in excess of current legal loads and hence restricted load posting is not necessary. However, the load rating method used for this bridge is the load factor method and this method does not consider fatigue loading and fatigue prone details and their impact on the rating. A more rigorous fatigue analysis may produce reduced capacity values or may even indicate the necessity for posting. However, visible cracks in the steel beam webs, continued propagation of those cracks, and evidence of new cracks suggest that the fatigue life

has already been exceeded and that a rigorous fatigue or fracture mechanics evaluation is not warranted.

There are several other structural deficiencies that should be noted but that are not specifically addressed during the normal bridge inspection and evaluation cycle. The I-30 Bridge over the Arkansas River was designed and constructed long before seismic criteria was implemented in the AASHTO bridge design code and therefore does not include design details that would resist or prevent collapse during a significant seismic event. Short bearing lengths at expansion joints, minimal anchorage of the superstructure to the substructure, lack of ductility in concrete columns, and modest foundation size are just a few of the elements that make the existing bridge deficient in its ability to perform adequately during such an event.

The lack of redundancy in the main river spans should also be mentioned. As discussed previously, the girders in the main river spans are fracture critical. With the main spans being a two-girder system it is critical that failure does not occur at any location along a main longitudinal girder line. In systems with three or more girders, loads can be redistributed to other girder lines in the case of a localized failure in any one girder line. In a two girder system, redistribution is not likely and collapse is probable if a fracture develops in a main girder. The hangers that support the suspended span are also fracture critical. With no possibility for load transfer if failure occurs, collapse of the suspended span is inevitable if a hanger were to fracture or if a pin were to shear. Any evidence of fatigue cracking in the I-30 Bridge over the Arkansas River compounds the concern for lack of redundancy as fatigue prone details are prime locations for the initiation of a fracture that would cause collapse.

Even though AHTD no longer uses the “Functionally Obsolete” classification as previously defined in FHWA’s *Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation’s Bridges*, it is still prudent to consider functional deficiencies when evaluating an existing bridge. In addition to the structural deficiencies of the I-30 Bridge highlighted above, the width of the existing bridge is less than desirable. Although the bridge meets the minimum width requirements, the capacity provided by the three lanes in each direction is less than the current traffic demand and the shoulders on the bridge are below current standards for new construction.

Navigational Safety

The I-30 Bridge is one of six bridge structures that cross the McClellan-Kerr Arkansas River Navigation System (MKARNS) within a 1.4 mile stretch of the Arkansas River in the downtown areas of Little Rock and North Little Rock. Having a total length of 445 miles, the MKARNS provides a means for the transportation of commodities from Oklahoma through Arkansas to the Mississippi River. On average, 12 million tons of commodities, valued at $2-3 billion, are transported annually via this economically vital navigation system.

For bridges crossing a navigation channel, the two most important features are the vertical clearance provided from the water surface to the bottom of the bridge and the

horizontal clearance between the bridge piers. The latest SI&A indicates a minimum vertical clearance of 59.7 feet and a minimum horizontal clearance of 179.8 feet for the I-30 Bridge over the Arkansas River. The US Army Corps of Engineer's navigation charts show a vertical clearance of 56 feet above the 2% flow line and 65.6 feet above navigation pool. The horizontal clearance shown in the charts is 174.5 feet in the main navigation span and 168.5 feet in the alternate span. The United States Coast Guard (USCG) typically requires vertical and horizontal clearances of 52 feet and 300 feet, respectively for the section of the MKARNS within the study area. Of the six bridges in the downtown Little Rock/North Little Rock stretch of the river, only the I-30 Bridge fails to meet the typically prescribed 300-foot minimum horizontal clearance for the MKARNS within the study area.

In addition to the substandard horizontal navigation clearance, the pier configuration of the I-30 Bridge poses an obstruction to river navigation. The five other bridge structures have an open span across the entire navigation channel. However, the I-30 Bridge has a pier within the middle of the channel which divides the channel into two navigation spans. The reduced horizontal clearance and pier obstruction is cumbersome to navigate and restricts the operational speeds of the barges. Barge collision data, provided by the USCG, indicates that a total of five barge strikes have occurred at the I-30 Bridge site since 2001, with the two most recent of these strikes having occurred since August 2013.

REHABILITATION AND REPLACEMENT ALTERNATIVES

Rehabilitation

Several alternatives for improvements to the I-30 crossing of the Arkansas River have been considered for the PEL study. Options have been contemplated that incorporate use of the existing bridge into the final crossing configuration. One option is to widen both sides of the existing bridge to accommodate additional lanes. Another option is to use the existing bridge structure to accommodate the future lanes for one direction of traffic and to build an adjacent and parallel new structure to accommodate future lanes in the other direction.

Before consideration is given to any option incorporating the use of the existing bridge structure, the cost-effectiveness of such a solution should be considered. An in-depth cost analysis is not included in the PEL scope of work. However, the following summary of recommended repairs and/or modifications can be considered in any future analysis or comparison between bridge alternatives.

Possible repairs and modifications to the existing bridge generally fall into two categories. The first category includes those that can reasonably be considered to be prudent and economically feasible. Those that fall into the "feasible" category can also be separated into two different groups relative to timing – those repairs needs that are urgent and immediate and those that should be considered ongoing or that could be performed at a later date.

Feasible Repairs - Immediate Needs: Repairs that would need to be implemented immediately would be those that are the cause for the low condition ratings noted in the inspection reports. Obvious immediate repair needs are the foundations of the main piers and the steel beams and caps in the approach spans.

As noted above, the current poor and substandard condition and appraisal ratings are the result of the large crack in the footing of Pier No. 20. A 1" wide horizontal crack passes through the entire footing and is visible on all four sides. Recent underwater inspections indicate that the crack is moving or widening. Stabilizing the foundation at Pier No. 20 would be of highest priority under any rehabilitation plan. Continued shifting in the footing resulting from settlement or lateral wind, collision, or seismic forces could result in serious stability issues and possible bridge closure or even collapse. Different repair options have been considered but the consensus to date is that the most likely effective attempt at a repair would be to encapsulate the entire footing in mass and/or reinforced concrete and to introduce measures to reduce crack width or eliminate it altogether.

Also a high priority item, the fatigue cracks in the approach spans and the steel cap beams pose another serious issue that would need to be addressed in any rehabilitation alternative. Fatigue cracks can continue to propagate and eventually lead to fracture and collapse if not addressed. History has shown that the fatigue cracks that exist in the I-30 Bridge have propagated and will continue to do so if effective remedial measures are not performed. Also, new fatigue cracks will continue to develop if improvements to the current details are not implemented. However, past reports have noted over 220 locations where fatigue cracking has been identified and it is anticipated that these locations and all locations with similar details would require attention. Therefore, because of the extent of existing and anticipated fatigue cracking and because past history shows that repairs have been ineffective, it is likely that subsequent analysis would show that replacing all of the approach bridge spans and supports in their entirety is the only cost effective and safe solution.

Feasible Repairs - Future or Ongoing Needs: Repairs that would not need to be implemented immediately but that would need to be addressed through ongoing maintenance or future repair/rehabilitation projects would be those are not critical to the safety of the bridge from the standpoint of failure of a main component. These less serious issues that are listed in the inspection report include cracking and spalling in the concrete deck, clogged deck drains and rail damage, failing joints, corrosion in steel beams, girders, and diaphragms, scour holes, broken anchor bolts, cracking in the abutments, and scour holes at the river piers.

Before repairs to the concrete deck and joints are implemented, it would be prudent to consider full replacement of the deck. The cracking and spalling that is noted in the inspection reports are indicators that the deck may be near the limits of its useful life. It can be expected that the rate and frequency of patching and other repairs will only accelerate in the next few years. A full deck replacement will not only alleviate these maintenance and repair items but may also facilitate limited widening of the roadway

along with joint, drain, and barrier replacement thus improving the functionality of the bridge.

Other suggested repair or maintenance actions include but should not necessarily be limited to: 1. Install engineered riprap at Piers 19, 20, & 21 to prevent additional local scour, 2. Paint existing girders and bracing to prevent further corrosion, 3. Replace corroded diaphragms in approach spans, 4. Replace broken anchor bolts, and 5. Repair broken/cracked abutments. Of course, without full bridge replacement, it is recommended that the current, more frequent inspection cycles be maintained.

Unfeasible/Not Cost Effective Repairs: Given the existing bridge configuration, several of the deficiencies listed above cannot be easily eliminated using practical means and therefore efforts to do so should be considered neither cost-effective nor prudent.

The fracture critical status of the main rivers spans cannot be changed unless one or more girder lines are added and the pin and hangers are removed from the ends of the suspended span. Adding girder lines would be required if the chosen rehabilitation option was to widen both sides of the existing bridge to accommodate additional lanes. However, this method of adding additional bridge width and travel lanes may not be the preferred option and adding a girder line to the existing bridge width just for the sake of providing redundancy is not justified. Also, for either option - widening the existing bridge or providing a parallel new structure - modifications to the existing girder would be very extensive if accommodations were to be made for the elimination of the pin and hangers.

None of the interstate bridges crossing the Arkansas River in Central Arkansas were originally designed for a significant seismic event nor have any of these bridges been retrofitted to perform adequately during such an event. All three of these bridges are on the national highway system and part of strategic highway network. Therefore, it would be very desirable to incorporate the necessary seismic performance capabilities into any improvement alternative at the I-30 crossing. However, because of its current configuration, the I-30 Bridge would need extensive retrofits to bring it up to this desired standard. Significant deficiencies that would need to be addressed include short bearing lengths at expansion joints, minimal anchorage of the superstructure to the substructure, lack of ductility in concrete columns, and modest foundation size. All of these, particularly improvements to the main river piers and foundations, would be very costly.

The horizontal clearance provided by and the position and alignment of the navigation span cannot be changed unless the pier locations are moved. Obviously, this extreme tactic for providing additional navigational clearance is not feasible. It should also be noted that any widening of the existing bridge and seismic retrofit of the river piers may further reduce the width of the navigation channel.

Possible scenarios - Bridge type(s) and configuration(s): Two options for rehabilitation have been considered. One option is to widen both sides of the existing bridge to

accommodate additional lanes. Another option is to use the existing bridge structure to accommodate the future lanes for one direction of traffic and to build an adjacent and parallel new structure to accommodate future lanes in the other direction. Assuming all feasible repair and modifications were made to the existing bridge, the bridge would perform adequately for a relatively short period of time. The immediate concerns regarding structural capacity would have been relieved and the condition ratings would most likely be elevated. However, concerns regarding lack of redundancy, seismic capacity, navigational clearance, and preferred functionality would remain.

Replacement

Any full replacement alternative would likely incorporate the use of the existing bridge during phased construction but the bridge would be demolished once it was no longer needed. The design and construction of a full replacement structure would adhere to current standards and codes and the deficiencies listed above would not be present in the new structure. The structural and functional capacity would be greatly improved, the navigation clearances and alignment would meet current coast guard standards and barge operator preferences, and the “design life” of the structure would be equal to or in excess of 75 years. The seismic resistance would meet current code and the bridge would provide preferred levels of redundancy eliminating the fracture critical classification. With full replacement there would be a new wider deck with improved barriers providing the maximum desired functionality.

ARKANSAS STATE HIGHWAY
AND
TRANSPORTATION DEPARTMENT

Scott E. Bennett
Director
Telephone (501) 569-2000
Voice/TTY 711

P.O. Box 2261
Little Rock, Arkansas 72203-2261
Telefax (501) 569-2400
www.arkansashighways.com

December 3, 2013

Mr. John Balgavy
Chief of Operations Division
U.S. Army Corps of Engineers
700 West Capitol Avenue
Little Rock, AR 72203

Arkansas Job CA0602
I-530 – Hwy. 67 (Widening & Reconst.)
(I-30 & I-40) (F)
Interstate 30, Pulaski County, Arkansas

Dear Mr. Balgavy:

The Arkansas Highway and Transportation Department has a project programmed to increase the number of lanes on Interstate 30 in Little Rock/North Little Rock, Arkansas. As part of this project, the existing Interstate 30 bridge over the Arkansas River, River Mile 118.5, will either be widened or replaced by a new structure.

Enclosed for your information is a copy of the letter sent by my office to the U.S. Coast Guard office in St. Louis, Missouri requesting information regarding navigational clearances. Also enclosed is the General Plan and Elevation of the existing bridge. Please call my office at (501) 569-2361 if you have any questions.

Yours truly,

Carl Fuselier
Bridge Engineer

Enclosures
bc: Environmental Division
Keli Wylie
Garver Engineers, Inc.

ARKANSAS STATE HIGHWAY
AND
TRANSPORTATION DEPARTMENT

Scott E. Bennett
Director
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December 3, 2013

Mr. Eric Washburn
Bridge Administrator
Eighth Coast Guard District
1222 Spruce Street
St. Louis, MO 63103-2832

Arkansas Job CA0602
I-530 – Hwy. 67 (Widening & Reconst.)
(I-30 & I-40) (F)
Interstate 30, Pulaski County, Arkansas

Dear Mr. Washburn:

The Arkansas Highway and Transportation Department has a project programmed to increase the number of lanes on Interstate 30 in Little Rock/North Little Rock, Arkansas. As part of this project, the existing Interstate 30 bridge over the Arkansas River, River Mile 118.5, will either be widened or replaced by a new structure.

By this letter we are requesting the following:

1. New structure
   a. Minimum horizontal and vertical navigational clearances.
   b. Minimum horizontal navigational clearances during construction.

2. Existing structure
   a. A statement that the existing structure can be widened while retaining its existing pier placement and span lengths. The General Plan and Elevation of the existing bridge is enclosed. Please note that the existing pier columns may require a nominal size increase if a seismic retrofit is required.
   b. Minimum vertical navigational clearance.

The General Plan and Elevation of the proposed bridge will be submitted to your office for review and approval of the span lengths, pier placement, and vertical clearance during preliminary plan development.

Yours truly,

Carl Fuselier

Carl Fuselier
Bridge Engineer

Enclosure
bc: Environmental Division
Keli Wylie
Garver Engineers, Inc.

CA0602

o Job File
o Design File

DEPARTMENT OF THE ARMY
LITTLE ROCK DISTRICT CORPS OF ENGINEERS
POST OFFICE BOX 867
LITTLE ROCK, ARKANSAS 72203-0867

REPLY TO
ATTENTION OF

Operations Division

JAN 10 2014

Mr. Carl Fuselier
Bridge Engineer
Arkansas State Highway and Transportation Department
P.O. Box 2261
Little Rock, Arkansas 72203

Dear Mr. Fuselier:

Thank you for your letter on December 3, 2013, regarding efforts to expand or replace the Interstate 30 Bridge in Little Rock/North Little Rock, Arkansas.

Our most important concern initially is that the existing pier bisecting the channel creates a challenge for aligning tows, some over 1200 feet long, through this and the other five nearby bridges. As options for replacement or renovation of the bridge are evaluated, we would appreciate discussions of features that would improve navigability of this reach of the system.

The point of contacts for coordinating design reviews and other correspondence are Mr. Johnny Mclean, 501-340-1382, johnny.l.mclean@usace.army.mil, Regulatory Division and Mr. Rod Gaines, 501-324-5563, roderick.s.gaines@usace.army.mil, Operations Division. Please feel free to contact either of them if you have any questions.

Sincerely,

John A. Balgavy, .P.E.
Chief, Operation Division

ARKANSAS STATE HIGHWAY
AND TRANSPORTATION
DEPARTMENT

JAN 16 2014

RECEIVED
BRIDGE DIVISION

U.S. Department of Homeland Security

United States Coast Guard

Commander
Eighth Coast Guard District

1222 Spruce Street, Room 2.102D
St. Louis, MO 63103-2832
Staff Symbol: dwb
Phone: (314) 269-2382
Fax: (314) 269-2737
Email: david.a.orzechowski@uscg.mil
www.uscg.mil/d8/westernriversbridges

16593.22/118.5 ARW
January 29, 2014

Mr. Carl J. Fuselier, P.E.
Assistant Division Head
Bridge Division, Arkansas Highway
and Transportation Department
10324 Interstate 30
Little Rock, AR 72209

Subj: I-30 BRIDGE, MILE 118.5, ARKANSAS WATERWAY

Dear Mr. Fuselier:

This is in response to your letter dated December 3, 2013, concerning widening or replacing the subject bridge.

As the existing I-30 Bridge is the most restrictive bridge in Little Rock Harbor in regards to horizontal clearance, from a navigation standpoint the Coast Guard recommends replacing the existing bridge with a new structure that provides a minimum horizontal navigation opening of at least 320.0 feet and a minimum vertical clearance of 63.0 feet above normal pool stage. These clearances are consistent with contemporary bridges permitted and built over the Arkansas Waterway in the past few years. We understand during the construction phase of a new bridge, one half of the existing structure will be retained for diverted vehicular traffic while the new structure is being built. During this phase the current left descending channel shall remain clear at all times. The right descending channel would be blocked by a new pier and associated equipment. In addition, we would like to address placement of the new piers so that the navigation line through the harbor is not adversely affected.

If widening the existing structure is your preferred alternative, a Coast Guard Bridge Permit Amendment will be required. The left descending channel of 169.5 feet is measured between the upstream left descending pier protection cell and the downstream center pier protection cell. This channel is the most preferred by navigation and most restrictive of the two channels, and shall remain unobstructive at all times during the widening sequence. If a containment system is used during the modification, a three foot maximum reduction in the vertical clearance would be allowed. A permanent reduction of two feet of vertical clearance would be acceptable. This bridge is the narrowest of all bridges currently in the Little Rock Harbor and, therefore, any proposed reduction of the existing horizontal clearance in the left descending channel would be unacceptable between the left descending and center pier protection cells unless otherwise approved by this office. Another alternative that could be discussed would be the widening of the bridge on the existing piers (strengthened) along with the removal of the existing center pier and center protection cells.

I appreciate the opportunity to comment on the proposed bridge project and look forward to discussing these alternatives as well as other alternatives that you may bring forth. Should you have any questions, please contact Mr. David Orzechowski at (314) 269-2382.

Sincerely,

ERIC A. WASHBURN
Bridge Administrator, Western Rivers
By direction of the District Commander

C: RALPH - REPLY FOR MY SIG.
LORIE
MIKE
KELI

RECEIVED
AUG 2[illegible] 2014
DIRECTOR'S OFFICE
ARKANSAS STATE HIGHWAY AND
TRANSPORTATION DEPARTMENT

Arkansas Waterways Commission

Mike Beebe, Governor

Gene Higginbotham, Executive Director

August 21, 2014

Mr. Scott Bennett
Director
Arkansas State Highway and Transportation Department
P.O. Box 2261
Little Rock, Arkansas 72203

RE: Proposed Interstate 30 Bridge, Arkansas River

Dear Mr. Bennett,

On behalf of the Arkansas Waterways Commission, I write to comment on the Proposed Interstate 30 Bridge Expansion (Arkansas Waterway, Mile 118.5, Little Rock, Pulaski County, Arkansas).

The Interstate 30 Bridge carries the highest amount of vehicular traffic across the Arkansas River in Metropolitan Little Rock area. To make this bridge safer for both navigation and the vehicular traffic moving across it, we would recommend the bridge pier that divides the navigation channel be removed and a navigation channel of 332 feet (horizontal width) be established. This horizontal width is the navigation channel width at the Junction Bridge (mile 118.7), which is the closest adjacent bridge. We would also recommend that the deck of the proposed Interstate 30 Bridge be no lower than that of the soon-to-be constructed Broadway Bridge (mile 119.1), which has a proposed vertical clearance of 62.4 feet above pool. Currently the Interstate 30 Bridge does not meet current AASHTO Standards and while the current pier protection system offers optimal protection for frontal collision, there remains a great potential for damage from a vessel collision from the side which is unprotected. Any design plans that would call for reinforcement to the existing pier in the navigation channel would reduce the width of the navigation channel and could possibly lead to more incidents as traffic continues to grow on the McClellan–Kerr Arkansas River Navigation System.

As construction is approved on the Interstate 30 bridge, we would request that the left descending channel remain open at all times. We would also request that any construction done to piers or the deck should be scheduled to minimize the impact to navigation.

Thank you for the opportunity to comment on this issue. If you have any questions regarding my comments, I can be reached at (501) 682-1173.

Sincerely,

Gene Higginbotham

RECEIVED
AUG 22 2014
DEPUTY DIRECTOR AND
CHIEF ENGINEER'S
OFFICE

cc: Governor Mike Beebe
Ms. Sandra L. Otto, FHWA Arkansas Division
Mr. Eric Washburn, USCG Eighth Coast Guard District (dwb)

Attachment B: Transit Analysis

CA0602 I-30 PEL
Transit Analysis

Introduction

Transit demand in the Central Arkansas I-30 corridor was analyzed at a high-level as part of the I-30 Planning and Environmental Linkages (PEL) project. Would an investment in commuter-oriented express transit service during the peak hours of travel reduce the demand on I-30 to lessen the need for adding roadway capacity? The transit benefits to I-30 were analyzed by answering the following two questions:

1. Using available Metroplan information on travel patterns, commuter patterns, and land use, what is the estimated mode shift under the most ideal reasonable transit scenario?

2. What mode shift is required, in terms of auto trips diverted to transit, to achieve a material positive effect on traffic volumes and volume/capacity relationship on I-30?

In addition to transit, transportation demand management (TDM) strategies can complement the transit strategy and generally improve the landscape of transportation in Central Arkansas. TDM strategies are most effective when multiple strategies are used to complement each other. TDM strategies will also be explored in this analysis.

Previous Public Transit Study

As part of the Central Arkansas Regional Transportation Study (CARTS) *Areawide Freeway Study*, *Phase I*, *2003*, a transit study was conducted to evaluate the feasibility of light rail along four corridors in the Central Arkansas region: I-30 SW, I-40 NW, Route 67 NE and I-630 east. The study covered up to 25 miles from the central business district (CBD) and used Portland, Oregon as a basis for mode split. The study also based the evaluation on daily ridership projections. The study concluded that light rail transit in two of the four corridors would result in up to a three percent decrease in daily vehicular bridge crossings, which would not have a significant effect on the future bridge level of service (LOS) and operational characteristics. The Areawide Freeway Study was used in this analysis for informational and comparative purposes only. Comparison to this study can be found in the conclusion.

Methodology

The following section describes the methodology used in the I-30 PEL transit analysis. **Figure 1** provides a graphical representation of destinations, catchment areas, other origins, and screen lines. An express bus transit service is best suited for commuters who follow consistent work trip patterns. Therefore, while it is possible for transit users to have other trip purposes, this analysis will solely consider home-based-work (HBW) trips.

Destinations

For the purpose of this analysis, the "destination" is defined as the area where higher-density employment is likely to attract commuters using I-30. Four key work destinations were identified based on the 2040 Metroplan CARTS Model prediction for the CBD. They are:

A. Downtown Little Rock
B. Downtown North Little Rock
C. Arkansas State Hospital area
D. University of Arkansas at Little Rock campus

Origins

For the purpose of this analysis, the "origin" is defined as the area where a commuter lives. Ten primary origin areas were identified and divided into two categories: catchment areas and other origins.

Catchment Areas

In this analysis, the term "catchment area" defines an area with relatively high population density that can be served by a single park-and-ride lot. Catchment areas are conical in shape with a 3-5 mile radius. Commuters who live between the bus stop and CBD are likely to drive to their destination instead of taking the bus. Park-and-ride lots are most effective when located 10 to 20 miles from key destinations.

These catchment areas would be part of an express bus service network rather than a traditional route network which relies primarily on walk access. In the morning, the bus would stop at a limited number of locations, operate non-stop service to the CBD, and follow a route through the CBD to drop off commuters. The reverse would occur in the evening.

Key locations for catchment areas were identified using the CARTS Model, which divides the region into traffic analysis zones (TAZs). Clusters of TAZs with a population density of 3,000+ people per square mile were considered suitable locations.

Six suitable park-and-ride catchment areas were identified for this analysis:

- North of North Little Rock
    1. Cabot
    2. Jacksonville
    3. Maumelle
- South of Little Rock
    4. West side of Little Rock
    5. Bryant
    6. Benton

Other Origins

Several origins of interest exist within the 10-mile radius around the Little Rock CBD. Like the catchment areas, these regions have a population density of at least 3,000 people per square mile.

However, unlike the catchment areas, their proximity to the destinations may make park-and-ride access less effective. These regions include:

7. Pulaski Tech South Campus
8. Shannon Hills
9. Mabelvale
10. North Little Rock just southwest of I-40/I-30 interchange extending up to the Sherwood area

These regions would likely be served by traditional transit routes instead of express services.

Origin/Destination Pairing

The fundamental data source for the analysis was Metroplan's CARTS model data for the year 2040. Metroplan developed 15 different future scenarios for travel between individual traffic analysis zones (TAZs). The future model scenario that was identified for this analysis was Scenario 12. This scenario represents increased transit land use, 6-lane I-30 Bridge, and a new Chester Street Bridge crossing the Arkansas River. This scenario was chosen as the most aggressive transit scenario to test the attractiveness of transit in the I-30 corridor.

The CARTS model included an origin/destination matrix for each TAZ in the metropolitan region. Each origin and destination cluster of TAZs was grouped together. The volume of HBW trips for each origin/destination pair was calculated as the sum of all trips from each group of origin TAZs to each group of destination TAZs. **Table 1** shows the daily volume from home to work. The study team assumed that weekday commuters will drive to work and then drive home from work. Therefore, it is assumed that all origin-destination trips will reverse in the evening. In other words, 1,715 commuters travel from 1 to A in the morning. In the evening, 1,715 commuters will travel from A to 1.

Table 1. Daily 2040 Volume Home to Work Trips

Daily Volume From Home to Work						
		Destination				
		A	B	C	D	Total
Origin	1	1,715	328	152	121	2,316
	2	1,472	297	120	93	1,983
	3	1,980	401	254	180	2,814
	4	3,008	148	656	384	4,197
	5	3,414	216	437	439	4,506
	6	3,434	175	426	372	4,406
	7	1,245	69	193	202	1,710
	8	546	30	65	73	715
	9	6,327	316	757	969	8,369
	10	8,121	1,894	506	335	10,856
	Tot	31,263	3,874	3,567	3,168	**41,872**

Source: Metroplan CARTS Model.
See Figure 1 for graphical representation of origins and destinations.

As previously stated, this analysis will only consider HBW trips as projected in the 2040 Metroplan CARTS model. Based on work trip distributions from other metropolitan areas, 50% of all HBW trips to the CBD occur during the AM peak hour, and 50% of all HBW trips from the CBD occur during the PM Peak hour. Therefore, the AM and PM peak hour matrices will be mirrored. **Table 2** shows peak hour HBW trips, which are 50% of the daily HBW trips.

Table 2. Peak Hour 2040 Volume Home to Work Trips

From Daily to Peak Hour Volume (50%)						
		Destination				
		A	B	C	D	Total
Origin	1	857	164	76	61	1,158
	2	736	149	60	47	991
	3	990	200	127	90	1,407
	4	1,504	74	328	192	2,098
	5	1,707	108	218	219	2,253
	6	1,717	87	213	186	2,203
	7	623	35	97	101	855
	8	273	15	33	36	357
	9	3,164	158	379	484	4,185
	10	4,061	947	253	168	5,428
	Tot	15,632	1,937	1,783	1,584	**20,936**

Source: Metroplan CARTS Model
See Figure 1 for graphical representation of origins and destinations.

Transit Service Concept for I-30

To estimate the number of commuters who might reasonably shift from auto to transit, it was necessary to conceptually define the transit system that would serve the origin areas previously identified. Given this concept, it would then be possible to estimate the percentage of diverted trips.

The Central Arkansas Transit Authority (CATA) currently operates local transit services throughout the residential areas of Central Arkansas, providing good coverage for a metropolitan area the size of Little Rock. CATA serves approximately 10,000 daily trips with a fleet of about 60 buses. CATA does not, however, operate many express routes dedicated to work trips from outlying residential areas to the CBD and other high density employment areas. CATA's operation is, however, comparable to other transit agencies in the Midwest. **Table 3** compares CATA with other transit agencies in the Midwest.

Table 3
Midwest Transit Agency Comparison

Metropolitan Area	Transit Agency	Bus Fleet	Weekday Ridership
Little Rock	**CATA**	**60 buses**	**9,980**
Oklahoma City	COTPA	69 buses	10,240
Tulsa	MTTA	79 buses	10,600
Des Moines	DART	113 buses	16,700
Omaha	Metro	142 buses	15,200
Kansas City	KCATA and JCT	318 buses	57,100

Source: 2012 National Transit Data Base, FTA

The proposed transit concept needed to divert auto trips to transit on I-30 in the 2040 no-build condition would have multiple express routes operating on I-30 and other parts of the freeway system. These routes would be based on park-and-ride lots in the origin areas, which would allow commuters the option to access express transit routes by driving to the park-and-ride lots. The express buses would then operate directly to the CBD or other destination areas, providing a transit trip similar to auto trips in terms of travel time and convenience. This type of express service has been shown to be effective in attracting commuter trips from lower density outlying residential areas. The frequency of service, or headways, would be 30 minutes or better. More frequent service would add transit capacity and convenience, and result in more transit riders.

Transit Mode Shift Estimation

Because Central Arkansas does not currently have this type of premium express service, Kansas City was selected as an analogy from which to "borrow" mode split data. Although a larger metropolitan area, Kansas City is a Midwestern city with demographics and travel patterns similar to Central Arkansas. Three Kansas City commuter corridors were selected as analogies to the I-30 corridor, all of which are 10 to 20 miles in length and connect with the Kansas City CBD. They are: I-35 Olathe, Kansas; I-70 Blue Springs, Missouri; and I-435/470 Lee's Summit, Missouri. These corridors have express transit service with large park-and-ride lots and service frequencies of 20 to 30 minutes. Data available from the transit agency and the 2000 Census CTTP was used to estimate the transit share of the CBD commuter market. Each of the three

corridors has a mode split of approximately 10 percent transit during the peak hour. Based on this experience, a mode split of 10 percent was used as the base mode split assumption for the potential Central Arkansas express bus service.

To provide a range for the estimated potential mode shift, two service concepts were defined representing a reasonable range of service applications. The first, referred to as the "Baseline" concept, assumes seven express routes would operate with 30 minute frequency during the peak periods. The second concept, referred to as the "Enhanced" concept, assumes the seven routes would operate with more frequent service between 10 and 15 minutes.

Conceptual Ridership Estimates

Service frequency is one of the most important attributes commuters consider in making decisions regarding the use of transit, and increasing frequency is a proven way to increase transit usage. Transit researchers use service elasticity to predict the change in ridership likely to result from a change in service level. Research has determined a service elasticity of -0.4 for changes in headway. That is, a 40 percent increase in ridership can be expected given a 100 percent reduction in headway. With a change in headway from 30 minutes to 10 minutes (67 percent) an increase in ridership of 27 percent can be expected.

Table 4 shows the potential AM peak hour ridership for each O/D pair given a 30-minute headway.

Table 4. Potential Peak Hour Ridership: Baseline Service (30 Minute Service Frequency)

Potential Ridership: 30-minute Headway					
	A	**B**	**C**	**D**	**Total**
1	86	16	8	6	116
2	74	15	6	5	99
3	99	20	13	9	141
4	150	7	33	19	210
5	171	11	22	22	225
6	172	9	21	19	220
7	62	3	10	10	85
8	27	2	3	4	36
9	316	16	38	48	418
10	406	95	25	17	543
Tot	1,563	194	178	158	**2,094**

Source: HNTB

See Figure 1 for graphical representation of origins and destinations.

Enhanced Service Mode Shift Estimates

Table 5 shows the potential AM peak hour ridership for each O/D pair given more frequent headways of 10 to 15 minutes.

Table 5. Potential Peak Hour Ridership: Enhanced Service (10-15 Minute Service Frequency)

Peak Hour Transit: 10-Minute Headway						
		Destination				
		A	B	C	D	Total
Origin	1	109	21	10	8	147
	2	93	19	8	6	126
	3	125	25	16	11	178
	4	191	9	42	24	266
	5	216	14	28	28	285
	6	217	11	27	24	279
	7	79	4	12	13	108
	8	35	2	4	5	45
	9	401	20	48	61	530
	10	514	120	32	21	688
	Tot	1,980	245	226	201	**2,652**

Source: HNTB

See Figure 1 for graphical representation of origins and destinations.

Transit Bus-on-Shoulder Operation

Further enhancements such as transit priority measures would make the service even more attractive, and possibly attract a higher number of commuters than the baseline or enhanced service described above. Bus-on-shoulder operation, which allows buses to use the freeway shoulder to bypass congested traffic, is a proven approach to making express transit service more effective and attractive. Bus-on-shoulder operation offers many of the same benefits of rail transit, but is less costly to implement. This priority measure would allow buses to use the shoulder when general purpose lane speeds drop below approximately 35 miles per hour, and requires highway shoulders that are 10 to 11 feet wide. Bus-on-shoulder operations are proven to be safe, requiring driver training and discretion on the appropriate uses of the shoulder. Additionally, the speed differential between the freeway general purpose lanes and the bus-on-shoulder does not exceed 10 miles per hour. In Kansas City, a six percent ridership increase was noted in the first year of bus-on-shoulder implementation, and users experienced a 2-7 minute travel time savings, on average. Bus-on-shoulder is not a new concept for Midwestern cities. Other cities such as Minneapolis, MN and Chicago, IL utilize bus-on-shoulder as well. With proper implementation procedures, bus-on-shoulder can be an effective means of increasing ridership.

I-30 Impacts

Not all commuter travel between O/D pairs in this analysis would realistically use I-30 to get from their origin to their destination. To determine the actual vehicle reduction volume on I-30, three screens were used, as shown on **Figure 1**.

- Screen 1: South of the I-30/I-40 interchange (north end of corridor)
- Screen 2: I-30 Arkansas River Bridge (middle of corridor)
- Screen 3: North of the I-30/I-440/I-530 (south end of corridor)

By evaluating trip patterns and the roadway network, it was possible to determine the O/D pairs that would contribute commuter trips crossing each of the screen lines. In some cases, it was determined that no vehicles from an O/D pair would pass over a screen line. In other cases, it was determined that a portion of vehicles from the O/D pair would pass over a screen line. Results are shown in **Tables 6** and **7** in the "Total O/D Pair Trips" column. The 10 percent transit mode split factor was then applied to each of the O/D pair trip volumes to determine the potential diversion to transit. To this point, person trips have been used. To estimate the reduction in the number of auto trips, the transit trips were factored by the auto occupancy rate. The peak period auto occupancy for I-30 is estimated by Metroplan at 1.10. **Tables 6** and **7** show the results of the analysis. The AM/PM mainline volumes are taken from 24-hour traffic counts conducted in 2014 and grown at a 1% growth rate up to projected 2040 volumes.

Table 6. 2040 I-30 AM Peak Hour Work Trips and Transit Trips

Location on I-30	2040 AM Mainline Volume	Total O/D Pair Trips	Total Transit Trips		Total Auto Trips Diverted	
			Baseline Scenario (30 min headway)	Enhanced Service (10 min headway)	Baseline Scenario (30 min headway)	Enhanced Service (10 min headway)
Screen 1 - North Little Rock WB	7,545	6,450	640	820	580	750
Screen 1 - North Little Rock EB	4,427	No O/D Pair trips passing the screen in this direction				
Screen 2 - I-30 River Bridge WB	7,565	5,569	560	710	510	650
Screen 2 - I-30 River Bridge EB	4,915	403	40	50	40	50
Screen 3 - South of CBD WB	3,263	No O/D Pair trips passing the screen in this direction				
Screen 3 - South of CBD EB	5,255	4,893	490	620	450	560

Source: HNTB

Table 7. 2040 I-30 PM Peak Hour Work Trips and Transit Trips

Location on I-30	2040 PM Mainline Volume	Total O/D Pair Trips	Total Transit Trips		Total Auto Trips Diverted	
			Baseline Scenario (30 min headway)	Enhanced Service (10 min headway)	Baseline Scenario (30 min headway)	Enhanced Service (10 min headway)
Screen 1 - North Little Rock WB	5,602	No O/D Pair trips passing the screen in this direction				
Screen 1 - North Little Rock EB	6,563	6,450	640	820	580	750
Screen 2 - I-30 River Bridge WB	5,478	403	40	50	40	50
Screen 2 - I-30 River Bridge EB	6,914	5,569	560	710	510	650
Screen 3 - South of CBD WB	7,246	4,893	490	620	450	560
Screen 3 - South of CBD EB	3,006	No O/D Pair trips passing the screen in this direction				

Source: HNTB

As shown in **Tables 6 and 7,** the baseline express service can divert 450 to 580 autos over the different screen lines in the peak direction, which is a 6-9% decrease in autos. By reducing the headway from 30 minutes to 10 minutes, 560 to 750 autos can be diverted over the different screen lines in the AM and PM peak directions. That equates to an 8-11% decrease in total mainline auto volume across the three screen lines.

In terms of daily mode shift, the baseline service would provide a 1.33% reduction in vehicles, while the enhanced service would provide a 1.7% reduction in vehicles. While this value seems low in a daily perspective, the service focuses on the peak hours when congestion is most likely to occur. Therefore, the impacts are much larger during the peak hours as illustrated in the preceding paragraph.

Level of Service Impacts

The goal of the I-30 PEL is to achieve LOS D or E during the 2040 peak hour. The following analysis calculates the number of auto users in the I-30 corridor that would need to shift their mode to public transit during the peak hour in order to achieve LOS D or E.

Existing (2014) traffic data was gathered across the I-30 Bridge (screenline 2), which serves as a bottleneck for congestion in existing conditions. The 2040 volume was calculated using a high-level forecast growth rate of 1% per year. LOS thresholds were determined using 2010 Highway Capacity Software (HCS) assuming no-build on I-30, which would be 3 lanes in each direction. Vehicle volumes were then converted to person trips using a 1.10 persons/vehicle auto occupancy factor described above. **Table 8** shows the number of person trips that would need to be diverted in order to reach a level of service E and D for the peak direction. The "threshold" is the maximum number of vehicles per hour for the given level of service. The needed vehicle reduction is the difference between the 2040 volume and the threshold, and the needed person trip reduction is the needed vehicle reduction with the occupancy factor applied. Only the peak direction of travel, AM westbound/PM eastbound, was analyzed.

Table 8. 2040 I-30 Required Number of Diverted Person Trips in the Peak Direction of Travel at Arkansas River Bridge (6-Lane Facility)[1] to Achieve the Desired LOS

			LOS E			LOS D		
Peak Hour Volumes By Direction (Screenline 2)	**2014[2] Volume**	**2040 Volume**	**Threshold**	**Needed Vehicle Reduction**	**Needed Person Trip Reduction**	**Threshold**	**Needed Vehicle Reduction**	**Needed Person Trip Reduction**
AM WB	5,841	7,565	6,770	795	874	5,961	1,604	1,764
PM EB	5,338	6,914	6,633	281	309	5,840	1,074	1,181

Source: HNTB

[1] This analysis is a high level spot analysis at the Arkansas River Bridge and is not a system-wide analysis.

[1] A 0.075 k factor indicates that a higher percent of traffic is occurring outside of the traditional peak hour than normal conditions of 0.08 – 0.12

[2] The traffic volumes represent existing throughput and not demand.

As shown in the table, the AM peak hour would require a larger vehicle and person trip reduction to achieve a desired level of service than the PM peak hour. This is due to the fact that the measured traffic characteristics are different in the AM and PM peak hours, and also differ by direction.

To effectively improve the level of service from F to E with public transit alone, over 870 people (800 vehicles) would need to shift from a personal auto to transit during the morning peak hour in 2040. To improve the level of service from F to D, over 1,750 people (1,600 vehicles) would need to shift form a personal auto to transit during the morning peak hour in 2040.

Table 9 is a summary of the projected and required shift in autos on I-30. The projected auto trip diversions come from **Table 6** across screen line 2. The required auto trip diversions come from **Table 8** during the AM Peak because it shows the largest required vehicle reduction.

Table 9. 2040 I-30 No-build Comparison of Feasible and Required Mode Shifts

Feasible Auto Trips (Screenline 2)		**Required Mode Shift to Achieve Desired LOS**			
		LOS E	**Deficit**	**LOS D**	**Deficit**
Baseline (30 min. headways)	510	795	**-285**	1,604	**-1,094**
Enhanced (10 - 15 min. headways)	650		**-145**		**-954**

Source: HNTB

As the table shows, a minimum of 795 vehicles would need to be diverted in 2040 to improve to LOS E. However, the maximum feasible number of vehicles that can be diverted is 650, assuming route headways of 10 minutes. Therefore, even under the best case transit-only scenario, there is an overflow of nearly 150 vehicles during the peak hour. This does not take into account other TDM strategies that can be used to complement the transit system. While the proposed express service cannot feasibly eliminate the need for capacity improvements on I-30, it can still help to reduce the magnitude of said improvements.

Transit System Concept – System Elements and Costs

This section describes the transit system that could achieve the mode shift and trip diversion described in the previous sections. Although the transit system description is at a very high conceptual level, it is sufficiently developed to prepare an order-of-magnitude estimate of capital and operating costs to evaluate the feasibility of the approach. Both the Baseline Transit Option (30 minute headways) and the Enhanced Transit Service Option (10 minute headways) are described.

The transit system would be comprised of multiple express routes using standard transit buses similar to those currently operated by CATA. A key component of the transit system is a series of park-and-ride lots located in the origin areas. The vast majority of transit commuters from suburban areas use auto access due to the configuration of the transit service and the convenience. The ability of transit to provide travel times similar to auto times is critical to attracting suburban commuters. Thus, express service using the freeway system with limited stops is a requirement.

Transit Service Plan Development

Table 10 shows the estimated ridership over screen 2 for seven hypothetical express bus transit routes that would use I-30 to link the defined origin zones with central employment areas in Central Arkansas. This portion of the analysis considers the cost to implement a transit system that will reduce traffic on I-30. Therefore, the ridership shown below is the number of passengers passing over screen 2. Since the O/D matrix used for this high level analysis is mirrored between the AM and PM peaks, the following ridership applies to either the AM or the PM peak. It is assumed that all AM passengers travel from home to work and all PM passengers travel from work to home. **Attachment 1** shows the defined origin and destination zones.

Table 10: Estimated Ridership by Origin Zone – Daily One-way Person Trips

Origin Zone	Baseline	Enhanced	Route
Area 1	116	147	1
Area 2	99	126	2
Area 3	99	125	3
Area 4	0	0	
Area 5	182	230	57
Area 6	180	229	6
Area 7	66	83	57
Area 8	29	37	89
Area 9	332	421	89
Area 10	543	688	10
Totals	1,645	2,084	

Source: HNTB

Note that trips to and from area 4 did not have an impact on I-30. Therefore, it was not considered in the cost analysis.

Tables 11a and **11b** show elements of the service plan for these routes. It was necessary to create a conceptual service plan for the basis of estimating capital and operating costs.

Table 11a: Service Plan Elements and Required Buses – Baseline Scenario

Routes	1-way Distance (miles)	Average Speed (MPH)	Round Trip Time (minutes)	Headway (minutes)	Trips Per Peak Period	Buses
1	20	20	125	30	6	4.2
2	16	20	101	30	6	3.4
3	13	20	83	30	6	2.8
57	15	17	111	20	9	5.5
6	20	20	125	20	9	6.3
89	12	17	90	15	12	6.0
10	10	15	85	10	18	8.5
Total						37

Source: HNTB

Table 11b: Service Plan Elements and Required Buses – Enhanced Scenario

Routes	1-way Distance (miles)	Average Speed (MPH)	Round Trip Time (minutes)	Headway (minutes)	Trips Per Peak Period	Buses
1	20	20	125	15	12	8.3
2	16	20	101	15	12	6.7
3	13	20	83	15	12	5.5
57	15	17	111	15	12	7.4
6	20	20	125	15	12	8.3
89	12	17	90	10	18	9.0
10	10	15	85	10	18	8.5
Total						54

Source: HNTB

Capital Cost Estimation

Capital costs were estimated for both scenarios for three elements: buses, park and ride lots and maintenance and operating facilities. CATA's current fixed bus fleet is about 60 vehicles. It was assumed that a substantial increase in fleet size would require a new facility or a major expansion of the existing facility. Capital costs were based on the following assumptions:

- All costs are in 2014 dollars.
- Buses - $450,000 per unit with 20 percent spare vehicles.
- Park and ride lots – each of the seven routes would have at least one lot, sized based on the estimated ridership. Costs were based on a unit cost of $10,000 per space to cover items including passenger amenities, landscaping, lighting, drainage and property acquisition, as well as constructing the lot itself.
- Facility costs were estimated as a range from $7 million to $13 million.

Tables 12a and **12b** show the capital cost estimates.

Table 12a: Capital Cost Estimates - Baseline Scenario

Routes	Bus cost (inc. spares)	Park & Ride Spaces	P&R Lot Cost	Facility	Total
1	$2,250,000	127	$1,273,656		
2	$1,818,000	109	$1,090,555		
3	$1,494,000	109	$1,088,848		
57	$2,993,824	272	$2,719,571		
6	$3,375,000	198	$1,984,776		
89	$3,229,412	397	$1,985,412		
10	$4,590,000	299	$2,985,451		
Total	$19,750,235	1,511	$13,128,268	$7,000,000	$39,880,000

Source: HNTB

Table 12b: Capital Cost Estimates - Enhanced Scenario

Routes	Bus cost (inc. spares)	Park & Ride Spaces	P&R Lot Cost	Facility	Total
1	$4,500,000	161	$1,613,298		
2	$3,636,000	138	$1,381,369		
3	$2,988,000	138	$1,379,207		
57	$3,991,765	344	$3,444,790		
6	$4,500,000	251	$2,514,049		
89	$4,844,118	503	$2,514,855		
10	$4,590,000	378	$3,781,572		
Total	$29,049,882	1,914	$16,629,140	$13,000,000	$58,681,000

Source: HNTB

Operating Cost Estimation

Operating costs were estimated by applying an hourly unit cost to estimated revenue hours taken from the conceptual service plans. The unit cost was taken from CATA's 2012 National Transit Database (NTD) submittal, and escalated by 3 percent per year to 2014. Fully allocated costs were used, which is appropriate for this magnitude of service increase.

Tables 13a and **13b** show the estimated annual operating costs.

Table 13a: Operating Cost Estimates - Baseline Scenario

Routes	Revenue Hours	Operating Cost	Passenger Revenue	Net Cost
1	8,925	$741,000	$118,000	$623,000
2	7,701	$639,000	$101,000	$538,000
3	6,783	$563,000	$101,000	$462,000
57	11,033	$916,000	$252,000	$664,000
6	12,113	$1,005,000	$184,000	$821,000
89	11,700	$971,000	$368,000	$603,000
10	15,555	$1,291,000	$554,000	$737,000
Total	73,809	$6,126,000	$1,678,000	$4,448,000

Source: HNTB

Table 13b: Operating Cost Estimates - Enhanced Scenario

Routes	Revenue Hours	Operating Cost	Passenger Revenue	Net Cost
1	15,300	$1,270,000	$150,000	$1,120,000
2	12,852	$1,067,000	$128,000	$939,000
3	11,016	$914,000	$128,000	$786,000
57	13,860	$1,150,000	$319,000	$831,000
6	15,300	$1,270,000	$233,000	$1,037,000
89	16,275	$1,351,000	$466,000	$885,000
10	15,555	$1,291,000	$701,000	$590,000
Total	100,158	$8,313,000	$2,125,000	$6,188,000

Source: HNTB

Cost Summary

Table 14 shows the capital and operating costs (in millions) for both scenarios.

Table 14: Cost Summary

Scenario	Capital Cost	Annual Operating Cost
Baseline Scenario	$39.9	$4.4
Enhanced Scenario	$58.7	$6.2

Source: HNTB

Transportation Demand Management (TDM)

There are a number of transportation demand management (TDM) strategies that can be utilized to complement the transit system and generally improve the landscape of transportation in Central Arkansas. TDM strategies are most effective when multiple strategies are used to complement each other. For instance: enhancing transit services and improving sidewalks from bus stops to the final destination. A comprehensive assessment of the benefits of Transportation Demand Management is discussed in a separate report.

Comparison to Areawide Freeway Study (2003)

The Central Arkansas Regional Transportation Study (CARTS) Areawide Freeway Study, Phase I, 2003 included a transit study to evaluate the feasibility of light rail along four corridors in the Central Arkansas region: I-30 SW, I-40 NW, Route 67 NE and I-630 east. In comparison, this transit analysis evaluates the feasibility of a limited express commuter bus service in the 2040 no-build condition in order to determine possible benefits to the I-30 PEL study area.

The Areawide Freeway Study covered up to 25 miles from the central business district (CBD) and used Portland, Oregon as a basis for mode split, while this transit analysis investigates commuter patterns up to approximately 20 miles from the Little Rock CBD and uses three comparable bus routes in the Kansas City area as a basis for mode split. Conclusions for the Areawide Freeway Study were based on daily ridership projections, and concluded that light rail transit in two of the four corridors would result in up to a 3% decrease in daily vehicular bridge crossings, which would not have a significant effect on the future bridge level of service (LOS) and operational characteristics. Comparatively, this analysis evaluated the AM and PM peak hours transit benefits to the I-30 PEL Study area. Peak hour mode shift is thought to be more relevant when considering the potential effect that transit can have on I-30 capacity than the daily mode shift provided in the 2003 study.

Table 15 shows the comparison between the results of the Areawide Freeway Study (2003) and I-30 PEL transit analysis.

Table 15. Mode Shift Comparisons

	Areawide Freeway Study (2003)	I-30 PEL	
	Proposed Condition	Baseline Service	Enhanced Service
Peak Hour Mode Shift	--	6-9%	8-11%
Daily Mode Shift	up to 3%	1.33%	1.70%

This study predicts approximately half the daily mode shift that the Areawide Freeway Study predicts. However, the peak hour mode shift illustrates the potential usefulness of a commuter bus system.

Conclusions

Transit in the Central Arkansas I-30 corridor was analyzed at a high-level as part of the CA0602 I-30 Planning and Environmental Linkages (PEL) project. The transit analysis answered the following questions.

1. **Using available Metroplan information on travel patterns, commuter patterns, and land use, what is the estimated mode shift under the most ideal reasonable transit scenario?**

   The transit analysis concluded that the baseline express service, with a 30 minute headway, can divert 450 to 580 autos in the peak direction, which represents a 6% - 9% decrease in autos on I-30. By increasing transit service frequency from 30 minutes to 10 minutes, 560 to 760 autos can be diverted in the peak directions. That equates to an 8% - 11% decrease in total mainline auto volume across the three screen lines.

2. **What mode shift is required, in terms of auto trips diverted to transit, to achieve a material positive effect on traffic volumes and volume/capacity relationship on I-30?**

   The transit analysis concluded that a minimum of 795 vehicles passing over screenline 2 (I-30 Arkansas River Bridge) would need to be diverted from auto to transit on I-30 in 2040 to improve from LOS F to LOS E with the existing 6-lane facility. However, the maximum feasible number of vehicles that can be diverted over screenline 2 is 650, assuming route headways of 10 minutes. Therefore, even under the best case transit-only scenario, there is a deficit of nearly 150 vehicles during the 2040 no-build peak hour to achieve LOS E. Bus on shoulder does provide an additional 6 percent ridership increase over the baseline condition based on empirical Kansas City data. Other communities where bus on shoulder exists may have an even greater ridership increase. **Table 16** summarizes these results.

Table 16. 2040 No-build (6-lane I-30) Comparison of Feasible and Required Mode Shifts

Feasible Auto Trips (Screenline 2)		**Required Mode Shift to Achieve Desired LOS**			
		LOS E	**Deficit**	**LOS D**	**Deficit**
Baseline (30 min. headways)	510	795	**-285**	1,604	**-1,094**
Enhanced (10 - 15 min. headways)	650		**-145**		**-954**

Source: HNTB

The transit enhancements of this type have both capital and operating cost components. A key element of the transit system is a series of park-and-ride lots. **Table 17** shows the estimated capital and operating costs for new buses, park-and-ride lots, and facilities.

Table 17. Transit System Costs (Millions of 2014 Dollars)[1]

Scenario	**Capital Cost**	**Annual Operating Cost**
Baseline Scenario	$39.9	$4.4
Enhanced Scenario	$58.7	$6.2

Source: HNTB

[1] Does not include Bus on Shoulder improvements.

While neither of the proposed express transit systems alone can eliminate the need for I-30 infrastructure improvements, transit enhancements can reduce the magnitude of improvements needed. Other transit enhancements such as Bus on Shoulder or Transportation Demand Management strategies can also be used to complement the transit system and the overall I-30 solution.

Attachment C: Level 2B Transportation Analysis

Traffic Analysis to Support Level 2B Assessment

	Source	Notes	AM Peak Direction Only	6-Lane	8-Lane	10-Lane	12-Lane	AM Peak Direction Only	6-Lane		8-Lane		10-Lane		12-Lane		PM Peak Direction Only	6-Lane		8-Lane		10-Lane		12-Lane		PM Peak Direction Only	6-Lane	8-Lane	10-Lane	12-Lane
				A3	A3	A3	A3		A1	A2	A1	A2	A1	A2	A1	A2		A1	A2	A1	A2	A1	A2	A1	A2		A3	A3	A3	A3
				NB	NB	NB	NB		SB	SB	SB	SB	SB	SB	SB	SB		NB	NB	NB	NB	NB	NB	NB	NB		SB	SB	SB	SB
2041 Base Forecast Demand	CA0602 Traffic Count and Forecast Plan	2041 HNTB forecast. Based on 8-lane metroplan forecast. This forecast represents the **Base** condition. The Base condition is highlighted.		8,800	8,800	8,800	8,800		6,100	7,600	6,700	7,800	6,100	7,600	6,100	7,600		7,400	7,400	7,400	7,400	7,400	7,400	7,400	7,400		8,500	8,200	8,500	8,500
Highway - Build																													
Interchange Improvements																													
Mainline Widening	Metroplan - \\kcow00\jobs4\59984\TransPlan\Traffic_Counts\20140708_AHTD_CA0602_Traffic.xlsx	Run 3 = 6-lane, Run 5 = Base, Run 7 = 10-lane. Look at raw data from AHTD to determine percent vehicles traveling in peak hour. Percent change in model volumes was applied to base condition.		-415		239	477		-255	-929			101	492	203	984		-310	-905			123	479	246	958		-401		230	461
I-30 Arkansas River Bridge																													
Replacement		No Impact on I-30 demand																											
Rehabilitation																													
Complimentary Strategies																													
Highway - Build																													
Ramp Consolidation / Elimination		No Impact on I-30 demand																											
Intersection Improvements		No Impact on I-30 demand																											
Bottleneck Removal		No Impact on I-30 demand																											
Auxiliary Lanes		No Impact on I-30 demand																											
Roadway Shoulder Improvements		No Impact on I-30 demand																											
Horizontal / Vertical Curve Improvements		No Impact on I-30 demand																											
Frontage Road Improvements		No Impact on I-30 demand																											
Collector/Distributor (C/D) Roads	Assumption	Assumes GP lanes plus CD (ie. 8-Lane = 8 GP plus 1 CD). No volume change as it is eather GP lanes or C/D road.			0	0	0				0	0	0	0	0	0				0	0	0	0	0	0			0	0	0
Mainline Pavement Rehabilitation		No Impact on I-30 demand																											
Bypass Route	Metroplan	Run 4 = 6-lane, Run 6 = 8 lane (base), Run 9 = 10 lane. How much traffic came off mainline comparing run 4 to run 3, etc.																											
Other Modes																													
I-30 Express Bus Transit	I-30 PEL Transit Analysis	450 - 580 autos reduced (1.1 occupancy). Used graduated scale.		-534	-497	-459	-422		-704	-608	-655	-565	-605	-523	-556	-480		-704	-608	-655	-565	-605	-523	-556	-480		-534	-497	-459	-422
Bus on Shoulder	I-30 PEL Transit Analysis	6% ridership increase		-32	-30	-28	-25		-42	-36	-39	-34	-36	-31	-33	-29		-42	-36	-39	-34	-36	-31	-33	-29		-32	-30	-28	-25
Bicycle / Pedestrian		No Impact on I-30 demand																											
Arterial Bus Transit		No Impact on I-30 demand																											
Commuter Rail	Metroplan	Commuter Rail and light rail was combined. Under fixed guideway. Compare run 5 to run 13 for eight lane, compare run 3 to run 11 for six-lane, for 10 and 12 lane we will have to make some assumptions. Assumes the same outcome for 10 and 12 lane since no scenario for fixed guideway was analyzed for 10 and 12 lane.																											
Light Rail (Street Car)	Metroplan	Leave as zero's, because fixed guideway includes both commuter rail and light rail.																											
Arterial Bus Rapid Transit		No Impact on I-30 demand																											
Arterial Bus Lanes		No Impact on I-30 demand																											
Congestion Management																													
Travel Demand Management	http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_95c19.pdf	TRB Publication. Page 19-15. Using a 2% reduction.		-168	-176	-181	-186		-117	-133	-134	-156	-124	-162	-126	-172		-142	-130	-148	-148	-150	-158	-153	-167		-162	-164	-175	-179
Information Systems / Advanced Traveler Information	Research	Insufficient data available		0	0	0	0		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0		0	0	0	0
Transportation System Management (TSM)	Research	http://www.its.berkeley.edu/publications/UCB/2011/RR/UCB-ITS-RR-2011-2.pdf. The present findings unveil a mechanism of periodic flow recovery through a freeway bottleneck. Repeated experiments indicate that this mechanism can be modulated to favorable ends. The resulting 3% average gain in long-run discharge flow. Data is zero because of Arterial only benefits.		0	0	0	0		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0		0	0	0	0
Wayfinding / Signage																													
Ramp Metering	http://www.dot.state.mn.us/rampmeter/study.html	9% increase in vol. w/ ramp meters due to increased throughput		755	704	633	557		526	600	536	624	434	566	378	515		638	585	592	592	527	552	459	501		729	656	611	538
Arterial Improvements		No Impact on I-30 demand																											
Reversible Lanes																													
Hard Shoulder Running																													
Land Use Policy																													
Managed Lanes																													
Non-Recurring Congestion																													
Crash Investigation Sites																													
Roadside / Motorist Assist Enhancements																													
Improvements to Detour Routes																													
Variable Speed Limits (Speed Harmonization)																													
Queue Warning																													
Adjusted Base Forecast				8,406	8,801	9,004	9,201		5,507	6,493	6,408	7,669	5,870	7,942	5,965	8,418		6,840	6,306	7,150	7,245	7,258	7,719	7,362	8,184		8,100	8,165	8,680	8,872
Change in Volume				-394	1	204	401		-593	-1,107	-292	-131	-230	342	-135	818		-560	-1,094	-250	-155	-142	319	-38	784		-400	-35	180	372
Change in Percent				-5%	0%	2%	4%		-10%	-15%	-4%	-2%	-4%	5%	-2%	11%		-8%	-15%	-3%	-2%	-2%	4%	-1%	11%		-5%	0%	2%	4%
Overall HCM LOS Result				F	F	D	C		D	E	D	E	C	D	B	C		F	E	D	D	C	C	C	C		F	E	D	C
Alternative being eliminated from 2A			AM	6-Lane	8-Lane	10-Lane	12-Lane	AM	6-Lane		8-Lane		10-Lane		12-Lane		PM	6-Lane		8-Lane		10-Lane		12-Lane		PM	6-Lane	8-Lane	10-Lane	12-Lane
				A3	A3	A3	A3		A1	A2	A1	A2	A1	A2	A1	A2		A1	A2	A1	A2	A1	A2	A1	A2		A3	A3	A3	A3
				NB	NB	NB	NB		SB	SB	SB	SB	SB	SB	SB	SB		NB	NB	NB	NB	NB	NB	NB	NB		SB	SB	SB	SB



2041 Peak Direction AM

			A-D	E	F
	6				
A1	I-40	A1, SB	1		
A2	I-30 N. Bridge	A2, SB		1	
A3	I-30 South	A3, NB			1
	8				
A1	I-40	A1, SB	1		
A2	I-30 N. Bridge	A2, SB		1	
A3	I-30 South	A3, NB			1
	10				
A1	I-40	A1, SB	1		
A2	I-30 N. Bridge	A2, SB	1		
A3	I-30 South	A3, NB	1		
	12				
A1	I-40	A1, SB	1		
A2	I-30 N. Bridge	A2, SB	1		
A3	I-30 South	A3, NB	1		

2041 Peak Direction PM

			A-D	E	F
	6				
A1	I-40	A1, NB			1
A2	I-30 N. Bridge	A2, NB		1	
A3	I-30 South	A3, SB			1
	8				
A1	I-40	A1, NB	1		
A2	I-30 N. Bridge	A2, NB	1		
A3	I-30 South	A3, SB		1	
	10				
A1	I-40	A1, NB	1		
A2	I-30 N. Bridge	A2, NB	1		
A3	I-30 South	A3, SB	1		
	12				
A1	I-40	A1, NB	1		
A2	I-30 N. Bridge	A2, NB	1		
A3	I-30 South	A3, SB	1		

HCM Basic Mainline Analysis

Notes:

1. Analysis performed in the peak direction only.
2. High level traffic analysis at 3 locations along the study corridor defined as A1, A2 and A3 as shown on the map.
3. Analysis would not include traffic operations as a result of weaving, merging, diverging, or downsteam congestion.
4. Base traffic demand developed in the *CA0602 Traffic and Forecast Plan submitted to AHTD, December, 2014.*
5. *LOS was calculated based on the following table based on HCM 2010 information.*

HCS 2010 LOS Thresholds						
	A	B	C	D	E	F
6-Lane	0	2090	3416	4701	5729	6507
8-Lane	0	2786	4554	6268	7638	8676
10-Lane	0	3483	5692	7835	9547	10844
12-Lane	0	4179	6831	9401	11457	13013

Attachment D: Environmental Screening

Environmental Screening

Level 2A – General Methodology

Potential direct impacts to the environmental measures were evaluated based on the anticipated footprints of the Preliminary Alternatives. For some of the Preliminary Alternatives such as main lane widening, Collector/Distributor (C/D) roads, and frontage roads, a generalized project footprint was known and potential direct environmental impacts assessed qualitatively. The qualitative rating system was based on a gradient scale, with potential beneficial direct impacts receiving positive ratings, no impacts receiving a neutral rating, and potential adverse direct impacts receiving negative ratings. This gradient rating system is shown in **Table D-1** below, along with the corresponding scores.

Table D-1. Qualitative Rating System

Rating	Score	Evaluation
+ +	2	Substantial positive effects
+	1	Some positive effects
O	0	Neutral effects
–	-1	Some negative effects
– –	-2	Substantial negative effects

For other Preliminary Alternatives, however, the general project footprint has either not been designed at this stage of screening (such as interchange improvements) or would likely be implemented by others (such as improvements to arterial and detour routes) who would determine the size and location of the project footprint. For Preliminary Alternatives matching either of these descriptions, it is difficult to determine the nature (beneficial or adverse) and level/severity of potential environmental impacts, and accordingly, impacts to environmental resources were scored as neutral (“0”).

Level 2A - EJ/LEP Screening

For the Level 2A Screening, potential direct impacts to Environmental Justice/Limited English Proficiency (EJ/LEP) populations were assessed by a series of three Yes or No questions:

- *Question 1:* Are EJ/LEP populations present in the study area?
- *Question 2:* Is there a potential for adverse direct impacts to EJ/LEP populations?
- *Question 3:* Is there a potential for beneficial impacts and/or mitigation to offset adverse impacts to EJ/LEP populations?

Question 1 set the stage for the EJ/LEP evaluation, such that if EJ/LEP populations were determined present, then the evaluation of potential impacts to those EJ/LEP populations continued to Questions 2 and 3. As Question 1 determined presence or non-presence only, a neutral rating (“0”) was given for both Yes (EJ/LEP populations present) and No (EJ/LEP populations not present) ratings.

Question 2, the potential for adverse impacts to EJ/LEP populations, was based on the following conditions: If additional ROW is anticipated and EJ/LEP populations are present in the study area, then the potential for displacements (i.e., adverse impacts) to EJ/LEP populations was assumed.

Question 3 evaluated an alternative's ability to provide beneficial impacts and/or offset adverse direct impacts resulting from potential displacements to EJ/LEP populations. Given that all of the Preliminary Alternatives would be designed to either improve mobility, safety, other transportation modes, community cohesion, etc., all of which would be beneficial to all populations, including EJ/LEP populations, then the potential for beneficial impacts or the ability to mitigate for adverse direct impacts to EJ/LEP populations was assumed.

The EJ/LEP rating system for Level 2A is presented in **Table D-2**.

Table D-2. Level 2A EJ/LEP Rating System

Question	Evaluation	Rating	Score	Evaluation	Rating	Score
Question 2: Is there a potential for adverse impacts to EJ/LEP populations?	Additional ROW and EJ populations present = potential for EJ/LEP displacements assumed	yes	-1	No Additional ROW, thus the potential for displacements to EJ/LEP populations not anticipated	no	1
Question 3: Is there a potential for beneficial impacts and/or mitigation to offset adverse direct impacts to EJ/LEP populations?	Anticipated potential to improve mobility, safety, alternative transportation modes, cohesion, etc.	yes	1	No anticipated potential to improve mobility, safety, alternative transportation modes, cohesion, etc.	no	-1

Note: Question 1 determined presence or non-presence of EJ/LEP populations in the study area. If yes, then analysis continued to Questions 2 and 3. Because Question 1 was an analysis of presence or non-presence only, a neutral rating ("0") was given for both Yes (EJ/LEP populations present) and No (EJ/LEP populations not present) ratings.

Level 2A – Other Assumptions

Other assumptions utilized in the assessment of potential direct impacts to environmental measures in the Level 2A Screening include:

- The qualitative rating system described in **Table D-1** was utilized for all environmental measures, except EJ/LEP, which utilized the qualitative scale in **Table D-2**.

- Because potential direct impacts to environmental resources were evaluated based on the anticipated footprints of the Preliminary Alternatives, impacts were generally assumed to be neutral if additional ROW was not anticipated for all environmental measures.
- If additional ROW was anticipated, the potential for displacements was assumed.
- If added capacity was anticipated, the potential for noise impacts was assumed.

The Level 2A Screening matrix in which all environmental measures are scored for each Preliminary Alternative according to the above methodology and assumptions is presented in **Section 2.1** of the main document.

Level 2B – General Methodology

For the Level 2B Screening, impacts to environmental measures were assessed using the general footprint for each Basic Scenario. Utilizing ArcGIS, these footprints were overlaid with the identified environmental constraints of the I-30 PEL study area. Given that many of the Complimentary Alternatives would either be implemented by other agencies in the future or the design has not been fully developed at this level of screening, the footprint and location of many complimentary alternatives remains unknown. Accordingly, at the Level 2B screening, all environmental impacts were assessed within the known footprints of the 6-Lane, 8-Lane, 8-Lane C/D, 10-Lane, 10-Lane C/D, and 12-Lane Basic Scenarios, exclusive of interchanges. The same qualitative rating system (**Table D-2**) used for the Level 2A Screening was also used for Level 2B, except for the EJ/LEP measure. **Table D-3** presents the Level 2B scoring thresholds and methodology by environmental measure. **Table D-4** presents the Level 2B qualitative rating system for EJ/LEP.

Table D-3. Level 2B Screening Scoring and Methodology

Category	Environmental Measures		Scoring Thresholds and Additional Information[1]
Community Impacts	Potential direct impacts to ROW/parcels/structures		Rating based on number of parcels potentially directly impacted. • No parcel impacts anticipated = “0”; • 1 - 40 parcels potentially directly impacted = “-“; • More than 40 parcels potentially directly impacted = “- -"
	Potential displacements / structures impacted (billboards)		Rating based on number of potential displacements / structures impacted. • No displacements / structures impacts anticipated = “0”; • 1 - 15 properties potentially displaced / structures impacted = “-“; • More than 15 properties potentially displaced / structures impacted = “- -“
	EJ/LEP	Question 1: EJ/LEP populations present?	See **Tables D-2** and **D-4**.
		Question 2: Potential for adverse impacts?	
		Question 3: Potential for beneficial impacts and/or reasonable mitigation?	

Category	Environmental Measures	Scoring Thresholds and Additional Information[1]
Cultural Resource Impacts	Potential impacts to recorded archaeological sites	Rating based on the number of recorded archaeological sites potentially impacted. Note: Only one recorded site is located within existing ROW, but the site would not be directly impacted by any of the proposed Basic Scenarios. Accordingly, all Basic Scenarios scored “0”.
	Potential impacts to NRHP or NRHP-eligible sites	Rating based on the number of NRHP or NRHP-eligible sites potentially impacted. No impacts anticipated = “0” Note: Only the 12-Lane East and West Basic Scenarios would impact the MacArthur Park Historic District; no other NRHP or NRHP eligible sites potentially impacted by any other Basic Scenarios. Accordingly, the 12-Lane East and West Scenarios scored “- -".
Natural Resource Impacts	Potential impacts to parks	All main lane widening and C/D Basic Scenarios potentially directly impact parks adjacent to/nearby the Arkansas River (Riverfront Park, Riverfront Park East & West, and Clinton City Park). Accordingly, potential direct impacts to parks rated based on the width of anticipated typical section of the Basic Scenarios at the I-30 Arkansas River Bridge: the wider the typical section, the greater the anticipated impacts. • No impacts anticipated = "0"; • Typical Section width below 190 feet = “-“; • Typical section width190 foot or greater = "- -"
	Potential impacts to surface water crossings, wetlands	Metric utilized to rate potential impacts was the typical section width of the proposed new Arkansas River Bridge crossing, with the wider the typical section, the greater anticipated impacts to surface water crossings and wetlands. At this stage of the analysis, the scenarios have not been designed to a degree where a quantification of potential impacts to other water crossings throughout the study area is possible; this will be completed as part of the Level 3 analysis. • No new impacts to surface water crossings at the Arkansas River= "0" • Typical Section width at the Arkansas River Bridge below 190 feet = “-“ • Typical section width at the Arkansas River Bridge 190 foot or greater = "- -"
	Potential impacts to listed and non-listed species and/or habitat, and rare locally important species	Ratings based on the number of new habitat areas potentially directly impacted. • Only maintained herbaceous ROW impacted = "0"; • 1 – 6 new areas impacted = “-“; • 6 or more new areas impacted = "- -"
Other Impacts	Potential impacts to high risk hazardous material sites	Ratings based on the number of encroachments and potential impacts to a high risk hazardous material site. • No encroachment on sites and pavement edge within existing ROW = "0"; • 1-2 encroachments and potential impacts to site(s) = "-"; • 3+ encroachments and potential impacts = "- -"

Category	Environmental Measures	Scoring Thresholds and Additional Information[1]
Other Impacts	Potential noise impacts	Ratings based on the potential impact to parcels containing sensitive receivers (i.e., residences, schools, churches, daycares, or parks) and the likely ability to mitigate for noise impacts (via noise walls if voted on by affected property owners). • No impacts anticipated = "0"; • Potential impacts anticipated, but based on the number and location of receivers, noise mitigation anticipated to be feasible and reasonable (mitigation likely) = "-"; • Potential impacts anticipated, and noise mitigation unlikely to be feasible and reasonable = "- -"

*Note: [1] The qualitative rating system described in **Table D-1** was utilized for all environmental measures, except EJ/LEP, which utilized the qualitative scale in **Table D-4** below.*

Level 2B – EJ/LEP Screening

For Level 2B Screening, the same series of three questions were used to assess potential direct impacts to EJ/LEP populations.

- *Question 1:* Are EJ/LEP populations present in the study area?
- *Question 2:* Is there a potential for adverse direct impacts to EJ/LEP populations?
- *Question 3:* Is there a potential for beneficial impacts and/or mitigation to offset adverse impacts to EJ/LEP populations?

The methodology and scoring for Questions 1 and 3 were identical to that of Level 2A (see **Table D-2**). Utilizing the known footprints of the Basic Scenarios, the potential for adverse impacts to EJ/LEP populations (Question 2), was determined based on the anticipated number of displacements located in a census area with high minority populations, low-income populations, and/or LEP populations. The Level 2B Screening EJ/LEP rating system is presented in **Table D-4**.

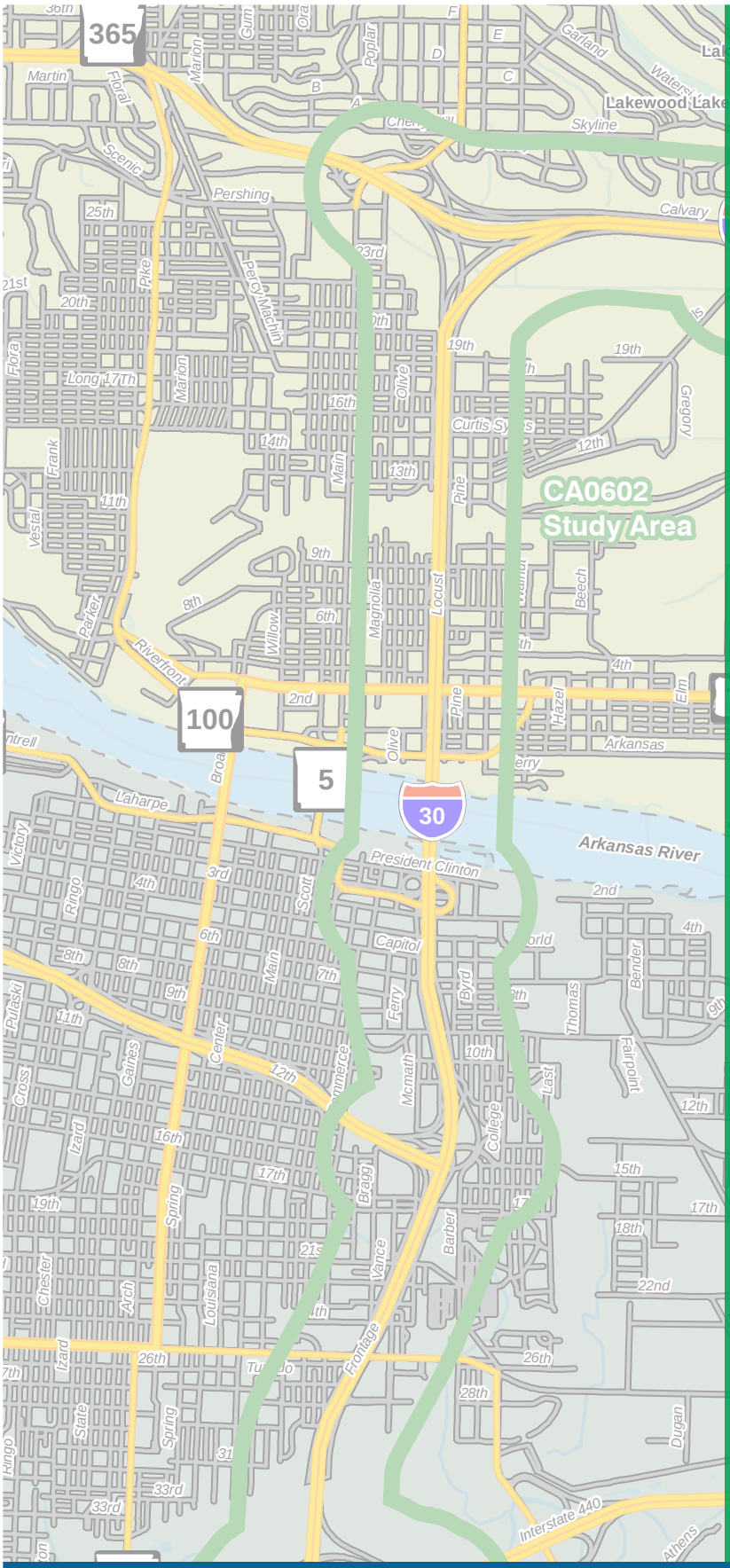
Table D-4. Level 2B EJ/LEP Rating System

Question [1]	Evaluation	Rating	Score
Question 2: Is there a potential for adverse impacts to EJ/LEP populations?	1- 5 potentially displaced residences in EJ/LEP census area	yes	-1
	More than 5 potentially displaced residences in EJ/LEP census area	YES	-2
	Residential displacements within EJ/LEP census areas not anticipated	no	1

*Note: [1] The methodology and scoring for Questions 1 and 3 were identical to that of Level 2A (see **Table D-2**).*

Appendix D-5:

Level 3 Screening Methodology and Results Memorandum



PLANNING AND ENVIRONMENTAL LINKAGES LEVEL 3 SCREENING METHODOLOGY AND RESULTS MEMORANDUM

CA0602

Interstate 530 – Highway 67

April 2015

CONNECTING ARKANSAS PROGRAM CAP

Arkansas State Highway & Transportation Department

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1.0 INTRODUCTION

The Arkansas Highway and Transportation Department is conducting the Interstate 30 (I-30) Planning and Environmental Linkages (PEL) Study to identify the purpose and need for improvements within the I-30 PEL study area, determine possible viable alternatives for a long-term solution, and recommend alternatives for further evaluation. The study team, with public and agency input, developed the *I-30 PEL Study Purpose and Need Report* (**Appendix A**), which identified the purpose and need for the project, along with the goals of the study. The team then developed the *Universe of Alternatives*, which contains a wide range of possible solutions to the issues in the study corridor identified in the purpose and need and the study goals.

The *I-30 PEL Study Alternative Screening Methodology (ASM)* technical report describes the measures and the scoring system utilized to evaluate the alternatives in a tiered screening process as described below:

- **Level 1** was a qualitative screening of the Universe of Alternatives based on the purpose and need. Those alternatives that passed Level 1 Screening were advanced to Level 2 as Preliminary Alternatives.

- **Level 2** was primarily a qualitative screening (with some quantitative analysis) of the Preliminary Alternatives based on the study goals, which produced the Reasonable Alternatives.

- **Level 3** was primarily a quantitative screening of the Reasonable Alternatives based on the study goals. Level 3 Screening resulted in recommended solution(s) which will be advanced for further development/study during the subsequent National Environmental Policy Act (NEPA) study.

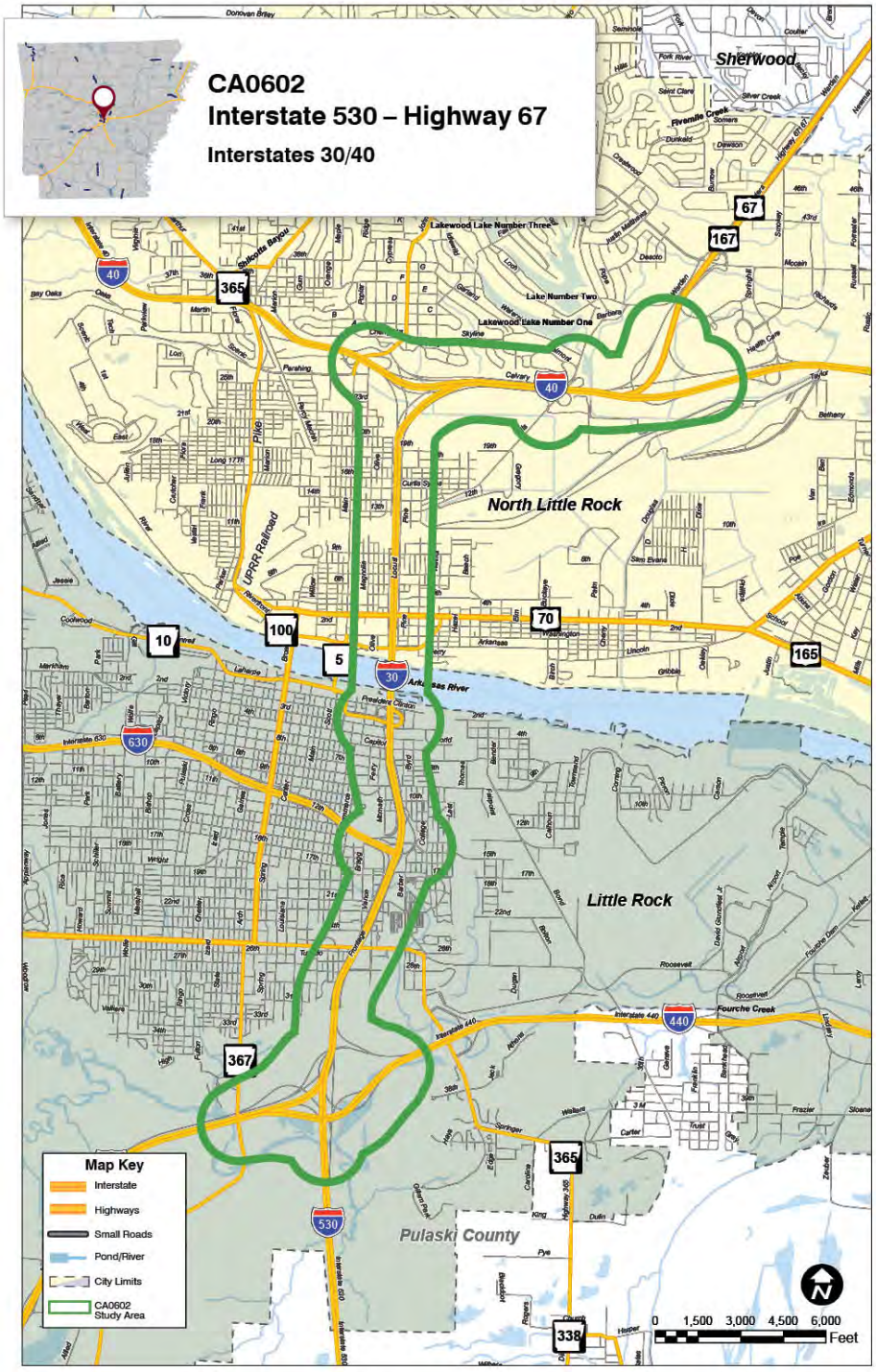
The documents and analysis previously produced that were relied upon for the development of the Level 3 Screening include:

- *I-30 PEL Purpose and Need* Report (**Appendix A**);
- *I-30 PEL Universe of Alternatives* (**Appendix D-1**);
- *I-30 PEL Alternative Screening Methodology* (**Appendix D-2**);
- *I-30 PEL Level 1 Screening Methodology and Results Memorandum* (**Appendix D-3**); and
- *I-30 PEL Level 2 Screening Methodology and Results Memorandum* (**Appendix D-4**).

This document presents the results of the Level 3 Screening process.

The proposed I-30 PEL study area is located in central Arkansas and stretches approximately 6.7 miles through Little Rock and North Little Rock. The study area begins at Interstate 530 (I-530) in the south and extends to Interstate 40 (I-40) in the north, and along I-40 eastwardly to its interchange with United States Highway 67 (Hwy. 67) in North Little Rock as shown in **Figure 1**.

Figure 1. I-30 PEL Study Area



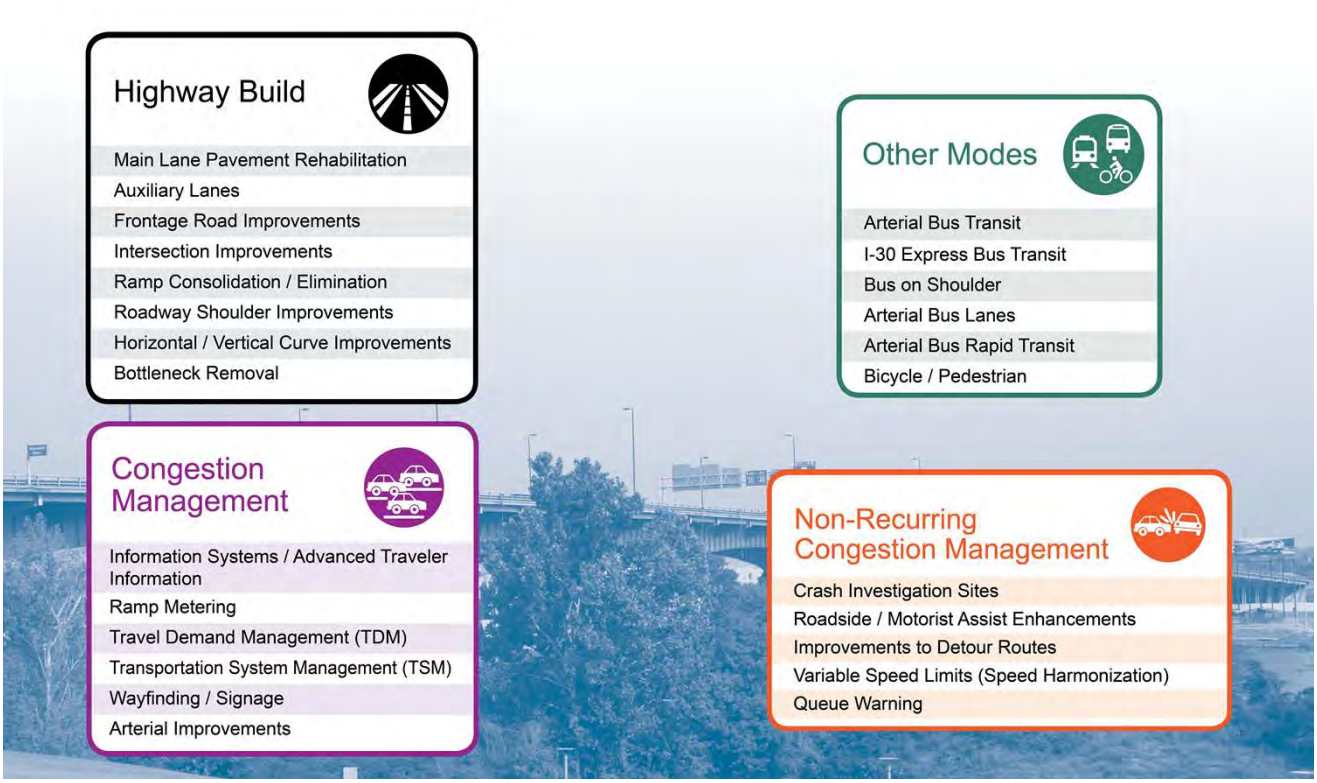
2.0 LEVEL 3 ALTERNATIVE SCREENING METHODOLOGY AND RESULTS

2.1 Alternatives Analyzed in Level 3

For Level 3 analysis, the designs for each of the Reasonable Alternatives were refined to include interchanges providing connectivity to the local street network and other modes of transportation. This provided the study team with designs for each alternative that were sufficient for the development of micro-simulation models for traffic and safety analysis and more accurate right-of-way (ROW) footprints for environmental analysis.

The Reasonable Alternatives represent complete transportation solutions, incorporating the improvements shown in **Figure 2** as needed to create the most efficient transportation corridors possible.

Figure 2. Transportation Solutions Incorporated in the Reasonable Alternatives



The following alternatives were evaluated in Level 3.

- **No Action –** The No Action Alternative is required to be analyzed in PEL and NEPA studies.

- **8-lane C/D**[1] (3 main lanes + 1 C/D lane in each direction) – This alternative included adding 1 C/D lane in each direction from just south of 3rd Street in

[1] A C/D system includes one or more freeway lanes that are parallel to, but separated from the through traffic main lanes. The C/D system provides access to the local service interchanges, thereby eliminating most of the weaving areas from the I-30 main lanes.

Little Rock to just south of Broadway Street in North Little Rock, with the new I-30 Bridge over the Arkansas River being constructed to the east or to the west of the existing bridge. Some sections of the C/D road also required an auxiliary lane to accommodate the heavy traffic moving into and out of the downtown areas. Outside the location of the C/D road, the new facility included the addition of 1 main lane in each direction for a total of 8 main lanes throughout the rest of the study corridor.

- **10 Main Lanes** (5 main lanes in each direction) - This alternative included adding two main lanes to each side of the current 6-lane facility. The improved facility would consist of 10 main lanes throughout the corridor, 5 lanes in each direction, with the new I-30 Bridge over the Arkansas River being constructed to the east or to the west of the existing bridge.

- **10-lane C/D[1]** (3 main lanes + 2 C/D lane in each direction) – This alternative included adding 2 C/D lanes in each direction. The southbound C/D lanes would begin near 15th Street in North Little Rock and end just south of 3rd Street in Little Rock. The northbound C/D lanes would begin just south of 3rd Street in Little Rock and end near 13th Street in North Little Rock. Outside the location of the C/D roads, the new facility included 5 main lanes in each direction, having the same footprint as the 10 Main Lane Alternative. This alternative also included replacement of the I-30 Bridge over the Arkansas River, with the new bridge width extending to the east and west of the existing bridge location.

2.2 Modifications to Reasonable Alternatives

Some similarities exist across all three alternatives with regard to connections and intersection improvements, as listed below.

- In the existing condition, vehicles traveling from I-30 must cross two lanes of I-40 east in order to reach the left exit to travel north on Hwy. 67. This weave is eliminated with the addition of a right exit followed by a flyover ramp from I-40 east to northbound Hwy. 67.
- In the existing condition, vehicles traveling from Hwy. 67 toward Little Rock must cross two lanes of I-40 west in order to reach the left exit for I-30 south. This weave is eliminated with the addition of a right exit followed by a flyover ramp from I-40 west onto I-30.
- All alternatives required replacement of the Arkansas River Bridge, with the number of lanes determined by the lane configuration on either side of the river.
- The ramp from northbound I-30 to westbound I-40 was expanded to include 2 lanes.
- North Cypress Street, which serves as a frontage road on the west side of I-30 north of the Arkansas River, dead ends on either side of the Union Pacific Railroad, making the frontage road system discontinuous. A new connection was

added spanning the railroad tracks. The two-way section of North Locust Street on the east side of I-30 was also converted to one-way, effectively completing a one-way frontage road system north of the Arkansas River.

- American Association of State Highway and Transportation Officials (AASHTO) standards recommend no more than one interchange per mile along urban interstates. The existing I-30 design is unsafe as a result of too many access points, with two interchanges (a full interchange at 15th Street and a split-diamond interchange between Broadway Street and Bishop Lindsey Avenue) within a 1.25 mile section. In order to improve safety and mobility, the 15th Street interchange was eliminated and modifications were made to the split-diamond interchange. To facilitate connectivity, Texas U-Turns were added near Bishop Lindsey Avenue and 19th Street.
- Access from North Little Rock to I-40 eastbound was provided via a slip ramp from the I-30/I-40 frontage road onto the ramp leading from I-30 to I-40 eastbound.
- The complex interchange at Cantrell Road was replaced with a diverging diamond interchange that would improve traffic flow and reduce the space required for the interchange, making excess ROW available for local improvements.
- The southbound exit ramps from I-30 to 6th and 9th Streets were eliminated. Southbound access from I-30 into downtown Little Rock is provided via a flyover ramp from near Cantrell Road to the existing southbound frontage road.
- The 1 lane section of I-530 northbound leading into I-30 was expanded to 2 lanes.
- Each widening alternative, with the exception of the 10-lane C/D, was designed with an east and a west option. This represents the location of the bridge replacement, with staged construction of the new bridge beginning to the east or west of the existing bridge. The first stage would include construction of a new structure wide enough to carry at least 6 lanes of traffic, built as closely as possible to the existing bridge while the old bridge is still open to traffic. Once the first stage of the new bridge construction is completed, traffic would be diverted to the new structure and the old bridge would be removed. The remaining portion of the new bridge would then be constructed while traffic remains open on the recently completed section. In this way, the bridge is constructed taking as little ROW as possible, while keeping at least 6 lanes of traffic open at all times. Separate alternatives (east and west) were created for the 8-lane C/D and the 10 Main Lane alternatives. The 10-lane C/D alternative, due to its width, was anticipated to require widening to some degree to both sides of the existing bridge location, and therefore, was not designed with east/west options.
- In addition, improvements were included at the interchanges at Broadway Street, I-630 and Roosevelt Street to facilitate the expected increase in traffic through the year 2041.

Lane configurations for the Reasonable Alternatives are provided in **Attachment A**.

2.3 Level 3 Screening Process

The Level 3 Screening process was primarily a quantitative analysis, improving on the qualitative analysis from Level 2 when data was available. A description of the methods used to quantify the measures for each analysis group is included below.

2.3.1 Mobility

A Vissim micro-simulation traffic model was developed for the future No Action and each of the three build Reasonable Alternatives to analyze mobility. To analyze mobility, a comprehensive set of mobility measures such as level-of-service (LOS), vehicle travel time, vehicle travel speed, vehicle hours of travel and vehicle hours of delay, to name a few, were developed. Forecasted traffic for a 2041 design year was developed based on historical growth rates and the Central Arkansas Regional Transportation Study area (CARTS) travel demand model. Existing and forecasted traffic volumes are presented in the *Traffic and Forecast Plan*, December 2014, which is part of the *I-30 PEL Traffic and Safety Report* (**Appendix F)**.

A list of mobility measures of effectiveness were developed around the project's study goals. **Table 1** identifies all the transportation measures and their relationship to the PEL study goals.

Table 1. Mobility Measures of Effectiveness

PEL Study Goals	Measures	Description of Evaluation
Enhance Mobility	Mobility in the PEL study area	Distance and duration of LOS E or F (Miles/Minutes during PM Peak).
	Mobility in the PEL study area	Distance and duration of LOS F (Miles/Minutes during PM Peak).
	Total Travel Time	Average travel time between the Hwy 67/I-40 Interchange and the Southern Interchange (Heading south in AM and north in PM).
	Average Peak Hour Travel Speed Through the Corridor	Average speed when traveling between the Hwy 67/I-40 Interchange and the Southern Interchange (Heading south in AM and north in PM).
Access to Downtown	Mobility of Key Intersections within the PEL study area	Number of intersections at LOS E and number of intersections at LOS F.
	Travel time to key destinations in the PEL study area	Travel Time (min) from Hwy 67 at McCain to the Capitol.
East-West Connectivity	Locations allowing for local street connectivity	Qualitative evaluation.
	Designs that allow for open space across I-30	Qualitative evaluation.
Connect Bicycle and Pedestrian-Friendly Facilities	Grade-separated bicycle and pedestrian facilities	Qualitative evaluation.
Accommodate Existing and Future Transit	Transit Ridership in the PEL study area	Qualitative evaluation.
Minimize Roadway Disruptions	Severity of I-30 lane closures, detours during construction	Qualitative evaluation.

PEL Study Goals	Measures	Description of Evaluation
Minimize Roadway Disruptions (cont.)	Severity of river closures during construction	Qualitative evaluation.
	Location of navigational impediments (bridge piers)	Qualitative evaluation.
Opportunity for Economic Development	Access to existing / potential business sites within the PEL study area	Qualitative evaluation.
Commitment to Voters	Mobility on I-30 main lanes	Qualitative evaluation.

Vissim was used to analyze the mobility measures of the PEL study area described in **Table 1**. A detailed description of the Vissim model methodology and traffic analysis approach is described in the *I-30 PEL Traffic and Safety Report* (**Appendix F)**.

2.3.2 Safety

A quantitative safety analysis was performed for the existing crashes, arterial connection conflict points, main lane conflict points, collector distributor road conflict points, deficient acceleration and deceleration ramp lengths, deficient weaving lengths, main lane ramps, and C/D ramps. In addition, potential crash reductions were estimated based on crash modification factors for a particular design element. The safety measures evaluated for the Level 3 Screening are presented in **Table 2** along with a description of the evaluation process for each measure.

Table 2.Safety Measures for Evaluation

PEL Study Goals	Measures	Description of Evaluation
Crashes	Quantified 2010-2012 crashes	Crashes broken down by location, type of crash, and severity of crash.
	2010-2012 Crash Rates	Crash rates developed for each section based on average daily traffic and number of crashes.
	2041 Projected Crashes	Based on crash rate for 2012 and 2041 projected traffic volumes; estimated crashes projected for 2041.
Conflict Points	Quantified Arterial Connection Points	Conflict points counted based on number of vehicle paths that cross, merge, and diverge with another vehicle based on legitimate movements through an intersection.
	Quantified Main Lane Conflict Points	Conflict points quantified from the merge and diverge points on main lanes; if ramp had designated lane and no lane change was required to stay on the man lanes, then no conflict point was counted.
	Quantified C/D Road Conflict Points	Conflict points quantified from the merge and diverge points on C/D road. If a ramp had a designated lane and no lane change was required, then no conflict point was counted.
Deficient Ramps and Weaving Lengths	Quantified deficient acceleration and deceleration ramp lengths	Deficient acceleration and deceleration according to the larges applicable minimum (AASHTO Green Book and AHTD Standards).
	Quantified deficient weaving lengths	Deficient weaving lengths counted based on AASHTO Green Book minimum guidelines for all alternatives.
Ramps per Direction	Quantified main lane ramps	Ramps counted in each direction of the study section.
	Quantified C/D ramps	Ramps counted in each direction for the length of the

PEL Study Goals	Measures	Description of Evaluation
		C/D system.
Potential Crash Reductions	Quantified potential crash reductions	Crash modification factors applied to different design elements for the Build Alternatives; assumed no improvements to the No Action Alternative.

A detailed description of the safety methodology and analysis approach is described in the *I-30 PEL Traffic and Safety Report* (**Appendix F)**.

2.3.3 Cost

The study team utilized high-level schematics in order to establish a reference cost, based on the square feet of pavement and bridge decking, for each alternative. Information was not available at this stage of the project to identify bridge elevations and locations needing retaining walls, etc.; therefore, the reference costs were lower than the expected construction costs. However, the reference costs do provide a means to identify the approximate percentage difference in construction costs between alternatives. Using the reference cost, the study team was able to evaluate trade-offs between the four measurement groups – mobility, safety, cost, and environmental. The study team also developed high-level ROW cost estimates using general market value based on comparable sales for various sections of the I-30 PEL study area. The cost measures evaluated for the Level 3 Screening are presented in **Table 3** along with a description of the evaluation process for each measure.

Table 3. Cost Measures for Evaluation

PEL Study Goals	Measures	Description of Evaluation
Maximize Cost Efficiency	Construction Cost	Estimated costs based on total square feet of pavement and bridge deck area.
	Total Cost of ROW Acquisition	Estimated cost based on general market value.
	Total Cost to AHTD	Construction cost + ROW cost.
	Total Investment by Others	To be determined during NEPA.

2.3.4 Environmental

Potential direct impacts to the environmental resources were evaluated based on the preliminary design of the Reasonable Alternatives, as applicable. The preliminary design, including anticipated ramping, interchange, and intersection designs were overlaid with the environmental resources of the study area, as identified and described in the *I-30 PEL Constraints Report* (**Appendix B**). Similar environmental measures to those in the Level 2 Screening were utilized for assessing environmental impacts. These measures of effectiveness were developed around the study goals. Impacts to these environmental measures were calculated via spatial analysis with ArcGIS. When possible, impacts were quantified by count or acreage. When quantification was not reasonable, potential impacts were qualitatively assessed utilizing the more detailed preliminary designs of each Reasonable Alternative compared to those available at the time of the Level 2 Screening.

Details of the environmental screening, including the study goals, environmental measures, and the associated methodology for evaluating impacts are provided in **Table 4** and **Attachment B**.

Table 4. Environmental Measures for Evaluation

PEL Study Goals [1]	Measures	Evaluation Parameters
Community	ROW	Acres of proposed ROW required, calculated using design files for each Reasonable Alternative.
	Parcels	Number of parcels where ROW could be required as identified using County Assessors Mapping Program (CAMP) Pulaski County parcel data.
	Displacements (commercial & residential) Structures (billboards)	Number of commercial and residential displacements as affected by proposed ROW. Utilized CAMP Pulaski County parcel data and aerial photographs. Also evaluated billboards impacted.
	Environmental Justice/ Limited English Proficiency (EJ/LEP)	Series of questions used to identify potential adverse impacts to EJ/LEP populations; the potential for avoidance, minimization, and mitigation to offset adverse impacts to EJ/LEP populations; and the potential for beneficial impacts associated with the improvements, as applicable. Details of the E/LEP analysis, including a listing and description of the evaluation questions, are provided in **Attachment B.**
Cultural Resources [2, 3]	Recorded archeological sites	Number of recorded archeological sites located within proposed ROW. Recorded archeological sites identified by the AHTD through background research and field reconnaissance, and subsequent coordination with the Arkansas Historic Preservation Program (AHPP).
	NRHP or NRHP-eligible sites	Number of National Register of Historic Places (NRHP) or NRHP-eligible sites located within proposed ROW. Sites identified by AHTD through background research and field reconnaissance, and subsequent coordination with the AHPP.
	High probability areas for archeological resources	Number of areas along existing and proposed ROW determined to have a high probability for archeological resources, as identified in the *I-30 PEL Cultural Resources Survey Methodology Memo* (**Appendix G**). High probability areas determined through geospatial analysis of 1913 Sanborn Fire Insurance Maps overlaid with current aerial imagery to identify locations where structures once existed but are no longer intact; and through the analysis of United States Geological Survey (USGS) topographic maps to identify upland areas that may contain intact cultural deposits based on high elevation contours.

PEL Study Goals [1]	Measures	Evaluation Parameters
Natural Resources	Parks [3]	Names and acres of parks located within proposed ROW for each Reasonable Alternative as identified using Arkansas Geographic Information Office park data, as well as AHTD provided data..
	Surface Water Crossings/Wetlands	Acres of surface water crossings and wetlands located within proposed ROW for each Reasonable Alternative. Wetlands classified by type (emergent or forested/shrub) using 2014 aerial photography and verified with AHTD input and National Wetland Inventory maps for reference.
	Listed and non-listed species and/or habitat, and rare locally important species	Acres of quality habitat within proposed ROW of each Reasonable Alternative. Vegetation classified by type (non-maintained herbaceous, woodland, and riparian) using 2014 aerial photography and input from AHTD. Existing ROW classified as maintained herbaceous and not considered quality habitat.
Other	Hazardous Materials Sites	Number of encroachments on hazardous material sites for each Reasonable Alternative and potential impacts to sites. Site descriptions, history and current status determined using Arkansas Department of Environmental Quality (ADEQ) database information.
	Traffic Noise Receptors	Number of sensitive noise receptors (residences, churches, schools, daycares) along the proposed alignment for each Reasonable Alternative as identified using public facility data provided by AHTD, online research, and CAMP Pulaski County parcel data.
Public Input	Meeting Comments	Percentage of comments received at Public Meeting #3 that identified a preference for a specific Reasonable Alternative (Reasonable Alternatives presented at Public Meeting #3).

Notes:

*[1] Goals associated with the environmental screening as established in the I-30 PEL Purpose and Need Report (**Appendix A**) are to "Avoid and/or minimize impacts to natural and human resources, including historic and archeological resources" and to "Sustain public and agency input and support for the I-30 corridor improvements."*

*[2] Cultural Resources: PEL-level assessment of cultural resources and NEPA methodology outlined in the I-30 PEL Cultural Resources Survey Methodology Memorandum (**Appendix G**).*

[3] Section 4(f) applicability to be determined during the NEPA phase.

2.4 Level 3 Scoring

The matrix presented in **Table 5** shows the ratings for the alternatives against each of the Level 3 Screening measures, based on the study goals. For the Level 3 Screening, the No Action Alternative was scored in the same manner and against the same mobility, safety, cost and environmental measures as the Build Alternatives. Evaluating the No Action Alternative in this manner gave a quantifiable score that was compared to the various alternatives and which provided a better understanding of the performance and impacts resulting from the No Action Alternative.

Table 5. Level 3 Screening Matrix

Goals	Measures			No Action	8-Lane C/D Reasonable Alternative		10-Lane GP Reasonable Alternative		10--Lane C/D Reasonable Alternative
	Color Codes for Measures: Mobility / Safety / Cost / Environmental				3 GP Lanes + 1 C/D Lane Widening (each direction)		3 GP Lanes + 2 GP Lane Widening (each direction)		3 GP Lanes + 2 C/D Lane Widening (each direction)
	Maximum Width (Sq. Ft. of Pavement)			102(2.55M)	190 (3.74M)		166(4.15M)		214(4.54M)
	Bridge Location				West	East	West	East	
Enhance Mobility	Mobility in PEL Study Area	Distance and duration of LOS E or F (Miles/Minutes during PM Peak)		9.67/120	5.85/120		.67/60		0/0
	Mobility in PEL Study Area	Distance and duration of LOS F (Miles/Minutes during PM Peak)		9.67/120	5.31/120		.67/45		0/0
	Total travel time	Hwy. 67 to S. Terminal AM SB/PM NB travel time (minutes)		16/18	15/22.4		6/6		6/6
	Average peak hour travel speed through corridor	Hwy. 67 to S. Terminal AM SB/PM NB average speed (mph)		22/20	24/15		58/58		59/59
Access to Downtown	Mobility of key intersections within PEL Study Area	# of intersections at E/F		20/19	13/10		4/3		5/3
	Travel time to key destinations in PEL Study Area	Between McCain and Capitol (To Capitol in the AM and From Capitol in the PM)		24/39	23/24		8/8		8/8
East-West Connectivity	Locations allowing for local street connectivity	Re-evaluate qualitatively		--	+	+	+	+	+
	Designs that allow for open spaces across I-30	Re-evaluate qualitatively		--	+	+	+	+	+
Connect Bicycle/Pedestrian Friendly Facilities	Grade separated bike / ped accommodations across I-30 (East-West Connectivity)	Re-evaluate qualitatively		0	+	+	+	+	+
Accommodate Existing Transit and Future Transit	Transit ridership in the PEL Study Area	Re-evaluate qualitatively		-	++	++	+	+	+
Minimize Roadway Disruptions	Severity of I-30 lane closures, detours during construction	Re-evaluate qualitatively		++	-	-	-	-	-
Minimize River Disruptions	Severity of river closures during construction	Carry Forward		++	-	-	-	-	-
	Location of navigational impediments (Bridge Piers)	Re-evaluate qualitatively		--	++	++	++	++	++
Opportunity for Economic Development	Access to existing / potential business sites within the PEL Study Area	Re-evaluate qualitatively		--	-	-	+	+	+
Commitment to Voters	Mobility on I-30 Main Lanes (qualitative)	Re-evaluate qualitatively		--	-	-	+	+	+
System Reliability	Potential accident reductions	Number of Annual Crashes		0	175		159		229
	Emergency Vehicle Travel Time	Fire Station 1 to Incident west of N. Hills Blvd. in the PM (minutes)		7	11		4		4
Improve Safety	I-30 PEL conflict points in weaving / merge / diverge areas - Main	Count		31	20		26		19
	I-30 PEL conflict points in weaving / merge / diverge areas - C/D Lanes	Count		--	6		--		7
	Total Conflict Points (Main Lanes and C/D)	Total		31	26		26		26
	Number of ramps on I-30 in the study area - Main Lanes	Count		15/15	13/11		14/12		12/10
	Number of ramps on I-30 in the study area - C/D	Count		--	3/3		--		3/5
	Ramp acceleration, deceleration and weaving lengths	lengths not meeting current standards		26	6		6		7
	I-30 Roadway and bridge structural conditions	Re-evaluate qualitatively		--	++	++	++	++	++
	Arterial connection conflict points	Count		411	515		515		515
Maximize Cost Efficiency	Construction Cost	Projected cost		0	less		Base		more
	Total cost of ROW acquisition	Projected cost		0	less	less	more	Base	more
	Total Cost To AHTD	Construction + ROW		0	less	less	more	Base	more
	Total investment required by others	Re-evaluate qualitatively		0	TBD	TBD	TBD	TBD	TBD
Community Impacts	ROW impacts	Acres		0.00	7.5	8.7	8.6	8.9	9.0
	Parcels Impacted	Count		0	39	47	48	46	46
	Displacements	Count		0	16: 5 Residential 5 Commercial 6 Billboards	17: 5 Residential 6 Commercial 6 Billboards	20: 5 Residential 8 Commercial 7 Billboards	19: 5 Residential 7 Commercial 7 Billboards	19: 5 Residential 7 Commercial 7 Billboards
EJ/LEP	Are EJ/LEP populations present in the study area?	Re-evaluate qualitatively		yes	yes	yes	yes	yes	yes
	Is there a potential for displacements to EJ/LEP populations?	Count		0	6: 5 Residential 1 Commercial*	6: 5 Residential 1 Commercial*	6: 5 Residential 1 Commercial*	6: 5 Residential 1 Commercial*	6: 5 Residential 1 Commercial*
	If YES to displacements, is there a potential for mitigation to offset displacements to EJ/LEP populations - Replacement properties of similar value in same area (count)	Homes for sale under $50,000	Zillow.com	N/A	8 homes for sale	8 homes for sale	8 homes for sale	8 homes for sale	8 homes for sale
		Apartment rent of $500 - $600 per month	Zillow.com	N/A	8 homes/apts for rent	8 homes/apts for rent	8 homes/apts for rent	8 homes/apts for rent	8 homes/apts for rent
		Section 8 housing - all considered decent, safe and sanitary	Hud.gov	N/A	33 Section 8 properties	33 Section 8 properties	33 Section 8 properties	33 Section 8 properties	33 Section 8 properties
	If YES to displacements, is there a potential for avoidance, minimization, and/or mitigation to offset displacements to EJ/LEP populations - displacement/relocation will follow the Uniform Relocation Act?	Re-evaluate qualitatively		N/A	yes	yes	yes	yes	yes
	Is there a potential for adverse impacts to the community cohesion of EJ/LEP populations?	Re-evaluate qualitatively, mapping evaluation		no	no	no	no	no	no
	If YES , is there a potential for avoidance, minimization, and/or mitigation to offset adverse impacts to the community cohesion of EJ/LEP populations?	Re-evaluate qualitatively		N/A	N/A	N/A	N/A	N/A	N/A
	Is there a potential for adverse impacts to access for EJ/LEP populations?	Mapping evaluation		no	No - ramping would not eliminate access	No - ramping would not eliminate access	No - ramping would not eliminate access	No - ramping would not eliminate access	No - ramping would not eliminate access
	If YES, is there a potential for avoidance, minimization, and/or mitigation to offset adverse impacts to access for EJ/LEP populations?	Re-evaluate qualitatively		N/A	N/A	N/A	N/A	N/A	N/A
	Are sensitive noise receptors located in EJ/LEP areas?	Count of receivers directly adjacent in EJ/LEP areas		0	6 schools, 1 church, 2 daycares and 48 residential parcels in low income areas; 1 church, 2 daycares and 96 residential parcels in high minority areas	6 schools, 1 church, 2 daycares and 48 residential parcels in low income areas; 1 church, 2 daycares and 96 residential parcels in high minority areas	6 schools, 1 church, 2 daycares and 48 residential parcels in low income areas; 1 church, 2 daycares and 96 residential parcels in high minority areas	6 schools, 1 church, 2 daycares and 48 residential parcels in low income areas; 1 church, 2 daycares and 96 residential parcels in high minority areas	6 schools, 1 church, 2 daycares and 48 residential parcels in low income areas; 1 church, 2 daycares and 96 residential parcels in high minority areas
	If YES (and noise impacts are assumed), is there a potential for avoidance, minimization, and/or mitigation to offset adverse impacts resulting from noise for EJ/LEP populations?	Re-evaluate qualitatively		no	yes	yes	yes	yes	yes
	Is there a potential for beneficial impacts to mobility for EJ/LEP populations?	Re-evaluate qualitatively		no	yes	yes	yes	yes	yes
	Is there a potential for beneficial impacts to safety for EJ/LEP populations?	Re-evaluate qualitatively		no	yes	yes	yes	yes	yes
	Is there a potential for beneficial impacts to E-W connectivity for EJ/LEP populations?	Re-evaluate qualitatively		no	yes	yes	yes	yes	yes
Cultural Resource Impacts	Recorded archaeological sites potentially impacted	Count		0	0	0	0	0	0
	NRHP or NRHP-eligible sites potentially impacted	Count		0	1	1	1	1	1
	Number of areas along existing and proposed ROW determined to have a high probability for archeological resources	Count - Evaluation of 1913 Sanborn Fire Insurance Maps and USGS Topographic		0	36	36	36	36	36
Natural Resource Impacts	Park impacts	Count		0	3	3	3	3	3
	Park impacts (acres)	North Shore Riverwalk Park	Acres	0.0	1.4	1.6	1.5	1.4	1.7
		Julius Breckling Riverfront Park	Acres	0.0	0.7	0.5	1.0	0.5	0.5
		William J. Clinton Presidential Center and Park	Acres	0.0	0.3	0.5	0.3	0.4	0.4
		Total Park Impacts	Acres	0.0	2.4	2.6	2.8	2.3	2.6
	Surface water crossings / wetlands	Impacts - Acres of water features permanent fill impacts	Acres	0.0	0.8	0.8	0.8	0.8	0.9
		Impacts - Acres of emergent wetlands permanent fill impacts	Acres	0.0	0.3	0.3	0.3	0.3	0.3
		Impacts - Acres of forested/shrub wetlands permanent fill impacts	Acres	0.0	0.9	0.9	0.9	0.9	0.9
	High quality vegatation/habitat	Impacts - Acres of non-maintained herbaceous habitat impacted	Acres	0.0	0.5	0.5	0.5	0.4	0.4
		Impacts - Acres of woodland (forested/shrub) impacted	Acres	0.0	1.3	1.3	1.9	1.9	1.9
		Impacts - Acres of riparian habitat impacted	Acres	0.0	0.1	0.1	0.1	0.1	0.1
Other Impacts	Number of hazardous material sites that could have negative effect on the project	Count - Type of site, proximity to project, type of consturction activities occurring at or adjacent to site.		0	6	6	7	7	8
	Traffic noise receptors directly adjacent	Count		0	184	184	184	184	184
Public / Agency Input	Meeting comments and local resolutions	Input from Technical Work Group and the public		None	67%		11%		22%

*Commercial displacement listed as 10th Street Warehouse Association, LLC

2.5 Level 3 Screening Results

A brief explanation of the results of the Level 3 Screening process for each of the alternatives is provided below.

Capacity improvements outside the PEL study limits were needed to evaluate the PEL study area. AHTD plans to study the needs of both of these two corridors, as practicable.

1. I-630 westbound lane added from Louisiana west beyond the model limits; and
2. I-30 eastbound and westbound lane added in each direction southwest of the south terminal to 65th Street.

These additional improvements were deemed necessary to avoid backups from congestion outside the PEL limits to inside the PEL limits.

2.5.1 Mobility

Mobility for the No Action and three Reasonable Alternatives was analyzed using Vissim models. **Table 6** shows the mobility results in comparison to each other.

The table shows that the two 10-lane Reasonable Alternatives are comparable to each other and far exceed the mobility benefits of the 8-lane C/D Reasonable Alternative and No Action Alternative in almost all measures. Although the two 10-lane Alternatives operate similarly to each other, the 10-lane C/D does provide slightly better mobility than the 10 Main Lanes. These benefits are provided primarily within the limits of the C/D system, where the C/D system separates the high volume weaving between the Broadway Street and Cantrell Road interchanges and lower speed from the higher speed through traffic on the main lanes.

Other mobility measures such as access to downtown, east-west connectivity and bicycle and pedestrian east-west connectivity are expected to perform the same for all three Reasonable Alternatives, but better than the No Action Alternative. Transit service is the one measure that is expected to perform better for the 8-lane C/D than both 10-lane Alternatives and the No Action Alternative. This is because congestion will be high enough to attract transit riders to the bus on shoulder express service compared to less congested 10-lane Reasonable Alternatives.

Table 6. Impacts Comparison for Mobility

Goals	Measures	No Action	8-Lane C/D Reasonable Alternative		10 Main Lane Reasonable Alternative		10-Lane C/D Reasonable Alternative
			3 main lanes + 1 C/D lane widening (each direction)		3 main lanes + 2 main lane widening (each direction)		3 main lanes + 2 C/D lane widening (each direction)
			West	East	West	East	
Enhance Mobility	Mobility in PEL Study Area (LOS E or F) (miles / minutes during PM peak)	9.67 miles / 120 minutes	5.34 miles / 120 minutes		0.67 miles / 60 minutes		0 miles / 0 minutes
	Mobility in PEL Study Area (LOS F) (miles / minutes during PM peak)	9.67 miles / 120 minutes	4.80 miles / 120 minutes		0.67 miles / 45 minutes		0 miles / 0 minutes
	Total travel time through corridor (minutes) (AM south / PM north)	16 / 17 minutes	15 / 22 minutes		6 / 7 minutes		6 / 6 minutes
	Average peak hour travel speed through corridor (mph) (AM south / PM north)	22 / 20 mph	24 / 15 mph		58 / 58 mph		59 / 59 mph
Access to Downtown	Mobility of key intersections within PEL Study Area (number of intersections at E/F)	20 E / 19 F intersections	13 E / 10 F intersections		4 E / 3 F intersections		5 E/ 4 F intersections
	Travel time to key destinations in PEL Study Area (minutes) AM – McCain to Capitol PM – Capitol to McCain	24 / 37 minutes	23 / 24 minutes		9 / 8 minutes		8 / 8 minutes
East-West Connectivity	Locations allowing for local street connectivity	— —	+				
	Designs that allow for open spaces across I-30	— —	+				

		No Action	8-Lane C/D Reasonable Alternative		10 Main Lane Reasonable Alternative		10-Lane C/D Reasonable Alternative
			3 main lanes + 1 C/D lane widening (each direction)		3 main lanes + 2 main lane widening (each direction)		3 main lanes + 2 C/D lane widening (each direction)
Goals	**Measures**		West	East	West	East	
Connect Bicycle / Pedestrian Friendly Facilities	Grade separated bike / pedestrian accommodations across I-30 (east-west connectivity)	0	+				
Accommodate Existing Transit and Future Transit	Transit ridership in the PEL Study Area	—	++		+		+
Minimize Roadway Disruptions	Severity of I-30 lane closures, detours during construction	++	—				
Minimize River Disruptions	Severity of river closures during construction	++	—				
	Location of navigational impediments (bridge piers)	— —	++				
Opportunity for Economic Development	Access to existing / potential business sites within the PEL Study Area	— —	—		+		+
Commitment to Voters	Mobility on I-30 main lanes (qualitative)	— —	—		+		+

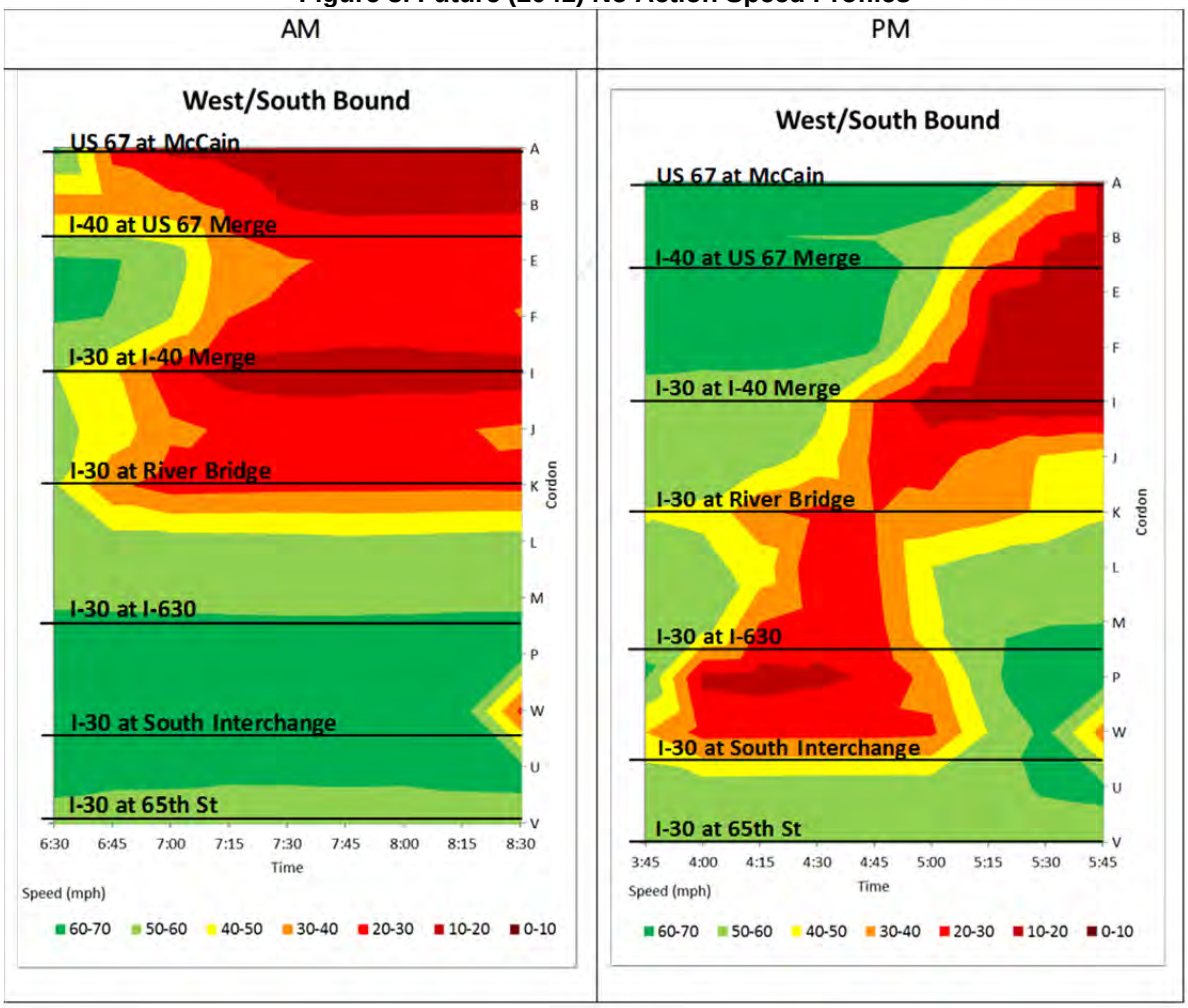
Source: I-30 PEL Vissim model

Minimizing roadway disruptions and minimizing river disruptions are expected to perform the same for all three Reasonable Alternatives and better than the No Action Alternative. The "opportunity for economic development measure" and "commitment to voters" measure have a higher rating for the 10-lane Alternatives than the 8-lane Alternative because most congestion is resolved in the design year with the 10-lane Alternatives.

Another way to demonstrate mobility is with speed profiles. A speed profile compares the expected travel speed for the length of the corridor over a two hour period using the Vissim models. In the figures below, speed profiles of travel are shown for some of the primary directions of travel. A full set of speed profiles for existing and future No Action and three Reasonable Alternatives are provided in the *I-30 PEL Traffic and Safety Report* (**Appendix F)**.

In **Figure 3**, future No Action travel speeds for AM and PM peak period are shown throughout the length of the corridor.

Figure 3. Future (2041) No Action Speed Profiles



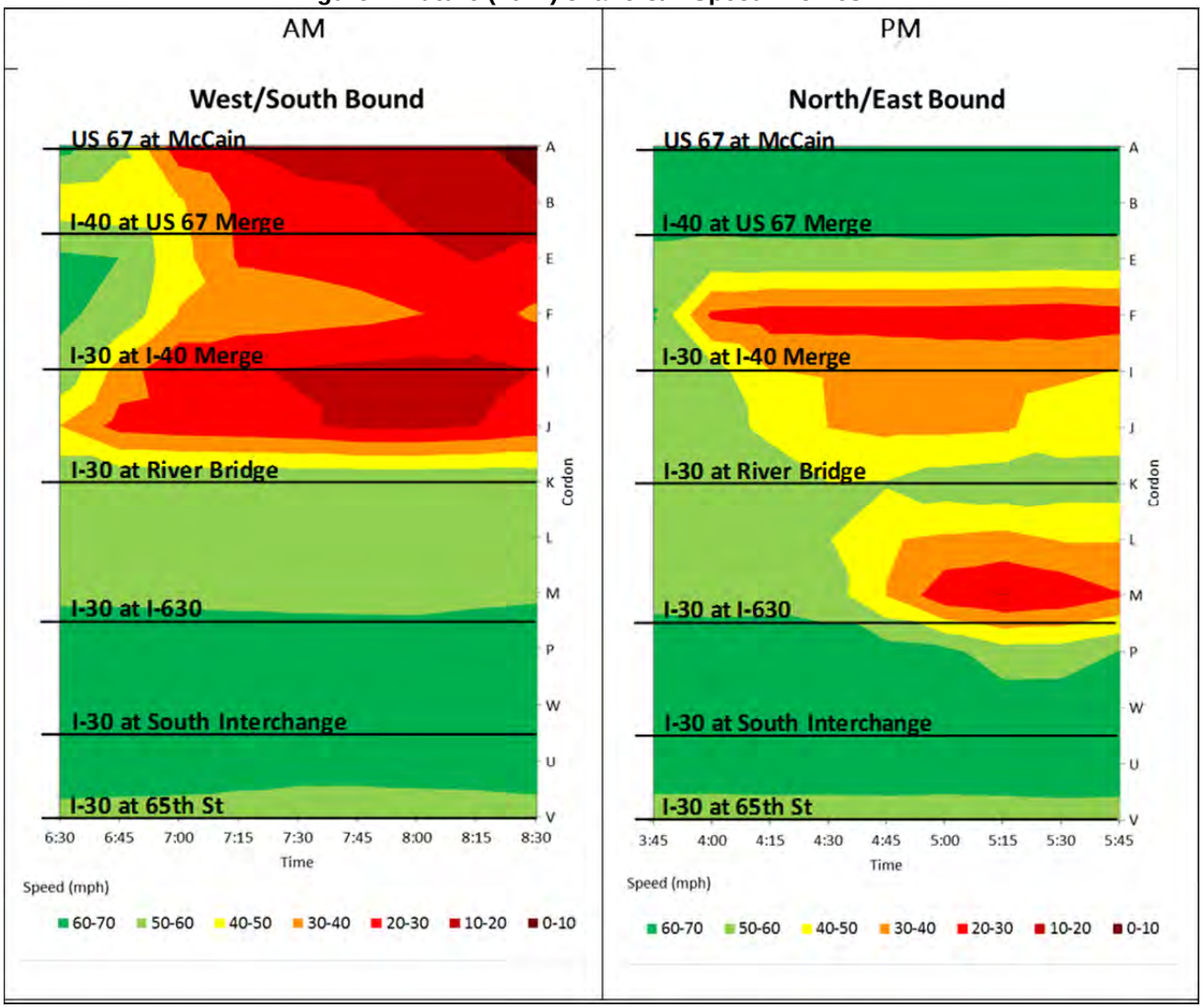
Source: I-30 PEL Vissim models

As the speed profiles show, the duration of congestion in the corridor is significant in the west/southbound direction during the AM and PM peak periods for the future No Action Alternative. Particularly long and severe congestion, with speeds as low as 0-10 miles per hour (mph) can be seen in the west/southbound direction in the morning and afternoon. This congestion is primarily a result of a lack of capacity for the projected demand as well as insufficient operations of exit and entrance ramps.

From a mobility standpoint, this alternative does not achieve the purpose and need or study goals.

In **Figure 4**, future 8-lane C/D Alternative travel speeds for AM and PM peak period are shown throughout the length of the corridor.

Figure 4. Future (2041) 8-lane C/D Speed Profiles



Source: I-30 PEL Vissim models

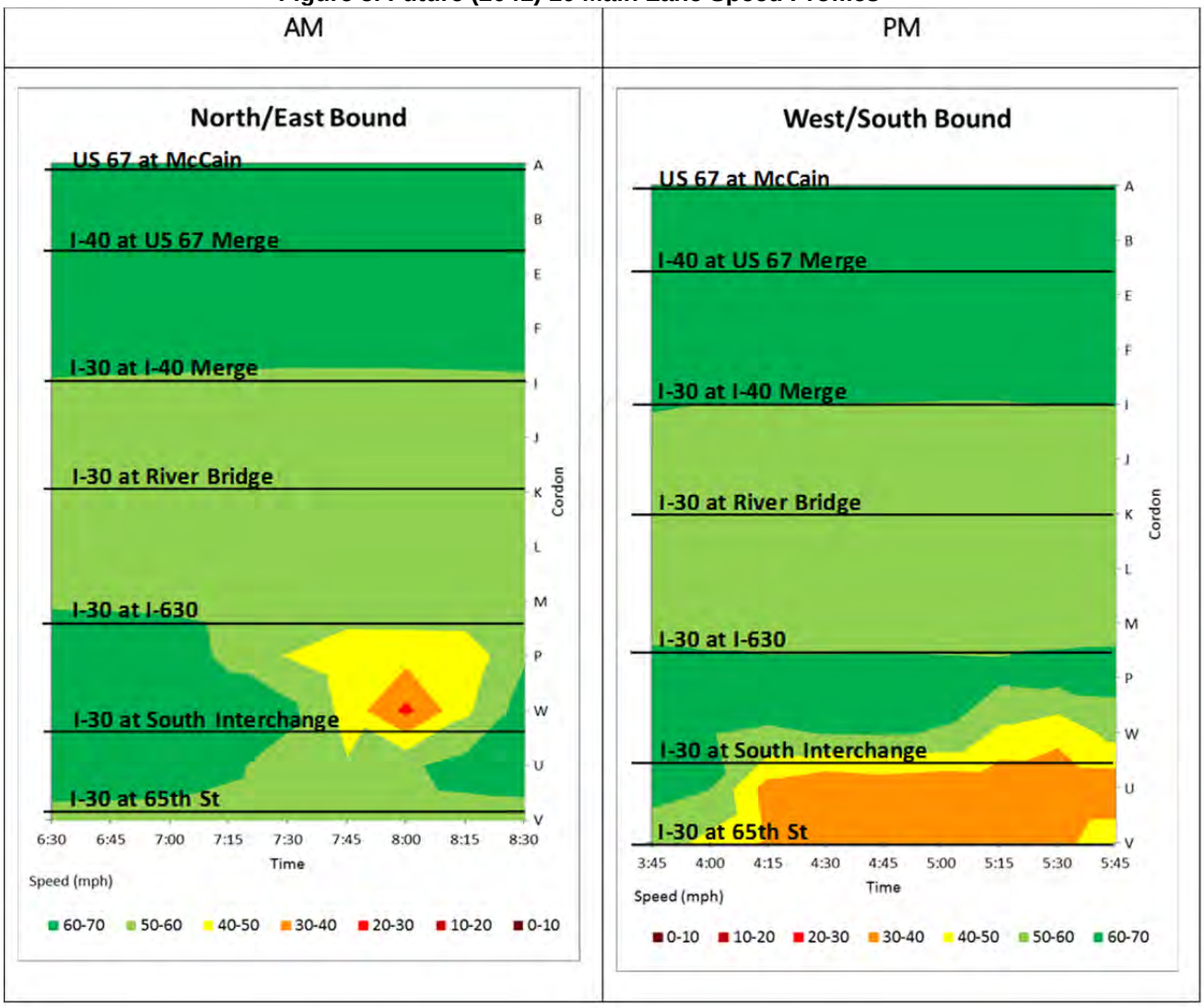
As the speed profiles show, the duration of congestion in the corridor is significant in the west/southbound and north/eastbound direction during the AM and PM peak periods for

the future 8-lane C/D Alternative. Particularly long and severe congestion, with speeds as low as 0-10 miles per hour (mph) can be seen in the west/southbound direction in the morning. This congestion is primarily a result of a lack of capacity for the projected demand in the C/D system.

From a mobility standpoint, this alternative does not achieve the purpose and need or study goals.

In **Figure 5**, future 10 Main Lane Alternative travel speeds for AM and PM peak periods are shown throughout the length of the corridor.

Figure 5. Future (2041) 10 Main Lane Speed Profiles



Source: I-30 PEL Vissim models

As shown in **Figure 5**, slowdowns only occur for a brief amount of time in the AM and PM peak period simulations. Compared to the future No Action Alternative, and the

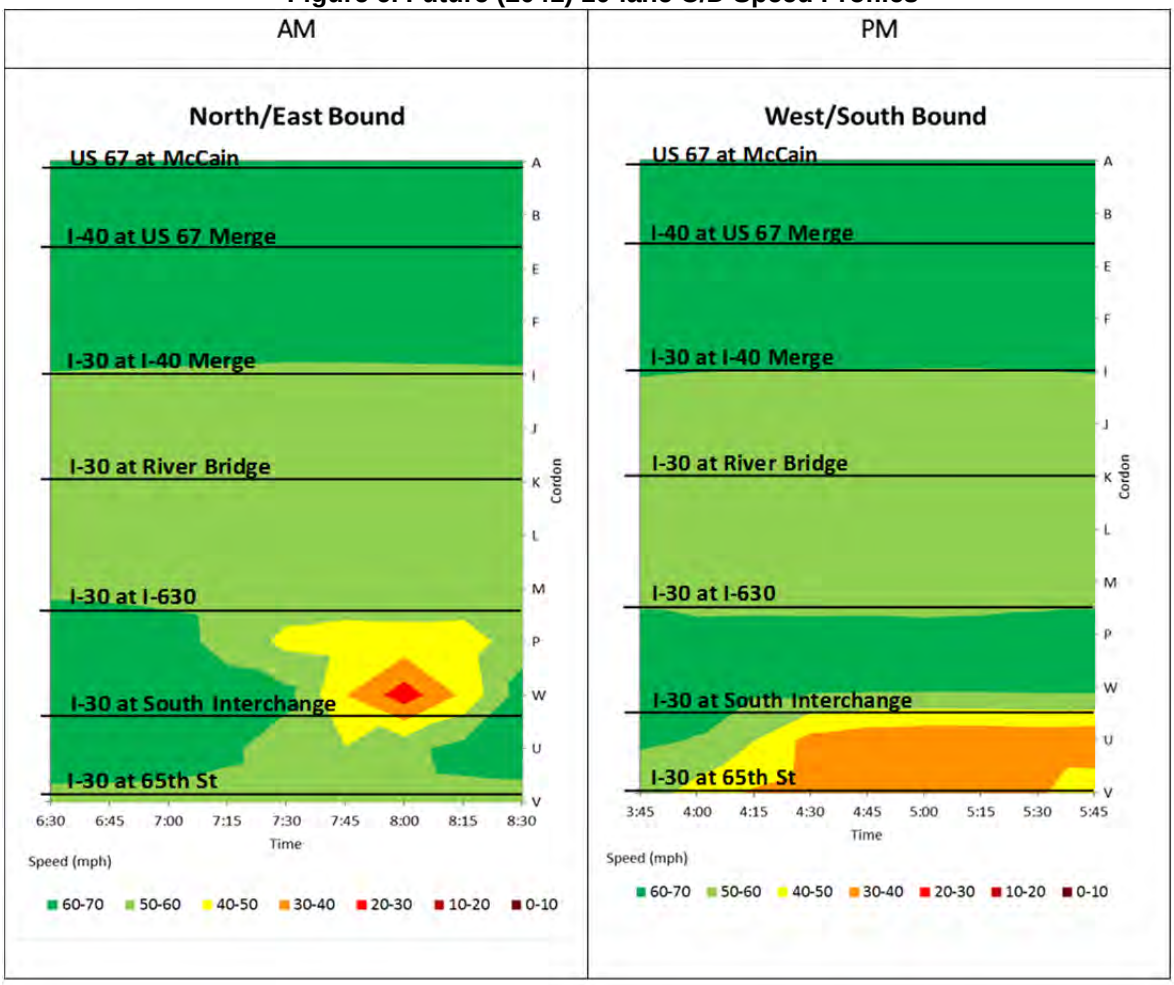
existing conditions shown in *I-30 PEL Traffic and Safety Report* (**Appendix F)**, the duration and severity of congestion is minimal in this 10 Main Lane Alternative.

The two areas where slowdowns are evident are related to constraints outside of the PEL study area. In the AM north/eastbound direction, traffic experiences a slowdown just south of the I-30 eastbound to I-630 westbound flyover ramp. This is because the demand slightly exceeds the capacity for vehicles using the flyover ramp. In the PM south/westbound direction, slowdowns occur mostly outside of the PEL study area due to demand exceeding capacity on I-30 westbound.

From a mobility standpoint, this alternative primarily achieves the purpose and need and study goals.

In **Figure 6**, future 10-lane C/D Alternative travel speeds for AM and PM peak period are shown throughout the length of the corridor.

Figure 6. Future (2041) 10-lane C/D Speed Profiles



Source: I-30 PEL Vissim models

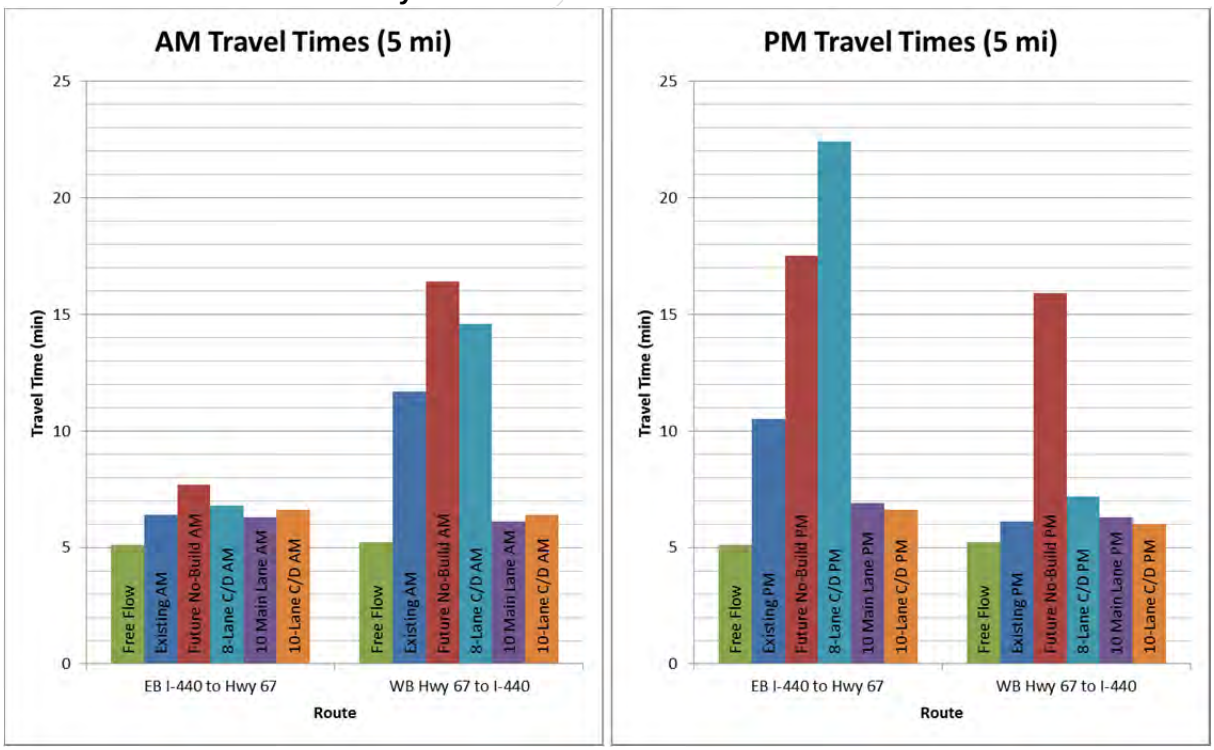
As shown in **Figure 6**, slowdowns only occur for a brief amount of time in the AM and PM peak period simulations. Compared to the future No Action Alternative, and the existing conditions, the duration and severity of congestion is minimal in this 10-lane C/D Alternative.

The two areas where slowdowns are evident are related to constraints outside of the PEL study area. In the AM north/eastbound direction, traffic experiences a slowdown just south of the I-30 eastbound to I-630 westbound flyover ramp. This is because the demand slightly exceeds the capacity for vehicles using the flyover ramp. In the PM south/westbound direction, slowdowns occur mostly outside of the PEL study area due to demand exceeding capacity on I-30 westbound.

From a mobility standpoint, this alternative primarily achieves the purpose and need and study goals. The 10 Main Lane Alternative and the 10-lane C/D Alternative perform very similarly, but the 10-lane C/D Alternative operates better.

Figure 7 shows the average travel time for all alternatives. Travel time was measured between Hwy. 67 at McCain Boulevard and the I-30/I-530/I-440 south terminal interchange, which is approximately a 6.7 mile segment. Only vehicles that traversed the entire distance were considered in the travel time calculation. A baseline “free flow” travel time was also added. Free-flow travel time is the time it would take to traverse the corridor in off-peak conditions. The free-flow travel time is a baseline for comparing the various alternatives.

Figure 7. Corridor Travel Time
Between Hwy. 67 at McCain Boulevard and I-30/I-530/I-440



Source: I-30 PEL Vissim models

Figure 7 shows that the future No Action and the 8-lane C/D Alternatives both exhibit significantly increased travel times compared to the existing condition. In each peak hour, the 10 Main Lane Alternative and the 10-lane C/D Alternative both have very similar travel times. The 10 Main Lane Alternative performs better during the AM peak hour and the 10-lane C/D Alternative performs better during the PM peak hour.

2.5.2 Safety

As shown in **Table 7**, the safety screening items were quantified for comparison. This compares the No Action, 8-lane C/D, 10 Main Lane, and 10-lane C/D Alternatives.

The No Action will continue to have the most ramps, conflict points, and deficient ramps and weaving lengths on the main lane system. The 10-lane C/D has the most potential for crash reductions but has one more deficient weaving length than 8-lane C/D and 10 Main Lane Alternatives. All the Build Alternatives would have the same amount of connecting arterial conflict points.

2.5.3 Cost

As discussed in **Section 2.2.3**, square feet of pavement and bridge decking were used to establish reference costs for the alternatives. **Table 8** shows how the alternatives compared in cost.

Because the 8-lane C/D Alternative performed poorly in the Mobility measures and did not meet the purpose and need, the 10 Main Lane Alternative was established as the *Base* cost – the least amount that could be spent to meet the purpose and need and study goals of the project. Less money could be spent to construct the 8-lane C/D Alternative, but that would not solve the mobility issues in the study corridor. The 10-lane C/D Alternative costs more, but it has additional safety benefits.

For all alternatives, some investment will be required of other agencies. If bridges are widened to allow bicycle/pedestrian facilities to cross I-30, the cost of the paths leading to the I-30 crossing will be the responsibility of others. Buses for transit will also be the responsibility of others. The investment required by others will be further evaluated during the NEPA process.

Table 7. Impacts Comparison for Safety

		No Action	8-Lane C/D Reasonable Alternative		10 Main Lane Reasonable Alternative		10-Lane C/D Reasonable Alternative
			3 main lanes + 1 C/D lane widening (each direction)		3 main lanes + 2 main lane widening (each direction)		3 main lanes + 2 C/D lane widening (each direction)
Goals	**Measures**		West	East	West	East	
System Reliability	Potential crash reductions (number of annual crashes)	0 annual crash reductions	175 annual crash reductions		159 annual crash reductions		229 annual crash reductions
	Emergency vehicle travel time from Fire Station 1 to incident west of North Hills Blvd in PM (minutes)	7 minutes	11 minutes		4 minutes		4 minutes
Improve Safety	Total number of main lane conflict points (count)	31 conflict points	20 conflict points		26 conflict points		19 conflict points
	Total number of C/D conflict points (count)	0 conflict points	6 conflict points		0 conflict points		7 conflict points
	Total number of arterial connection conflict points (count)	411 conflict points	515 conflict points				
	Ramps on I-30 in the study area - main lanes (EB/WB) (count)	14/15 ramps	13/11 ramps		14/12 ramps		12/10 ramps
	Ramps on I-30 in the study area – C/D (EB/WB) (count)	0/0 ramps	3/3 ramps		0/0 ramps		3/5 ramps
	Deficient Ramps and Weaving Lengths (count)	26	6		6		7
	I-30 roadway and bridge structural conditions (qualitative)	— —	++				

Table 8. Impacts Comparison for Cost

		No Action	8-Lane C/D Reasonable Alternative		10 Main Lane Reasonable Alternative		10-Lane C/D Reasonable Alternative
			3 main lanes + 1 C/D lane widening (each direction)		3 main lanes + 2 main lane widening (each direction)		3 main lanes + 2 C/D lane widening (each direction)
Goals	**Measures**		West	East	West	East	
Optimize Cost	Construction cost	0	Less		Base		More
	Total cost of ROW acquisition	0	Less	Less	More	Base	More
	Total cost to AHTD	0	Less		More	Base	More
	Total investment required by others	0	To Be Determined				

2.5.4 Environmental

Results of the Level 3 environmental screening for the No Action and three Reasonable Alternatives are shown in **Table 9**. The comparisons of impacts between the environmental measures were fairly analogous between the Reasonable Alternatives, with the following measures anticipated to have no difference in impacts:

- EJ/LEP;
- Recorded archeological sites;
- High probability areas for archeological sites;
- NRHP and NRHP-eligible structures;
- Emergent Wetlands;
- Forested/Shrub Wetlands;
- Riparian Vegetation; and
- Traffic Noise Receptors.

The following environmental measures were anticipated to have slight impact differences between the Reasonable Alternatives. The maximum difference in impacts between the three Reasonable Alternatives is shown in parentheses:

- ROW (+1.5 acres);
- Parcels (+9 parcels);
- Displacements (+3 commercial); Structures Impacted (+1 billboard)
- Parks (+0.4 acre);
- Water Features (+0.1 acre);
- Non-Maintained Herbaceous Vegetation (+0.1 acre);
- Woodland Vegetation (+0.6 acre); and
- Hazardous Materials (+2 hazardous materials sites.

Most public comments[2] did not cite favoritism for a specific Reasonable Alternative, but instead included specific improvement recommendations (e.g., ramping, weaving). For those commenters that did acknowledge preference, in general, the public cited more support for the 8-lane C/D Alternative, with the next highest support for the 10-lane C/D Alternative, and least support for the 10 Main Lane Alternative.

The 8-lane C/D Alternative (west and/or east bridge widening) exhibited the least amount of impacts for more environmental measures than the 10 Main Lane (west and/or east bridge widening) or 10-lane C/D Alternatives. These results were as predicted given the overall smaller footprint of the 8-lane C/D Alternative compared to the other alternatives. Even with the overall smaller footprint, because all three Reasonable Alternatives are aligned along the same I-30/I-40 corridor, they generally impact similar resources with nominal differences between those impacts.

[2] Feedback obtained from Public Meeting #3, which presented the Reasonable Alternatives.

Table 9. Impacts Comparison for Environmental Measures

Measures	No Action	8-Lane C/D Reasonable Alternative		10-Lane GP Reasonable Alternative		10-Lane C/D Reasonable Alternative
		West	East	West	East	
ROW (acres)	None	7.5	8.7	8.6	8.9	9.0
Parcels (count)	None	39	47	48	46	46
Displacements / Structures (count)	None	16 Total • 5 Residential • 5 Commercial • 6 Billboards	17 Total • 5 Residential • 6 Commercial • 6 Billboards	20 Total • 5 Residential • 8 Commercial • 7 Billboards	19 Total • 5 Residential • 7 Commercial • 7 Billboards	19 Total • 5 Residential • 7 Commercial • 7 Billboards
EJ / LEP	None	All other EJ/LEP impacts same between Reasonable Alternatives: • 6 displacements in EJ/LEP areas: 5 residential and 1 commercial • Decent, safe and sanitary replacement housing available (8 homes for sale, 8 rentals, 33 Section 8 properties) • ROW and property acquisition to follow Uniform Relocation Act • No anticipated impacts to community cohesion • Ramping changes not anticipated to eliminate access • Sensitive noise receptors identified in EJ/LEP areas (6 schools, 1 church, 2 daycares, and 36 residences) for all Reasonable Alternatives; mitigation anticipated to be possible (e.g., noise walls if determined feasible and reasonable and voted on by adjacent property owners) • Beneficial impacts to mobility, safety and E-W connectivity for EJ/LEP populations				
Parks (name / acres) [1]	None	North Shore Riverwalk Park / 1.4 Julius Breckling Riverfront Park / 0.7 William J. Clinton Presidential Center and Park / 0.3	North Shore Riverwalk Park / 1.6 Julius Breckling Riverfront Park / 0.5 William J. Clinton Presidential Center and Park / 0.5	North Shore Riverwalk Park / 1.5 Julius Breckling Riverfront Park / 1.0 William J. Clinton Presidential Center and Park / 0.3	North Shore Riverwalk Park / 1.4 Julius Breckling Riverfront Park / 0.5 William J. Clinton Presidential Center and Park / 0.4	North Shore Riverwalk Park / 1.7 Julius Breckling Riverfront Park / 0.5 William J. Clinton Presidential Center and Park / 0.4
Parks (total acres) [1]	None	2.4	2.6	2.8	2.3	2.6

Measures	No Action	8-Lane C/D Reasonable Alternative		10-Lane GP Reasonable Alternative		10-Lane C/D Reasonable Alternative
		West	East	West	East	
Cultural Resources [1, 2]	None	No anticipated impacts to recorded archeological sites. One NRHP-eligible historic property (Site #18 – Locust St. Bridge over UPRR) would be impacted by the Reasonable Alternatives. Number of areas along existing and proposed ROW determined to have a high probability for archeological resources similar for all Reasonable Alternatives (36 areas).				
Waters (acres)	None	0.8	0.8	0.8	0.8	0.9
Emergent Wetlands (acres)	None	0.3	0.3	0.3	0.3	0.3
Forested/Shrub Wetlands (acres)	None	0.9	0.9	0.9	0.9	0.9
Non-Maintained Herbaceous Vegetation (acres)	None	0.5	0.5	0.5	0.4	0.4
Woodland Vegetation (acres)	None	1.3	1.3	1.9	1.9	1.9
Riparian Vegetation (acres)	None	0.1	0.1	0.1	0.1	0.1
Hazardous Materials (count)	None	6	6	7	7	8
Traffic Noise Receptors (count)	None	184 sensitive traffic noise receptors (churches, schools, daycares, residences) directly adjacent to ROW potentially impacted				
Meeting comments (feedback from Public Meeting #3)	None	67%		11%		22%

Notes:

1 *Section 4(f) regulations govern the use of land from publicly owned parks, recreation areas, wildlife and waterfowl refuges, and public or private historic sites for Federal highway projects. Section 4(f) applicability to be determined during the NEPA process for impacts to parks and cultural resources.*

2 *Cultural resources assessment to be completed in accordance with the CA0602 I-30 Cultural Resources Survey Methodology Memo (AHPP Tracking Number 90015.02). Memo coordinated with the Arkansas Historic Preservation Program, State Historic Preservation Officer; concurrence received 2/6/15 (**Appendix G**).*

A brief explanation of the results of the Level 3 Screening process for each of the alternatives is provided below.

- **No Action –** Although the No Action has no environmental impacts and zero cost, the corridor already exhibits severe LOS F congestion over a long duration in several areas. By 2041, the section of I-30 north of the Arkansas River would operate at LOS F congestion almost continuously throughout the AM peak period. Peak hour travel speeds would be near 20 mph, and the poor crash rates along the route would continue to worsen. This alternative will be advanced for further evaluation as required by NEPA.

- **8-lane C/D –** This alternative has the lowest cost and the least environmental impacts of the Reasonable Alternatives. The addition of the C/D system does substantially reduce crashes by separating the slower moving traffic destined for the downtown areas from the main lanes, but this alternative performs poorly in the mobility measures. By 2041, several locations will experience peak hour travel speeds below 25 mph and the southbound direction will experience LOS F congestion for nearly the entire AM peak period. The afternoon peak period also has several locations with LOS F congestion lasting more than an hour. Therefore, this alternative does not meet the purpose and need, or the study goals of the project, and will not be advanced to NEPA as a PEL Recommendation.

- **10 Main Lanes –** This alternative was comparable to the other alternatives for the environmental measures and costs slightly less than the 10-lane C/D Alternative, though more than the 8-lane C/D Alternative. The 10 Main Lane Alternative performed well on the mobility measures, having peak hour travel speeds of 58 mph through much of the corridor. Travel time through the study area in the year 2041 was reduced to 7 minutes in the southbound direction, compared to 17 minutes for the No Action. Crashes were also reduced significantly, though not as much as the 10-lane C/D Alternative.

- **10-lane C/D –** This alternative performed well in all mobility measures, having average peak hour travel speeds of 59 mph through the study corridor. The addition of the C/D lanes removed slower moving traffic destined for the downtown areas from the main lanes, thereby eliminating 70 crashes per year. Moreover, the slower speeds traveled on the C/D lanes are anticipated to result in less severe crashes than the higher speed main lanes. The C/D lanes also serve to create a new local connection between Little Rock and North Little Rock across the Arkansas River Bridge, allowing motorists to travel between the downtown areas without entering the main lanes of the interstate. Serving as an additional crossing of the Arkansas River that is separate from main lane traffic, the C/D lanes would provide more convenient access to and between the downtown economic districts and support improved connectivity and cohesion of these financially viable commercial and tourist areas. This qualitative assessment of the additional mobility, safety, connectivity and economic benefits

of the 10-lane C/D Alternative demonstrates a substantial improvement compared to the 10 Main Lane Alternative that outweighs the slight differences in environmental impacts and cost of the 10 Main Lane Alternative.

2.6 PEL Recommendation

The PEL study team recognized that several improvements could be made to the 10-lane C/D Reasonable Alternative that would benefit cost and mobility. The following improvements were made to the PEL Recommendation.

1. Moved the C/D system's northern limits from Curtis Sykes Avenue south to Broadway Street to increase the weaving distance between the north terminal and the C/D system.
2. Added bus on shoulder in each direction.
3. Eliminated the Cantrell Interchange at-grade intersections at River Market Avenue and Sherman Street.
4. Reassigned traffic from I-630 eastbound off-ramp from College Street to I-30 eastbound.
5. The bridge location of the 10-lane C/D Alternative was initially expected to be built as closely as possible to the centerline of the existing bridge, which would have required phased construction. After further analysis of the design, the study team decided that phased construction would result in a higher cost and significant constructability issues. The study team now proposes that the bridge location be analyzed with an east or west location.

These improvements were modeled and evaluated as a new alternative, the 10-lane Downtown C/D Alternative, which is compared to the other alternatives in **Table 10** and further described below.

Table 10. Level 3 Matrix with Downtown C/D

Goals	Measures			No Action	8-Lane C/D Reasonable Alternative		10-Lane GP Reasonable Alternative		10--Lane C/D Reasonable Alternative	10--Lane Downtown C/D PEL Recommendation
	Color Codes for Measures: Mobility / Safety / Cost / Environmental			3 GP Lanes + 1 C/D Lane Widening (each direction)		3 GP Lanes + 2 GP Lane Widening (each direction)		3 GP Lanes + 2 C/D Lane Widening (each direction)	3 GP Lanes + 2 C/D Lane Widening (each direction)	
	Maximum Width (Sq. Ft. of Pavement)			102(2.55M)	190 (3.74M)		166(4.15M)		214(4.54M)	214(4.34M)
	Bridge Location				West	East	West	East		
Enhance Mobility	Mobility in PEL Study Area		Distance and duration of LOS E or F (Miles/Minutes during PM Peak)	9.67/120	5.85/120		.67/60		0/0	0/0
Enhance Mobility	Mobility in PEL Study Area		Distance and duration of LOS F (Miles/Minutes during PM Peak)	9.67/120	5.31/120		.67/45		0/0	0/0
Enhance Mobility	Total travel time		Hwy. 67 to S. Terminal AM SB/PM NB travel time (minutes)	16/18	15/22.4		6/6		6/6	6/6
Enhance Mobility	Average peak hour travel speed through corridor		Hwy. 67 to S. Terminal AM SB/PM NB average speed (mph)	22/20	24/15		58/58		59/59	58/58
Access to Downtown	Mobility of key intersections within PEL Study Area		# of intersections at E/F	20/19	13/10		4/3		5/3	3/1
Access to Downtown	Travel time to key destinations in PEL Study Area		Between McCain and Capitol (To Capitol in the AM and From Capitol in the PM)	24/39	23/24		8/8		8/8	8/8
East-West Connectivity	Locations allowing for local street connectivity		Re-evaluate qualitatively	--	+	+	+	+	+	+
East-West Connectivity	Designs that allow for open spaces across I-30		Re-evaluate qualitatively	--	+	+	+	+	+	+
Connect Bicycle/Pedestrian Friendly Facilities	Grade separated bike / ped accommodations across I-30 (East-West Connectivity)		Re-evaluate qualitatively	0	+	+	+	+	+	+
Accommodate Existing Transit and Future Transit	Transit ridership in the PEL Study Area		Re-evaluate qualitatively	-	++	++	+	+	+	+
Minimize Roadway Disruptions	Severity of I-30 lane closures, detours during construction		Re-evaluate qualitatively	++	-	-	-	-	-	-
Minimize River Disruptions	Severity of river closures during construction		Carry Forward	++	-	-	-	-	-	-
Minimize River Disruptions	Location of navigational impediments (Bridge Piers)		Re-evaluate qualitatively	--	++	++	++	++	++	++
Opportunity for Economic Development	Access to existing / potential business sites within the PEL Study Area		Re-evaluate qualitatively	--	-	-	+	+	+	+
Commitment to Voters	Mobility on I-30 Main Lanes (qualitative)		Re-evaluate qualitatively	--	-	-	+	+	+	+
System Reliability	Potential accident reductions		Number of Annual Crashes	0	175		159		229	197
System Reliability	Emergency Vehicle Travel Time		Fire Station 1 to Incident west of N. Hills Blvd. in the PM (minutes)	7	11		4		4	4
Improve Safety	I-30 PEL conflict points in weaving / merge / diverge areas - Main		Count	31	20		26		19	21
Improve Safety	I-30 PEL conflict points in weaving / merge / diverge areas - C/D Lanes		Count	--	6		--		7	4
Improve Safety	Total Conflict Points (Main Lanes and C/D)		Total	31	26		26		26	25
Improve Safety	Number of ramps on I-30 in the study area - Main Lanes		Count	15/15	13/11		14/12		12/10	13/12
Improve Safety	Number of ramps on I-30 in the study area - C/D		Count	--	3/3		--		3/5	3/3
Improve Safety	Ramp acceleration, deceleration and weaving lengths		lengths not meeting current standards	26	6		6		7	5
Improve Safety	I-30 Roadway and bridge structural conditions		Re-evaluate qualitatively	--	++	++	++	++	++	++
Improve Safety	Arterial connection conflict points		Count	411	515		515		515	483
Maximize Cost Efficiency	Construction Cost		Projected cost	0	less		Base		more	more
Maximize Cost Efficiency	Total cost of ROW acquisition		Projected cost	0	less	less	more	Base	more	more
Maximize Cost Efficiency	Total Cost To AHTD		Construction + ROW	0	less	less	more	Base	more	more
Maximize Cost Efficiency	Total investment required by others		Re-evaluate qualitatively	0	TBD	TBD	TBD	TBD	TBD	
Community Impacts	ROW impacts		Acres	0.00	7.5	8.7	8.6	8.9	9.0	9.0
Community Impacts	Parcels Impacted		Count	0	39	47	48	46	46	46
Community Impacts	Displacements		Count	0	16: 5 Residential 5 Commercial 6 Billboards	17: 5 Residential 6 Commercial 6 Billboards	20: 5 Residential 8 Commercial 7 Billboards	19: 5 Residential 7 Commercial 7 Billboards	19: 5 Residential 7 Commercial 7 Billboards	19: 5 Residential 7 Commercial 7 Billboards
EJ/LEP	Are EJ/LEP populations present in the study area?		Re-evaluate qualitatively	yes	yes	yes	yes	yes	yes	yes
EJ/LEP	Is there a potential for displacements to EJ/LEP populations?		Count	0	6: 5 Residential 1 Commercial*	6: 5 Residential 1 Commercial*	6: 5 Residential 1 Commercial*	6: 5 Residential 1 Commercial*	6: 5 Residential 1 Commercial*	6: 5 Residential 1 Commercial*
EJ/LEP	If YES to displacements, is there a potential for mitigation to offset displacements to EJ/LEP populations - Replacement properties of similar value in same area (count)	Homes for sale under $50,000	Zillow.com	N/A	8 homes for sale	8 homes for sale	8 homes for sale	8 homes for sale	8 homes for sale	8 homes for sale
EJ/LEP		Apartment rent of $500 - $600 per month	Zillow.com	N/A	8 homes/apts for rent	8 homes/apts for rent	8 homes/apts for rent	8 homes/apts for rent	8 homes/apts for rent	8 homes/apts for rent
EJ/LEP		Section 8 housing - all considered decent, safe and sanitary	Hud.gov	N/A	33 Section 8 properties	33 Section 8 properties	33 Section 8 properties	33 Section 8 properties	33 Section 8 properties	33 Section 8 properties
EJ/LEP	If YES to displacements, is there a potential for avoidance, minimization, and/or mitigation to offset displacements to EJ/LEP populations - displacement/relocation will follow the Uniform Relocation Act?		Re-evaluate qualitatively	N/A	yes	yes	yes	yes	yes	yes
EJ/LEP	Is there a potential for adverse impacts to the community cohesion of EJ/LEP populations?		Re-evaluate qualitatively, mapping evaluation	no	no	no	no	no	no	no
EJ/LEP	If YES , is there a potential for avoidance, minimization, and/or mitigation to offset adverse impacts to the community cohesion of EJ/LEP populations?		Re-evaluate qualitatively	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EJ/LEP	Is there a potential for adverse impacts to access for EJ/LEP populations?		Mapping evaluation	no	No - ramping would not eliminate access	No - ramping would not eliminate access	No - ramping would not eliminate access	No - ramping would not eliminate access	No - ramping would not eliminate access	No - ramping would not eliminate access
EJ/LEP	If YES, is there a potential for avoidance, minimization, and/or mitigation to offset adverse impacts to access for EJ/LEP populations?		Re-evaluate qualitatively	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EJ/LEP	Are sensitive noise receptors located in EJ/LEP areas?		Count of receivers directly adjacent in EJ/LEP areas	0	6 schools, 1 church, 2 daycares and 48 residential parcels in low income areas; 1 church, 2 daycares and 96 residential parcels in high minority areas	6 schools, 1 church, 2 daycares and 48 residential parcels in low income areas; 1 church, 2 daycares and 96 residential parcels in high minority areas	6 schools, 1 church, 2 daycares and 48 residential parcels in low income areas; 1 church, 2 daycares and 96 residential parcels in high minority areas	6 schools, 1 church, 2 daycares and 48 residential parcels in low income areas; 1 church, 2 daycares and 96 residential parcels in high minority areas	6 schools, 1 church, 2 daycares and 48 residential parcels in low income areas; 1 church, 2 daycares and 96 residential parcels in high minority areas	6 schools, 1 church, 2 daycares and 48 residential parcels in low income areas; 1 church, 2 daycares and 96 residential parcels in high minority areas
EJ/LEP	If YES (and noise impacts are assumed), is there a potential for avoidance, minimization, and/or mitigation to offset adverse impacts resulting from noise for EJ/LEP populations?		Re-evaluate qualitatively	no	yes	yes	yes	yes	yes	yes
EJ/LEP	Is there a potential for beneficial impacts to mobility for EJ/LEP populations?		Re-evaluate qualitatively	no	yes	yes	yes	yes	yes	yes
EJ/LEP	Is there a potential for beneficial impacts to safety for EJ/LEP populations?		Re-evaluate qualitatively	no	yes	yes	yes	yes	yes	yes
EJ/LEP	Is there a potential for beneficial impacts to E-W connectivity for EJ/LEP populations?		Re-evaluate qualitatively	no	yes	yes	yes	yes	yes	yes
Cultural Resource Impacts	Recorded archaeological sites potentially impacted		Count	0	0	0	0	0	0	0
Cultural Resource Impacts	NRHP or NRHP-eligible sites potentially impacted		Count	0	1	1	1	1	1	1
Cultural Resource Impacts	Number of areas along existing and proposed ROW determined to have a high probability for archeological resources		Count - Evaluation of 1913 Sanborn Fire Insurance Maps and USGS Topographic	0	36	36	36	36	36	36
Natural Resource Impacts	Park impacts		Count	0	3	3	3	3	3	3
Natural Resource Impacts	Park impacts (acres)	North Shore Riverwalk Park	Acres	0.0	1.4	1.6	1.5	1.4	1.7	1.7
Natural Resource Impacts		Julius Breckling Riverfront Park	Acres	0.0	0.7	0.5	1.0	0.5	0.5	0.5
Natural Resource Impacts		William J. Clinton Presidential Center and Park	Acres	0.0	0.3	0.5	0.3	0.4	0.4	0.4
Natural Resource Impacts		Total Park Impacts	Acres	0.0	2.4	2.6	2.8	2.3	2.6	2.6
Natural Resource Impacts	Surface water crossings / wetlands	Impacts - Acres of water features permanent fill impacts	Acres	0.0	0.8	0.8	0.8	0.8	0.9	0.9
Natural Resource Impacts		Impacts - Acres of emergent wetlands permanent fill impacts	Acres	0.0	0.3	0.3	0.3	0.3	0.3	0.3
Natural Resource Impacts		Impacts - Acres of forested/shrub wetlands permanent fill impacts	Acres	0.0	0.9	0.9	0.9	0.9	0.9	0.9
Natural Resource Impacts	High quality vegatation/habitat	Impacts - Acres of non-maintained herbaceous habitat impacted	Acres	0.0	0.5	0.5	0.5	0.4	0.4	0.4
Natural Resource Impacts		Impacts - Acres of woodland (forested/shrub) impacted	Acres	0.0	1.3	1.3	1.9	1.9	1.9	1.9
Natural Resource Impacts		Impacts - Acres of riparian habitat impacted	Acres	0.0	0.1	0.1	0.1	0.1	0.1	0.1
Other Impacts	Number of hazardous material sites that could have negative effect on the project		Count - Type of site, proximity to project, type of consturction activities occurring at or adjacent to site.	0	6	6	7	7	8	8
Other Impacts	Traffic noise receptors directly adjacent		Count	0	184	184	184	184	184	184
Public / Agency Input	Meeting comments and local resolutions		Input from Technical Work Group and the public	None	67%		11%		22%	n/a

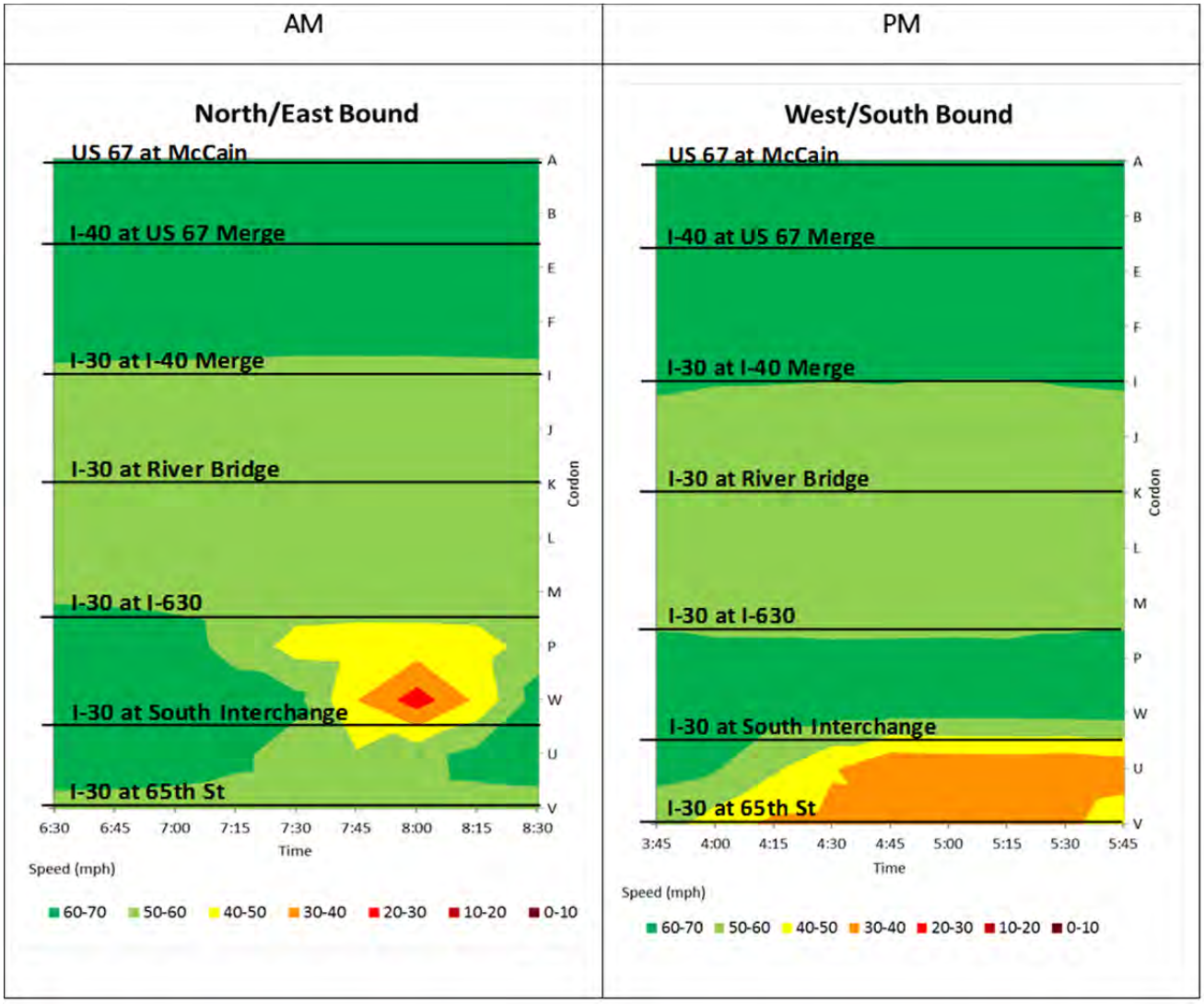
*Commercial displacement listed as 10th Street Warehouse Association, LLC

2.6.1 Mobility

Table 10 shows that the PEL recommended 10-Lane Downtown C/D is comparable to the 10-Lane C/D from a mobility perspective. Minor improvements to weaving were achieved at the north end of the corridor between the C/D system and the north terminal. In addition, the Bus on Shoulder operation was confirmed to operate successfully.

In **Figure 8**, future 10-lane Downtown C/D Alternative travel speeds for AM and PM peak periods are shown throughout the length of the corridor.

Figure 8. Future (2041) 10-lane Downtown C/D Speed Profiles
PEL Recommended Alternative



Source: I-30 PEL Vissim models

As shown in **Figure 8**, slowdowns only occur for a brief amount of time in the AM and PM peak period simulations in 2041. Compared to the future No Action Alternative, and the existing conditions, the duration and severity of congestion is minimal in the 10-lane Downtown C/D Alternative.

The two areas where slowdowns are evident are related to constraints outside of the PEL study area. In the AM north/eastbound direction, traffic experiences a slowdown just south of the I-30 eastbound to I-630 westbound flyover ramp. This is because the demand slightly exceeds the capacity for vehicles using the flyover ramp by the 2041 design year. In the PM south/westbound direction, slowdowns occur mostly outside of the PEL study area due to demand exceeding capacity on I-30 westbound by the 2041 design year. Although the speed profiles for the 10-lane Downtown C/D look similar to the 10-lane C/D, there were improvements in corridor travel speeds at the north end of I-30 that do not show up within the 10 mph speed bins.

From a mobility standpoint, this alternative achieves the purpose and need and study goals. The 10-lane Downtown C/D Alternative and the 10-lane C/D Alternative performed very similarly, but the 10-lane Downtown C/D Alternative operates slightly better.

2.6.2 Safety

The effects of the shortened C/D system on safety measures were mostly negligible. The 10-lane Downtown C/D alternative did have slightly fewer crash reductions due to the shortened C/D system, but the safety benefits still remained high in comparison to the other Reasonable Alternatives.

2.6.3 Cost

The cost of the 10-lane Downtown C/D Alternative will be somewhat lower than the cost of the original 10-lane C/D Alternative as a product of shortening the C/D system, resulting in an overall reduction in pavement and bridge structures.

2.6.4 Environmental

The ROW required for the 10-lane C/D Alternative and the 10-lane Downtown C/D Alternative are almost identical, so the difference in the environmental impacts of the two alternatives is minimal.

2.7 Conclusion

The lane configuration for the 10-lane Downtown C/D Alternative is shown in **Figure 9**.

As shown if **Figures 10** and **11**, the 10-lane Downtown C/D Alternative meets all elements of the I-30 PEL purpose and need and study goals.

The 10-lane Downtown C/D Alternative has the best performance overall from a mobility standpoint, provides substantial crash reductions, and has a reasonable cost and minimal environmental impacts. Therefore, the 10-lane Downtown C/D Alternative has been advanced to NEPA as the I-30 PEL Recommendation.

Figure 9. 10-lane Downtown C/D Lane Configuration

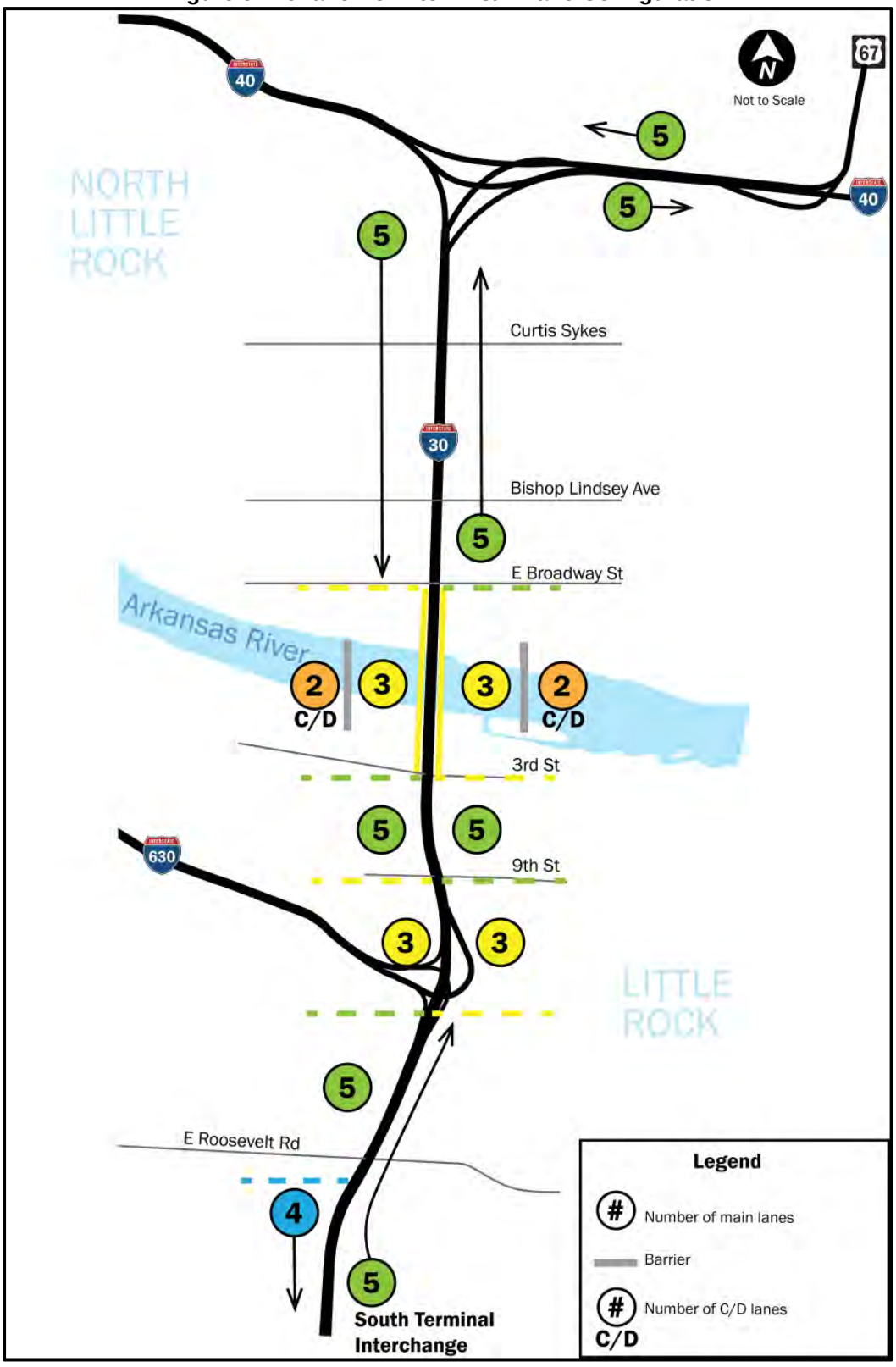


Figure 10. I-30 PEL Purpose and Need

Purpose & Need	
Traffic Congestion	✓
Roadway Safety	✓
Structural and Functional Roadway Deficiencies	✓
Navigational Safety	✓
Structural and Functional Bridge Deficiencies	✓

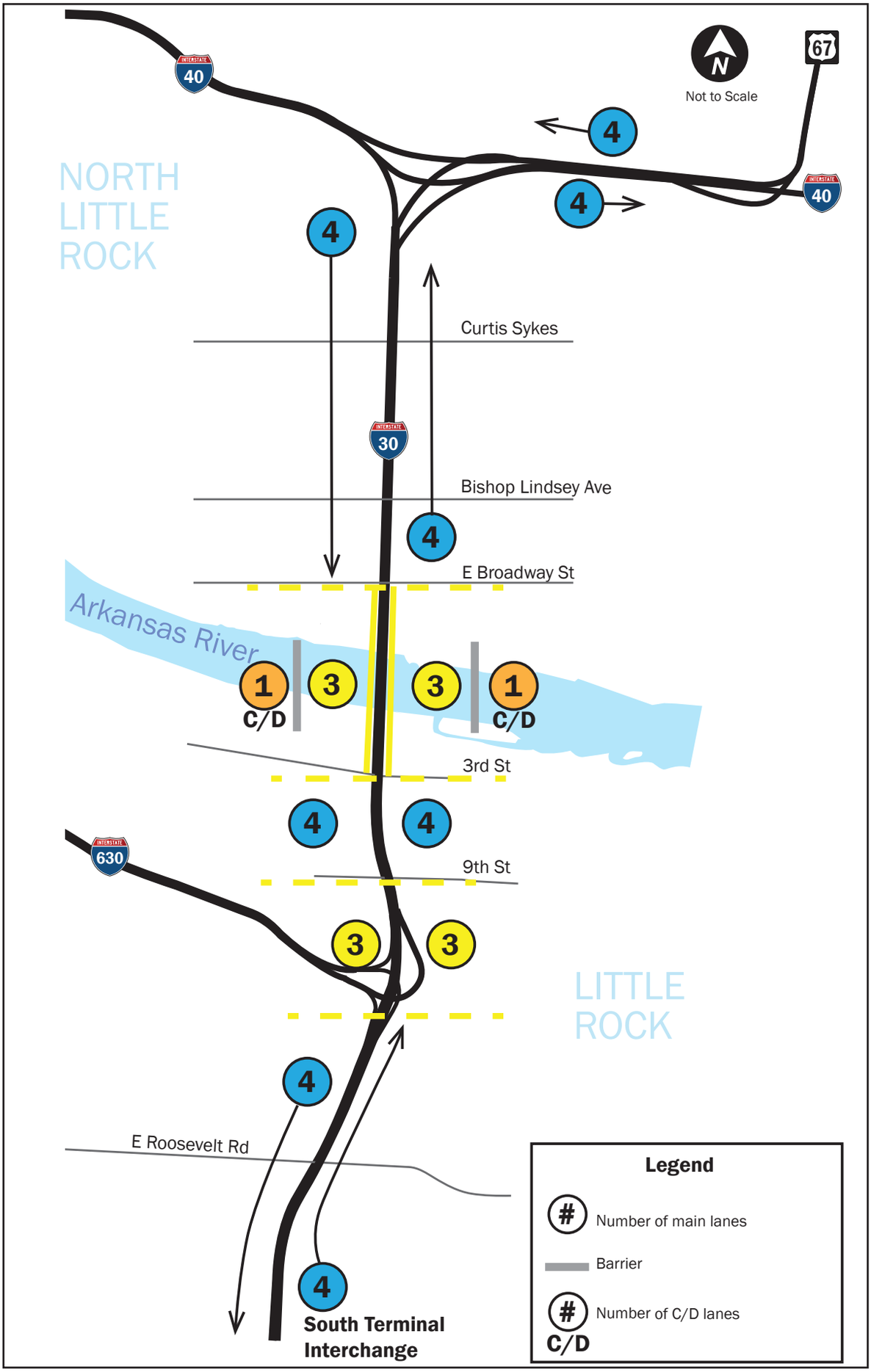
Purpose & Need and Study Goals listed in no particular order.

Figure 11. I-30 PEL Study Goals

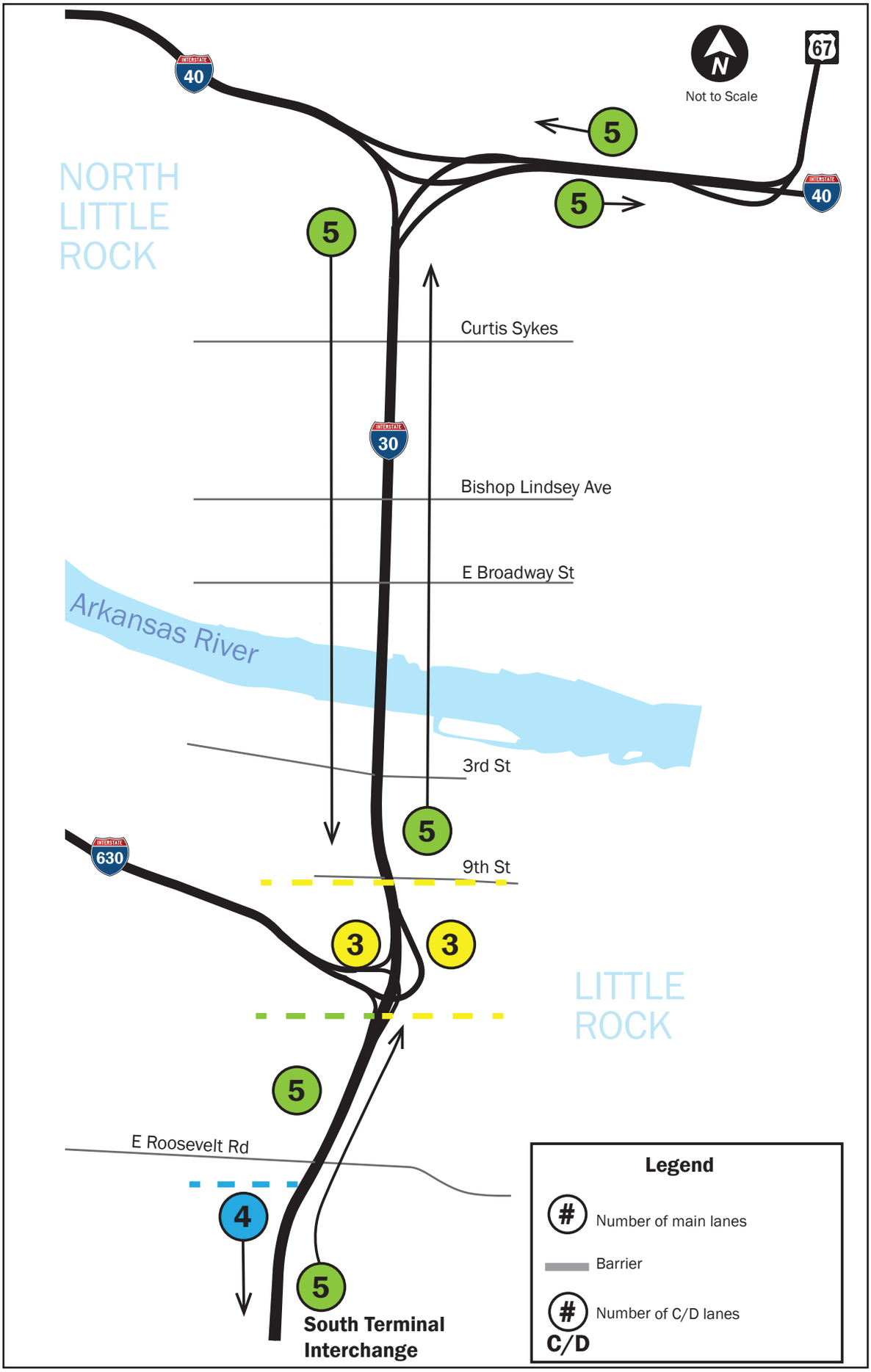
Study Goals	
Improve opportunity for east-west connectivity	✓
Improve local vehicle access to downtown Little Rock and North Little Rock	✓
Accommodate existing transit and future transit	✓
Minimize river navigation disruptions during/after construction	✓
Sustain public and agency input and support for the I-30 corridor improvements	✓
Maximize I-30 cost efficiency	✓
Enhance mobility	✓
Connect bicycle/pedestrian friendly facilities	✓
Improve system reliability	✓
Improve safety	✓
Follow through on commitment to voters to improve I-30 as part of the Connecting Arkansas Program	✓
Avoid and/or minimize impacts to the human and natural environment, including historic and archaeological resources	✓
Optimize opportunities for economic development	✓
Minimize roadway disruptions during construction	✓

Attachment A:
Lane Configurations for the Reasonable Alternatives

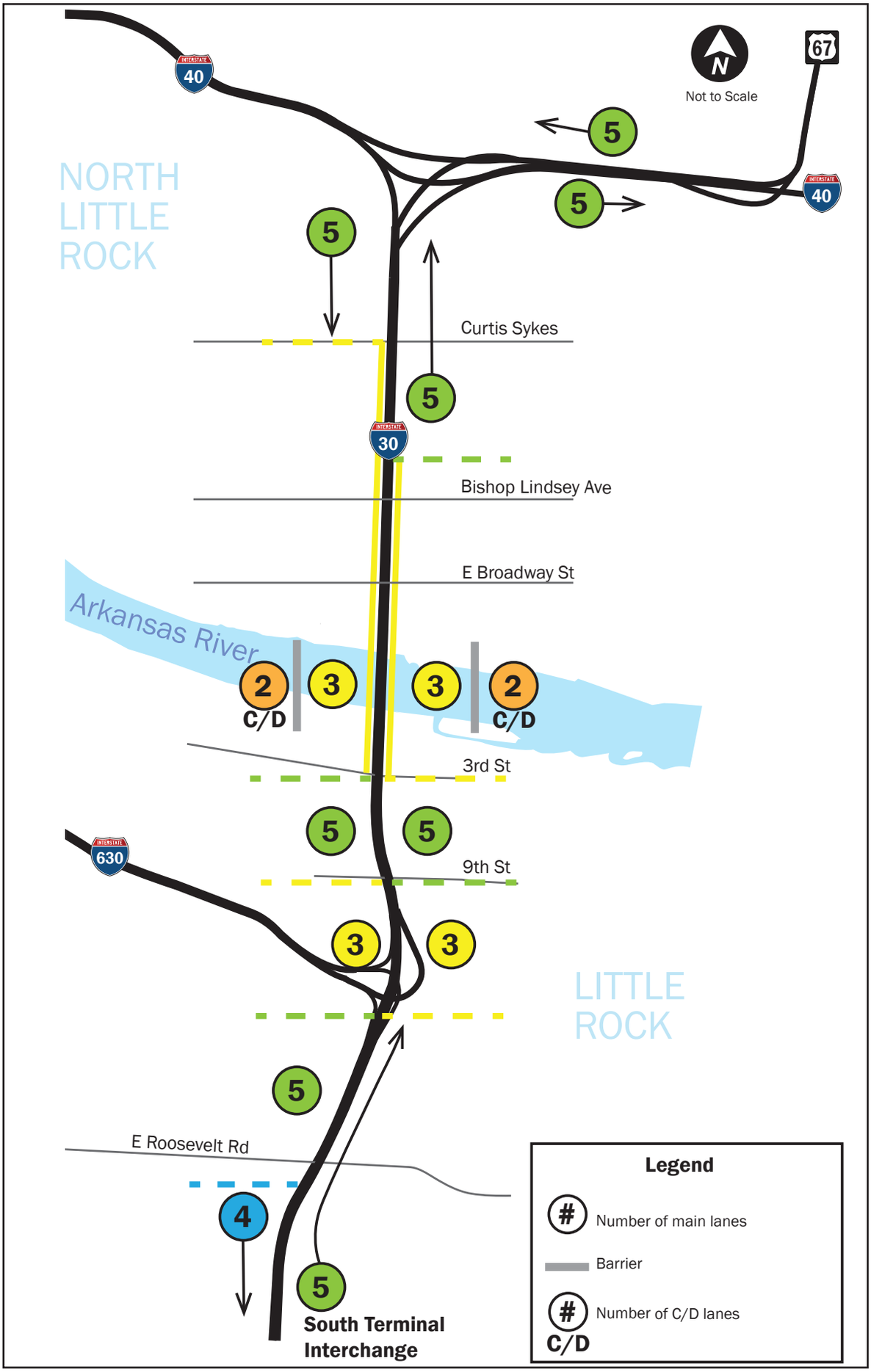
Lane Configuration - 8-Lane C/D Alternative



Lane Configuration - 10 Main Lane Alternative



Lane Configuration - 10-lane C/D Alternative



Attachment B:
EJ/LEP Level 3 Screening Evaluation

EJ/LEP Level 3 Screening Evaluation

Similar to the Level 2 screening, potential direct impacts to EJ/LEP populations were assessed utilizing a series of questions, as described below. A listing of all the environmental measures and their descriptions is presented in **Section 2.3.4** of the *I-30 PEL Level 3 Screening Methodology and Results Memorandum*.

- ***Question 1: Are EJ/LEP populations present in the study area?***

  Although the presence of EJ/LEP populations was established in the Level 2 screening, Question 1 was repeated as part of Level 3 screening to serve as a starting point for the EJ/LEP impacts evaluation. As Question 1 determined presence or non-presence only, the Level 3 screening matrix values were either "yes" or "no".

- ***Question 2: Is there a potential for displacements to EJ/LEP populations?***

  Matrix values included the specific number of residential and/or commercial structures located fully or partially within proposed ROW for each Reasonable Alternative.

- ***Question 3: If displacements were identified, is there potential for mitigation to offset displacements to EJ/LEP populations - decent, safe, and sanitary replacement housing of similar value in the study area?***

  Property values of the potentially displaced residences ranged from approximately $20,000 to $50,000[1]. Based on this price range, the following parameters were established for researching the availability of housing of similar value in the study area:

  a) Homes for sale under $50,000 – Matrix values included the number of homes identified via an online search of real estate websites as of March 2015 (e.g., Zillow.com and Realtor.com).
  b) Apartments for rent of $500 - $600 per month - Matrix values included the number of apartments for rent within this set price range via an online search of real estate websites as of March 2015 (e.g., Zillow.com and Realtor.com).
  c) Section 8 housing available – Matrix values included the number of locations where available Section 8 housing was identified as of March 2015 (HUD.gov).

[1] Source: Pulaski Appraisal District

- ***Question 4: If yes to displacements, is there a potential for avoidance, minimization, and/or mitigation to offset displacements to EJ/LEP populations – displacements/relocations will follow the Uniform Relocation Act?***

  Matrix values were either 'yes' or 'no'. To receive a value of 'yes' the following assumptions were required:

  a) The Reasonable Alternatives, as designed in the PEL are preliminary and further design refinements will occur for the PEL Recommendation(s) during the NEPA phase.
  b) The NEPA alternative(s) will be specifically evaluated for their ability to address the needs within the study area, as well as for their potential impacts on structures.
  c) Efforts would be made, if practical, to avoid and/or minimize impacts associated with the proposed alternative(s) to structures through the minimization of ROW impacts, alignment shifts, or other design refinements.
  d) Efforts would be made to mitigate potential impacts associated with the proposed alternative(s) to structures. Real property would be acquired in accordance with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act* which provides important protections and assistance for people affected by Federally funded projects. It ensures that people whose real property is acquired, or who move as a result of projects receiving Federal funds, will be treated fairly and equitably and will receive assistance in moving from the property they occupy.

- ***Question 5: Is there a potential for adverse impacts to the community cohesion of EJ/LEP populations?***

  Matrix values were either 'yes' or 'no'. To receive a value of 'no' the alignment of a Reasonable Alternative could not spatially divide a neighborhood or community recognized as a single unit, nor displace public facilities such as churches and schools that if displaced, would affect the ability of people to communicate and interact with each other in ways that lead to a sense of community.

- ***Question 6: If yes to community cohesion impacts, is there a potential for avoidance, minimization, and/or mitigation to offset adverse impacts to the community cohesion of EJ/LEP populations?***

  Matrix values were either 'yes' or 'no'. To receive a value of 'yes' the following assumptions were required:

  a) Same assumption in Question 4.
  b) Same assumption in Question 4, but for community cohesion.
  c) Efforts would be made, if practical, to avoid and/or minimize impacts associated with the proposed alternative(s) to community cohesion through the minimization of ROW impacts, alignment shifts, or other design refinements.

d) Efforts would be made to mitigate potential impacts associated with the proposed alternative(s) to community cohesion through public involvement efforts such as community meetings and working with EJ/LEP populations to identify and implement context sensitive solutions (CSS) or other factors that work to improve the cohesive nature of their community.

- ***Question 7: Is there a potential for adverse impacts to access for EJ/LEP populations?***

  Matrix values were either 'yes' or 'no'. To receive a value of 'no', the Reasonable Alternative could not eliminate access to existing neighborhoods/communities. Adverse impacts to access were not assumed due to ramp modifications as long as access was not eliminated.

- ***Question 8: If yes to adverse access impacts, is there a potential for avoidance, minimization, and/or mitigation to offset adverse impacts to access for EJ/LEP populations?***

  Matrix values were either 'yes' or 'no'. To receive a value of 'yes' the following assumptions were required:

  a) Same assumption in Question 4.
  b) Same assumption in Question 4, but for access.
  c) Efforts would be made, if practical, to avoid and/or minimize impacts associated with the proposed alternative(s) to access through modifications to ramps, modifications to C/D roads, or other design refinements.
  d) Efforts would be made to mitigate potential impacts to access associated with the proposed alternative(s) through prospective design refinements, if practical, and public involvement efforts that work to identify, promote, and/or improve alternative access routes, as applicable.

- ***Question 9: Are sensitive noise receptors located in EJ/LEP populations?***

  Matrix values included a specific number of sensitive noise receptors located adjacent to the Reasonable Alternatives. Sensitive noise receptors were identified as residences, schools, daycares and churches.

- ***Question 10: If yes (and noise impacts are assumed) is there a potential for avoidance, minimization, and/or mitigation to offset adverse impacts resulting from noise for EJ/LEP populations?***

  a) Same assumption in Question 4.
  b) Same assumption in Question 4, but for noise.
  c) Efforts would be made, if practical, to avoid and/or minimize noise impacts associated with the proposed alternative(s) through the minimization of ROW

impacts, alignment shifts, or other functional design refinements (e.g., type of pavement).

d) Efforts would be made to mitigate potential noise impacts associated with the proposed alternative(s) through noise walls, if determined feasible and reasonable. Construction of noise walls is subject to approval by affected residents, who will be given the opportunity to vote on their preference if applicable.

- ***Question 11: Is there a potential for beneficial impacts to mobility for EJ/LEP populations?***

  Matrix values were either 'yes' or 'no'. To receive a value of 'yes' the Reasonable Alternative was required to improve mobility in future year 2041 as evaluated through the Vissim modeling described in **Appendix B** of the I-30 PEL Report.

- ***Question 12: Is there a potential for beneficial impacts to safety for EJ/LEP populations?***

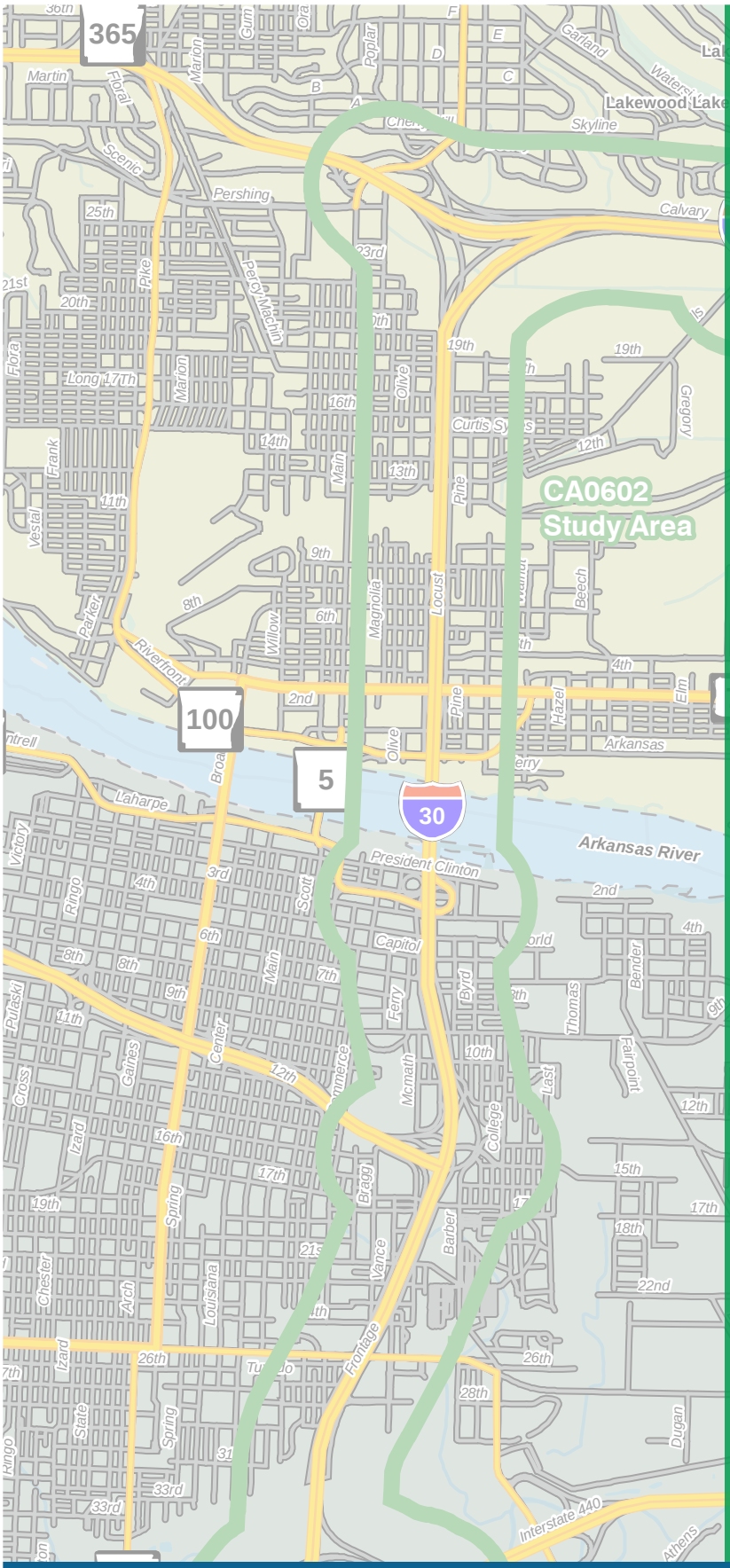
  Matrix values were either 'yes' or 'no'. To receive a value of 'yes' the Reasonable Alternative was required in 2041, for example, to reduce the number of crashes, result in faster emergency vehicle travel time, reduce the total number of conflict points; and/or reduce the number of ramp lengths not meeting current standards. Details on the safety analysis are presented in **Appendix B** of the PEL Report.

- ***Question 13: Is there a potential for beneficial impacts to east-west connectivity for EJ/LEP populations?***

  Matrix values were either 'yes' or 'no'. To receive a value of 'yes', the Reasonable Alternative must be designed such that some underpasses are broadened and designed with features that promote an open gateway between the east and west sides of I-30 through CSS, as applicable.

Appendix E:

Environmental Impacts Report



PLANNING AND ENVIRONMENTAL LINKAGES ENVIRONMENTAL IMPACTS REPORT

INTERSTATE 30

CA0602

Interstate 530 – Highway 67

May 2015

CONNECTING ARKANSAS PROGRAM CAP

Arkansas State Highway & Transportation Department

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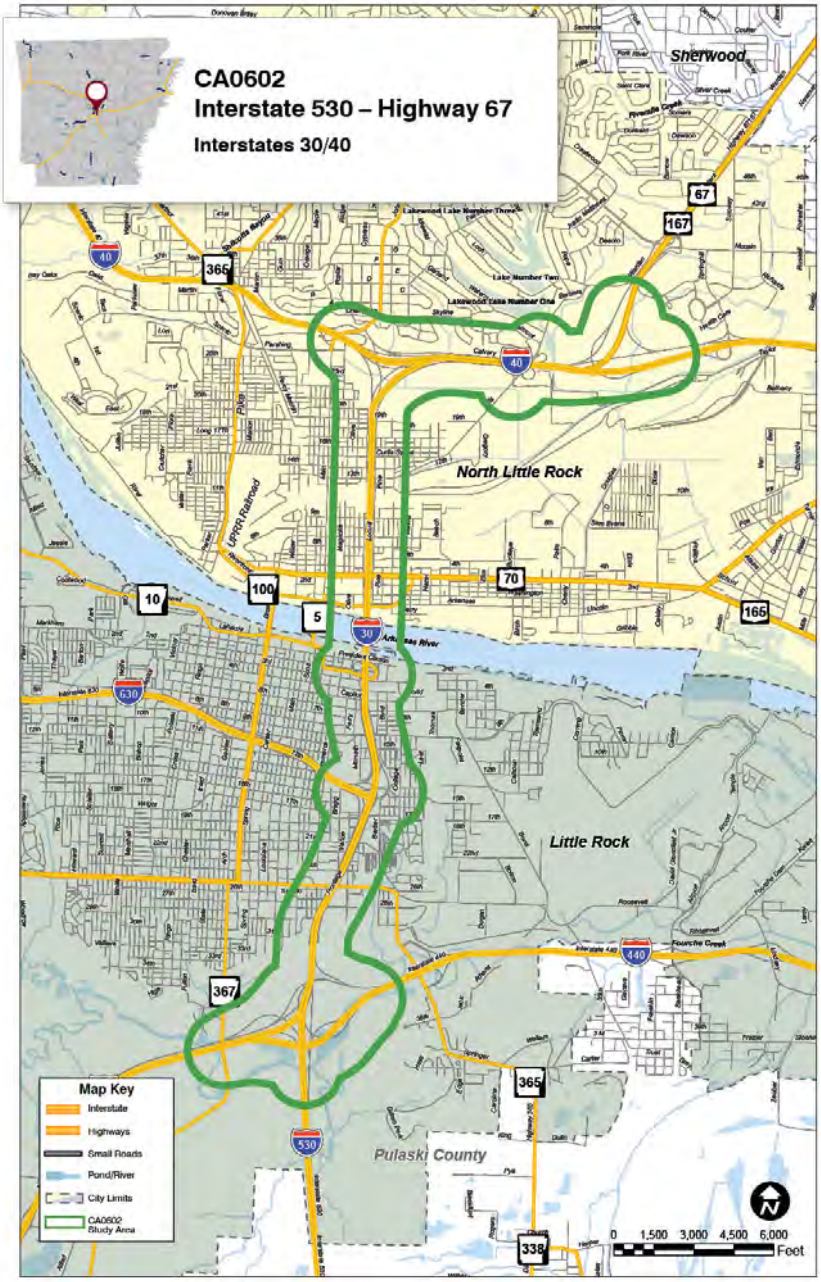
1.0 INTRODUCTION AND ENVIRONMENTAL SETTING

Increased congestion, safety and declining roadway and bridge conditions have led to a need for transportation improvements along Interstate 30 (I-30) and Interstate 40 (I-40) through Little Rock and North Little Rock in central Arkansas. The I-30 Planning and Environmental Linkages (PEL) Study was performed to produce transportation planning products that effectively serve the community's transportation needs.

This report describes the affected environment related to the future implementation of the PEL Recommendation identified as part of the I-30 PEL Study. This evaluation of the affected environment will provide the baseline information to be used in future project development.

The I-30 PEL Study consisted of a quarter-mile wide study area along I-30 and I-40 in Pulaski County. The study area extends approximately 6.7 miles through portions of Little Rock and North Little Rock in central Arkansas, as shown in **Figure 1**. The study area begins at I-530 to the south and extends northerly to I-40 including the Arkansas River Bridge, as well as I-40 from JFK Boulevard to Highway 67 (Hwy. 67).

Figure 1. I-30 PEL Study Area



According to the *2010 Census*, the Cities of Little Rock and North Little Rock had an estimated total population of 193,524 and 62,304, respectively, and Pulaski County had an estimated total population of 382,748. The U.S. Census Bureau (USCB) has estimated a 2.3 percent increase in total population from 2010 to 2014 for Pulaski County. The USCB also estimated a 2 percent and 6 percent increase for Little Rock and North Little Rock, respectively, from 2010 to 2014. The same growth trend is anticipated to continue for the next 10 years. This anticipated growth will continue to affect the communities of these cities by bringing

increased economic opportunities, as well as substantial challenges to the existing transportation system.

All resource descriptions and data presented in this report are within or immediately adjacent to the study area boundaries.

2.0 ALTERNATIVES

This section describes the No Action Alternative and the alternatives resulting from the three-level screening process, leading to the PEL Recommendation.

2.1 No Action Alternative

The No Action Alternative represents the baseline condition in the study area as if no additional improvements are implemented other than those already programmed in the fiscally constrained Long-Range Metropolitan Transportation Plan (LRMTP) for central Arkansas.

The No Action Alternative provides a baseline to gauge how effective various Action Alternatives would help accomplish the purpose and need. This alternative is required to be considered in the I-30 PEL Study and National Environmental Policy Act (NEPA) analyses.

The No Action Alternative includes the preservation of the existing transportation network and any programmed transportation improvements that have been identified as fiscally constrained in the LRMTP. As such, the No Action Alternative includes all of the short-term operational improvements currently underway and planned within the study area, in addition to all other programmed transportation projects in the region that are contained in the LRMTP.

2.2 Action Alternatives

The alternative screening process consisted of multiple levels of screening blending a varied group of strategies, study area needs and goals into a set of refined transportation alternatives through a comprehensive evaluation process.

The alternative screening methodology included three levels of screening, which began with the Universe of Alternatives. The Universe of Alternatives for the I-30 PEL Study was developed utilizing the following precedents, processes and guiding documents:

- *2003 Areawide Freeway Study*;
- Metroplan LRMTP;
- I-30 PEL Study travel demand modeling;
- *I-30 PEL Study Purpose and Need Report*;
- *I-30 PEL Study Alternative Screening Methodology*;
- *I-30 PEL Study Environmental Constraints Report*;
- Input from the I-30 PEL Study Technical Work Group (TWG);
- Input from the public through I-30 PEL Study public meetings; and
- Coordination with individual stakeholder groups.

Each of the alternatives in the Universe of Alternatives was carried through the Level 1 Screening and examined with regard to screening criteria that were related to the purpose and need of the project. The Level 1 Screening was a fatal flaw analysis used to identify the Preliminary Alternatives, or resulting alternatives from the Level 1 analysis. The Level 1 Screening process is detailed in the *I-30 PEL Level 1 Screening Methodology and Results Memorandum* (**Appendix D-3**).

The Level 2 Screening included evaluating the Preliminary Alternatives mostly qualitatively against detailed screening criteria in four categories (engineering, safety, cost, and environmental) to identify those alternatives suitable for further evaluation. This evaluation used preliminary data, professional judgment, and public input to screen the alternatives. The Reasonable Alternatives were the result of the Level 2 Screening process, which is detailed in the *I-30 PEL Level 2 Screening Methodology and Results Memorandum* (**Appendix D-4**).

The Level 3 Screening included evaluating the Reasonable Alternatives mostly quantitatively using screening criteria in four categories (engineering, safety, cost, and environmental) and in more detail than the Level 2 Screening. This detailed evaluation included defining and quantifying costs, mobility, safety, and environmental impacts. One alternative was identified as the top alternative, the 10-lane Collector/Distributor (C/D)[1] Alternative. Slight design modifications (e.g., shortened C/D lanes) were made to this top alternative to achieve additional improvements to mobility and safety. The resulting alternative, called the 10-Lane Downtown C/D Alternative, was identified as the PEL Recommendation. The Level 3 Screening process, including description of the PEL Recommendation, is detailed in the *I-30 PEL Level 3 Screening Methodology and Results Memorandum* (**Appendix D-5**).

3.0 ENVIRONMENTAL CONSTRAINTS

The *I-30 PEL Constraints Report* (**Appendix B**) was prepared for the study to document the existing infrastructure and environmental constraints within the study area. This study area was defined during the early stages of constraints report preparation (spring 2014) in coordination with the Arkansas State Highway and Transportation Department (AHTD). The study area is described in **Section 1.0**.

In order to identify the environmental and infrastructure constraints associated with the study area, information was collected through database searches, imagery analyses, Google Maps (http://maps.google.com), desktop geographic information system (GIS) analyses, and limited field reconnaissance of the study area. Data collected during the preparation of the constraints report identified infrastructure elements, socio-economic demographics, land use, natural resources, cultural resources, hazardous materials, and traffic noise receptors.

[1] A C/D system includes one or more freeway lanes that are parallel to, but separated from the through traffic main lanes. The C/D system provides access to the local service interchanges, thereby eliminating most of the weaving areas from the I-30 main lanes.

Data collection has continued since the preparation of the initial constraints report in 2014. Information received from various agency representatives during the TWG meetings, public meetings, and stakeholder meetings was utilized in the identification of additional constraints and evaluation of potential environmental impacts.

The study area extends approximately half a mile on either side of the existing I-30 facility. Land use within the study area is predominately under urban development with commercial, single and multi-family residential, industrial and civic land uses. Various parks and water features, including the Arkansas River, are also located within the study area. Refer to the *I-30 PEL Constraints Report* (**Appendix B**) for additional details of the existing environment.

4.0 ENVIRONMENTAL IMPACTS

Through the alternative screening process, each Reasonable Alternative was developed to a level of detail that defined the alternative's estimated right-of-way (ROW) requirements, as well as preliminary interchange, intersection, and ramping designs, thus providing connectivity to the local street network and other modes of transportation. The design of each Reasonable Alternative was sufficient for the development of micro-simulation models for traffic and safety analyses and more accurate ROW footprints for environmental analysis. These preliminary designs were overlaid with the environmental resources of the study area, as identified and described in the *I-30 PEL Constraints Report* (**Appendix B)**. A total of 13 screening measures of effectiveness categories were evaluated for the Level 3 analysis of potential environmental impacts resulting from the Reasonable Alternatives. These measures of effectiveness were developed around the study goals as identified in the *I-30 PEL Purpose and Need Report* (**Appendix A**). Impacts to these environmental measures were calculated via spatial analysis with ArcGIS. When possible, impacts were quantified by count or acreage. When quantification was not reasonable, potential impacts were qualitatively assessed utilizing the more detailed preliminary designs of each Reasonable Alternative compared to those available at the time of the Level 2 screening. Details of the environmental screening, including the study goals, environmental measures, and the associated methodology for evaluating impacts of the Reasonable Alternatives, and ultimately, the PEL Recommendation, are provided in *I-30 PEL Level 3 Screening Methodology and Results Memorandum* (**Appendix D-5**).

The environmental resources and issues evaluated for the PEL Recommendation consisted of the following:

- Socio-economics[2]
- Cultural Resources[3]
- Parks

[2] For the community analysis, the U.S. Census Bureau (USCB) 2010 Census and 2009-2013 American Community Survey (ACS) data were used to analyze the census block groups and census blocks contained either wholly or partially within the study area.

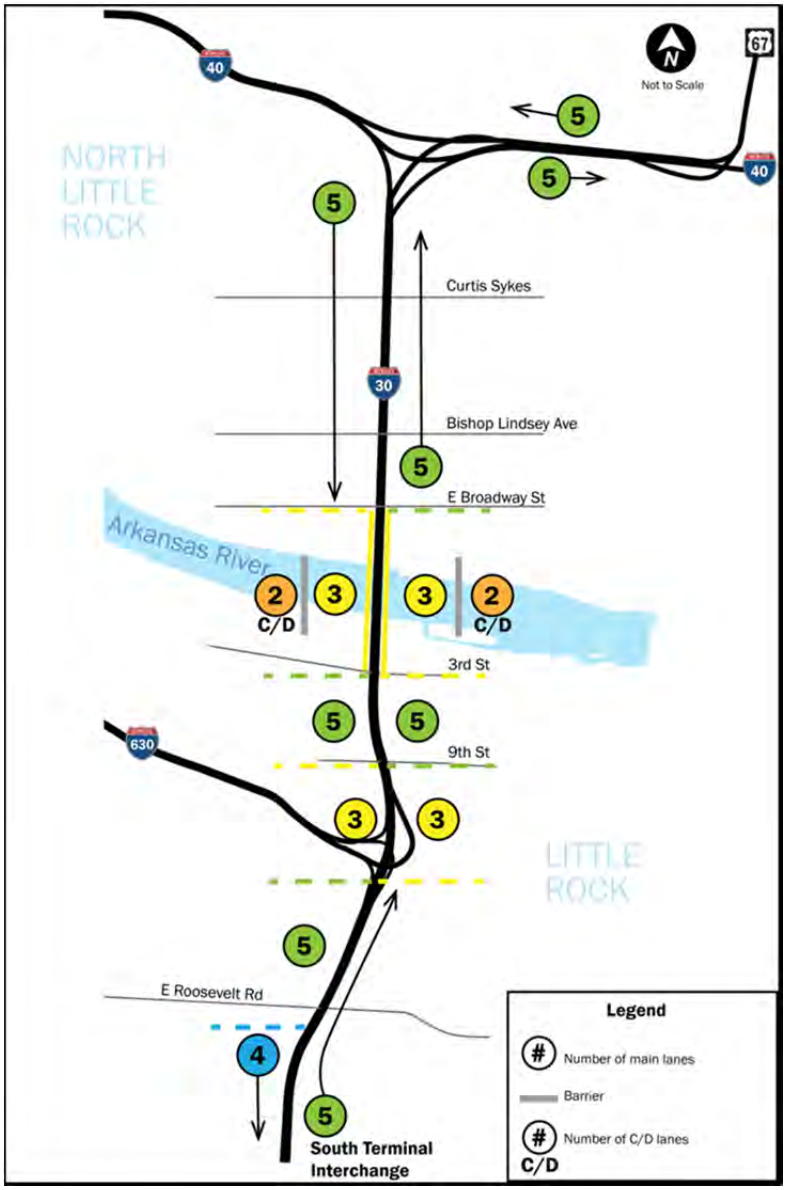
[3] Cultural resources include archeological and non-archeological historic resources.

- Water Resources
- Biological Resources
- Hazardous Materials
- Traffic Noise Receptors

4.1 PEL Recommendation

As a result of the Level 3 Screening, the 10-lane Downtown C/D Alternative was identified as the I-30 PEL Recommendation. The 10-Lane Downtown C/D would include 3 main lanes and 2 C/D lanes in each direction. The C/D lanes for both southbound and northbound travel would extend from the Cantrell Road interchange just north of 3rd Street in Little Rock to just south of Broadway in North Little Rock.

Figure 2. Lane Configurations of the PEL Recommendation



Approximately five miles long, the 10-lane Downtown C/D Alternative would create a new local connection between Little Rock and North Little Rock across the Arkansas River Bridge, allowing motorists to travel between the downtown areas without entering the main lanes of the interstate. Serving as an additional crossing of the Arkansas River that is separate from main lane traffic, the C/D lanes would provide more convenient access to and between the downtown economic districts and support improved connectivity and cohesion of these financially viable commercial and tourist areas. Additionally, motorists would be required to travel at slower speeds on the C/D lanes compared to the main lanes, thereby removing slower moving traffic destined for the downtown areas from the main lanes, resulting in improved safety.

ROW width of the PEL Recommendation is approximately 400 feet and would encompass approximately 942 acres (including 932 acres of existing ROW). The PEL Recommendation is shown in **Figure 2** and the Environmental Impacts Map included in **Attachment A**. A detailed description of the PEL Recommendation is presented in the *I-30 PEL Level 3 Screening Methodology and Results Memorandum* (**Appendix D-5**).

4.2 Potential Environmental Impacts of the PEL Recommendation

The following sections include descriptions of potentially affected environmental resources and issues associated with the 10-lane Downtown C/D Alternative.

ROW

The PEL Recommendation has the potential for ROW acquisition needed to accommodate the 10-lane widening including C/D roads and proposed improvements. Approximately nine acres of potential new ROW would be required for construction of the PEL Recommendation.

Parcels

Forty-six parcels would be potentially impacted by the PEL Recommendation. These parcels are a combination of residential and commercial properties.

Structures

Potentially 12 displacements would result from implementation of the PEL Recommendation. Potential displacements would include five residential structures and seven commercial structures. In addition, seven billboards would potentially be impacted. The general locations of potential displacements and billboard impacts are shown in the Environmental Impacts Map included in **Attachment A**. Anticipated residential and commercial displacements and billboard impacts would be determined in future studies in the schematic and NEPA phase of project development.

Affected property owners would be provided relocation assistance in accordance with U.S. Department of Transportation (USDOT) policy, as mandated by the Uniform Relocation Assistance and Real Properties Acquisitions Act (URARPAA), amended in 1987. Relocation resources would be provided including any applicable special provisions or programs to all displaced persons without discrimination.

Socio-Economics

Community Impacts

Various schools and public facilities are located near the PEL Recommendation, but no potential impacts are anticipated to these facilities. Public facilities which often function to facilitate community interaction and unite community spirit such as churches, schools, daycares and community centers, are not likely to be impacted from the PEL Recommendation. The PEL process takes into consideration community needs and stakeholder input; however, more detailed design approaches and solutions would be determined during the schematic and NEPA phase of project development and a more detailed community impacts assessment would be performed at that time.

Using the USCB *2009-2013 ACS 5-year estimates*, the age distribution for the PEL study area consists of approximately 7.1 percent under 5 years of age, 13.4 percent for ages 5 to 17, 24.4 percent for ages 18 to 34, 40.0 percent for 35 to 64 and 15.1 percent for age 65 and older. The largest population is within the age group between the 35 to

64 age ranges. The gender distribution of the total population is approximately 46.7 percent male and 53.3 percent female.

The most recent data available regarding disability status is from the *USCB ACS 2009-2013 5-Year Estimates*. Disability types considered in the ACS include hearing difficulty, vision difficulty, cognitive difficulty, ambulatory difficulty, self-care difficulty and independent living difficulty. The *USCB ACS 2009-2013 5-Year Estimates* disability data is not available at the block group level; therefore, data was gathered for the 13 census tracts either partially or wholly contained within the PEL study area. For the PEL study area, the disability population consists of approximately 16.5 percent of the total population.

In accordance with FHWA Title VI, consideration of populations in relation to age, gender and disability is included in the assessment of potential community impacts. A detailed assessment of potential impacts to these populations would be included during future phases of project development.

Limited English Proficiency (LEP) Populations

Executive Order (EO) 13166 on LEP calls for all agencies to ensure that their federally conducted programs and activities are meaningfully accessible to LEP individuals. The USDOT defines LEP persons as individuals with a primary or home language other than English who must, due to limited fluency in English, communicate in that primary or home language if the individuals are to have an equal opportunity to participate effectively in or benefit from any aid, service, or benefit provided by the transportation provider or other USDOT recipient.

Census block group data was obtained from the USCB *2009-2013 American Community Survey (ACS) 5-Year Estimates* database. According to the information, the "Ability to Speak English," for the population five years and older indicates approximately 1.3 percent of the population within the 22 census block groups of the study area speaks English less than "very well." Fifteen of the 22 census block groups contain no LEP populations according to the *2009-2013 ACS*. LEP populations among the 22 census block groups ranged from approximately 0.0 to 9.7 percent.

Environmental Justice (EJ) Populations

EO 12898 entitled "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" requires each Federal agency to "make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." FHWA has identified three fundamental principles of environmental justice:

- To avoid, minimize, or mitigate disproportionately high and adverse human health or 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; and
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority populations and low-income populations.

Federal Highway Administration (FHWA) Order 6640.23A defines a minority as a person who is:

- Black (having origins in any of the black racial groups of Africa);
- Hispanic or Latino (of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race);
- Asian American (having origins in any of the original peoples of the Far East, Southeast Asia or the Indian subcontinent);
- American Indian and Alaska Native (having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition); or
- Native Hawaiian and Other Pacific Islander (having origins in any of the original peoples of Hawaii, Guam, Samoa or other Pacific Islands).

EO 12898 further defines a minority population as any readily identifiable groups of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who would be similarly affected by a proposed FHWA program, policy, or activity.

Minority Population

For the I-30 PEL Study, the USCB *2010 Census* data was used at the census block level to determine presence of minority populations within the study area. The minority study area consisted of census blocks within 250 feet on either side of the PEL Recommendation ROW. A total of 715 census blocks were identified within the study area. Only 274 census blocks within the study area are populated according to the *2010 Census*. Out of the 274 populated census blocks, 209 census blocks (77 percent of the census blocks) have a minority population 50 percent or more of the total population. For the entire study area, the minority population consists of 62 percent of the total population. The minority population includes the following populations: Black or African American (55.3 percent), Hispanic or Latino (3.0 percent), two or more races (1.6 percent) and Asian (1.2 percent).

Low-income Population

Low-income is defined as a household income at or below the Department of Health and Human Services (DHHS) poverty guidelines. The poverty guidelines are provided by the DHHS. In 2015, the DHHS poverty guideline for a four person family is $24,250. The USCB *2009-2013 ACS 5-year Estimates* were used at the census block group level for the median household income within the PEL study area. The only available information for household income is provided at the block group level. The I-30 PEL study area consists of 22 census block groups. For the overall I-30 PEL study area, the median household income is $26,561. The median household income ranges from

$9,686 (census tract 28, block group 2) to $90,962 (census tract 33.04, block group 2) within the study area. Eight out of the 22 census block groups in the study area have a median household income less than the DHHS poverty guideline of $24,250 and accounts for approximately 42 percent of the total households in the study area.
The potential effects to EJ populations would be evaluated in accordance with the requirements of EO 12898 during the NEPA phase of project development.

Cultural Resources

In April 2014, AHTD began assessing the potential impacts to cultural resources by establishing Areas of Potential Effect (APE). For archeological resources, the APE encompasses the proposed and existing right-of-way (ROW). The APE for the footprint of historic structures and viewshed is 100-feet from the proposed ROW.

Archeological Resources

AHTD conducted background research including a historical records check at the Arkansas Archeological Survey (AAS). During this research, three cemeteries close to the APE and on the National Register of Historic Places (NRHP) were identified, including the Oakland Cemetery, Fraternal Cemetery, and the National Cemetery located between the I-530 and I-630 interchanges east of I-30. They also identified two intact archeological sites directly within the APE. In addition, review of the AAS further revealed three archeological sites near the APE that were recommended for further investigation if the project limits are extended beyond the APE.

Historic Resources

A total of 164 historic-age standing structures were evaluated within the historic APE, of which 45 were either listed on the NRHP (2 listed structures: Terminal Warehouse Building and Reichardt House), located within a NRHP eligible historic district (21 structures), or were recommended potentially eligible by AHTD (22 structures). Of these 45 structures, one NRHP-eligible historic property, the Locust Street Bridge extending over the Union Pacific Railroad in North Little Rock, would be impacted by the PEL Recommendation. Section 4(f) use determinations for this NRHP-eligible historic property would be evaluated during the NEPA process. A description of these structures, including photographs and details related to the Locust Street Bridge, and the methodology described above are included in the *I-30 PEL Cultural Resources Survey Methodology Memorandum* (**Appendix G**).

Upon completion of the background research, four scenarios were identified that had the potential to impact cultural resources and would trigger additional coordination with the Arkansas Historic Preservation Program (AHPP) and/or investigations. The scenarios would vary based upon specific site conditions. The four scenarios included encountering 1) areas where additional ROW would be acquired; 2) bridge widening due to potential excavation beyond depths of previous disturbance and existing construction fill; 3) previously recorded archeological sites; and 4) areas of high probability based on the identification of previous structures that no longer exist as shown on the Sanborn 1913 maps or upland areas based on an overlay of the U.S. Geological Survey (USGS) topographic map, soil type, and contours. **Table 1**

summarizes these potential survey areas due to their probability of containing intact cultural deposits.

Table 1. Potential Archeological Survey Areas

Scenario	# of Areas	Source	Recommended Investigation
Proposed ROW	7	Preliminary Schematic	Shovel testing
Bridge Widening	22	Preliminary Schematic	Augering
Recorded Archeological Sites	2	AHTD Memorandum	Documentation
High Probability			
Sanborn	32	Sanborn maps (1913)	Shovel testing
Upland	4	USGS Topo	Shovel testing
Total Potential Survey Areas	**67**		

Source: Project Team, 2015

This memorandum notes, as per coordination with the State Historic Preservation Officer (SHPO) on January 23, 2015, surveys shall also be conducted in any locations where construction impacts the soils within 2 feet of the original ground surface. Also per SHPO coordination, no further investigations are proposed for standing structures; and construction monitoring is anticipated to be necessary in some areas.

Pursuant to 36 CFR Part 800.13, if cultural resource material is discovered during implementation of the project, the FHWA shall ensure that all construction activities cease in the area of discovery and the consulting parties are notified. The FHWA and the SHPO shall determine if the discovery is eligible for the NRHP. If so, the FHWA and the AHTD would develop a treatment plan for the historic properties which shall be reviewed and approved by the SHPO. Disputes arising from such review shall be resolved in accordance with stipulations provided in a Memorandum of Agreement or Programmatic Agreement, if needed.

Parks

Three parks potentially impacted by the PEL Recommendation were identified within the study area: North Shore Riverwalk Park, Julius Breckling Riverfront Park, and the William J. Clinton Presidential Center and Park. The PEL Recommendation could potentially impact approximately 1.7 acres of the North Shore Riverwalk Park, approximately 0.5 acre of the Julius Breckling Riverfront Park, and approximately 0.4 acre of the William J. Clinton Presidential Center and Park. Section 4(f) applicability would be determined during the NEPA process. Additionally, airspace agreements previously executed between the cities and FHWA at the I-30 Arkansas River Bridge will be closely examined during NEPA for potential effects to parks. None of the potentially impacted parks were purchased or improved with Land and Water Conservation Funds (LWCF), therefore Section 6(f) would not apply.

Surface Water Crossings/Wetlands

The PEL Recommendation would have potential impacts from permanent fill resulting from the construction of bridges and roadway widening. The PEL Recommendation could potentially impact approximately 0.9 acre of water features such as stream crossings, approximately 0.3 acre of emergent wetlands, and approximately 0.9 acres of

forested/shrub wetlands from permanent fill activity. The potential impact to the Arkansas River is approximately 0.8 acre. Based on these identified potential impacts, the PEL Recommendation would require an Individual Permit for Section 404 because of impacts to the Arkansas River that exceed approximately 0.5 acre. A jurisdictional wetlands determination and permitting determinations would be completed during the NEPA phase of project development.

Habitat

The PEL Recommendation could potentially impact approximately 0.4 acre of non-maintained herbaceous habitat, approximately 1.9 acres of woodland habitat (forested/shrub), and approximately 0.1 of riparian habitat. The majority of the vegetation present is herbaceous vegetation associated with the PEL Recommendation's existing ROW and adjacent developed parcels. Approximately 75 percent of the vegetated area within the alternative area is considered herbaceous. Of the total herbaceous percentage, approximately 1.5 to 2.0 percent is not maintained on a regular basis. This area is located near the southern part of the study area on either side of the railroad crossing. The maintained herbaceous vegetation may provide minimal habitat for some wildlife species, but overall it is considered poor habitat. The better or good quality habitat is found in the forest/shrub wetlands and the upland forest/shrub areas. Because these areas are located immediately adjacent to, or between, the existing roadway, the use of these areas by a variety of wildlife would be limited.

The Arkansas River and adjacent wetlands are considered good quality habitat for aquatic and riparian species. Again, these areas are immediately adjacent to the existing roadway as well as parks and other urban features. Human disturbances would limit, to some degree, the wildlife that may use these areas.

Woodland habitat is the forest/shrub areas located within the existing ROW primarily at the interchanges. The woodland habitat comprised approximately 7 to 8 percent of the total vegetated area. Riparian areas were very limited as most areas that could also be considered riparian were mapped as wetlands. The majority of streams through the project limits are maintained and contain limited riparian vegetation.

Hazardous Materials

There are eight hazardous material sites that could have a negative effect on the construction of the PEL Recommendation. These sites are identified to contain underground storage tanks and pose a potential risk due to the location and possibility that contamination may exist in the proposed ROW area of the PEL Recommendation. Four sites are Leaking Petroleum Storage Tank (LPST) sites, one is a National Pollutant Discharge Elimination System (NPDES) site, and three sites are Petroleum Storage Tank (PST) sites. Locations of these sites are shown in the Environmental Impacts Map included in **Attachment A**. A more detailed analysis of hazardous materials, including field reconnaissance would occur during the NEPA phase.

Traffic Noise Receptors

Several facilities and residential areas are located adjacent to the alignment for the PEL Recommendation. These include 134 residential parcels (includes three apartment complexes with a total of 38 units on the first floor), 8 school parcels (University of Arkansas at Little Rock, Shorter College, Rockefeller Early Childhood [4 parcels], Pine Elementary School and Calvary Academy), 4 churches (Independence Baptist Church, Friendly Chapel Flame, First Pentecostal Church of Jesus Christ and Institute of Basic Life Principles), and 2 daycares (Alexander Turner Child Development Center and UAMS Headstart). A traffic noise modeling analysis and noise mitigation assessment, as applicable, would be completed in the NEPA phase.

Public/Agency Input

Details on all four public meetings held as part of the PEL Study are included in the *I-30 PEL Public Meeting #1 (#2, #3, and #4) Summary and Analysis Report(s)* (**Appendix C-2**). Summaries of each meeting are provided below.

Public Meeting #1 served to acquaint members of the public with the overall PEL process, solicited input on the PEL study area and environmental constraints and requested input on the problems as experienced by the public and the goals they would like to see achieved for the for I-30/I-40 facility. Common issues raised by the public related to increased congestion, safety concerns, ramp spacing and weaving problems, improved bicycle/pedestrian and transit accommodations and the desired protection of environmental resources, including historic structures/districts.

The Universe of Alternatives, Level 1 Screening process and resulting Preliminary Alternatives were presented at Public Meeting #2. In addition, attendees were asked to identify the Preliminary Alternatives they would like to see studied further in the PEL process. Similar problems and themes as those in Public Meeting #1 were identified in Public Meeting #2 such as congestion, ramping and weaving issues and a desire for the accommodation of additional transportation modes. The Preliminary Alternatives that ranked highest among the public for additional study included various solution types such as interchange improvements, bottleneck removal, I-30 express bus transit, bicycle/pedestrian improvements, queue warning and crash investigation sites.

The Level 2 Screening process and the resulting Reasonable Alternatives were presented at Public Meeting #3. Similar to previous public meetings, comments received generally provided suggestions for improvements such as ramping, interchange configuration, lighting recommendations, etc. A small sampling of commenters (9 total) cited a specific preference for one of the identified Reasonable Alternatives. Of those, 6 commenters expressed preference for the 8-Lane C/D, 1 commenter for the 10 Main Lane and 2 for the 10-lane C/D.

The Level 3 Screening process and resulting PEL Recommendation were presented at Public Meeting #4. Of the 35 comments received, one commenter cited specific preference for a 10-lane alternative, one commenter cited specific opposition for a 10-lane alternative, and two commenters cited portions of the project they favored such as

improving bicycle/pedestrian access and the replacement of the I-30 Arkansas River Bridge, but opposition to other aspects such as roadway widening. The remaining commenters generally stated issues of concern such as potential traffic noise impacts, access changes and ROW impacts; provided suggestions for improving future meetings; were complementary to the public meeting or provided specific suggestions for design improvements such as ramping modifications.

A multitude of outreach methods were utilized to specifically inform and engage EJ populations in the PEL process, as outlined below:

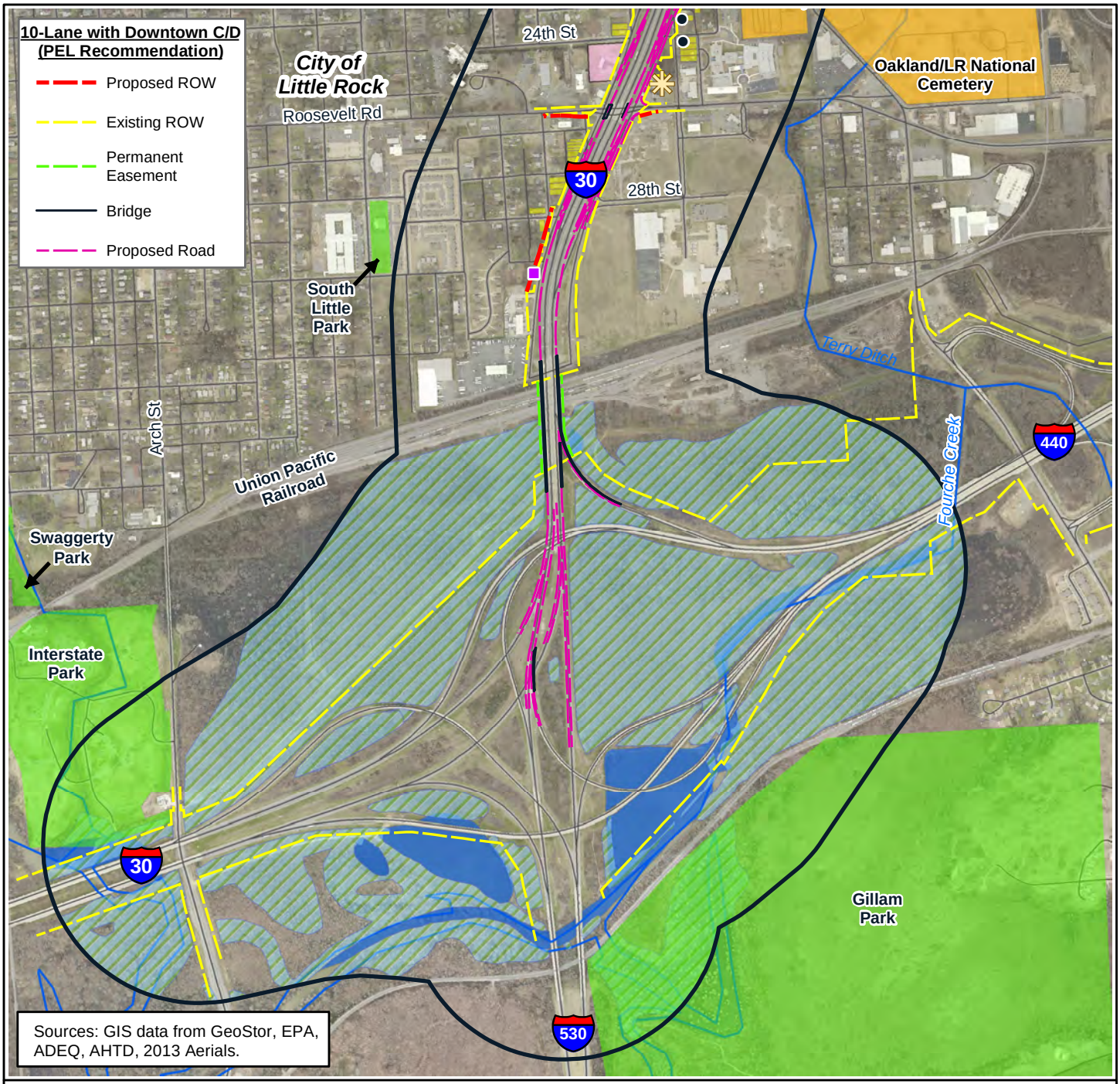
- Community meetings - Four community meetings were held at minority churches in October 2014 where Study Team members were able to reach out on a more personal level to attendees. Topics of discussion included the overall PEL process and inviting questions and comments for potential transportation solutions.
- Fliers and letters: Fliers advertising the public meetings were distributed throughout low-income and minority communities, focusing on areas of congregation and public use such as churches, gas stations and community facilities like the Boys and Girls Club of Little Rock. With the goal of reaching out to parents, fliers were also sent home with students of the Horace Mann Arts and Science Magnet School, an institution with a predominantly EJ study body (location of Public Meetings #2 and #4). Fliers and letters inviting participation at all the public meetings were mailed to ministers of minority congregations throughout the study area; and fliers were distributed to organizations/groups geared towards EJ communities including but not limited to the NAACP (Little Rock and North Little Rock chapters), Arkansas Hispanic and Black Chambers of Commerce, the Little Rock Housing Authority and various neighborhood associations of EJ areas.
- Visioning Workshop – Representatives of minority and low-income communities participated in the visioning workshop held in November 2014, providing input on priorities important to their communities, from aesthetic issues to preserving and enhancing historic and community resources. These same representatives will be invited to the second visioning workshop to be held during the NEPA phase of project development.
- Advertisements: For all of the Public Meetings, advertisements were placed in the Spanish newspaper El Latino, and public service announcements were made on radio stations generally catering to minority populations.

Agency coordination was primarily conducted through four Technical Workgroup Meetings (TWG). At these meetings, PEL Study documents, analyses, and the specific information and exhibits to be presented at upcoming public meetings were presented and comments solicited on these materials. In general, TWG members did not cite preference or opposition for any specific Reasonable Alternative or for the PEL Recommendation. Comments received typically related to specific mobility, design, cost, and environmental impact questions/comments. TWG comments received at all four TWG meetings and the responses to those comments are presented in the *I-30 PEL TWG Comment Documentation* appendix (**Appendix C-3**).

5.0 CONCLUSION

This inventory and preliminary evaluation of the potentially affected social, economic, and natural environment in the I-30 PEL study area provides the baseline information to be used in further project development efforts and environmental studies during the NEPA phase. The affected resources described in this report were examined using information that was reasonably attainable, stakeholder and agency coordination, and public involvement. All environmental resources described in this report would be re-examined during NEPA following additional engineering study and design refinements, field work, and continued agency, stakeholder, and public coordination on the proposed project.

Attachment A: Environmental Impacts Map



Disclaimer: Due to privacy protection, Environmental Justice information is not shown. To protect sites from looting and further destruction, all archeological site information and locations are not shown

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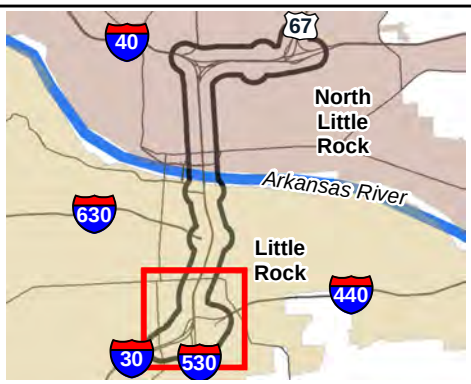
Feet

N

CONNECTING ARKANSAS PROGRAM CAP

LEGEND

- Study Area Limits
- NRHP Listed Structure
- NRHP Eligible Site
- Residential Displacement
- Commercial Displacement
- Billboard Impact
- Hazardous Material Site
- Historic District
- Cemetery
- Park
- Residential Parcel
- Church, School or Daycare Parcel
- Wetland
- Stream
- Water Body
- Road
- Rail Road

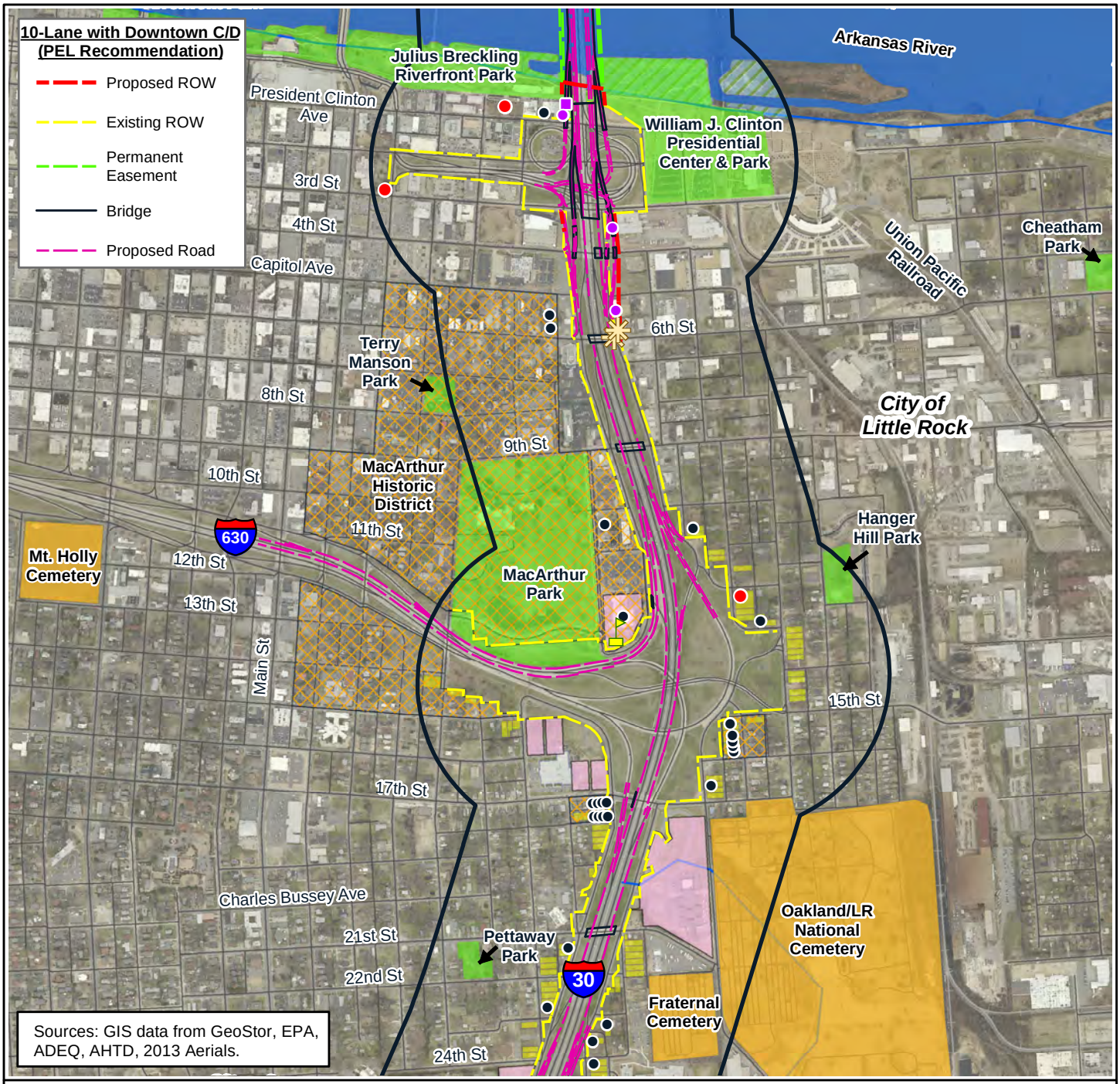


ENVIRONMENTAL IMPACTS MAP
Sheet 1 of 5

I-30 from I-530 to Hwy. 67

I-30 PEL Environmental Impacts Report

Pulaski County, Arkansas



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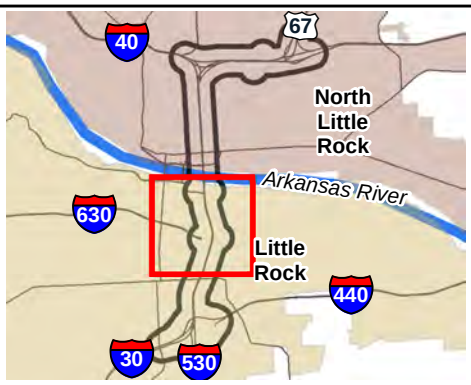
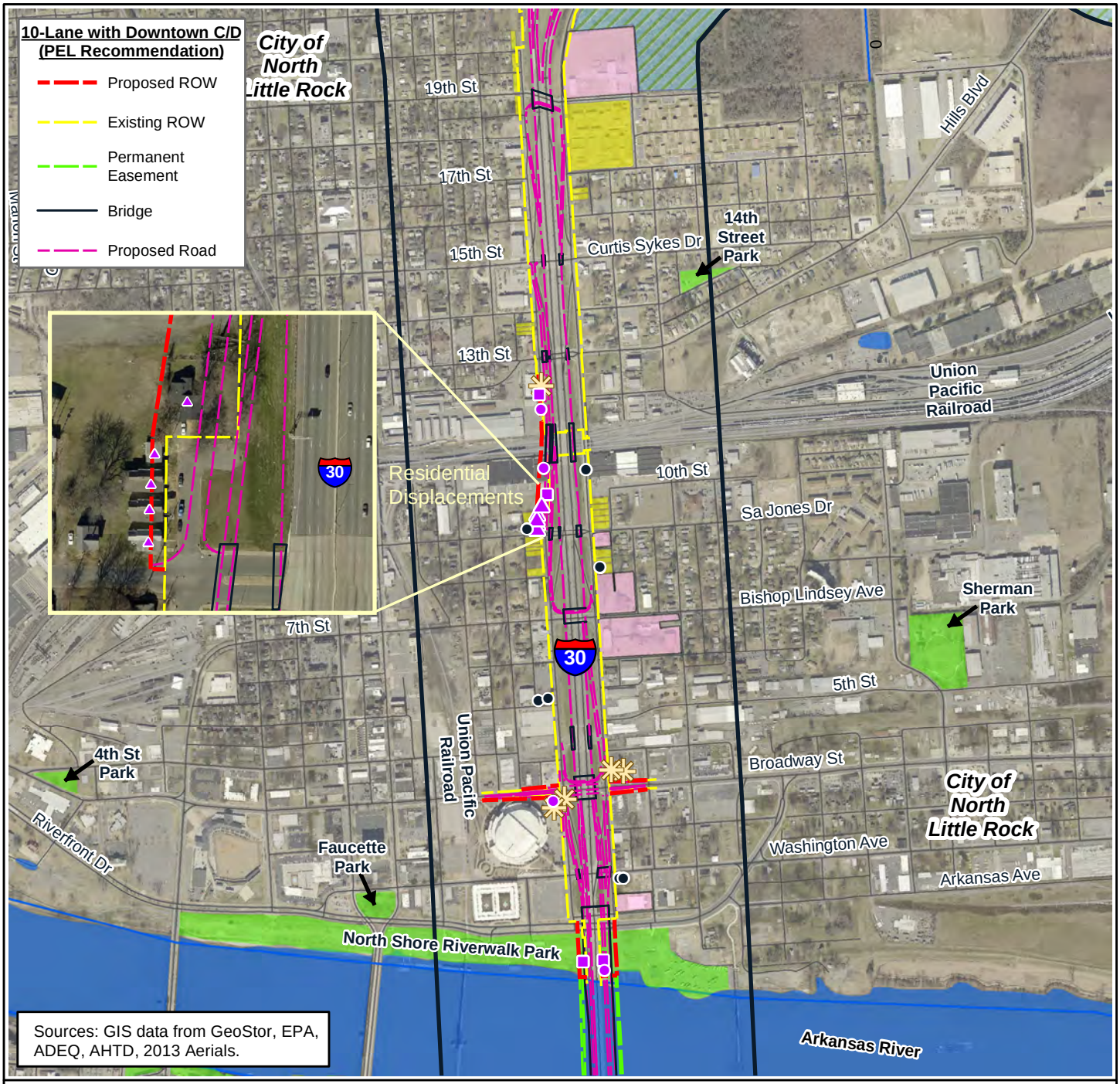


ENVIRONMENTAL IMPACTS MAP
Sheet 2 of 5

I-30 from I-530 to Hwy. 67

I-30 PEL Environmental Impacts Report

Pulaski County, Arkansas



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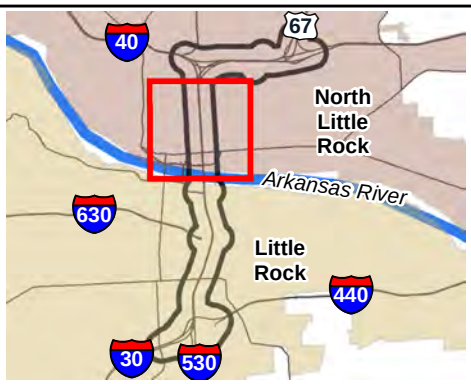
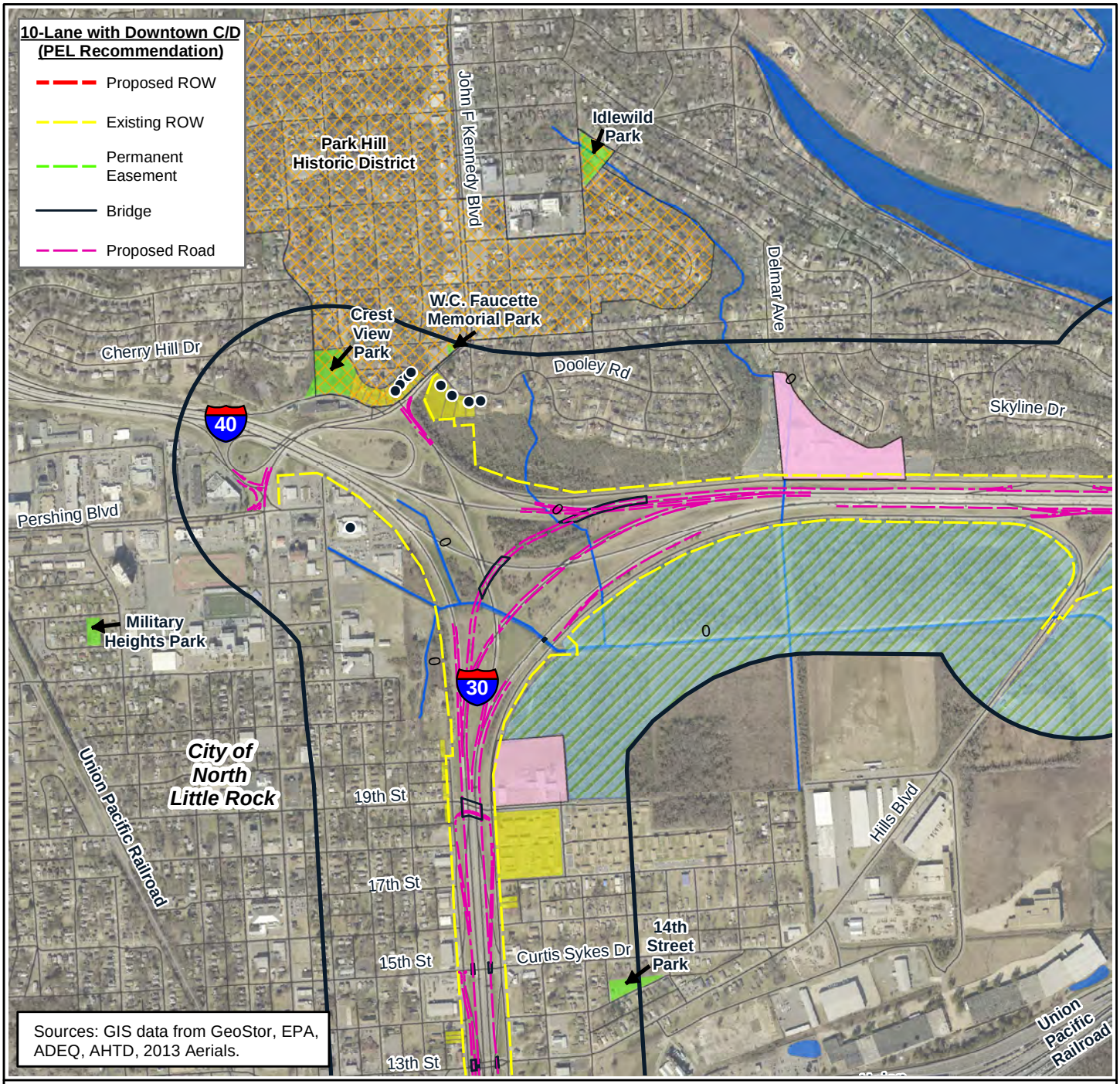


ENVIRONMENTAL IMPACTS MAP
Sheet 3 of 5

I-30 from I-530 to Hwy. 67

I-30 PEL Environmental Impacts Report

Pulaski County, Arkansas



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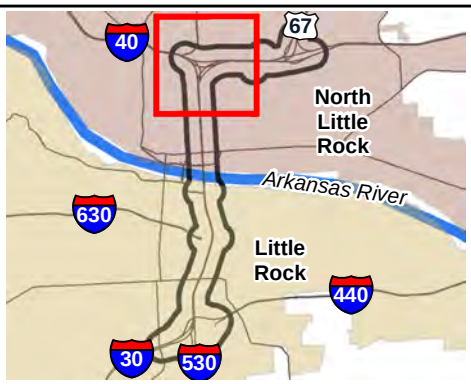
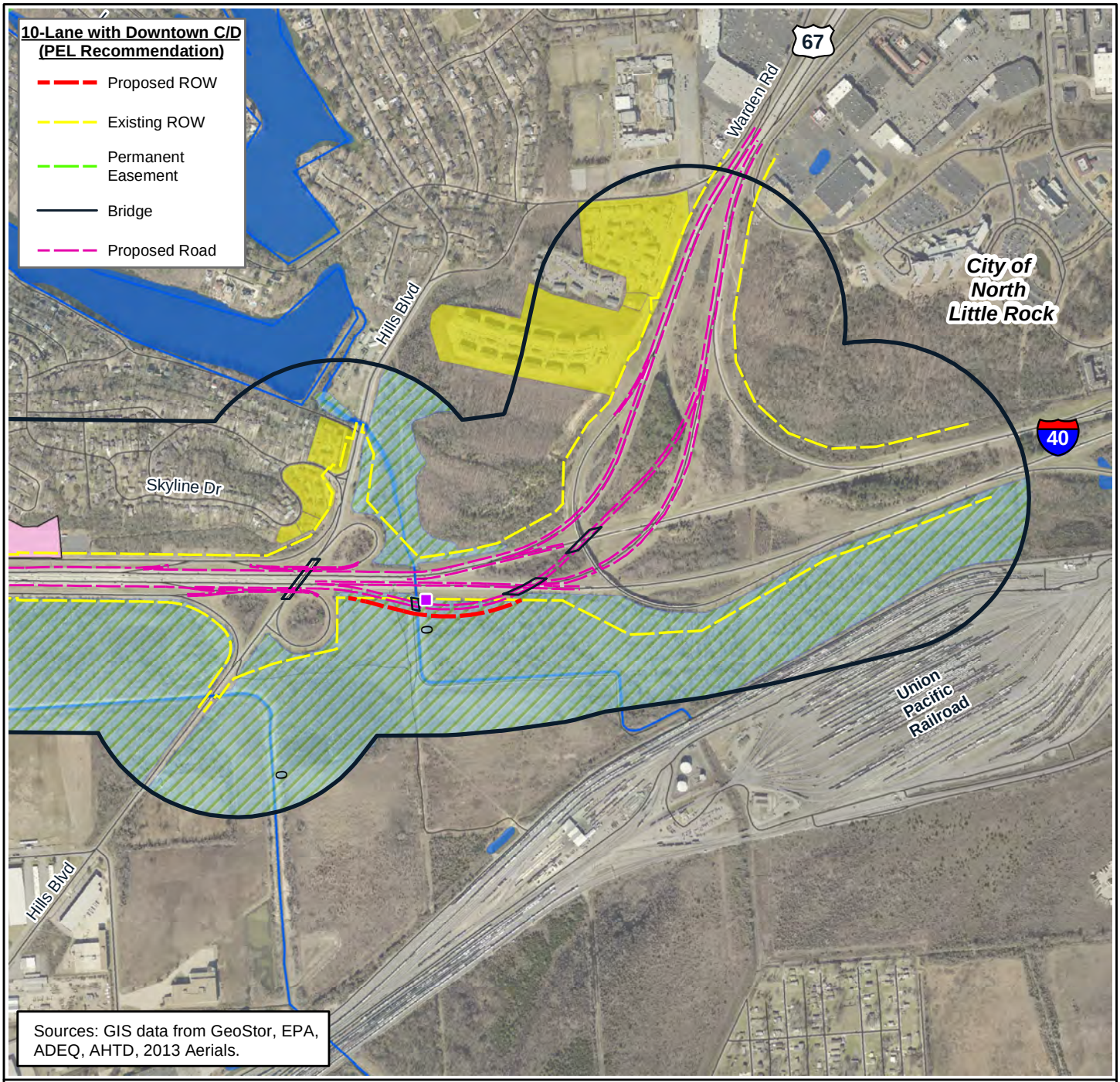


ENVIRONMENTAL IMPACTS MAP
Sheet 4 of 5

I-30 from I-530 to Hwy. 67

I-30 PEL Environmental Impacts Report

Pulaski County, Arkansas



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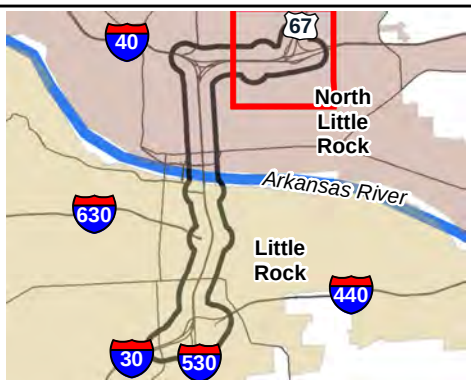


ENVIRONMENTAL IMPACTS MAP
Sheet 5 of 5

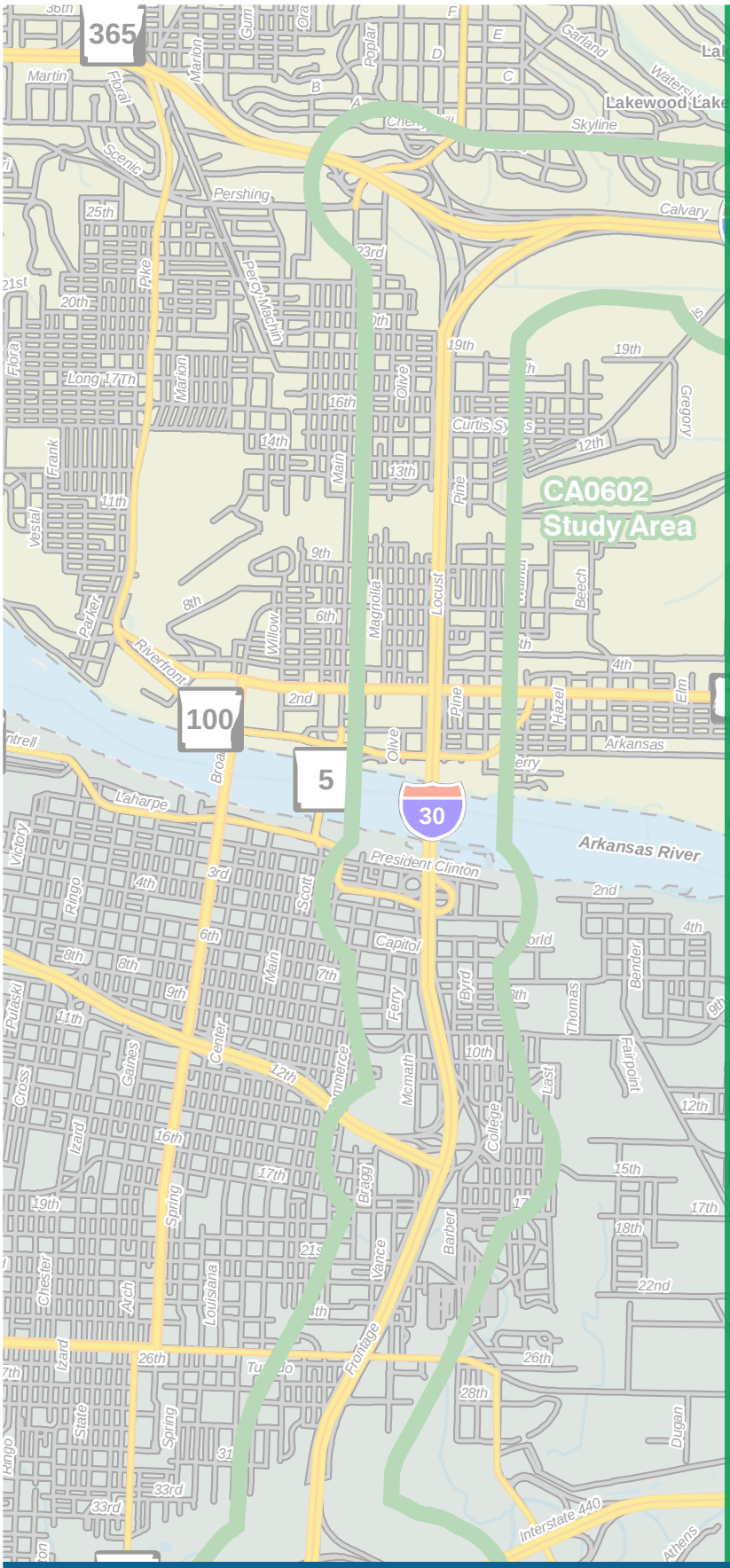
I-30 from I-530 to Hwy. 67

I-30 PEL Environmental Impacts Report

Pulaski County, Arkansas

Appendix F:

Traffic and Safety Report



PLANNING AND ENVIRONMENTAL LINKAGES TRAFFIC AND SAFETY REPORT

INTERSTATE 30

CA0602

Interstate 530 – Highway 67

May 2015

CONNECTING ARKANSAS PROGRAM CAP

Arkansas State Highway & Transportation Department

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4. Safety Technical Report
5. Level 2B Assessment
6. Transit Report
7. Traffic Forecast Tables
8. Mobility Exhibits
9. Measures of Effectiveness

1 Introduction and Overview

With the passage of the temporary Arkansas one-half cent sales tax program in November 2012, the Arkansas State Highway and Transportation Department (AHTD) will finance an accelerated $1.8 billion four-lane State Highway Construction and Improvement Program that will be completed within approximately ten years called - Connecting Arkansas Program (CAP).

As part of the CAP, a planning and environmental linkages (PEL) study is being performed for project CA0602 – Interstate 30 (I-30) / Interstate 40 (I-40) Widening & Rehabilitation, Interstate 530 (I-530) to Highway 67 (Hwy 67).

The purpose of the PEL process is to meet agency needs while expediting transportation project delivery. The PEL is meant to foster a united process that supports:

- Early communication, coordination, and collaboration with and input by other local, state and federal agencies in the transportation planning process;
- Better informed and strategic transportation decisions; and
- Efficient and cost-effective solutions.

Early communication and collaboration among all interested parties is essential to the success of future planning, informing the National Environmental Policy Act (NEPA) process, and identifying issues. The traffic and safety portion of the I-30 PEL study is an essential part of the PEL process.

Traffic and safety are core components of the I-30 Purpose and Need. **Table 1** provides a summary of the Purpose and Need.

Table 1: I-30 PEL Purpose and Need

Needs (Problems)	Purpose (Solutions)
Traffic Congestion	To improve mobility on I-30 and I-40 by providing comprehensive solutions that improve travel speed and travel time to downtown North Little Rock and Little Rock and accommodate the expected increase in traffic demand. I-30 provides essential access to other major statewide transportation corridors, serves local and regional travelers, and connects residential, commercial, and employment centers.
Roadway Safety	To improve travel safety within and across the I-30 corridor by eliminating and/or improving outdated design features.
Structural and Functional Roadway Deficiencies	To improve I-30 roadway conditions and functional ratings.
Navigational Safety	To improve navigational safety on the Arkansas River Bridge by eliminating and/or improving outdated design features.
Structural and Foundational Bridge Deficiencies	To improve I-30 Arkansas River Bridge conditions and functional ratings.

Source: I-30 PEL Purpose and Need

The following report presents the traffic and safety analyses that comprised the PEL reports submitted to the Technical Oversight Committee (TOC), Technical Working Group (TWG), and the public. This report is organized into the following sections:

1. Introduction and Overview
2. Planning Assumptions and Analytical Methods
3. Existing Conditions
4. Future No Action Conditions
5. Future Build Alternatives Analysis
6. PEL Recommended Alternative Analysis

Each of the sections above provides a high level summary. More detailed information can be found in the appendix documents listed below.

1. CA0602 Traffic Forecast Plan
2. Traffic Technical Report
3. Vissim Model Methodology Report
4. Safety Technical Report
5. Level 2B Assessment
6. Transit Report
7. Traffic Forecast Tables
8. Mobility Exhibits
9. Measures of Effectiveness

1.1 Study Area Description

The study area for this corridor, shown in **Figure 1** on the following page, is comprised of I-30 and I-40 between I-530 and Hwy 67. This corridor runs primarily north and south through both North Little Rock and Little Rock. The corridor is approximately 6.7 miles long.

While I-30 is a primarily east-west interstate, the portion within the study area runs north-south. Within the study area, eastbound I-30 accommodates northbound traffic while westbound I-30 accommodates southbound traffic. In order to be clear about direction, this document will occasionally refer to eastbound I-30 as I-30 EB, and at other times will refer to it as I-30 in the northbound/eastbound direction. The same concept will apply vice versa to westbound I-30.

Figure 1: I-30 PEL Study Area



Source: I-30 CAP

1.2 Relevant Studies

Over recent years, there have been multiple studies conducted in or near the PEL study area. These studies have been reviewed and information from them incorporated into the PEL documents. The studies reviewed include:

- *Central Arkansas Regional Transportation Study, Areawide Freeway Study, Phases 1 and 2* (2003);
- *I-630 Fixed Guideway Alignment Study* (2010);
- *River Rail Airport Study, Phase 2 Final Report* (2011);
- *Metroplan Long-Range Transportation Plan* (2010); and
- *Metroplan Long-Range Transportation Plan (2014), Imagine Central Arkansas*

More detailed information for this section can be found in the appendices.

1.3 I-30/I-40 Corridor Description

The following components of the I-30/I-40 study area were considered in this analysis:

- Main Lane
- Cross Streets and Pedestrian Facilities
- Interchanges
- Frontage Roads

Generally speaking, there are three main lanes in each direction for the length of this corridor with occasional brief segments of two lanes at the connecting ramps and four lanes which include auxiliary lanes between closely spaced ramps. Most of the corridor contains frontage roads to the east and to the west of the I-30 main lanes.

In the 6.7-mile corridor, there are four system interchanges, seven service interchanges, and eight grade separations of the surface streets. Fourteen of the fifteen I-30 interchanges and grade separations allow pedestrians to cross I-30 and I-40 within the PEL study area. Throughout most of the corridor, frontage roads consisting of two one-way roads each travel parallel to the freeway.

The I-30/I-40 Corridor contains the following system-to-system interchanges:

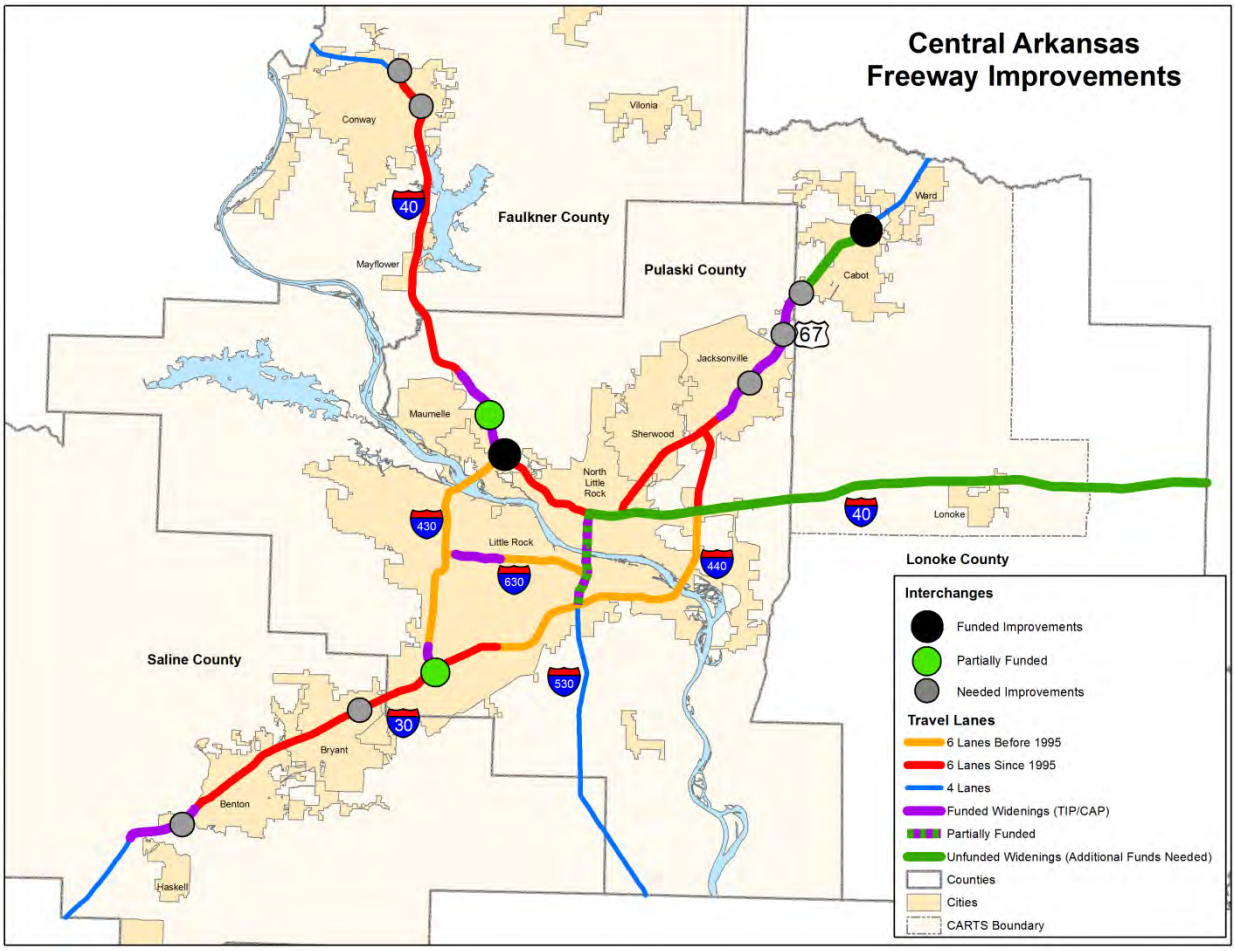
- I-40 & Hwy 67
- I-40 & I-30
- I-30 & I-630
- I-30, I-530 & I-440

1.4 Planned Improvements

The Metroplan long range transportation plan, *Imagine Central Arkansas*, adopted in December 2014, was reviewed and incorporated into the study. **Figure 2** shows the long-range area-wide freeway system, and **Figure 3** shows the 10-Year Financially Constrained Plan.

On the side streets, the Metroplan Long-Range Transportation Plan includes several improvements for bicycle, pedestrian, and motor vehicle facilities. The Central Arkansas Transit Authority (CATA) also has plans to expand upon the current bus and River Rail system.

Figure 2: Area Wide Freeway System



Source: Imagine Central Arkansas Figure 5-5, http://www.metroplan.org/files/53/2014-12LongRangePlan.pdf

Figure 3: Freeway System Identified in Metroplan's Long Range Plan



Source: Imagine Central Arkansas Figure 1-6, **http://www.metroplan.org/files/53/2014-12LongRangePlan.pdf**

2 Planning Assumptions and Analytical Methods

2.1 Traffic Volumes

In 2014, AHTD collected existing AM and PM peak hour turning volumes at 44 study intersections and 62 ramps in the study area. AHTD also collected 48-hour traffic data at three I-30/I-40 main lane locations:

1. I-40 between North Hills Boulevard Interchange and Hwy 67 Interchange
2. I-30 between Broadway Street Interchange and Cantrell Road/Clinton Avenue Interchange (note: this count was performed north of the Arkansas River Bridge)
3. I-30 between Roosevelt Road Interchange and I-440 Interchange

2.2 Traffic Forecast

The I-30/I-40 Traffic Count and Forecast Plan was developed in coordination with AHTD. This traffic forecast is provided in **Appendix 1 – CA0602 Traffic Forecast Plan.**

The *AHTD Traffic Monitoring System Handbook (November 2013)* was the primary resource used to develop the Traffic Count and Forecast Plan. This handbook offers procedures on traffic monitoring practices and techniques used by AHTD staff and consultants providing traffic information for project design, planning studies, and environmental documentation. This handbook provides instructions for traffic forecasting, turning movement count forecasting, equivalent single axle loading (ESAL) forecasting, testing and certification procedures for equipment, and the development of highway performance monitoring system data.

In addition to utilizing AHTD's procedures and data, Metroplan was consulted, and their regional travel demand model was used to help forecast traffic in the study corridor.

In general, the I-30/I-40 main lane traffic is estimated to increase approximately 1% per year (around 20% total) through the 2041 design year. Surface street traffic crossing the interstate corridor is forecasted to grow at less than 1% per year.

The base 2041 forecast for the study corridor was developed for an 8-lane facility. Traffic forecasts were based on the CARTS travel demand model, AHTD counts, the assumptions outlined in this report, and additional assumptions located in **Appendix 2 – Traffic Technical Report**. In order to provide forecasted volumes for a 6, 10, or 12 lane facility, the base 8-lane forecast volumes were adjusted by the range of percentages shown in **Table 2**, as documented by **Appendix 2**. Arterial cross street traffic was held constant in all forecasts.

Table 2: 2041 Forecast Adjustments

I-30 PEL Assumption	Forecast Assumption
Future 6-Lane	Base Assumption **minus 13-15%** main lane volumes
Future 8-Lane	Base Assumption
Future 10-Lane	Base Assumption **plus 4-7%** main lane volumes
Future 12-Lane	Base Assumption **plus 10-13%** main lane volumes

Source: HNTB Corporation - Base assumption is shown in Appendix 2

More detailed information can be found in **Appendix 1 – CA0602 Traffic Forecast Plan**.

2.3 Traffic Analysis

The I-30/I-40 traffic analysis was performed using a micro-simulation modeling software called Vissim (version 7.0). A detailed report that outlines the methodology used to create the model is provided in the **Appendix 3 – Vissim Model Methodology Report**. The two-hour peak periods were analyzed in the morning from 6:45-8:45 AM and in the afternoon from 4:00 - 6:00 PM.

In the micro-simulation phase, very large amounts of data were collected for the model. This data included AHTD traffic counts, travel time runs, field reconnaissance, public input, Google Traffic, HERE data, I-30 cameras, signal timing data, existing grades, public transit route information, and Metroplan model data. Model limits are shown in **Figure 4**.

Once data was collected and input to the traffic simulation model, the model was calibrated. Calibration is the process of replicating the regional driver behavior in the model. The Federal Highway Administration (FHWA) has standards for simulations which must be met in order for a model to be considered calibrated. These standards are detailed in **Appendix 3 – Vissim Model Methodology Report**. Once the model is calibrated, it can output massive amounts of data for use in analyzing the existing and future conditions of a roadway.

Once the I-30 model was calibrated to existing conditions, future (2041) traffic volumes were applied assuming a No Action (6-lane) condition. The No Action model is intended to show how existing problem areas become worse as well as to show where new problem areas are likely to emerge in the future. The model's geometry can then be modified to simulate various future build alternative scenarios.

The final major step in the model creation process was to create "build" versions of the model based on three potential freeway solutions: 8-lane C/D (3 main lanes plus a one-lane collector/distributor (C/D) system per direction), 10 main lane (3 main lanes plus 2 auxiliary lanes per direction), and 10-lane C/D (3 main lanes plus a two-lane C/D system per direction)

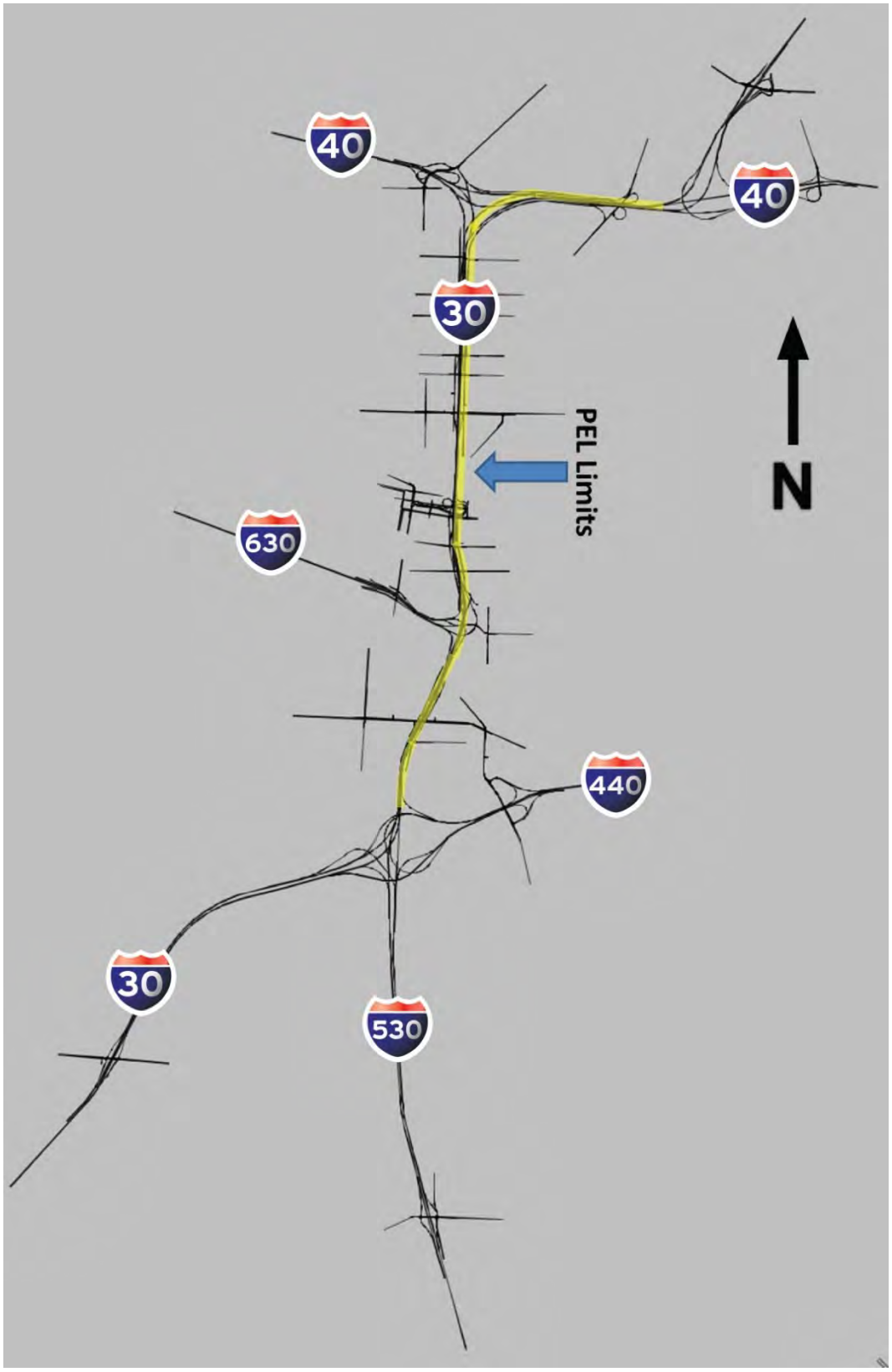
As shown in **Table 3**, various measures of effectiveness (MOEs) were output from Vissim and used to compare the performance of each model:

Table 3: I-30 PEL Vissim Mobility Measures of Effectiveness

PEL Corridor	**System-Wide (Entire Network)**

• Throughput
• Travel Time
  • Emergency Routes
  • Key Destinations
  • Between North Terminal and South Terminal
• Delay
• Speed
• LOS by freeway segment
• Percent LOS E & F
• LOS E & F Duration
• Percent LOS F
• LOS F Duration
• Safety
	• VMT – Vehicle Miles Traveled
	• VHT – Vehicle Hours Traveled
	• VHD – Vehicle Hours of Delay
	• Percent LOS E & F
	• Percent LOS F
	• Unserved Vehicles
	
	Arterial Intersections
	• Percent LOS E & F
	• Percent LOS F

Figure 4: Vissim Model Limits



Source: I-30 Vissim Model

2.4 Safety Assumptions and Study Methods

Safety is a key component in evaluating the impacts of the No Action and the proposed build alternatives. For this analysis, the safety project limits consisted of I-30 from the south terminal interchange with I-530/I-440 to the north terminal interchange with I-40 and to the east interchange of I-40 with Hwy 67.

A quantitative safety analysis was performed for the existing crashes, arterial connection conflict points, main lane conflict points, C/D conflict points, acceleration and deceleration ramps, weaving segments, main lane ramps per mile, and C/D ramps per mile. In addition, potential crash reductions were estimated based on crash modification factors for a particular design element.

Arterial conflict points were quantified for the No Action, 8-Lane C/D, 10 Main Lane, and 10-Lane C/D alternatives. As shown in **Table 4**, the number of arterial conflict points were determined from the number of vehicle paths that cross, merge, and diverge with another vehicle path based on legitimate movements through an intersection. The number of intersections analyzed varied from the No Action alternative to the various proposed alternatives due to the changes in geometry and lane configurations. However, results were identical for the 8-Lane C/D, the 10 Main Lane, and the 10-Lane C/D alternatives.

Table 4: Summary of Arterial Connection Conflict Points for Build Alternatives

	No Action	8-Lane C/D, 10 Main Lane, 10-Lane C/D
Total # Conflict Points	411	515
Avg. Conflict Points per Intersection	19.6	18.4

Source: Garver

The main lanes and C/D conflict points were quantified from the merge and diverge points on each system for No Action and all build alternatives. The conflict points occurred at the entrance and exit ramps, lane drops, and lane splits. If a ramp fed into its own lane and no lane change was required to stay on the system, then no conflict point was counted. All ramps that merged or diverged from the system were counted as a conflict point on that system, so ramps from the frontage road/arterial street that went directly to the C/D system were counted only for the C/D system and not for the main lanes. See **Tables 5** and **6** for summaries of the conflict points on the main lane and C/D systems.

Table 5: Summary of Main Lane Connection Conflict Points

	No Action	8-Lane C/D	10 Main Lane	10-Lane C/D
Total # Conflict Points	31	20	26	19

Source: Garver

Table 6: Summary of Collector Distributor System Conflict Points

	8-Lane C/D	10-Lane C/D
Total # Conflict Points	6	7

Source: Garver

The existing acceleration/deceleration and weaving lengths were measured in order to identify which lengths do not meet the minimum requirements. All lengths were measured from/to the gores as they appeared in *Google Earth* and are approximate. The freeway design speed for I-30 is 60 miles per hour, and the design speed for all ramps is ideally 50 miles per hour. However, for the existing conditions, there are locations that have less than 50 miles per hour (typically 40 miles per hour), and the loop ramps at the Cantrell Road interchange are 25 miles per hours. According to Table 10-3 of *A Policy on Geometric Design of Highways and Streets, 2011* (*Green Book)*, the acceleration length should be 180 feet for an on-ramp going from 50 miles per hour to 60 miles per hour, 550 feet from 40 miles per hour to 60 miles per hour, and 1020 feet from 25 miles per hour to 60 mile per hour. According to Table 10-5 of the *Green Book*, the deceleration length should be 240 feet for an off-ramp going from 60 miles per hour to 50 miles per hour, 350 feet from 40 miles per hour to 60 miles per hour, and 460 feet from 25 miles per hour to 60 mile per hour. However, the AHTD standard requires a minimum of 700 feet for parallel access lanes and 300 feet for tapers. Weaving lengths were evaluated based on Figure 10-106 of the *Green Book*. For evaluation of the existing lengths, the largest applicable minimum was applied. **Tables 7** and **8** show the results of this evaluation. These results are discussed in greater detail in **Appendix 4 – Safety Technical Report**.

Table 7: Acceleration and Deceleration Lengths

Description	Length (ft)	Meets Standard?
Roosevelt WB entrance	450' Accel + 300' Taper	no
I-630 EB entrance	510' Accel + 300' Taper	no
Cantrell Rd EB Entrance	430' Accel + 230' Taper	no
Broadway St WB Entrance	330' Accel + 300' Taper	no
7th St EB Entrance	380' Accel + 200' Taper	no
Curtis Sykes Dr. WB Entrance	175' Accel + 200' Taper	no
Curtis Sykes Dr. EB Entrance	No Accel Lane + 320' Taper	no
North Hills WB Entrance	675' Accel + 350' Taper	yes
9th St WB exit	No Decel Lane Length	no
6th St WB exit	No Decel Lane Length	no
Cantrell Rd WB Loop Exit	No Decel Lane Length	no
Broadway St EB Exit	No Decel Lane Length	no
7th St WB Exit	No Decel Lane Length	no
Curtis Sykes Dr. EB Exit	No Decel Lane Length	no
Curtis Sykes Dr. WB Exit	No Decel Lane Length	no
North Hills EB Exit	No Decel Lane Length	no

Table 8: Weaving Lengths

From	To	Length (ft)	Requirement (ft)	Meets Standard?
I-440 EB Entrance	Roosevelt EB Exit	1200	2000	no
Roosevelt Rd EB Entrance	I-630 WB Exit	1350	2000	no
I-630 EB Entrance	Roosevelt WB Exit	970	2000	no
9th St WB Exit	6th St WB Exit	650	1000	no
6th St EB Entrance	Cantrell Rd EB Exit	1000	2000	no
Cantrell Rd WB Entrance	6th St WB Exit	550	2000	no
Cantrell Road WB Entrance	9th St WB Exit	1200	2000	no
7th St EB Entrance (to Broadway St)	Curtis Sykes St Exit	1600	2000	no
Curtis Sykes WB Entrance	7th St WB Exit (to Broadway St)	1600	2000	no
Curtis Sykes EB Entrance	I-40 Split	1100	2000*	no*
I-40 Converge	15th Street WB Exit	1000	2000*	no*
North Hills WB Entrance	I-40/I-30 Split	2000	2000*	yes*

*These weaving distances should ideally be greater than 2000 feet because they contain left exits/entrances

The total numbers of main lane ramps were compared between existing and build alternatives for both directions of travel along the 6.7 mile stretch of I-30 and I-40 from the south terminal interchange at I-530 and I-440 to the north terminal interchange and east to the Hwy 67 interchange.

The C/D system was proposed in the 8-Lane C/D and 10-Lane C/D alternatives. This separate system interacts with the freeway system to help remove some of the weaving movements and ramps from the freeway main lanes. The C/D system would have lower operating speeds and traffic volumes. Therefore, the number of C/D ramps per mile was quantified separately than the freeway system.

The projected crashes for 2041 were estimated based on the historic crash rates. An average crash rate between the three study years (2010-2012) was estimated for three sections of the main lanes. The three sections were I-30 from I-530/I-440 to I-630, I-30 from I-30/I-630 to I-40, and I-40 from I-30 to Hwy 67. With the assumption that the roadway conditions remain the same and no safety measures would be implemented, the average crash rate is assumed to remain constant through the design year. To project the number of crashes for 2041, the average crash rate was applied to the future No Action volumes.

For this analysis, the projected crashes for 2041 were used in the evaluation of potential crash reductions. These were broken down by segment and location. Crash Modification Factors (CMFs) were then applied to quantify the potential crash reductions in the different build alternatives. It was assumed that the No Action would not have these improvements.

Additional discussion regarding KA crashes will be performed in the Interchange Justification Report (IJR).

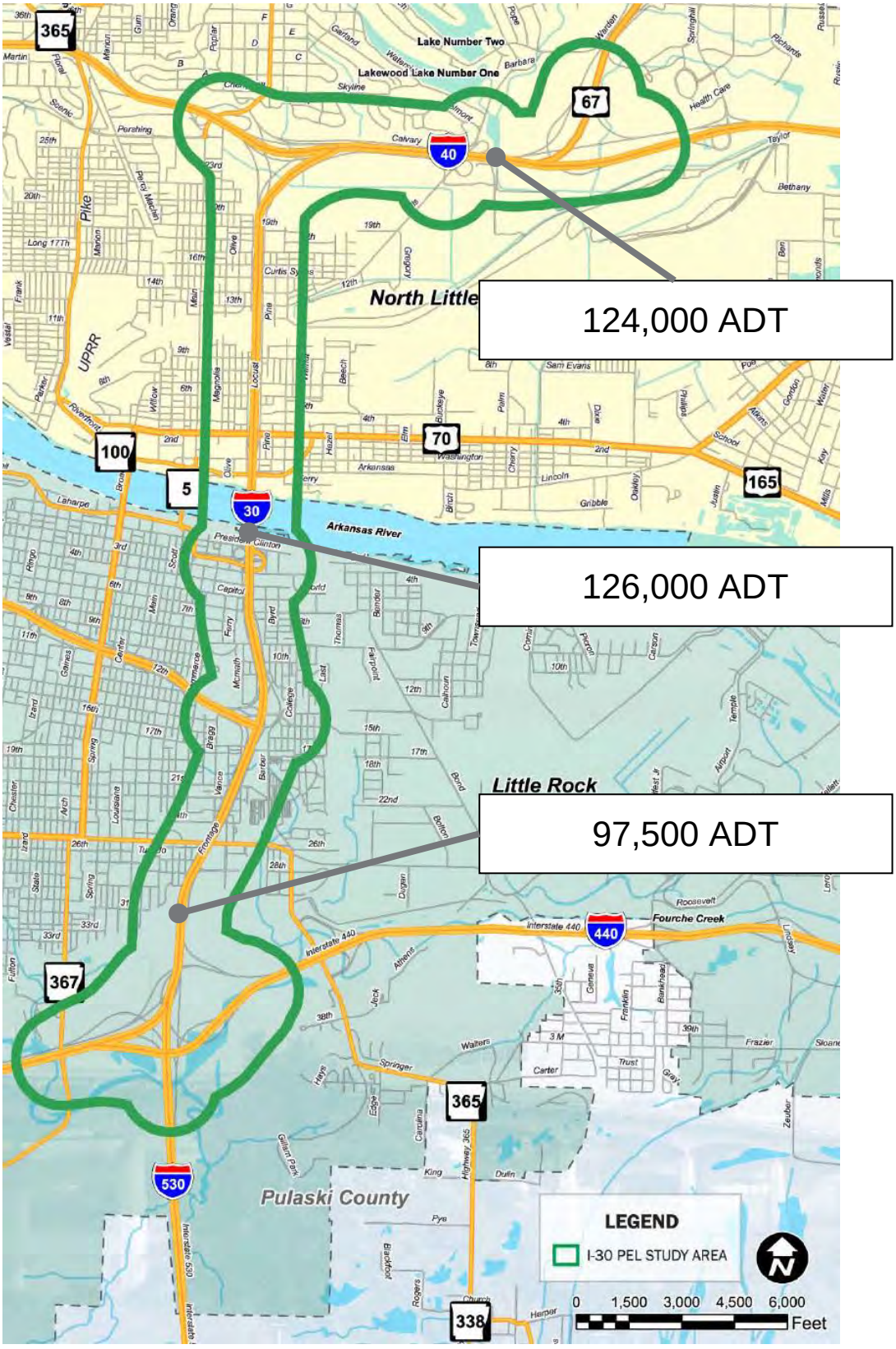
3 Existing Conditions

Existing mobility and safety conditions were analyzed for the PEL study corridor using the methods described above, and results are summarized in this chapter. More detailed information can be found in **Appendix 2 – Traffic Technical Report** and **Appendix 4 – Safety Technical Report**.

3.1 Traffic Demand

As discussed in Chapter 2, AHTD collected a large amount of existing traffic data. **Figure 5** shows the daily traffic volumes measured at three locations. Existing traffic demand in the corridor ranges from 97,500 daily vehicles to 126,000 daily vehicles. The highest traffic volume is over the Arkansas River. Full corridor wide daily traffic can be found in **Appendix 1.**

Figure 5: Existing (2014) Average Daily Traffic



Source: AHTD - ADT = average daily traffic

3.2 Alternative Modes

All travel modes were reviewed for mobility and safety. This section will provide information related to trucks, transit, bicycle, and pedestrian mobility.

3.2.1 Trucks

Daily truck percentages on I-30 are in the range of 6-8% during the AM and PM peak hours. On Hwy 67 north of the study corridor, truck percentages are higher, ranging 8-11%. Historical truck percentages on Cumberland Street west of I-30 were around 2-5% over several years.

Trucks carrying hazardous materials are prohibited from using I-30 within the project limits unless they are delivering to that area (e.g. gasoline being delivered to a gas station). Permits for oversized trucks are specific concerning the route the truck can take. Like HAZMAT, oversized trucks may only route to I-30 if delivering to the downtown areas.

Truck percentages are highest on the perimeter routes of I-440 and Interstate 430 (I-430). This is primarily due to trucks avoiding the congestion and safety concerns of multiple access points with short acceleration and deceleration lanes along the I-30 corridor.

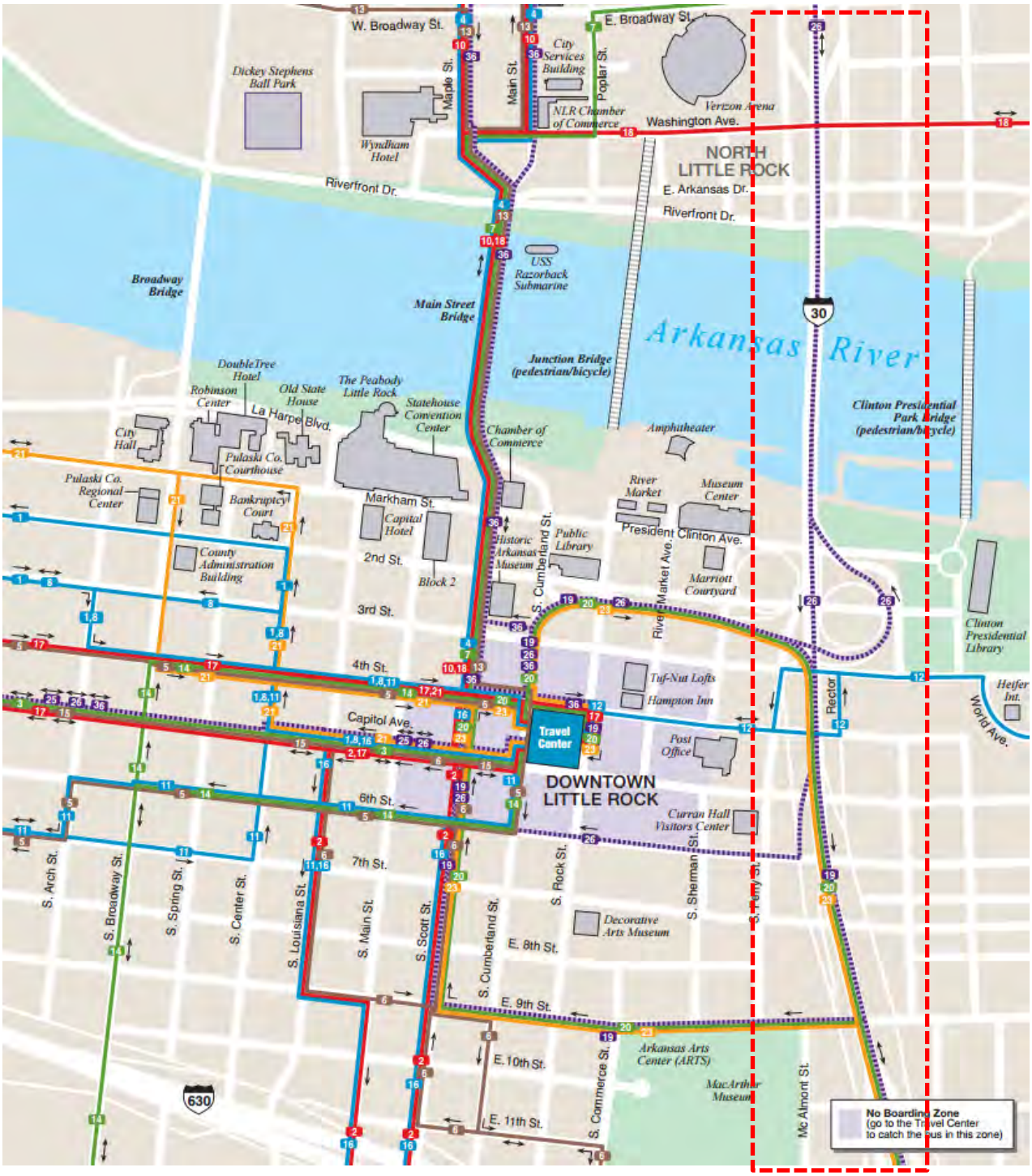
3.2.2 Transit

Residents of Little Rock, North Little Rock, and the surrounding region are served by a public transit system known as CATA. CATA operates 36 transit routes within the Little Rock metropolitan area as shown in **Figure 7** on the following page. One route is operated along the I-30 corridor. A summary of bus operations from the CATA website indicates the following:

- Number of buses in peak hour of service – 49
- Number of buses in fleet – 59
- Weekday fixed route service miles – almost 8,500
- 2012 Passenger Trips – 2,823,695
- 20% increase in ridership since 2009
- Less than 1% increase in revenue hours since 2009
- More than 1% decrease in revenue miles since 2009

Route 26 (Maumelle Express) is the only route to travel over the I-30 bridge. It runs five times a day beginning at the River Cities Travel Center (shown as “Travel Center” in **Figure 6**). at the following times: 6:30 am, 7:00 am, 4:10 pm, 5:10 pm, and 5:40 pm. Routes 20 (Airport/College) and 23 (Baseline/Southwest) travel south on I-30 beginning at the River Cities Travel Center from 5:30 am to 8:30 pm with 50-60 minute headways.

Figure 6: Existing Transit Routes



Source: Central Arkansas Transit Authority System Map
http://www.cat.org/wp-content/uploads/2013/05/System-Map1.pdf

3.2.3 Pedestrian/Bicycle

Adequate pedestrian and bicycle facilities are important for individuals who live and work around the study corridor. Today, 14 of the 15 I-30 grade separations and interchanges allow pedestrians and bicyclists to cross I-30 and I-40. In addition, there are specialized bridges and paths for bikes and pedestrians to use. Although pedestrian volumes were not analyzed in the mobility analysis, pedestrian walk times were included in the signal timings of the models at the study intersections.

In 2013, North Little Rock updated their master street plan which included a bicycle plan in Article 7. North Little Rock has been designated by The League of American Bicyclists as a bronze level Bicycle Friendly Community since 2009.

In 2009, the City of Little Rock updated their Master Street Plan which included a bicycle plan in Section 4.

3.2.4 Mobility

The ease of mobility within the existing PEL study corridor was analyzed using a variety of measures of effectiveness (MOEs), as detailed in **Table 3**. **Figure 7** gives a high-level overview of the levels of service (LOS) in the PEL corridor during the most congested time of each peak hour. In this figure, green represents free-flow conditions (LOS A-C), and red represents high levels of congestion (LOS F). Detailed and precise information for the corridor's existing levels of service is provided in **Appendix 8.** As shown in this figure, existing congestion is present in several locations heading into the downtown areas in the AM and heading away from the downtown areas in the PM. These mobility results are consistent with stakeholder feedback and field reconnaissance.

Another useful measure of mobility relates to speed and duration. In **Figure 8**, speeds for each peak period are shown throughout the length of the corridor over the entire two-hour simulation period. Colors ranging from green to dark red represent speeds ranging from free-flow to standstill, respectively. Time is plotted along the x-axis beginning 30 minutes before the start of the peak hour and ending 30 minutes after the end of the peak hour for a total of two hours. The y-axis represents the location along the PEL corridor. The left side of each graph marks key points along the study area corridor progressing north to south from top to bottom.

As shown in the speed graphs, the average speed for vehicles on I-30 eastbound between I-630 and the Arkansas River at 5:00 pm on a typical day is about 20-30 mph. The graphs also show the progression of backups and location of bottlenecks on the freeway main lane. Bottlenecks occur when traffic is congested in a particular section of a roadway segment, causing sizeable queues upstream of the congested area. This congestion limits the amount of traffic able to get downstream of the congested area. Since only a small number of vehicles are able to make it through the congestion at a time, downstream roadway segments usually appear to function

well. When this happens, the downstream segment is meeting the capacity requirements of the upstream throughput, but not necessarily the capacity requirements of the upstream demand.

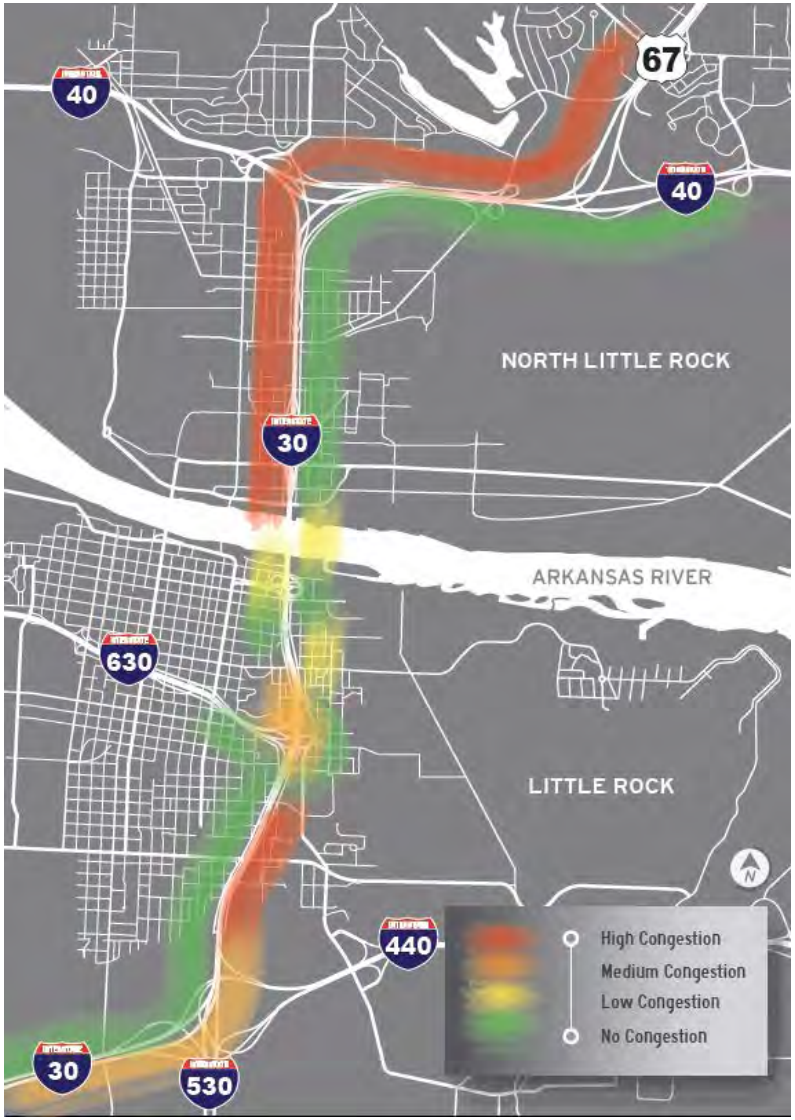
In the southbound direction during the AM peak, it is evident that the Arkansas River Bridge is the location of a bottleneck. North of the bridge, queues related to congestion slowly build from the bridge all the way back to Hwy 67. Because of the backup, traffic south of this point is able to move at free flow speed.

In summary, peak direction travel speeds were approximately 30-40 miles per hour on average which resulted in travel times of approximately 11-12 minutes. Since corridor travel times during free flow conditions are around 5-7 minutes, peak hour travel times are almost twice as long as free flow travel. For each 15-minute subdivision within the two-hour study period, at least one LOS segment in the corridor operates at LOS F. Most of the analyzed intersections in the corridor performed at LOS A-D. In both the AM and PM models, the I-40 WB on-ramp intersection with JFK operates at LOS F due to a small number of vehicles (<10) attempting to turn on to JFK from the ramp, which is two-way for a short distance to accommodate local businesses. In the PM model, The Bishop Lindsey/N Cypress intersection operates at LOS E. Also in the PM model, the College Blvd/15th Street intersection operates at LOS F. This is because EB I-630 vehicles attempting to bypass congestion on EB I-30 will exit at College Blvd and make a left at the College Blvd/15th street intersection.

Stakeholder feedback, field observations, and data revealed a common mobility trend of congestion heading into the Little Rock and North Little Rock downtowns in the AM and heading away from the downtowns in the PM. The existing Vissim simulation, once calibrated, accurately reflected the congestion, volumes, and speeds typically seen in the I-30 PEL corridor during the peak periods.

Figure 7: Existing 2014 Peak Hour Mobility

AM Peak Hour

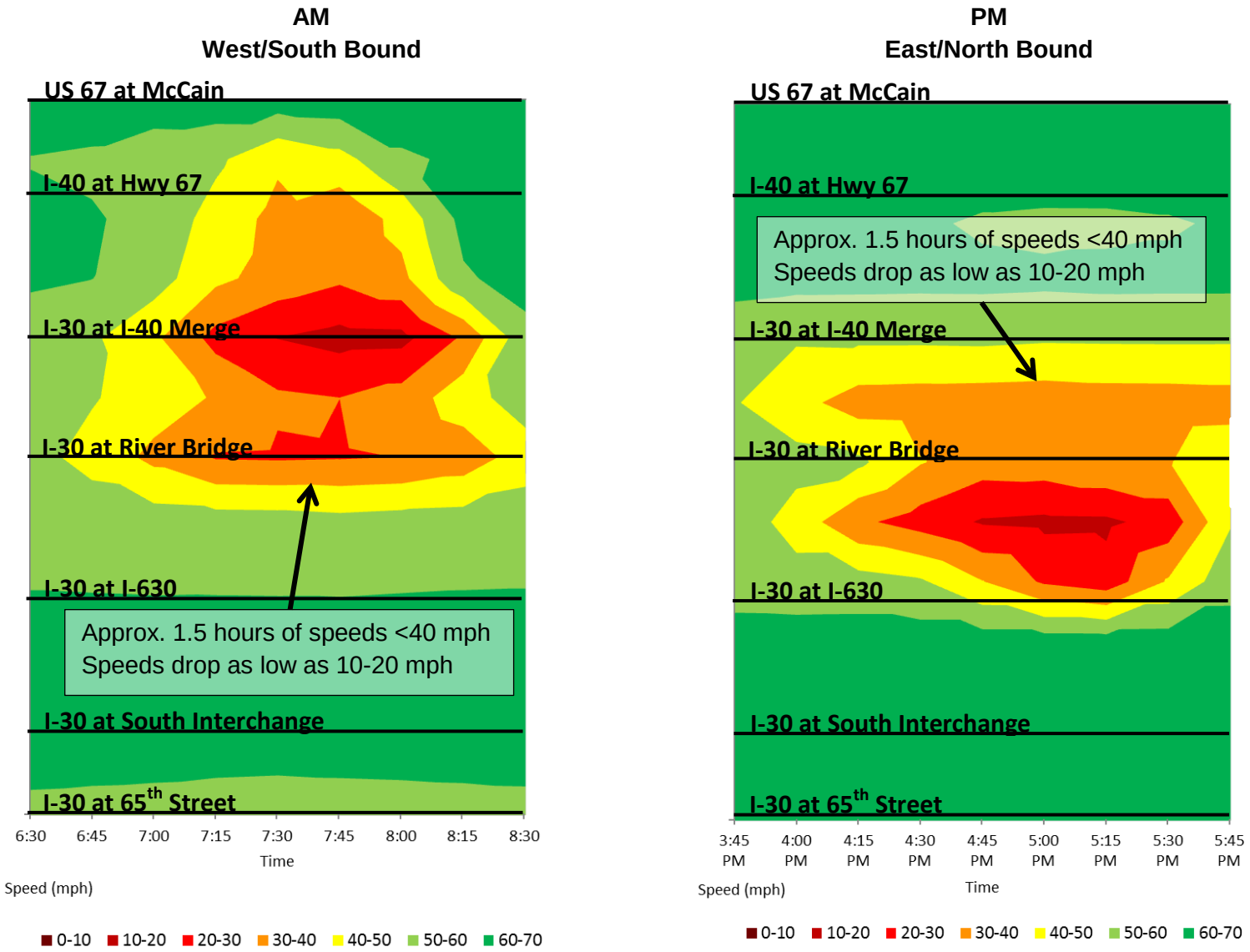


PM Peak Hour



Source: I-30 PEL Vissim models

Figure 8: Existing 2014 Peak Hour Speed Profiles



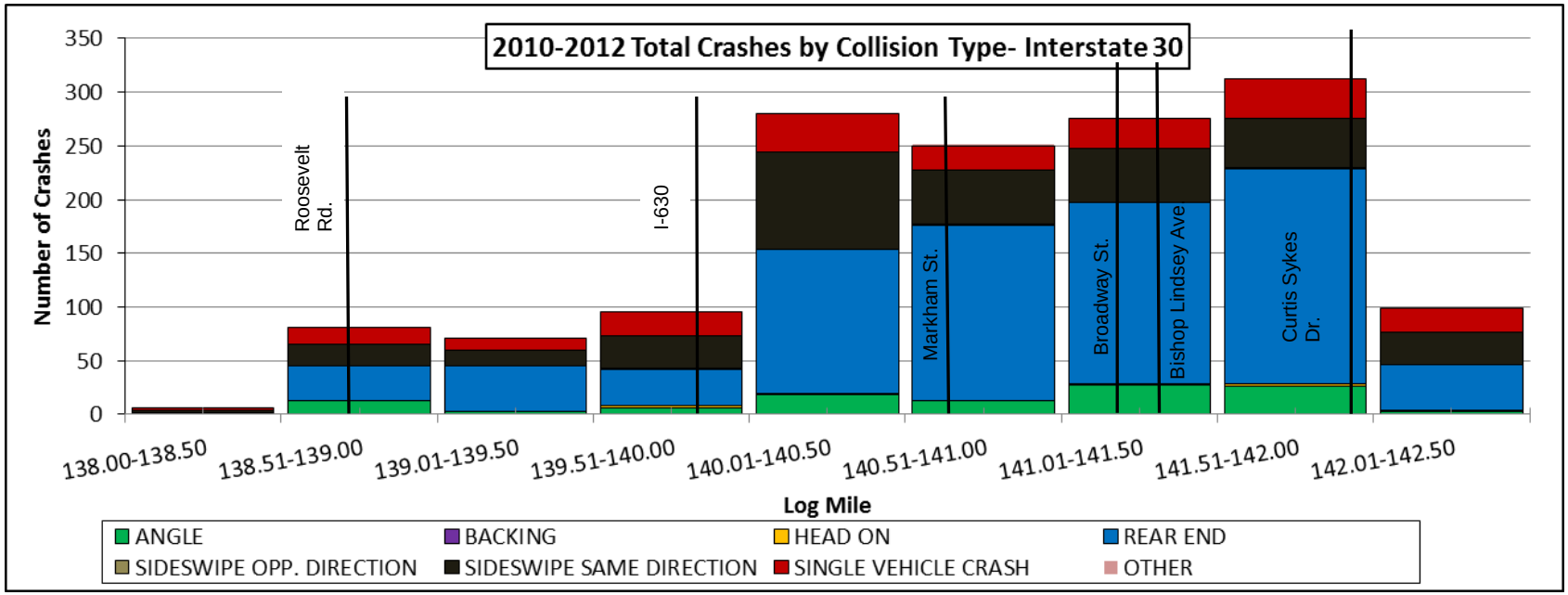
Source: I-30 PEL Vissim models

3.3 Safety

Crash data from 2010, 2011, and 2012 (the latest three years of available data) were reviewed for the PEL study limits. The locations of crashes along the main lanes were plotted by log mile for the combined three years in **Figures 9 and 10** on the following pages. Locations of the crashes along the main lanes and cross streets throughout the study area were plotted graphically by year in **Appendix 4 – Safety Technical Report**.

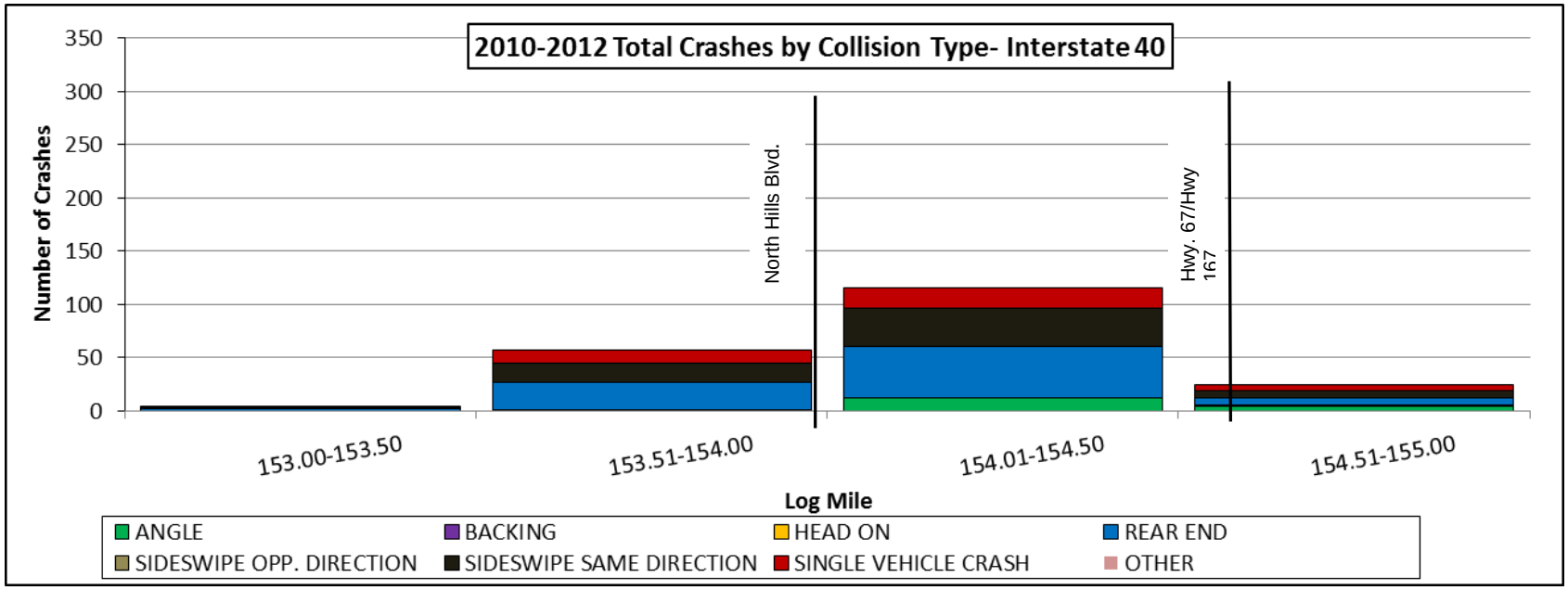
A few key locations exhibit large clusters of crashes consistently throughout the three year study period. The interchange area of I-30 at E. Broadway Street is notable with consistently high numbers of crashes both along I-30 and along the frontage roads (S. Cypress Street and S. Locust Street). Other areas with elevated numbers of crashes include the interchange areas of I-30 at Curtis Sykes Drive, Main Street at W. Pershing Boulevard along with the nearby intersection of Hwy 107/J.F.K. Boulevard at the I-40 access road, and Hwy 67at McCain Boulevard.

Figure 9: 2010-2012 Total Crashes along Interstate 30



Source: Garver compiled using AHTD Database

Figure 10: 2010-2012 Total Crashes along Interstate 40



Source: Garver compiled using AHTD Database

Crash rates for I-30 and I-40 were calculated and compared to the statewide averages for similar types of corridors. Crash rates were calculated for total collisions with all severity types as well as collisions with only fatal (K) and severe injury (A) (KA Crash Rate). As shown in **Table 9**, the KA crash rate along the entire stretch of I-30 was more than double the statewide average of 0.06 crashes per million vehicle miles traveled (MVMT) for KA crashes on a six or more-lane divided highway with full-control access (freeways). The portion of I-30 from I-630 to I-40 had a KA crash rate of 0.15 crashes/MVMT which was nearly three times the statewide average for KA crashes (0.06 crashes/MVMT). This segment had a total crash rate of 4.28 crashes/MVMT which was over three and a half times the statewide average for total crashes (1.23 crashes per MVMT). The KA crash rate along I-40 was 0.08 crashes/MVMT which was also somewhat elevated above the statewide KA average of 0.06 crashes/MVMT for six or more-lane divided highway with full-control access (freeways), but the total crash rate of 0.96 crashes/MVMT was slightly lower than the statewide average total crash rate of 1.23 crashes/MVMT. These crash rates demonstrate a great need for improvements along I-30, particularly the portion between I-630 and the north terminal.

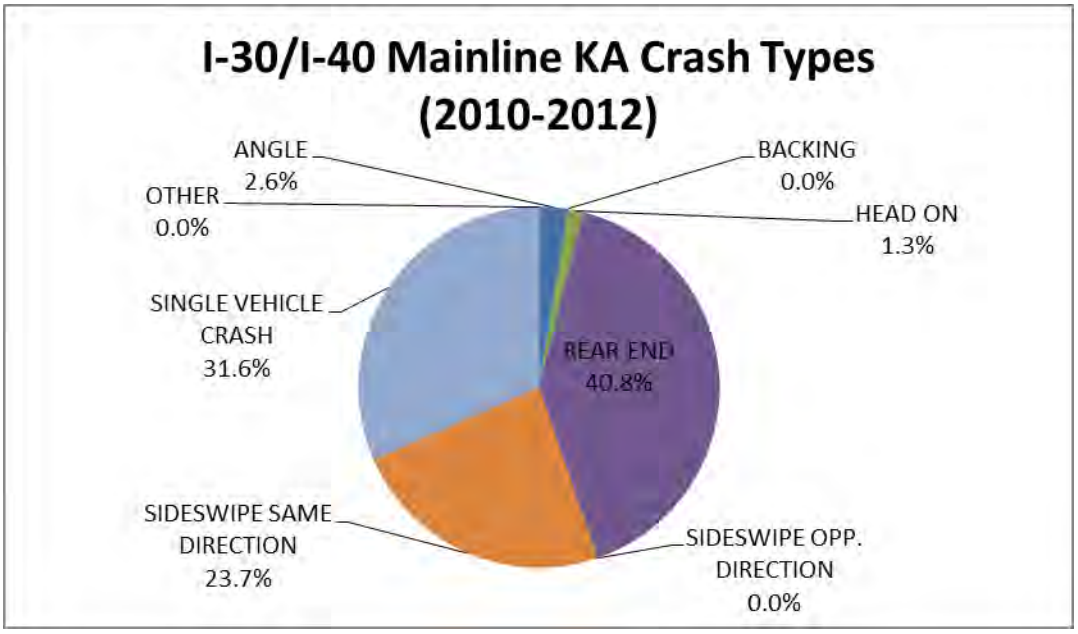
A total of 76 KA crashes occurred from 2010-2012 within the study corridor. These KA crashes were investigated further to identify any patterns that could be indicative of deficiencies in the roadway facility. **Figure 11** on the following page shows a pie chart of these KA crashes by type.

Table 9: Crash Rates for 2010-2012

		Number of Crashes		Crash Rate (MVMT)		AR Avg. Crash Rate			Crash Rate/ AR Avg Crash Rate	
Length (miles)	**Weighted ADT**	**All Severity Types**	**KA**	**All Severity Types**	**KA**	**All Severity Types**	**KA**	**Type**	**All Severity Types**	**KA**
Interstate 30, Section 230, Log Mile 138.39-139.67 (Interstate 530/Interstate 440 to Interstate 630)										
1.28	96,000	224	16	1.66	0.12	1.23	0.06	Six-Lane Access Control	1.35	2.20
Interstate 30, Section 230, Log Mile 139.67-142.02 (Interstate 630 to Interstate 40)										
2.35	113,000	1247	44	4.28	0.15	1.23	0.06	Six-Lane Access Control	3.58	2.73
Interstate 40, Section 330, Log Mile 153.25-154.88 (Interstate 30 to Highway 67)										
1.63	116,000	199	16	0.96	0.08	1.23	0.06	Six-Lane Access Control	0.80	1.40

Source: Garver calculated the rates and compared to AHTD rates

Figure 11: I-30/I-40 Mainline KA Crash Types (2010-2012)



As shown in **Figure 11**, rear-end crashes were the predominant type of crash out of all crashes resulting in severe or fatal injury. This type of crash is typically associated with severe congestion as vehicles experience sudden stops in traffic and typically leave less headway between themselves and the vehicle in front of them. Single vehicle and sideswipe-same direction crashes also comprised a notable percentage of the total KA crashes. Both of these types of crashes could also be partially attributed to congestion as vehicles make sudden maneuvers to change lanes and/or avoid another vehicle. These types of crashes could also indicate insufficient acceleration and deceleration lengths at the ramps. If vehicles are not able to safely adjust their speed outside of the interstate main lanes, a large speed differential is created, and all three of these most common types of collisions occur.

4 Future No Action Conditions

The future No Action scenario is very similar to the existing scenario with a few modifications and assumptions:

- Traffic volumes change from 2014 to 2041 (see the Traffic Forecast plan in **Appendix 1 – CA0602 Traffic Forecast Plan**)
- Traffic signals are optimized to meet future demand
- Other regional improvements are implemented as identified in the Metroplan Long-Range Transportation Plan, *Imagine Central Arkansas.* http://www.metroplan.org/files/53/2014-12LongRangePlan.pdf (December 2014).

4.1 Traffic Demand

Future No Action traffic volumes were forecasted to the year 2041 as described in Chapter 2. **Figure 12** shows the forecasted average daily traffic at three locations along the corridor. Traffic volumes range from 122,000 daily vehicles to 158,000 daily vehicles. These volumes represent around a 20% total increase from existing conditions.

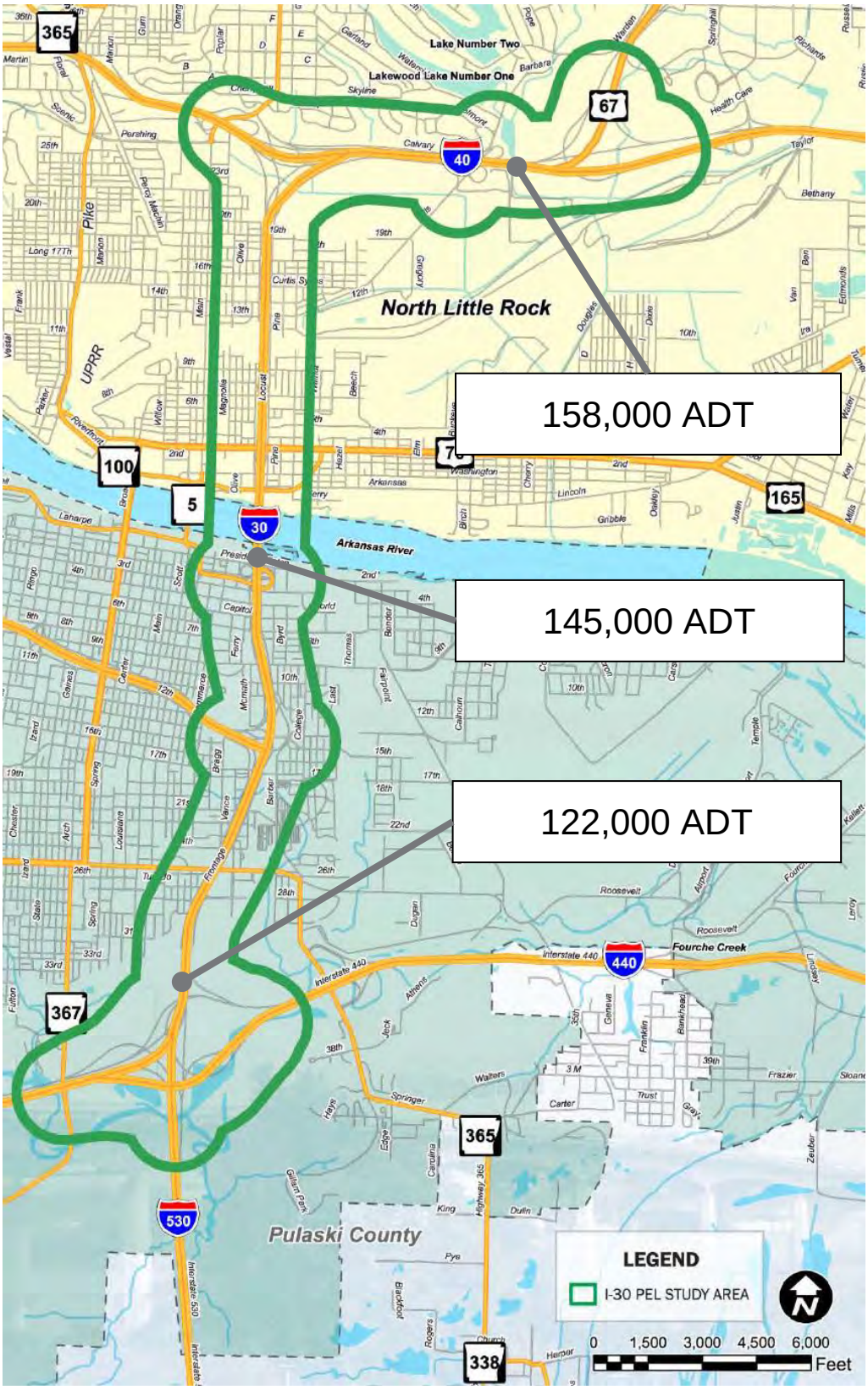
Figure 13 shows the travel characteristics for all vehicle trips passing through the location where 100% is shown. From these exhibits, the percentage of trips to each interchange as well as the percentage of local vs. through trips is summarized in **Table 10** below.

Table 10: Percentage of Local and Through Trips to Each Interchange

		To		
		Local Exit	I-630	Through
From	Just South of I-40	52%	30%	18%
	Just North of I-440/I-530	41%	45%	14%

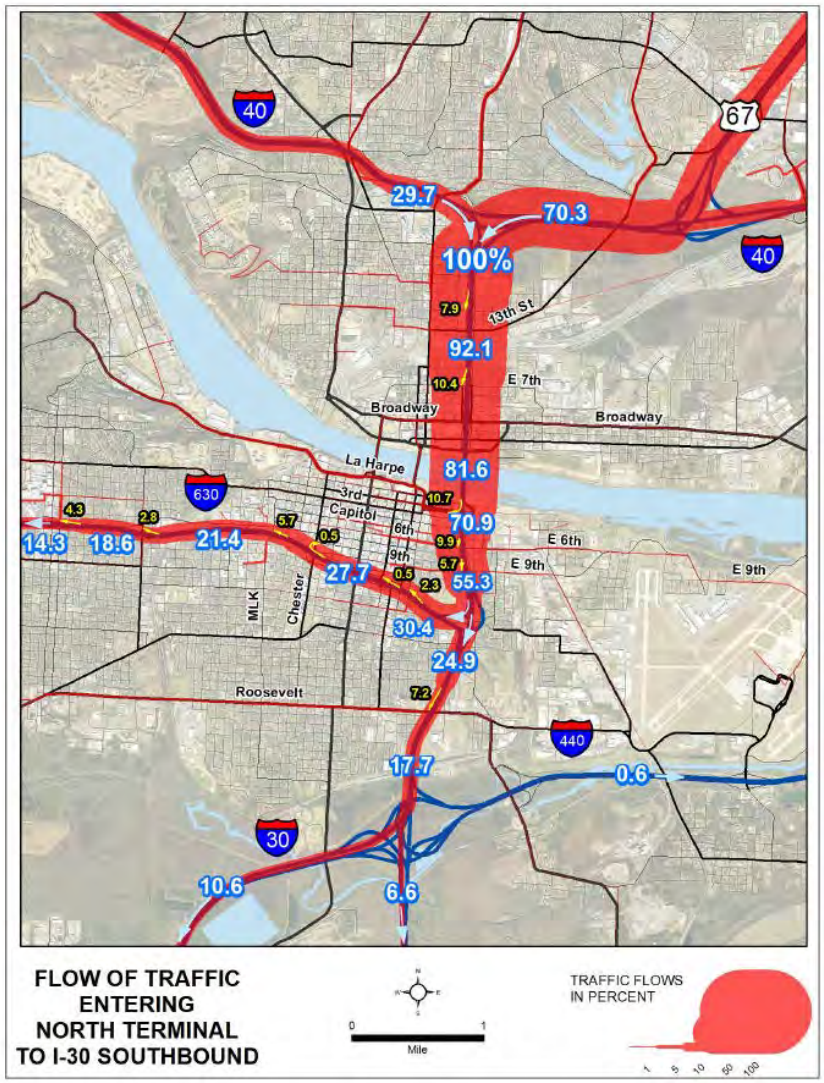
The Metroplan model data shows that only 14-18% of the traffic on I-30 is “through” traffic which means that the traffic is not exiting or entering from an I-30 local service interchange or I-630. Full corridor wide daily traffic can be found in **Appendix 1**.

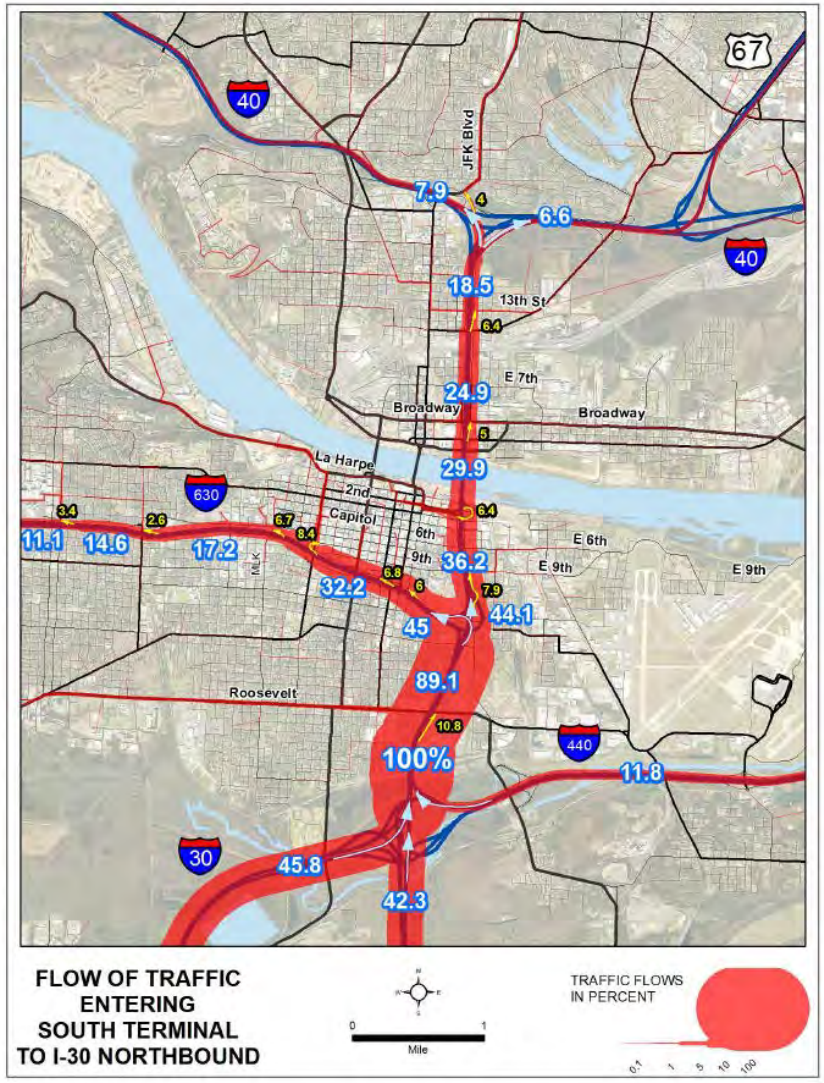
Figure 12: Future (2041) No Action Average Daily Traffic



Source: AHTD - ADT = average daily traffic

Figure 13: Trip Origins and Destinations Future (2041) No Action Average Daily Traffic





Source: Metroplan

4.2 Mobility

As with the existing scenario, the ease of mobility within the existing PEL study corridor was analyzed using a variety of measures of effectiveness (MOEs).

Based on the future No Action Vissim model data, **Figure 14** summarizes the mobility in the PEL corridor during the most congested time of each peak hour. As shown in this figure, the problems that were evident in the existing model are now extending to the model limits. It is important to note that in this 2041 No Action scenario, severe bottlenecks in certain areas such as I-30 WB at the Arkansas River Bridge are causing artificial downstream free flow conditions. As mentioned in Chapter 3, bottlenecking occurs when traffic is congested in a particular area of a roadway segment, causing sizeable queues upstream of the congested area and little traffic downstream of the congested area since the traffic desiring to reach the downstream area is blocked by the localized congestion. Occurrences of bottlenecking are more evident in the speed profiles in **Figure 15**. This figure shows bottlenecks in several locations throughout the 6-lane corridor which cause backups to extend outside the model area. In all cases, the congestion lasts through the end of the two-hour simulation.

Peak direction travel speeds have decreased to 20-30 mph, and corridor-wide travel time is now 16-18 minutes (nearly three times that of free flow conditions). For each 15-minute subdivision within the two-hour simulation, at least one LOS segment operates at LOS F. The following intersections now operate at LOS E or F:

AM

- I-40 WB Off Ramp & JFK Blvd – LOS F
- I-40 WB On Ramp & JFK Blvd – LOS F
- I-30 & Broadway Street Interchange – LOS E
- Broadway Blvd & N Locust Street – LOS E
- Broadway Blvd & Riverfront Drive – LOS F
- 2nd Street & Ferry Street – LOS F
- 2nd Street & Mahlon Martin Street – LOS E
- I-30 & 65th Street Interchange – LOS F

PM

- I-40 Ramps & Springhill – LOS F
- I-40 WB On Ramp & JFK Blvd – LOS F
- I-30 & Curtis Sykes Interchange – LOS F
- Bishop Lindsey Ave & N Cypress Street – LOS E
- I-30 & Broadway Street Interchange – LOS F
- Cumberland & 3rd Street – LOS F
- Cumberland & 2nd Street – LOS F
- Cumberland & Markham Street – LOS F
- 2nd Street & Ferry Street – LOS F

- 3rd Street & I-30 Frontage Road – LOS F
- 3rd Street & Mahlon Martin Street – LOS F
- 2nd Street & Mahlon Martin Street – LOS F
- I-30 & 6th Street Interchange – LOS F
- I-30 & 9th Street Interchange – LOS F
- 65th Street & I-30 SB Ramps – LOS F

Areas of high congestion in the existing scenario are made worse by the future increase in traffic demand. In addition, new areas of concern are beginning to emerge as side street congestion causes vehicles to back up onto the freeway in both peak and off-peak directions.

Figure 14: Future 2041 No Action Peak Hour Mobility

AM Peak Hour

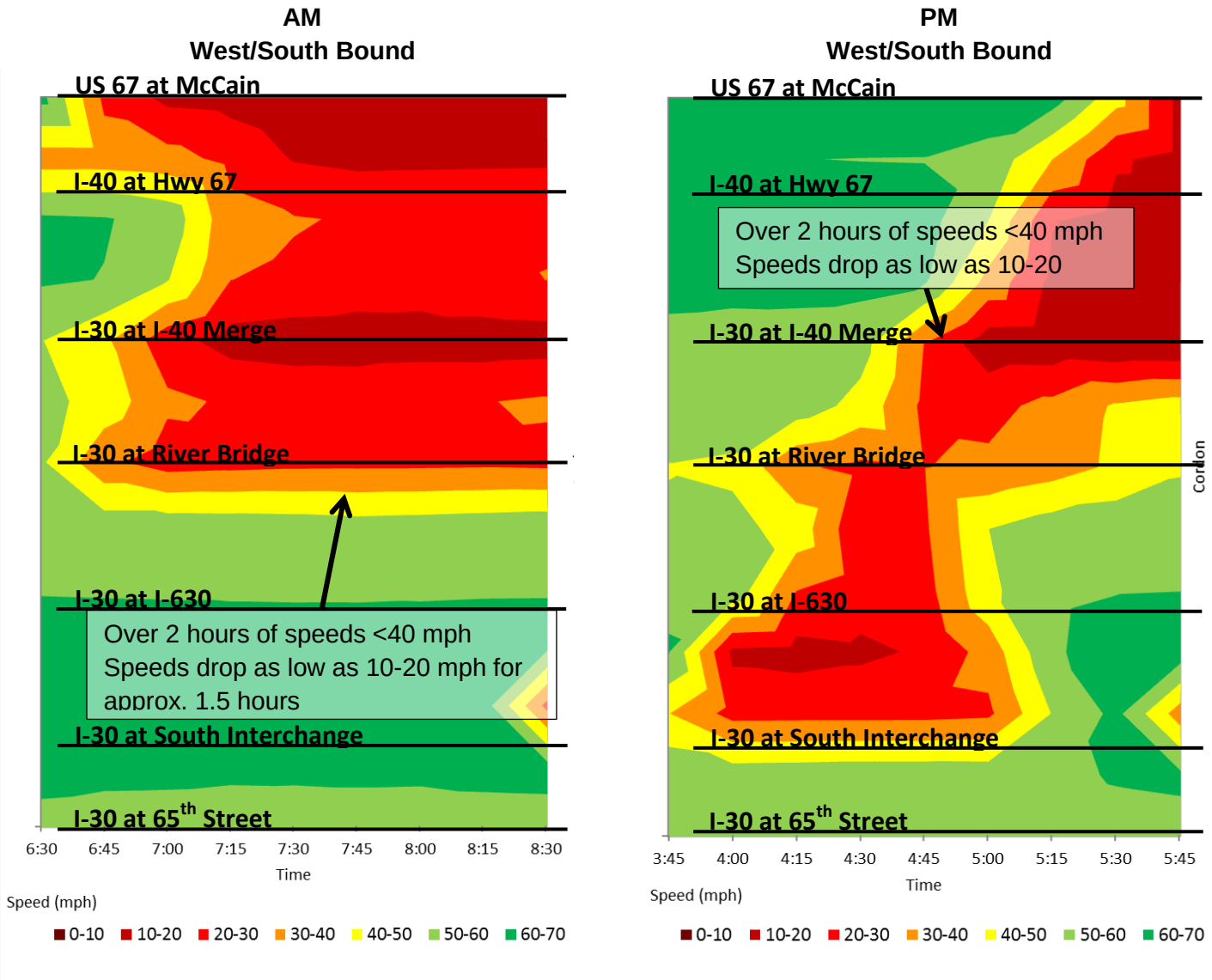


PM Peak Hour



Source: I-30 PEL Vissim models

Figure 15: Future 2041 No Action Speed Profiles



Source: I-30 PEL Vissim models

4.3 Safety

The No Action alternative will continue to have safety issues in regards to the non-standard design elements and ever growing congestion within the system. This alternative has the most conflict points and non-standard ramp acceleration/deceleration lengths and weaving lengths when compared to the build alternatives. The documented crash trend is higher than the statewide average. The No Action option will not address the current needs for safety improvements.

The projected number of crashes was calculated based on historic crash data for I-30 and I-40 for the PEL study area. An average crash rate between the three study years (2010-2012) was estimated for main lanes of sections of I-30 from I-530/I-440 to I-630, I- 30 from I-630 to I-40, and I-40 from I-30 to Hwy 67. With the assumption that the roadway condition remains the same and no safety measures would be implemented, the average crash rate is assumed to remain constant through the design year. To project the number of crashes for 2041, the average crash rate was applied to the future No Action volumes. Average crash rates and projected numbers of crashes for 2041 are shown in **Table 11**.

Table 11: Projected Number of Crashes

I-30, Section 230, Log Mile 138.39-139.67 (I-530/I-440 to I-630)							
Year	**Length (miles)**	**Average Crash Rate (MVMT)**	**Projected 2041 ADT (No Action)**	**Projected # Crashes**	**AR 2012 Avg Crash Rate**	**Type**	**Avg Crash Rate/ AR 2012 Avg Crash Rate**
2041	1.28	1.66	122,000	95	0.95	Six-Lane Access Control	1.75
I-30, Section 230, Log Mile 139.67-142.02 (I-630 to I-40)							
Year	**Length (miles)**	**Average Crash Rate (MVMT)**	**Projected 2041 ADT (No Action)**	**Projected # Crashes**	**AR 2012 Avg Crash Rate**	**Type**	**Avg Crash Rate/ AR 2012 Avg Crash Rate**
2041	2.35	4.28	145,000	533	0.95	Six-Lane Access Control	4.51
I-40, Section 330, Log Mile 153.25-154.88 (I-30 to Hwy 67)							
Year	**Length (miles)**	**Average Crash Rate (MVMT)**	**Projected 2041 ADT (No Action)**	**Projected # Crashes**	**AR 2012 Avg Crash Rate**	**Type**	**Avg Crash Rate/ AR 2012 Avg Crash Rate**
2041	1.63	0.96	158,000	90	0.95	Six-Lane Access Control	1.01

Source: Garver

5 Future Build Alternatives Analysis

The I-30 PEL study had three levels of analysis. Level 1 represented a high level qualitative assessment of mobility and safety related to the Purpose and Need of the study. Level 2 was a qualitative assessment of alternatives compared to the project study goals with some quantitative analysis. Level 3 was a quantitative assessment of reasonable alternatives to identify a PEL recommended alternative.

5.1 Level 1 Analysis

In Level 1, alternatives were given a *pass* or *fail* rating for each of the screening criteria. A *pass* rating was not required on all criteria for an alternative to move on to the next level; alternatives must have shown an overall positive impact on the I-30/I-40 corridor and be determined practicable.

Alternatives that did not meet the Purpose and need, and those that were clearly impractical based on cost or effectiveness in Little Rock and North Little Rock, were eliminated at this level. Eliminated alternatives include:

- **Elevated Lanes (Roadway)** – This alternative was deemed impractical and eliminated because of the high construction cost and the difficulties associated with constructability.
- **Truck Lanes/Ramps** – This alternative was eliminated because it would have minimal effect due to the low percentage of trucks currently using I-30.
- **Elevated Lanes (Bridge)** – This alternative was deemed impractical and eliminated because of the high construction cost and the difficulties associated with constructability.
- **Heavy Rail** – This alternative was deemed impractical and eliminated because of the high construction and operating cost.
- **High Speed Rail** – This alternative was deemed impractical and eliminated because of the high construction and operating cost.

5.2 Level 2 Analysis

Although Level 2 was identified to be primarily a qualitative assessment of alternatives related to the study goals, it was determined early in the study process that some quantitative analysis would be necessary to fully understand the mobility trade-offs. Level 2 was divided into 2 parts as Level 2A and Level 2B. Level 2A was an assessment of individual alternatives, and Level 2B was an assessment of alternatives combined into scenarios.

Level 2A
Preliminary alternatives were evaluated individually to determine those most capable of meeting the study goals. For each of the study goals, each alternative was ranked on the scale shown in **Table 12**.

Table 12: Level 2A Evaluation Measures

Rating	Evaluation	Score
+ +	Substantial positive effects	2
+	Some positive effects	1
O	Neutral effects	0
–	Some negative effects	-1
– –	Substantial negative effects	-2
Yes	Used for EJ/LEP Measures	-1 to +1
No	Used for EJ/LEP Measures	-1 to +1

Since Level 2A was mostly a qualitative screening process, the ratings given were based on the following assumptions:

- All other alternatives are compared to the No-Action
- Normal operations and maintenance only
- Traffic would continue to grow in the corridor through 2040
- Other regional projects identified in the Metroplan Long Range Plan would be implemented
- Impacts analyzed in the PEL study area
- Only peak hour benefits were analyzed
- Used Metroplan travel demand model results to determine the change in travel demand with varying number of through lanes
- Bypass was assumed to be at Chester Street
- CATA 10-Year Strategic Plan was used
- I-30 PEL Transit Analysis was used
- Arterial bus lane and BRT would remove a general purpose lane during peak hours as a starting point to maximize their benefits. Buses could use a shared lane but benefits would be compromised
- Managed lane was assumed to be barrier separated and tolled
- Ramp meter assumed to include a queue bypass lane for buses
- Non-recurring congestion assumed off-peak hour benefits

Level 2B

Historical growth rates and the Metroplan travel demand model were used to estimate 2041 traffic volumes in the study area. Analysis was performed to quantify the volume of traffic that would be attracted or diverted to I-30 as a result of changes in corridor capacity and complimentary alternative improvements such as transit in the study area. These volumes were then added or subtracted from the projected 2041 traffic volumes to produce modified I-30 traffic demand. The resulting volumes were then used as the basis for evaluating the various lane scenarios and the impact that C/D roads could provide for the main lanes at a high level of analysis only. This analysis is only a snapshot at three locations along the corridor and does not take into account downstream queuing or main lane merging, diverging, or weaving. The target Level-of-Service (LOS) of D was used as AHTD's standard for an urban corridor during the peak hour of travel. Consideration for LOS E was also performed. Much more detailed mobility

analysis was performed in the Level 3 analysis. The Level 2B Transportation Analysis described above is provided in **Appendix 5 – Level 2B Assessment.**

More detail on the Level 2A and 2B analysis can be found under separate cover of the *Environmental Linkages Level 2 Screening Methodology and Results Memorandum.*

5.3 Level 3 Analysis

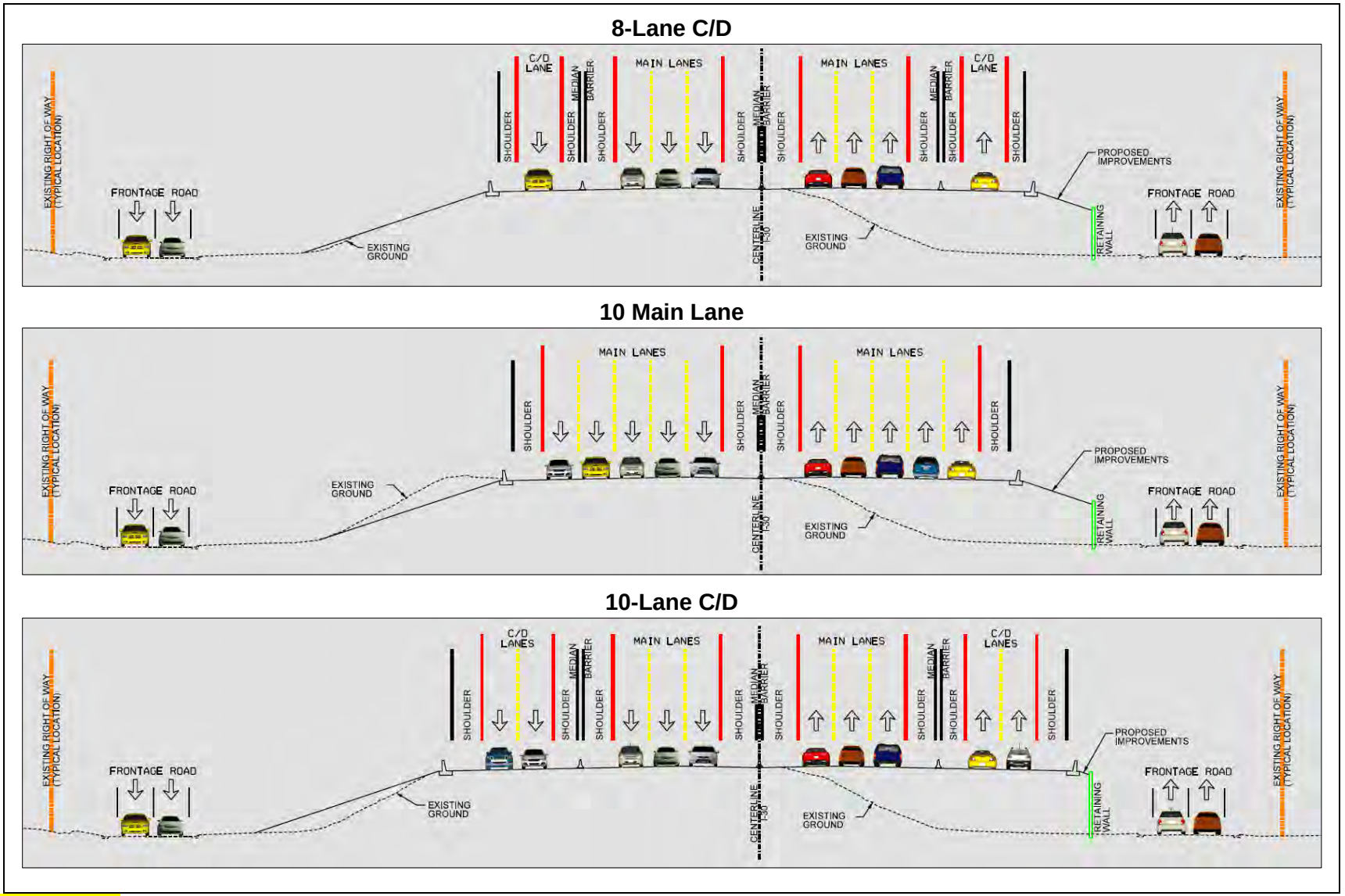
The I-30 PEL study identified three reasonable build alternatives to advance to more detailed analysis in Level 3. Typical cross sections of these alternatives are shown in **Figure 16**. The layouts for the alternatives are shown in **Figures 17-19**. The build alternatives include the primary highway build improvements described below and complementary improvements shown in **Figure 20**.

- **8-Lane C/D** (3 main lanes + 1 C/D lane in each direction) East and West – This scenario included adding 1 C/D lane in each direction from near 6th Street in North Little Rock to just south of Broadway Street in North Little Rock. Outside the location of the C/D road, the new facility included 4 main lanes in each direction. This scenario also included replacement of the I-30 Bridge over the Arkansas River with the new bridge being constructed partially to the east or to the west of the existing bridge location.

- **10 Main Lane** (5 main lanes in each direction) East and West Basic Scenarios – This scenario included widening on both sides of the current 6-Lane facility to 10 main lanes throughout the corridor (5 lanes in each direction) with the new I-30 Bridge over the Arkansas River being constructed partially to the east or to the west of the existing bridge.

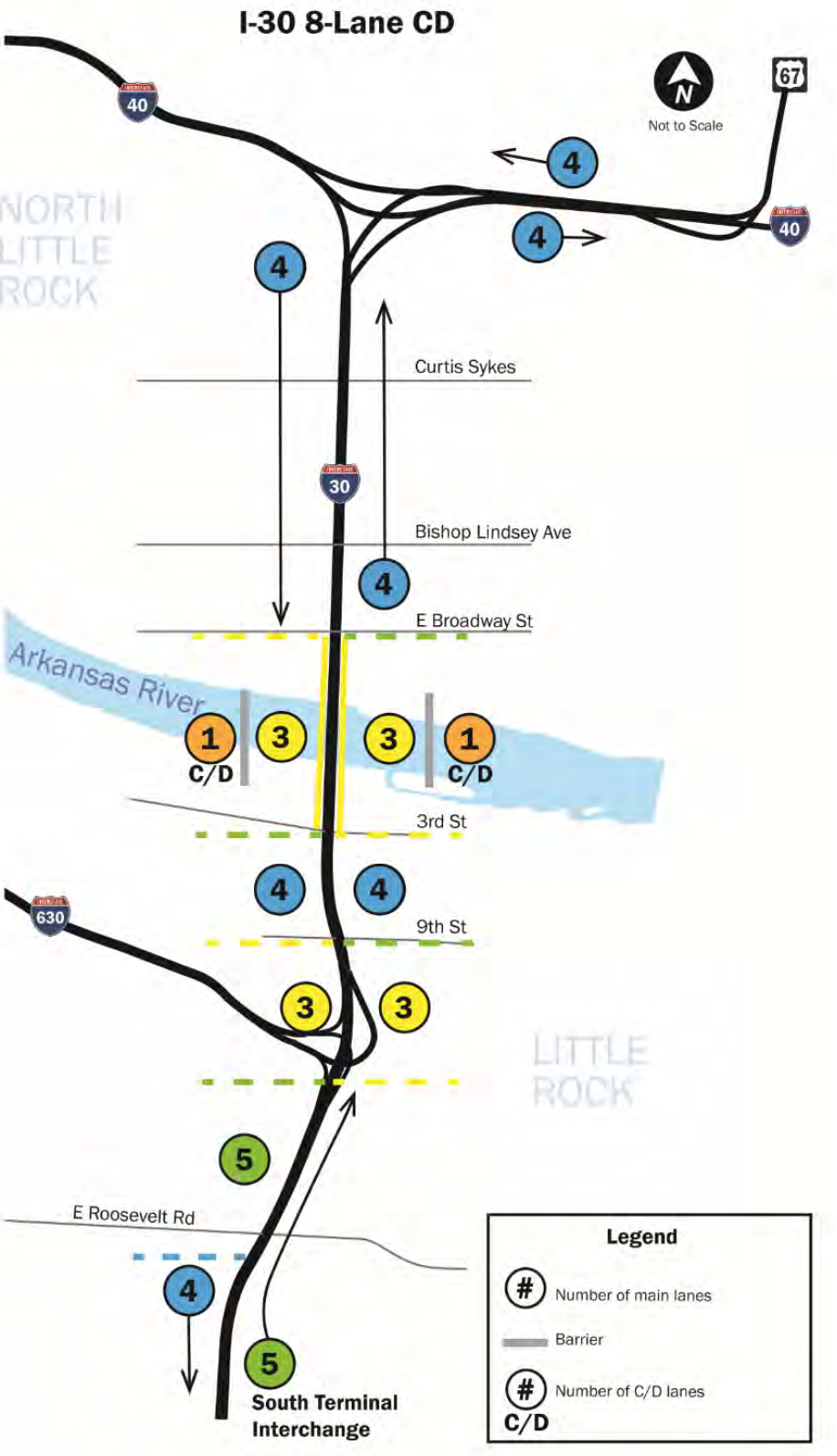
- **10-Lane C/D** (3 main lanes + 2 C/D lane in each direction) – This scenario included adding 2 C/D lanes in each direction from near 7th Street in North Little Rock to just south of 6th Street in Little Rock. Outside the location of the C/D roads, the new facility included 5 main lanes in each direction with the same footprint as the 10 Main Lane Scenario. This scenario also included replacement of the I-30 Bridge over the Arkansas River.

Figure 16: Typical Cross Sections for Alternatives



Source: I-30 PEL

Figure 17: 8-Lane C/D Lane Configuration



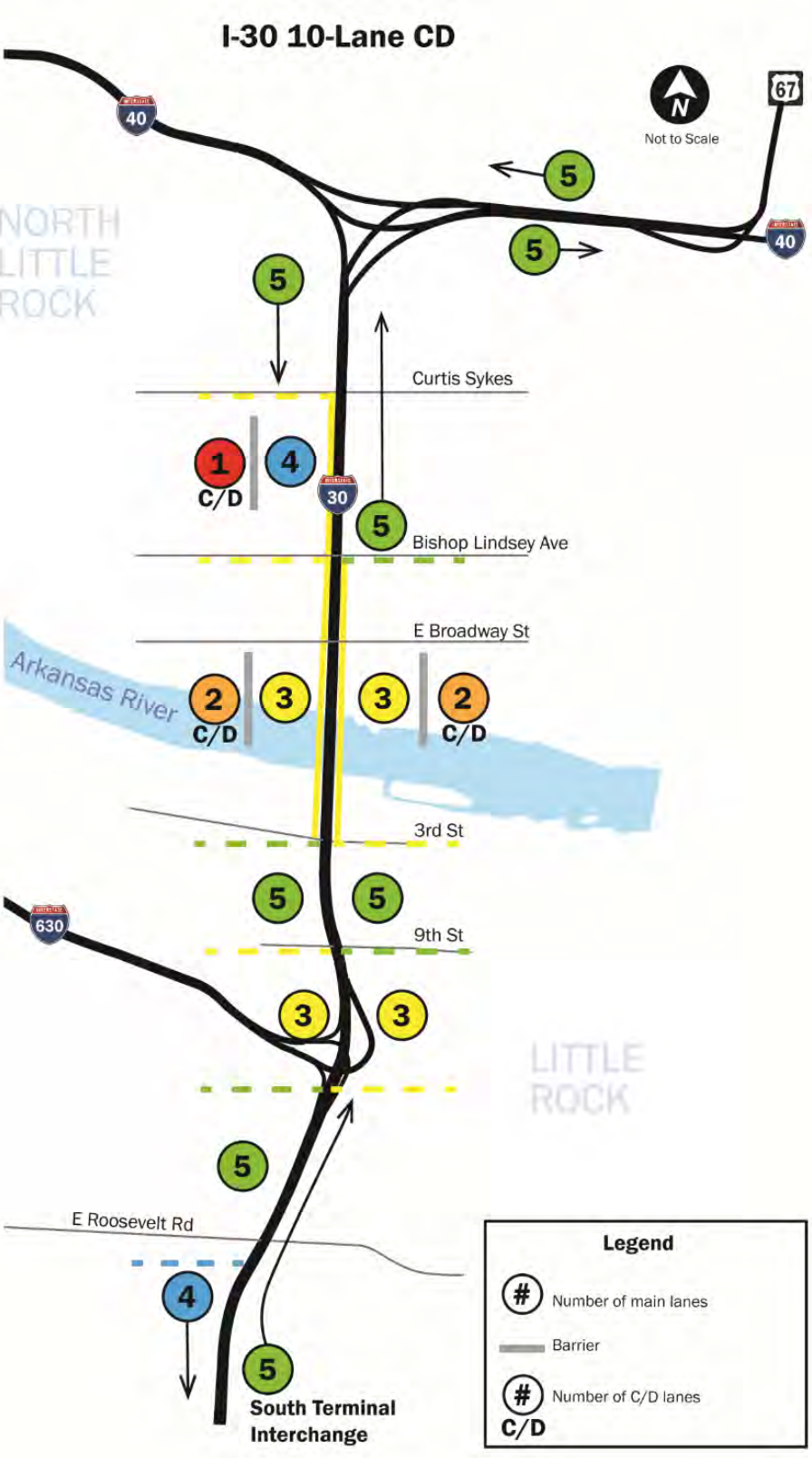
Source: I-30 PEL

Figure 18: 10 Main Lane Configuration



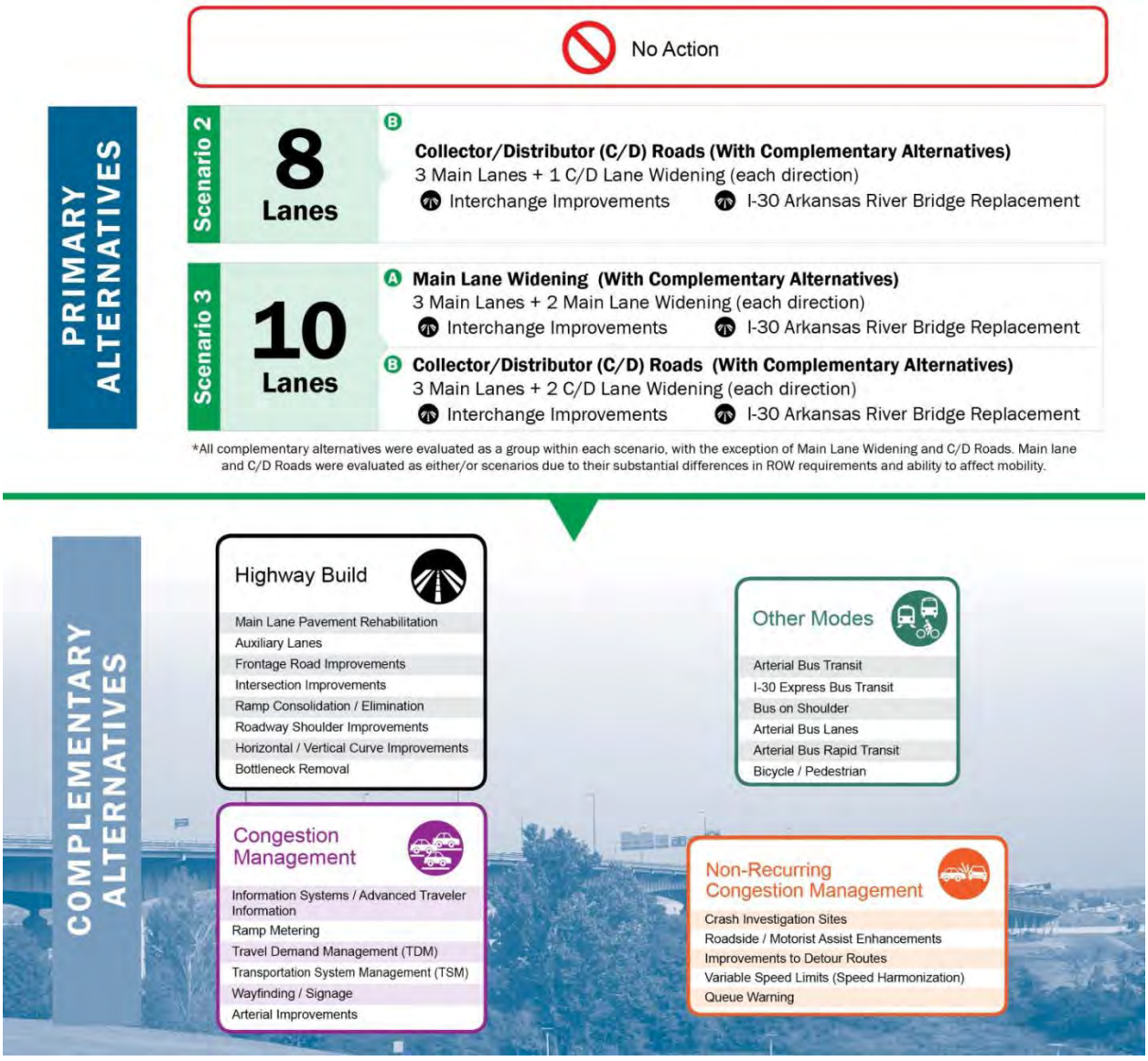
Source: I-30 PEL

Figure 19: 10-Lane C/D Lane Configuration



Source: I-30 PEL

Figure 20: No Action, Primary, and Complementary Alternatives



Source: I-30 PEL Public Meeting #3

Complementary build alternatives are minor improvements that were assumed for each of the three major build alternatives. They include several components.

“Highway Build” improvements are improvements to the roadway geometry and infrastructure such as pavement rehabilitation, ramp consolidation, shoulder improvements, and intersection improvements.

Congestion management techniques require a small amount of capital investment compared to highway build improvements. By adding a ramp meter signal, improving signage, and using Intelligent Transportation Systems (ITS) practices, some amount of congestion can be mitigated.

Improving other modes of transportation can divert the total demand on a system. By increasing the quality of bus service or providing dedicated bike lanes on side streets, for instance, some individuals may choose to leave their vehicle at home.

Non-recurring congestion management techniques are most useful in the event of a traffic incident. Providing advanced warning to upstream motorists reduces the likelihood of secondary crashes and allows vehicles to divert to detour routes. This reduces the amount of congestion caused by an incident.

Other improvements outside the PEL study limits but not included in the Long Range Transportation Plan included:

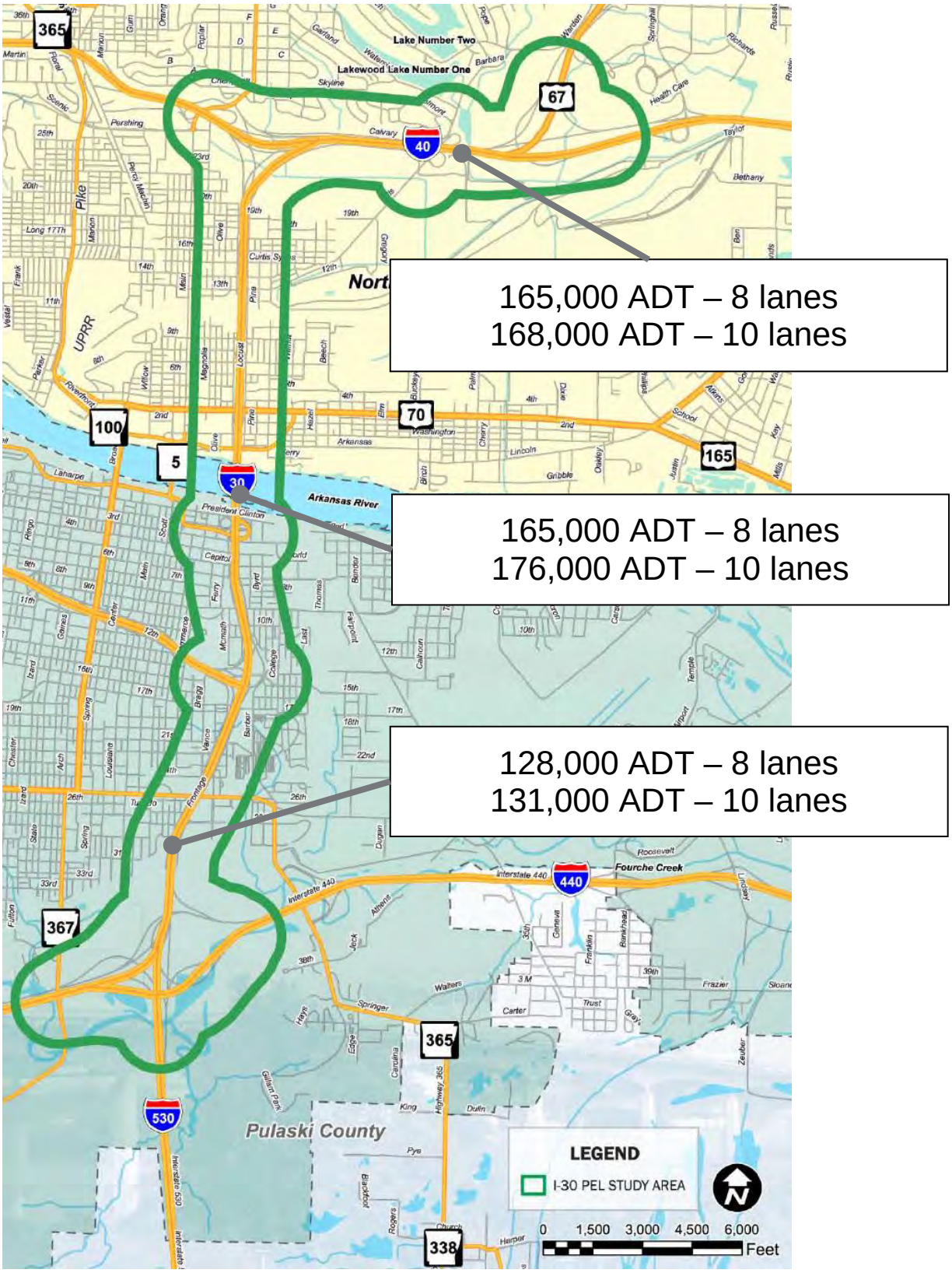
- Additional lane on I-630 WB west of Louisiana Street
- Additional lane in each direction on I-30 between the I-30/I-440/I-530 interchange and 65th Street

These additional improvements were deemed necessary to avoid backups from congestion outside the PEL limits to inside the PEL limits. AHTD is currently working on a corridor study on I-30 southwest of the PEL study area and has indicated the desire to perform a corridor study of I-630 west of the PEL study area.

5.3.1 Traffic Demand

As discussed in Chapter 2, traffic demand for each of the reasonable build alternatives was calculated using Metroplan’s travel demand model. Modifications to volumes were considered for each of the complementary alternatives and were the same for all three build scenarios. Since the 10 Main Lane and the 10-Lane C/D alternatives are both 10 lanes, they use the same future volumes. Traffic volumes for the build alternatives, shown in **Figure 21**, range from 128,000 to 165,000 for the 8-Lane C/D alternative and from 131,000 to 168,000 for both 10-lane alternatives. These represent a 30% to 40% increase from existing conditions. For information about transit impacts, see **Appendix 6 – Transit Report.**

Figure 21: Future (2041) Build Average Daily Traffic



Source: Metroplan Travel Demand Model

5.3.2 Mobility

The projected mobility was analyzed separately for each of the aforementioned build alternatives. The following section will provide commentary on each individual alternative before comparing them all side by side.

5.3.2.1 8-Lane C/D Scenario

Figure 22 summarizes the 8-Lane C/D mobility in the PEL corridor during the most congested time of each peak hour. This figure shows that approximately 45-60% of the corridor operates at LOS F in 2041 during the peak periods with the 8-Lane C/D alternative. This is marginally better than the future No Action condition. Severe bottlenecks upstream may cause artificial free flow sections downstream. For instance, in the southbound direction in both peak periods there is red on I-30 between I-40 and Broadway Blvd, followed by green south of Broadway Blvd. This happens because the traffic demand exceeds the freeway's capacity just north of Broadway Blvd. Traffic moves very slowly upstream of the congestion point, and fewer vehicles than normal are able to pass through the point due to the reduced speed and increased vehicle density. Since fewer vehicles are making it past the bottleneck at any given time, the freeway appears to be operating very well downstream of the bottleneck.

In **Figure 23**, speeds for each peak period are shown throughout the length of the corridor over the entire simulation period. As the speed profiles show, congestion in the corridor lasts at least two hours for both peak time periods. Speeds below 40 miles per hour were observed for at least two hours in the AM, dropped as low as 0-10 miles per hour. The following intersections experienced LOS E or F in the 8-lane C/D Scenario:

AM

- I-40 EB Off Ramp & I-30 Frontage Road – LOS F
- I-40 WB Off Ramp & JFK Blvd – LOS F
- I-40 WB On Ramp & JFK Blvd – LOS F
- I-30 & Curtis Sykes Interchange – LOS F
- I-30 & Broadway Blvd Interchange – LOS F
- Cumberland & Markham Street – LOS E
- 3rd Street & I-30 Frontage Rd – LOS F
- Diverging intersection at the Cantrell Interchange – LOS F

PM

- I-40 WB On Ramp & JFK Blvd – LOS F
- Cumberland & 3rd Street – LOS F
- Cumberland & 2nd Street – LOS F
- Cumberland & Markham Street – LOS E
- 3rd Street & I-30 Frontage Road – LOS F
- 3rd Street & Mahlon Martin Street – LOS F
- I-30 & 6th Street Interchange – LOS F

- I-30 & 9th Street interchange – LOS F
- College & 15th Street – LOS E
- Diverging intersection at the Cantrell Interchange – LOS E
- River Market Ave and I-30 Ramps – LOS F

From a mobility standpoint, this scenario does not achieve the I-30 PEL purpose and need. Traffic flows are in some cases worse than the future No Action condition.

Figure 22: Future (2041) 8-Lane C/D Mobility

AM Peak Hour

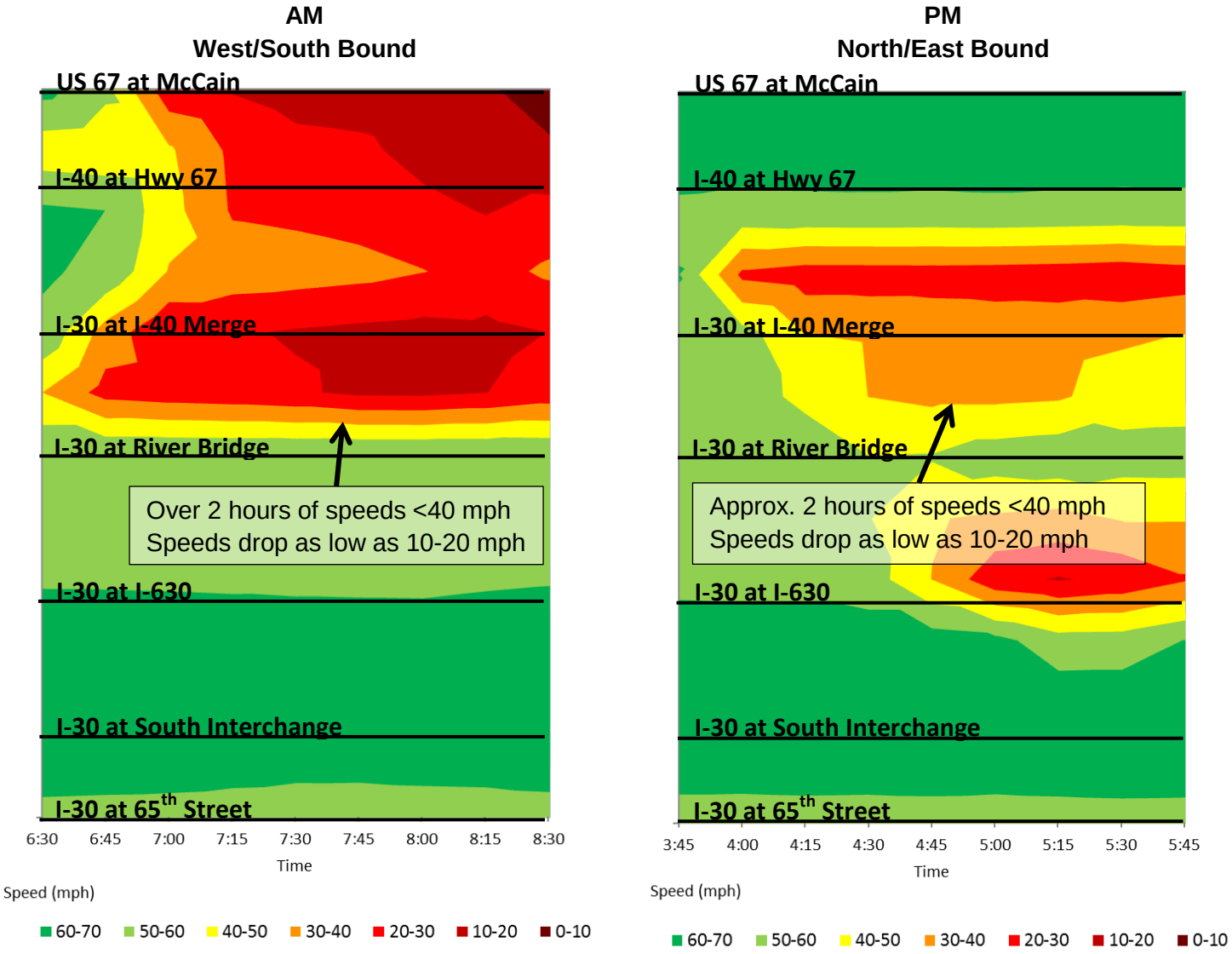


PM Peak Hour



Source: I-30 PEL Vissim models

Figure 23: Future (2041) 8-Lane C/D Speed Profiles



Source: I-30 PEL Vissim models

5.3.2.2 10 Main Lane Scenario

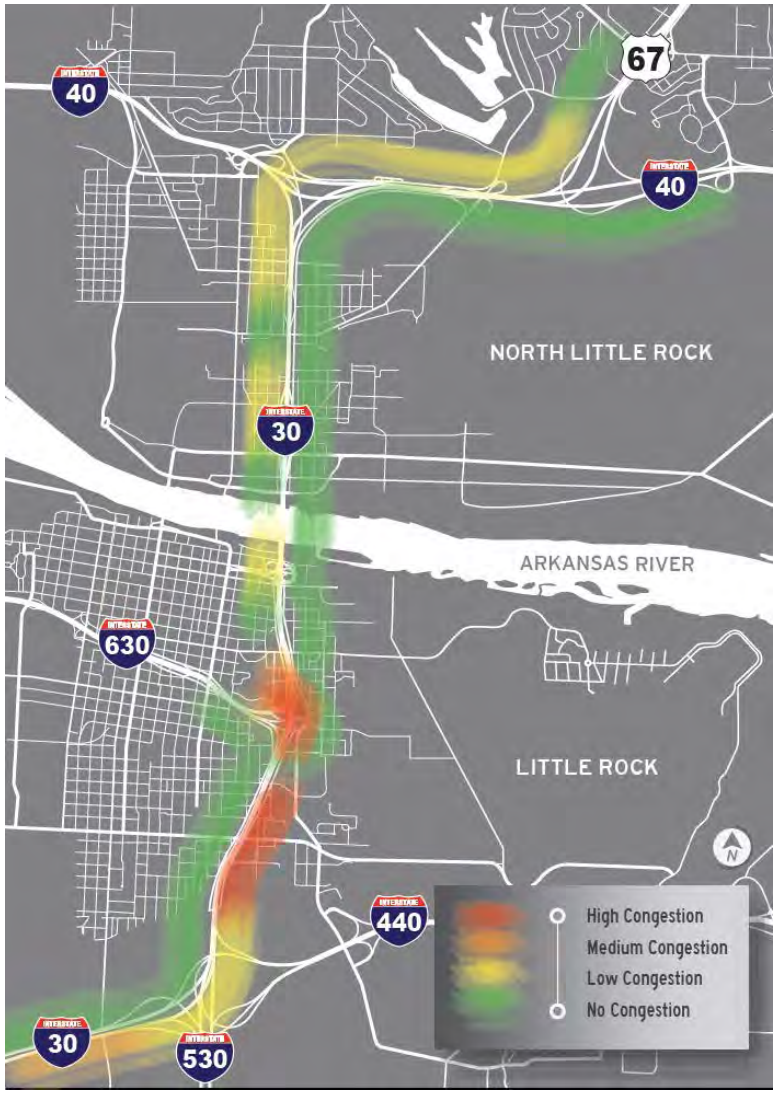
Figure 24 summarizes the 10 Main Lane mobility in the PEL corridor during the most congested time of each peak hour for the 10 Main Lane scenario. As is evident in this figure, the 10 Main Lane build alternative offers a mobility improvement over the future No Action scenario and the 8-Lane C/D scenario. Where the 8-lane C/D scenario exhibits approximately 45-60% congestion within the corridor, the 10 Main Lane Scenario experiences around 3-11% congestion. According to this figure, reduced speeds are evidenced in two main areas as shown by the red designation which indicates high congestion. The reductions in speed at these two locations occur due to constraints that are outside of the study area. In the AM peak (northbound/eastbound) direction, traffic experiences reduced speeds just south of I-630. This is because the demand exceeds the capacity for vehicles using the flyover ramp to I-630 WB. In the PM peak (southbound/westbound) direction, reduced speeds occur mostly outside of the study area due to demand exceeding capacity on I-30 WB at 65th street.

In **Figure 25**, speeds for each peak period are shown throughout the length of the corridor over the entire simulation period. As shown in this figure, the previously mentioned reductions in speed only occur for a brief amount of time in the simulation. In both the AM and PM models, the I-40 WB on-ramp intersection with JFK operates at LOS F due to a small number of vehicles (<10) attempting to turn on to JFK from the ramp, which is two-way for a short distance to accommodate local businesses. In the PM model, the College Blvd/15th Street intersection operates at LOS F. This is because EB I-630 vehicles that were previously attempting to bypass congestion on EB I-30 will exit at College Blvd and make a left at the College Blvd/15th street intersection. In order to compare apples to apples across all three build alternatives in relation to the No Action model, the volumes making this bypass movement were not changed when mainline conditions improved for the three build alternatives. Note that the bypass volumes are reassigned in the recommended alternative.

Compared to the future No Action and even the existing scenarios, the duration and severity of congestion is minimal in this 10 Main Lane scenario.

Figure 24: Future (2041) 10 Main Lane Congestion

AM Peak Hour

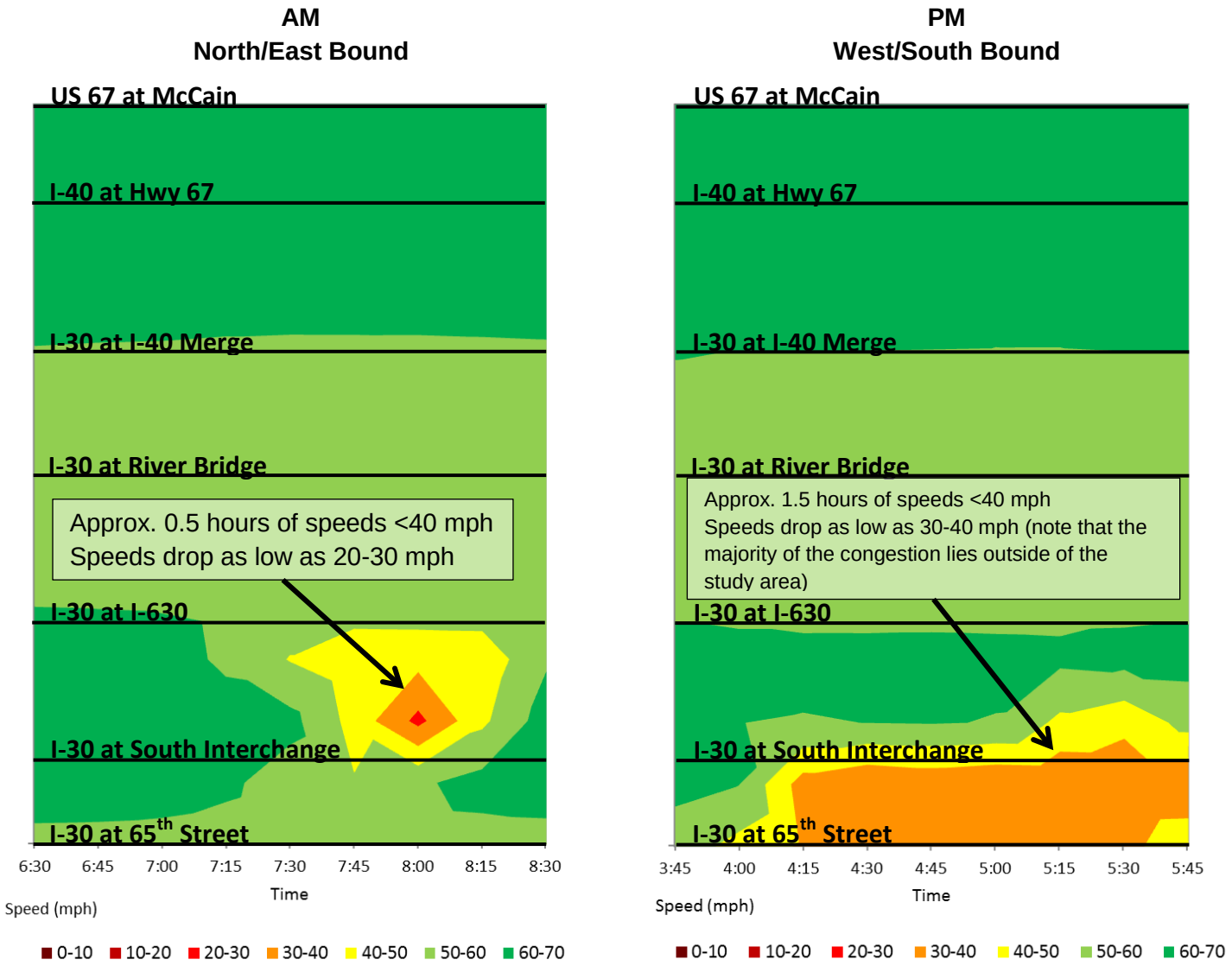


PM Peak Hour



Source: I-30 PEL Vissim models

Figure 25: Future (2041) 10 Main Lane Speed Profiles



Source: I-30 PEL Vissim models

5.3.2.3 10-Lane C/D Scenario

Figure 26 summarizes the 10-Lane C/D mobility in the PEL corridor during the most congested time of each peak hour. As can be seen in this figure, the 10-Lane C/D scenario operates very similarly to the 10 Main Lane scenario. Where the 10 Main Lane scenario experiences 3-11% congestion within the corridor during the peak hours, the 10-Lane C/D exhibits 5-10% congestion. The two areas where reduced speeds are evident are related to constraints outside of the study area. In the AM peak (northbound/eastbound) direction, traffic experiences a slowdown just south of I-630. This is because the demand exceeds the capacity for vehicles using the flyover ramp to I-630 WB. In the PM peak (southbound/westbound) direction, reduced speeds occur mostly outside of the study area due to demand exceeding capacity on I-30 WB at 65th street.

In **Figure 27**, speeds for each peak period are shown throughout the length of the corridor over the entire simulation duration. As with the 10 Main Lane scenario, the previously mentioned reduced speeds only occur for a brief amount of time in the simulation. Compared to the future No Action and even the existing scenarios, the duration and severity of congestion is minimal in this 10-Lane C/D scenario.

In both the AM and PM models, the I-40 WB on-ramp intersection with JFK operates at LOS F due to a small number of vehicles (<10) attempting to turn on to JFK from the ramp, which is two-way for a short distance to accommodate local businesses. It may be beneficial to consider a signal at this intersection, or to prohibit left turns. In the PM model, the Cumberland & 3rd Street intersection operates at LOS E due to high volume northbound and eastbound movements. Also in the PM model, the College Blvd/15th Street intersection operates at LOS F. This is because EB I-630 vehicles were previously attempting to bypass congestion on EB I-30 will exit at College Blvd and make a left at the College Blvd/15th street intersection. In order to compare apples to apples across all three build alternatives in relation to the No Action model, the volumes making this bypass movement were not changed when mainline conditions improved for the three build alternatives. Note that the bypass volumes are reassigned in the recommended alternative.

From a mobility standpoint, the 10 Main Lane scenario and the 10-Lane C/D scenario function very similarly.

Figure 26: Future (2041) 10-Lane C/D Mobility

AM Peak Hour

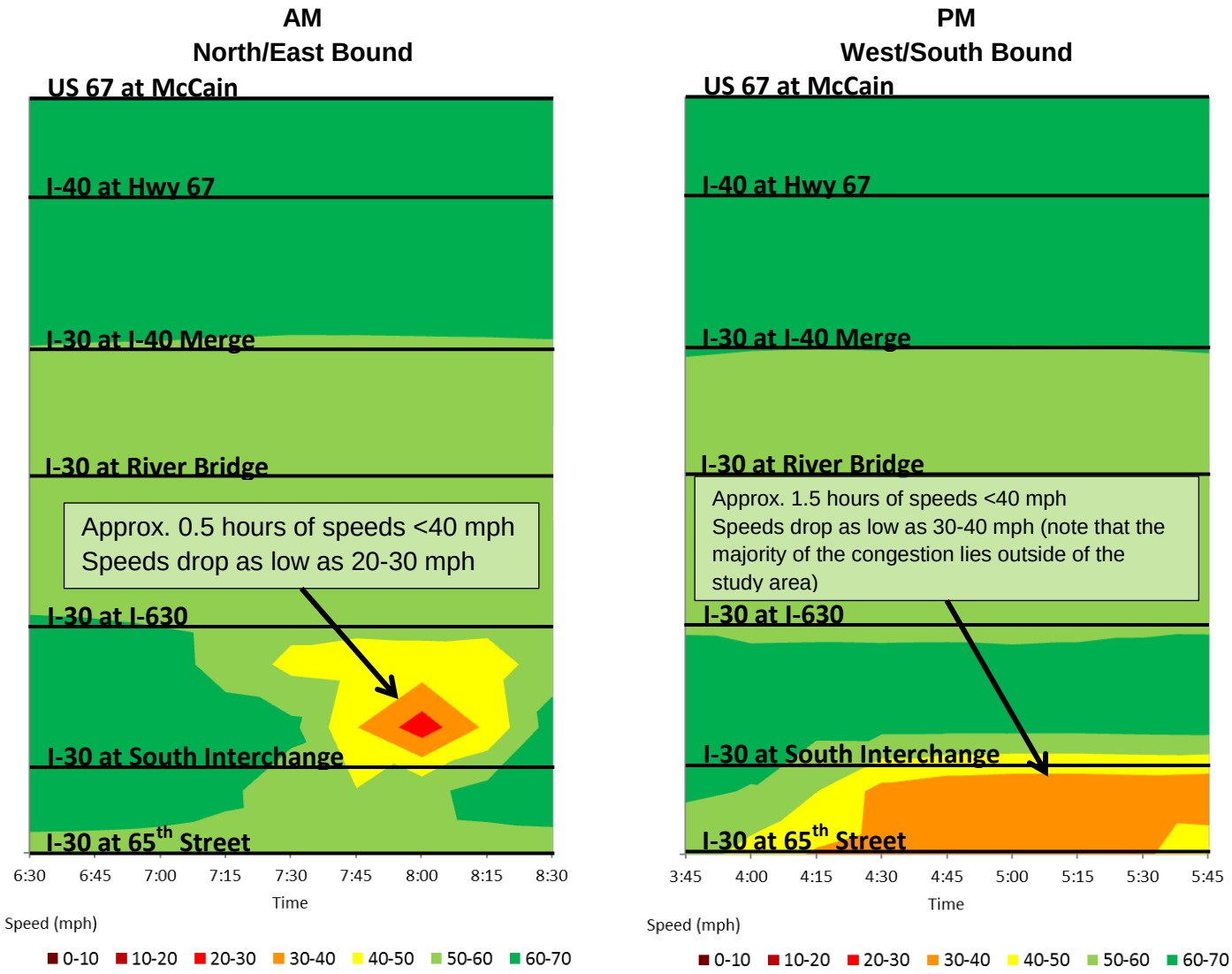


PM Peak Hour



Source: I-30 PEL Vissim model

Figure 27: Future (2041) 10-Lane C/D Speed Profiles



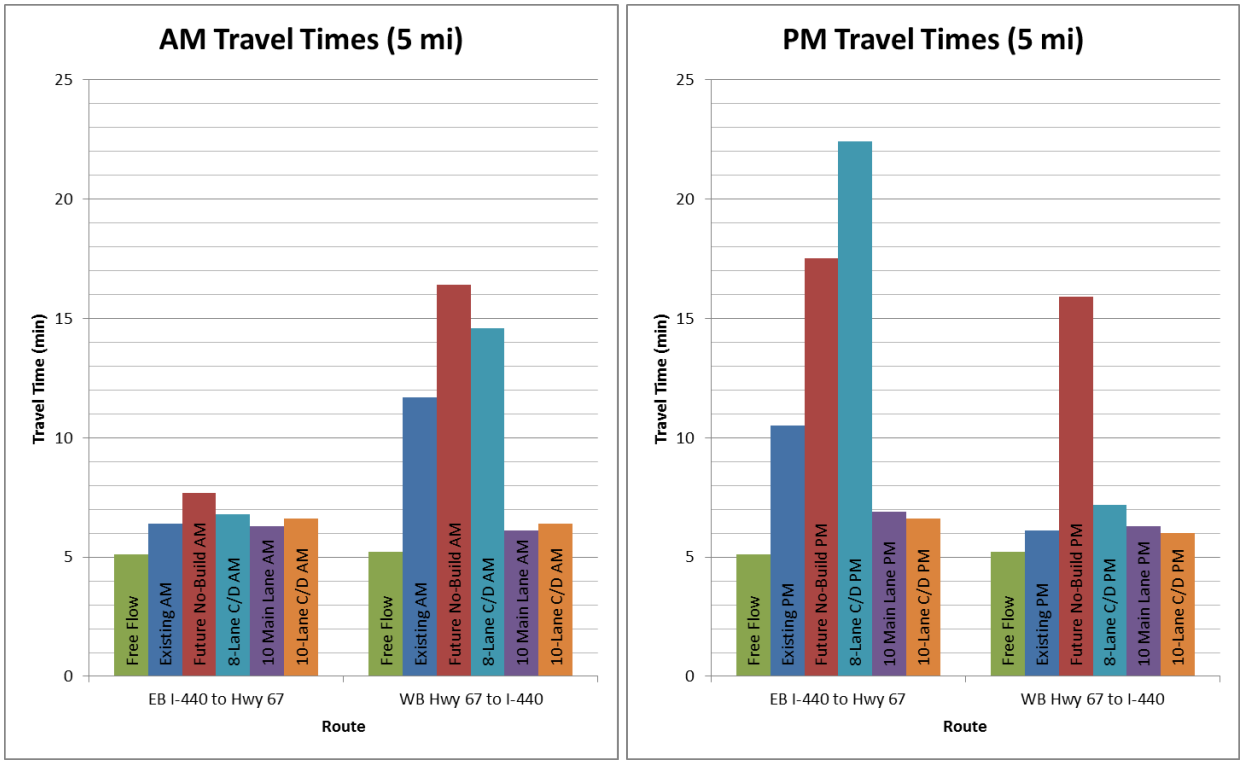
Source: I-30 PEL Vissim models

5.3.2.4 Build Alternative Mobility Comparison

There are multiple ways to compare the mobility of build alternatives, and many factors must be taken into consideration before selecting the optimal solution.

In **Figure 28**, the average travel time for all scenarios is compared. Travel time was measured along the approximately 6.7-mile segment between Hwy 67 at E McCain Boulevard and the I-30/I-530/I-440 interchange. Only vehicles that traversed the entire distance were considered in the travel time calculation. A baseline "free flow" travel time was also added. This is the amount of time it would take to traverse the corridor in ideal off-peak conditions such as at 9:00 am on a Saturday when the roads are fairly clear. The free flow travel time is a baseline for comparing the various scenarios.

Figure 28: Travel Time Comparisons between Hwy 67 at McCain and I-30/I-530/I-440



Source: I-30 PEL Vissim models

Figure 29 shows that the future No Action condition and the 8-Lane C/D scenario both exhibit considerably increased travel times compared to the existing condition. In the existing condition, it can take up to twice as long to travel the corridor as it does during off-peak (free flow) times. In each peak and for each direction, the 10 Main Lane scenario and the 10-Lane C/D scenario both have comparable travel times to free flow times.

Table 13 shows the system-wide measures of effectiveness of all alternatives analyzed.

Table 13: Measures of Effectiveness

Total Simulation	Variable	AM					PM				
Total System		Existing (2014)	Future No-Build (2041)	8-Lane C/D	10 Main Lanes	10-Lane C/D	Existing (2014)	Future No-Build (2041)	8-Lane C/D	10 Main Lanes	10-Lane C/D
VHT	Total Vehicle Hours Traveled	6,935	14,243	16,661	8,360	8,507	7,998	18,843	15,312	12,069	11,427
VHD	Total Vehicle Hours of Delay	1,622	8,541	11,486	1,582	1,649	2,202	13,352	8,409	4,095	3,427
VMT	Total Vehicle Miles Traveled	303,069	325,612	291,944	384,662	386,984	332,338	311,247	385,933	446,907	446,894
% LOS E or F	% LOS E or F (miles)	20%	45%	40%	13%	17%	15%	56%	29%	16%	14%
% LOS F	% LOS F (miles)	15%	44%	35%	10%	9%	11%	44%	23%	15%	12%
Unserved Vehicles	Total vehicles unserved	0	6191	11082	0	0	0	15518	8158	461	869
Emergency Vehicles	Emergency Vehicle Travel Time[1] (min)	-	-	-	-	-	5	7	11	4	4
Key Destinations	Travel Time to Key Destination[2] (min)	15	24	23	9	8	18	37	24	8	8

Note: This table includes results for the entire simulation area, and not just the PEL study area.

[1]Emergency Vehicle Travel Time is measured from Fire Station 1 to Incident west of N. Hills Blvd. in the PM

[2]Travel Time to Key Destination is measured between McCain and Capitol (To Capitol in the AM and From Capitol in the PM)

Eastbound	Variable	AM					PM				
I-30/I-40 (from I-440 to Hwy 67)		Existing (2014)	Future No-Build (2041)	8-Lane C/D	10 Main Lanes	10-Lane C/D	Existing (2014)	Future No-Build (2041)	8-Lane C/D	10 Main Lanes	10-Lane C/D
Throughput	Total Vehicles in Peak Hour	382	355	275	563	581	422	454	382	664	647
Travel Time	Average Vehicle Travel Time in Minutes	6	8	7	6	6	11	18	22	7	6
Delay	Seconds delay compared to free flow speed per veh.	74	155	102	72	80	326	743	1,037	29	25
Speed	Average Speed in MPH	54	45	48	51	50	33	20	15	58	59
LOS E or F	% LOS E or F (miles)	16%	21%	68%	21%	29%	43%	95%	60%	0%	0%
Duration	Hours LOS E or F for any portion of the corridor	1.00	1.75	1.25	1.00	1.00	2.00	2.00	2.00	0.00	0.00
LOS F	% LOS F (miles)	16%	21%	68%	21%	20%	43%	95%	47%	0%	0%
Duration	Hours LOS F for any portion of the corridor	0.50	1.50	1.00	0.75	0.75	2.00	2.00	2.00	0.00	0.00

Note: This table includes results for the eastbound direction of the PEL study area only.

Westbound	Variable	AM					PM				
I-30/I-40 (from Hwy 67 to I-440)		Existing (2014)	Future No-Build (2041)	8-Lane C/D	10 Main Lanes	10-Lane C/D	Existing (2014)	Future No-Build (2041)	8-Lane C/D	10 Main Lanes	10-Lane C/D
Throughput	Total Vehicles in Peak Hour	487	352	357	437	436	565	758	1,015	1,102	1,112
Travel Time	Average Vehicle Travel Time in Minutes	12	16	15	6	6	7	18	7	6	6
Delay	Seconds delay compared to free flow speed per veh.	392	671	561	51	53	100	774	118	61	49
Speed	Average Speed in MPH	30	22	24	58	58	51	19	49	57	58
LOS E or F	% LOS E or F (miles)	58%	58%	45%	0%	0%	16%	100%	45%	6%	10%
Duration	Hours LOS E or F for any portion of the corridor	2.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	1.00	1.25
LOS F	% LOS F (miles)	58%	58%	45%	0%	0%	12%	100%	45%	6%	10%
Duration	Hours LOS F for any portion of the corridor	1.50	2.00	2.00	0.00	0.00	1.75	2.00	2.00	0.75	1.25

Note: This table includes results for the westbound direction of the PEL study area only.

Source: I-30 PEL Vissim models

It is apparent that the 8-Lane C/D has considerable mobility problems and does not achieve the purpose and need of the I-30 PEL study. The 10 Main Lane and 10-Lane C/D alternatives both offer considerably improved traffic operations that can operate better in 2041 than the current system operates today.

5.3.3 Safety

The build alternatives were compared based on quantitative analysis. All build alternatives show an improvement when compared to the No Action alternative. The 10 Main Lane alternative included just widening the general purpose lanes to five lanes in each direction. The 8-Lane C/D and the 10-Lane C/D alternatives included a collector distributor system adjacent to the freeway system with additional main lane widening. Therefore, the 8-Lane C/D and the 10-Lane C/D alternatives include an additional system type to quantify the conflict points and ramps as shown in **Table 14**.

Table 14: Safety Comparison of Proposed Alternatives

	8-Lane C/D	10 Main Lane	10-Lane C/D
Total # Arterial Conflict Points	515	515	515
Total # Main Lane Conflict Points	20	26	19
Total # C/D Conflict Points	6	0	7
Non-standard Weaving Lengths	6	6	7

Source: Garver

The 10-Lane C/D alternative had the least amount of ramps on the main lanes but had the most ramps on the C/D system. In addition, 10-Lane C/D had an additional non-standard weaving length between the 19th Street exit ramp and the major split at I-40.

6 PEL Recommended Alternative

It was determined that the 10-Lane C/D system with modifications would provide the best mobility and safety solution for the I-30 PEL study corridor. The 10-Lane C/D system was modified in the following ways to provide even greater benefits:

- Moved the north limits of the C/D system further south to increase the distance from the C/D system to the north terminal
- Added bus-on-shoulder in each direction on I-30
- Made minor intersection modifications

Figure 29 shows the basic lane configuration of the I-30 PEL Recommended Alternative. For the Vissim analysis, five lanes were evaluated heading south on I-30 between I-630 and the South Terminal, and an additional lane was added from the south terminal down to 65th street due to capacity needs outside of the PEL study area. This was added to the model in order to prevent congestion that occurred outside of the PEL study area from backing up into the PEL study area. Capacity improvements outside of the PEL study area are currently being analyzed in a separate AHTD Study, and are assumed to be addressed outside of the CAP program. Therefore, the CAP program will only build the fifth lane between I-630 and Roosevelt, and will build four lanes between Roosevelt and the South Terminal.

Figure 29: Recommended Alternative-Basic Lane Configuration



Source: I-30 PEL

6.1 Traffic Demand

The recommended alternative used the same traffic volumes as the 10-Lane C/D alternative.

6.2 Mobility

Figure 30 summarizes the mobility in the PEL corridor during the most congested time of each peak hour. As seen in this figure, the PEL recommended alternative operates very similarly to the 10 Main Lane and 10-Lane C/D scenarios. The two areas where reduced speeds are evident are related to constraints outside of the study area. In the AM peak (northbound/eastbound) direction, traffic experiences a slowdown just south of I-630. This is because the demand exceeds the capacity for vehicles using the flyover ramp to I-630 WB. In the PM peak (southbound/westbound) direction, reduced speeds occur mostly outside of the study area due to demand exceeding capacity on I-30 WB at 65th street.

In both the AM and PM models, the I-40 WB on-ramp intersection with JFK operates at LOS F due to a small number of vehicles (<10) attempting to turn on to JFK from the ramp, which is two-way for a short distance to accommodate local businesses. In the AM peak, the I-40 EB Off ramp & Spring Hill intersection exhibits LOS E with an average delay of 35.2 seconds. The threshold between LOS E and LOS D is at 35 seconds, so the intersection is very close to being considered LOS D. In the PM Model, Cumberland & 3rd Street, 3rd Street & River Market, and 3rd Street & Mahlon Martin Street all experience LOS F.

One of the modifications to the recommended alternative was to move the north terminus of the C/D road further south to create a greater weaving distance between the C/D system and the north terminal. Results from the Vissim model indicate that the greater weaving distance allows for better mobility than in the initial 10-Lane C/D alternative.

In **Figure 31**, speeds for each peak period are shown throughout the length of the corridor over the entire simulation duration. As with the 10 Main Lane and 10-Lane C/D scenarios, the previously mentioned speed reductions only occur for a brief amount of time in the simulation. Compared to the future No Action and even the existing scenarios, the duration and severity of congestion is minimal in this 10-Lane with Downtown C/D scenario.

Figure 30: Future (2041) PEL Recommended Mobility

AM Peak Hour

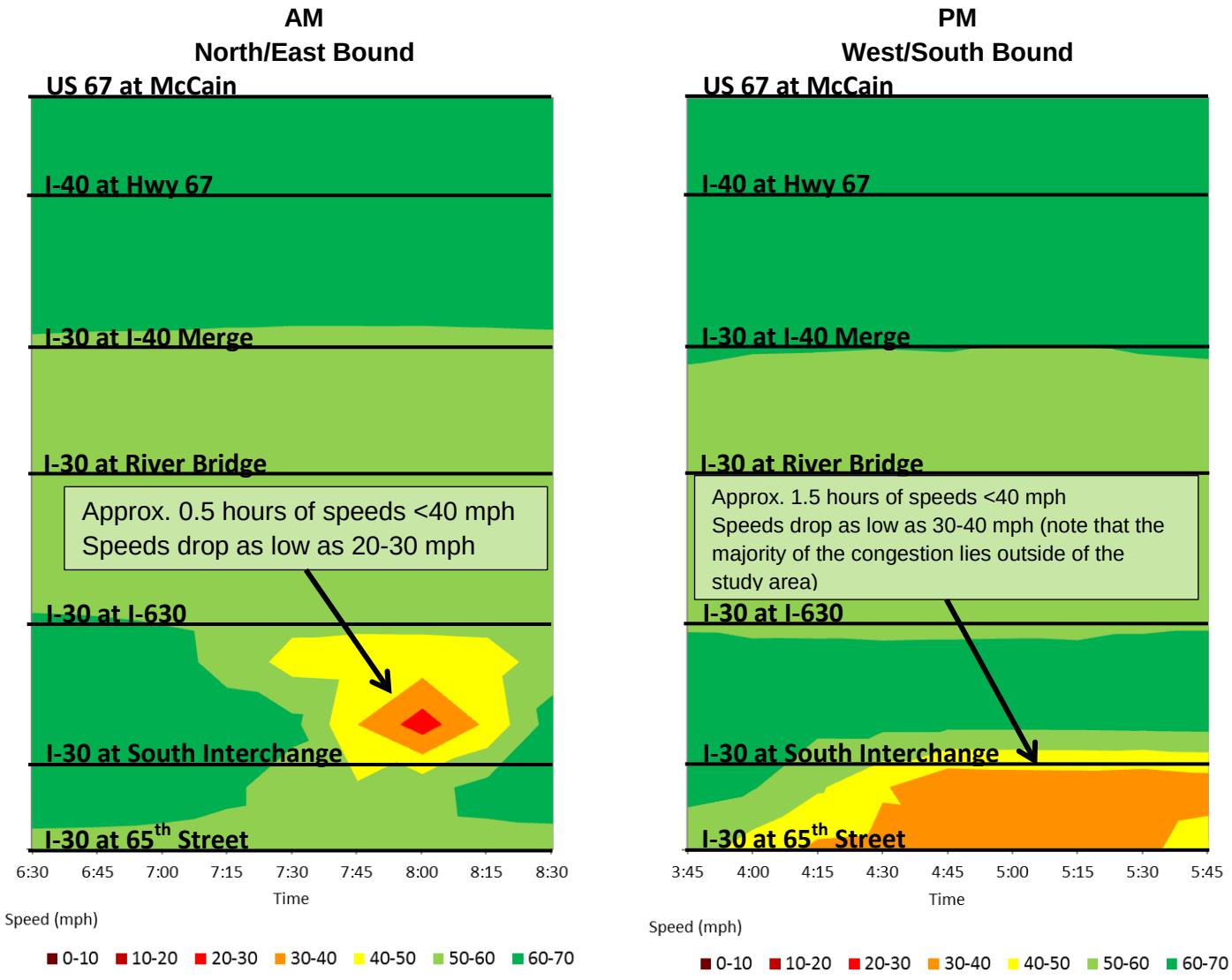


PM Peak Hour



Source: I-30 PEL Vissim models

Figure 31: Future (2041) 10-Lane C/D Speed Profiles



Source: I-30 PEL Vissim models

6.3 Safety

The PEL Recommended 10-Lane with Downtown C/D alternative has fewer combined conflict points (main lanes and C/D system) than the other C/D options and removes the non-standard weaving length from the 19th Street exit ramp to the Interstate 40 split. In addition, there are fewer connecting arterial conflict points than the other build alternatives. See **Table 15** for comparisons of conflict points between alternatives.

Table 15: Safety Comparison of PEL Recommended with Alternatives

	8-Lane C/D	10 Main Lane	10-Lane C/D	PEL Recommended 10-Lane with Downtown C/D
Total # Arterial Conflict Points	515	515	515	483
Total # Main Lane Conflict Points	20	26	19	21
Total # C/D Conflict Points	6	0	7	4
Non-standard Weaving Lengths	6	6	7	6

The current potential crash reductions were performed using CMFs and assumptions for the C/D system. During the NEPA phase, a predictive safety analysis using the methods in the *Highway Safety Manual* for freeways, ramps, and C/D roads will be performed. This will give a better indication of the potential crashes associated with this preferred alternative. As shown in **Table 16**, the 10-Lane C/D alternative had the most potential for crash reduction due to the fact that the C/D system extended further north to include the existing high crash segment between Bishop Lindsey Avenue and Curtis Sykes Drive. However, this high level analysis does not quantify the system as a whole.

Table 16: Potential Crash Reductions

Potential Crash Reductions				
No Action	8-Lane C/D	10 Main Lane	10-Lane C/D	PEL Recommended 10-Lane with Downtown C/D
0	175	159	229	197

7 Summary

Table 17 provides a summary of several key MOEs for the No Action, Build, and PEL Recommended Alternatives. For a more complete list of MOEs, see **Appendix 8 – Mobility Exhibits** and **Appendix 9 – Measures of Effectiveness.**

Of the three original build alternatives, the 10 Main Lane and 10-Lane C/D options are closely matched in overall mobility benefits. However, the 10-Lane C/D alternative offers additional

benefits over the 10 Main Lane alternative with the number of potential crash reductions. The PEL Recommended Alternative is a modification of the 10-Lane C/D alternative intended to improve weaving conditions north of the C/D system.

Table 17: Summary Table

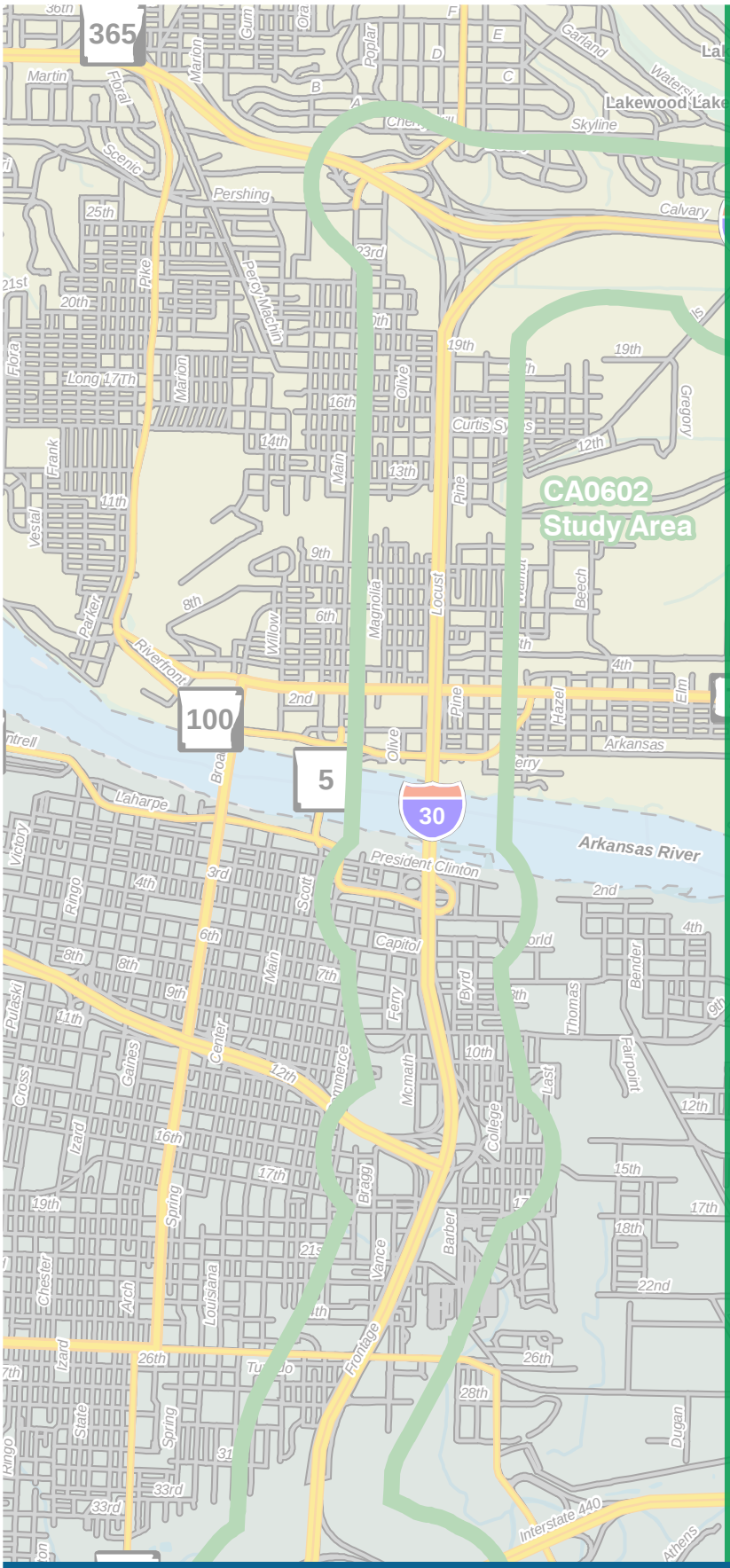
I-30 PEL Need	Measure	Description	No Action	8-Lane C/D	10 Main Lane	10-Lane C/D	PEL Rec. Alternative
Traffic Congestion	Mobility in PEL Study Area	Distance and duration of LOS E or F (Miles/Minutes during PM Peak)	9.67/120	5.34/120	0.67/60	0/0	0/0
	Total travel time	Hwy. 67 to S. Terminal AM SB/PM NB travel time (minutes)	16/17	15/22	6/7	6/6	6/6
	Average peak hour travel speed through corridor	Hwy. 67 to S. Terminal AM SB/PM NB average speed (mph)	22/20	24/15	58/58	58/59	58/58
	Travel time to key destinations in PEL Study Area	Between McCain and Capitol (To Capitol in the AM and From Capitol in the PM) (Minutes)	24/37	23/24	9/8	8/8	8/8
Roadway Safety	Potential accident reductions	Reduction in number of Annual Crashes	0	175	159	229	197
	Emergency Vehicle Travel Time	Fire Station 1 to Incident west of N. Hills Blvd. in the PM (minutes)	7	11	4	4	4
	Total Conflict Points (Main Lanes and C/D)	Total	31	26	26	26	25
	deceleration and weaving lengths	Number of lengths not meeting current standards	22	6	6	7	6

Legend: Best → Worst

Source: I-30 Vissim Models

Appendix G:

Cultural Resources Survey Methodology Memorandum



CULTURAL RESOURCES SURVEY METHODOLOGY MEMO

AHPP Tracking Number 90015.02

CA0602

Interstate 530 – Highway 67

January 2015

CONNECTING ARKANSAS PROGRAM CAP

Arkansas State Highway & Transportation Department

THE DEPARTMENT OF ARKANSAS
HERITAGE

Asa Hutchinson
Governor

Stacy Hurst
Director

Arkansas Arts Council
•
Arkansas Natural Heritage Commission
•
Delta Cultural Center
•
Historic Arkansas Museum
•
Mosaic Templars Cultural Center
•
Old State House Museum

Arkansas Historic Preservation Program

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February 6, 2015

Mr. John Fleming
Division Head
Environmental Division
Arkansas State Highway and Transportation Department
P.O. Box 2261
Little Rock, Arkansas 72201-2261

Re: Pulaski County – Little Rock/North Little Rock
Section 106 Review – FHWA
Proposed Preliminary Scope of Work for Interstate 30 Expansion
AHTD Job Number CA0602
AHPP Tracking Number 90015.02

Dear Mr. Fleming:

Thank you for meeting with my staff on January 23, 2015 to address the proposed scope of work for the Interstate 30 expansion through downtown Little Rock and North Little Rock. My staff has examined this preliminary scope of work. We are in favor of all of the proposed changes to the document suggested in the draft. These changes establish that the area of potential effect (APE) consists of all existing and new right-of-way for archeological sites, and the area within 100 feet of the edge of the right-of-way for historic structures, specify that surveys shall be conducted at the toe slopes in areas of bridge widening, and specifies that survey in areas where construction is anticipated to impact soils within two feet of the original ground surface.

Regarding standing structures, we concur that the National Register of Historic Places eligible structure that is scheduled to be impacted by the project should be documented. We will work with the Arkansas State Highway and Transportation Department (AHTD) to determine the exact nature of this documentation. As currently configured, no other historic structures should be adversely affected by the proposed expansion.

Likewise, we concur with the designation of the four areas (Proposed Right-of-Way, Bridge Widening Areas, Previously Recorded Archeological Sites, and High Probability Areas) which will likely require additional work and consultation between our office, AHTD, and the Federal Highways Administration. As the document notes, construction monitoring may also be necessary in some areas. We look forward to working with your office in the future to establish the exact procedures to follow in future cultural resource investigations related to this project.

Thank you for the opportunity to review this undertaking and for your interest in preserving the cultural heritage of the State of Arkansas. Please refer to the

AHPP Tracking Number listed above in all correspondence. If you have any questions, please call Eric Gilliland of my staff at 501-324-9270.

Sincerely,

Frances McSwain
Deputy State Historic Preservation Officer

cc: Ms. Lisa C. Baker, United Keetoowah Band of Cherokee Indians in Oklahoma
Mr. Everett Bandy, Quapaw Tribe of Oklahoma
Mr. Jesse Blouin, CH2M Hill
Mr. Kenneth H. Carleton, Mississippi Band of Choctaw Indians
Dr. Ann Early, Arkansas Archeological Survey
Ms. Jennifer Halstead, HNTB
Ms. Natalie Harjo, Seminole Nation of Oklahoma
Mr. Jeremiah Hobia, Kialegee Tribal Town
Ms. Amber Hood, Chickasaw Nation
Dr. Andrea Hunter, Osage Nation
Mr. Randal Looney, FHWA
Ms. Dana Masters, Jena Band of the Choctaw Indians
Mr. Emman Spain, Muscogee (Creek) Nation of Oklahoma
Dr. Ian Thompson, Choctaw Nation of Oklahoma
Ms. Barbara Welborn, Thlopthlocco Tribal Town
Mr. Robert Yargee, Alabama-Quassarte Tribal Town

BACKGROUND

The Arkansas State Highway and Transportation Department (AHTD) is conducting the I-30 Planning and Environmental Linkages (PEL) Study to identify the purpose and need for improvements within the I-30 PEL study area, determine possible viable alternatives for a long-term solution, and recommend alternatives for further evaluation. The I-30 PEL Study, also referred to as AHTD Job CA0602, consists of widening an existing interstate facility and improving interchanges along Interstate Highway 30 (I-30) and Interstate 40 (I-40) from Interstate 530 (I-530) to Highway 67 (67) interchange in Little Rock and North Little Rock, AR.

To begin assessing potential impacts to cultural resources, AHTD established an Area of Potential Affect (APE). For archeological resources, the APE encompasses the proposed and existing right-of-way (ROW). The APE for the footprint of historic structures and viewshed is 100-feet from the proposed ROW. Preliminary investigations consisted of background research and field reconnaissance. The findings are presented in AHTD's *Interoffice Memorandum* (dated April 25, 2014). A Request for Technical Assistance (RTA) was coordinated with the Arkansas Historic Preservation Program within the Department of Arkansas Heritage (AHPP) between April and June 2014. In order to maintain brevity in this document, only the correspondence between agencies is included in **Attachment A**.

The background research included a records check at the Arkansas Archeological Survey (AAS) for previously recorded archeological sites and the AHPP for National Register listed structures. Several maps and references were also checked as part of this assessment. Three cemeteries are close to the APE and on the National Register of Historic Places (NRHP) and include the Oakland Cemetery (3PU329), Fraternal Cemetery, and the National Cemetery located between the I-530 and I-630 interchanges east of I-30. Only two intact archeological sites (site 3PU415 and 3PU672) are directly within the archeological APE. In addition, review of the AAS further revealed three archeological sites near the APE that were recommended for further investigation if the project limits are extended beyond the APE. Details of these sites and recommendations are included in the *Memorandum* cited above.

At total of 164 standing structures were evaluated within the APE, of which two were previously listed on the NRHP (Terminal Warehouse Building, Reichardt House), as well as four historic districts that included 21 structures (Marshall Square, Hanger Hill, MacArthur Park and Park Hill), and 22 structures that were recommended as potentially eligible by AHTD and the Deputy State Historic Preservation Officer (SHPO), for a total of 45.

After the PEL Study has been completed and approved by the Federal Highway Administration (FHWA), the NEPA process will begin. In order to expedite the completion of the cultural resources surveys, AHTD has prepared the following information for further review and concurrence from the Arkansas Historic Preservation Program.

PROPOSED METHODOLOGY/PRELIMINARY SCOPE OF WORK FOR CA0602

Much of the CA0602 project area consists of disturbed soil deposits under I-30 and I-40 within the existing right-of-way (ROW), however, there are areas of concern that warrant further investigation to determine if intact cultural deposits still exist. As part of the PEL process, the study team has conducted a preliminary, planning level analysis to determine potential archeological survey areas based upon the data collection provided in the AHTD *Memorandum*. Four potential scenarios may trigger additional coordination with the Arkansas Historic Preservation Program and/or investigations which will vary based upon

specific site conditions after the preferred alternative has been determined during the NEPA process. These scenarios include 1) areas where additional ROW would be acquired; 2) bridge widening due to potential excavation beyond depths of previous disturbance and existing construction fill; 3) previously recorded archeological sites; and 4) areas of high probability based on the identification of previous structures that no longer exist as shown on the Sanborn 1913 maps or upland areas based on an overlay of the USGS topographic map, soil type and contours. **Table 1** summarizes the potential survey areas due to their probability of containing intact cultural deposits[1].

Table 1. Potential Survey Areas

Scenario	# of Areas	Source	Recommended Investigation
Proposed ROW	7	Preliminary Schematic	Shovel testing
Bridge Widening	22	Preliminary Schematic	Augering
Recorded Archeological Sites	2	AHTD Memorandum	Documentation
High Probability			
Sanborn	32	Sanborn maps (1913)	Shovel testing
Upland	4	USGS Topo	Shovel testing
Total Potential Survey Areas	**67**		

Proposed ROW

There are seven potential areas where new ROW may be acquired along I-30 and I-40. These areas vary in size from occupying approximately less than a tenth of an acre to over six acres. An appropriate field survey method would be developed during the NEPA process for each area. In accordance with the *Guidelines for Archeological Fieldwork and Report Writing in Arkansas* (Appendix B of Arkansas State Plan, rev. January 1, 2010), it is anticipated that the areas would be investigated systematically with shovel testing along parallel transects 20-meters apart. Shovel testing should be conducted at 20-meter intervals along each transect. Furthermore, this testing would involve field documentation of each area investigated including photos of the surroundings, field notes describing the vegetation, disturbance, the potential integrity of cultural deposits, and a sketch map showing the location and general configuration of the area.

Bridge Widening

Bridge widening is anticipated to occur in 22 areas[1]. These areas have the potential to impact cultural resources by extending to a depth below the already disturbed fill from previous highway construction[2].

As per coordination with the SHPO on January 23, 2015, surveys shall also be conducted at the toe of slope. At the Arkansas River crossing, testing should be conducted at all four corners of the bridge structure[1]. Auger testing would likely be required in these areas due to

[1] Locations depicted in the extended version of the *Cultural Resources Methodology Memorandum (AHPP Tracking Number 90015.02)* on file with AHTD.

[2] Example bridge widening typical sections depicted in the extended version of the *Cultural Resources Methodology Memorandum (AHPP Tracking Number 90015.02)* on file with AHTD. Note: Each area would be evaluated as these typical sections may not reflect all proposed bridge types and design situations.

the depths that impacts are anticipated. Spacing would be the same as for shovel tests. Records on artifacts and stratigraphy should be made to the same level of detail. Sediments should be screened as if they were shovel tests.

Recorded Archeological Sites

In addition to the areas of proposed construction beyond the disturbed fill, there are two locations of recorded archeological sites (3PU415 and 3PU672) that would be revisited in accordance with the findings of AHTD's *Memorandum*. Site 3PU672 is located near an area of interchange improvements. As a result of preliminary investigations, shovel testing was recommended for Site 3PU415, a very low density lithic scatter located within the 67/I-40 interchange. For site 3PU672, further field documentation was recommended for buried railroad tracks located on the north side of East 3rd Street. A third site (3PU144), a well uncovered during the construction of I-630, was listed as "no longer present" in the AHTD *Memorandum*, and, therefore, was not recommended for additional investigation.

High Probability Areas

Sanborn Fire Insurance Maps

The 1913 Sanborn Map Insurance Maps were reviewed and geo-referenced with 2013 aerial imagery to identify areas where structures previously existed but are no longer intact[3]. Thirty-two areas were identified and are recommended as potential survey locations within the APE. An appropriate field survey method and specific survey areas would be developed during the NEPA process. In accordance with the *Guidelines*, it is anticipated that the areas would be investigated systematically with shovel testing along parallel transects. This testing would involve field documentation of each area investigated including photos of the surroundings, field notes describing the vegetation, disturbance, the potential integrity of cultural deposits, and a sketch map showing the location and general configuration of the area.

Upland Areas

Locations of four upland areas in the northern portion of the project area along I-40 that may contain intact cultural deposits based on the appearance of high elevation contours on the USGS topographic map. An appropriate field survey method would be developed during the NEPA process for each area, if it is determined that improvements will occur in this portion of the project area. In accordance with the *Guidelines*, it is anticipated that the areas would be investigated systematically with shovel testing along parallel transects. This testing would involve field documentation of each area investigated including photos of the surroundings, field notes describing the vegetation, disturbance, the potential integrity of cultural deposits, and a sketch map showing the location and general configuration of the area.

As per coordination with the SHPO on January 23, 2015, surveys shall also be conducted in locations where construction impacts soils within 2 feet of the original ground surface, such as cutting back an existing slope in order to stabilize a larger slope. Likewise, any area where fill is added must be surveyed, however the surveys limits should only extend to the depth of disturbed soils.

[3] The 1913 Sanborn Map Insurance Maps are included in the extended version of the *Cultural Resources Methodology Memorandum (AHPP Tracking Number 90015.02)* on file with AHTD.

Additional alternative methods of testing are described in the *Guidelines* that may be necessary based on unique site conditions. These may be considered during fieldwork with appropriate justification and in consultation with the SHPO during the planning and implementation of fieldwork. A survey report of findings would be completed according to the standards and procedures outlined in the *Guidelines* (pg. 21-27) and submitted to the SHPO for review.

Standing Structures

As noted in the AHTD Memorandum, a total of 164 standing structures were evaluated within the APE. Two structures, the Terminal Warehouse Building and Reichardt House, were previously listed on the NRHP. As documented in the Memorandum, 43 additional standing structures were determined to be eligible for the NRHP. Of the 45 total structures listed on the NRHP or determined to be eligible for the NRHP, site #18 (N Locust Street Bridge over the Union Pacific Railroad)[4] depicted in the photographs in **Attachment B** would potentially be impacted by the proposed project. Based on the investigations conducted and coordination completed, no further investigations are proposed for standing structures. If the APE is modified or project design changes occur during the NEPA process, coordination would be initiated with the SHPO.

Mitigation/Monitoring Commitments

Construction monitoring is anticipated to be necessary in some areas due to the urban setting and if potential sites are so deeply buried that they cannot be accessed using archaeological survey techniques per the *Guidelines*. Construction monitoring typically requires an archaeologist to be on site during earth moving activities in archaeologically sensitive areas to ensure that resources are not inadvertently disturbed or destroyed. Construction monitoring areas and requirements will be further defined during the NEPA process and included in the design-build contractors technical provisions.

Pursuant to 36 CFR Part 800.13, if cultural material is discovered during implementation of the project, the FHWA shall ensure that all construction activities cease in the area of the discovery and the consulting parties are notified. The FHWA and the SHPO shall determine if the discovery is eligible for inclusion in the National Register of Historic Places. If so, the FHWA and the AHTD will develop a treatment plan for historic properties which shall be reviewed and approved by the SHPO. Disputes arising from such review shall be resolved in accordance with stipulations provided in the Memorandum of Agreement or Programmatic Agreement yet to be developed.

[4] Location depicted in the extended version of the *Cultural Resources Methodology Memorandum (AHPP Tracking Number 90015.02)* on file with AHTD.

Attachment A

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

INTEROFFICE MEMORANDUM

April 25, 2014

TO: Assessments

FROM: Kristina Boykin, Cultural Resources

SUBJECT: Constraints
AHTD Job Number CA0602
I-530-Hwy. 67 (Widening & Reconst.) (I-30 & I-40) (S)
Pulaski County

AHTD Job CA0602 consists of widening and improving interchanges along Interstate 30 and Interstate 40 from Interstate 530 to Highway 67 interchange. A 100 foot buffer on each side of I-30 and I-40 from the existing right-of-way (ROW) was the corridor considered for the initial analysis of all cultural resources for the proposed project. A preliminary investigation for job CA0602 included a records check at the Arkansas Archeological Survey (AAS) for previously recorded archeological sites and the Department of Arkansas Heritage (AHPP) for National Register listed structures. Several maps and references were checked as part of this preliminary assessment.

The 1986 Little Rock, North Little Rock, and McAlmont 7.5" topographic quad maps were examined for cemeteries, likely historic structures and landforms conducive to holding archeological sites. Several topographic quad maps are available for various years (1891, 1935, 1944, 1954, and 1961). The Sanborn Fire Insurance maps (1886, 1889, 1892, 1897, 1913, and 1939) are a great reference for structures still present within the project area.

Several General Land Office maps for Township 1 North, Range 12 West, Township 2 North, Range 12 West and Township 2 North, Range 11 West were examined for this project. The 1855 GLO map had several cultural features within or near the immediate project area. South of the Arkansas River, several fields, houses, a ferry crossing, Rapley's store, St. John's College Grounds, Arsenal Grounds, and roads are noted. North of the Arkansas River, a few fields and roads are within or near the project area. Also the Little Rock & Fort Smith R.R. and Cairo & Fulton R.R. were added on the 1819 GLO for Township 2 North, Range 12 West. The Little Rock & Fort Smith R.R. is still partially intact and in use. This railroad is outside of the project area. The Cairo & Fulton R.R. is no longer present within the project area unless buried under asphalt and houses. This railroad route crossed the Interstate 30 corridor. The only GLO feature that is still present is the Arsenal

Grounds incorporated into the MacArthur Park Historic District. The other GLO features are no longer present within the Area of Potential Effect (APE).

The 1936 Pulaski County Highway map does not reveal any information because the area is blacked out. A preliminary "windshield" survey has been performed by AHTD archeological staff with the following results.

In 2006, Panamerican Consultants, Inc. did a remote-sensing survey of the Arkansas River in the Little Rock area for submerged cultural resources. The only vessel discovered in the Little Rock area was near the Broadway Bridge. No known shipwrecks are present near the I-30 bridge for the current project (reference from *Cultural Resources Survey for the Arkansas River Navigation System from the Arkansas Post Canal to the Oklahoma State Line*).

Several historic routes are present within the corridor. The Military Road was the main transportation outlet from Little Rock especially going east to Memphis or west to Fort Smith in the 1820s and 1830s. The Military Road was utilized as the route for the removal of the Native Americans to Oklahoma as the Trail of Tears. This historic trail could be underwater since the Arkansas River has changed a great deal since the 1830s. No traces of this road are remaining in this project area. Another historic route is Steele's Approach to Little Rock. The Union General Frederick Steele led a Union army from Helena to Little Rock. This route is east of Interstate 30. Fagan's Approach to Helena is another historic route within the project area. Confederate troops led by James Fagan started in Little Rock and traveled to Helena in late June 1863. They traveled by train and by foot. This route is shown east and west of Interstate 30. The Butterfield Overland Mail Route went from Memphis to Fort Smith from 1858 to 1861. This route follows present-day Highway 70/Broadway Street and is the same route as Fagan's Approach within the APE. The Southwest Trail was a major immigration route in the 1820s that connected Missouri to Texas. This route crossed the APE across Highway 70 mentioned above with Fagan's Approach and the Butterfield Overland Route (reference from http://www.arkansasheritagetrails.com/). These routes are no longer apparent within the project area due to urban growth.

The Oakland Cemetery, Fraternal Cemetery, and the National Cemetery are located between the I-530 and I-630 interchanges east of Interstate 30. These cemeteries are also listed on the National Register of Historic Places (NRHP). In addition, Oakland Cemetery is recorded as archeological site 3PU329. No other cemeteries were noted within the APE.

Only three sites are directly within the 100 foot buffer. Site 3PU144 is a well uncovered during the construction of I-630. This site is under I-630 and therefore no longer present. Site 3PU415 is a very low density lithic scatter located within the 67/I-40 interchange. The site was revisited during this evaluation in 2014 and a few lithics were found on the surface. Half of the site was destroyed during the construction of the ramp to I-40. The site will need to be shovel tested within the remaining portion and a site revisit form will need to be filled out. Site 3PU762 consists of a section of buried 1906 railroad tracks on the north side of East 3rd Street. Only a section of this railroad track was removed. Additional rail sections extend a short distance to the northwest and southeast of this site. If these sections are impacted, then the site will need to be documented. A site revisit form will need to be filled out.

Several sites are recorded near the project area. Site 3PU205 is situated near the I-530 interchange south of the railroad yard and is a lithic surface scatter. No shovel tests were excavated at this site when it was initially recorded. This site was revisited by referencing the

USGS quad map showing the site location. The area had standing water and only two shovel tests were conducted in areas without water. These shovel tests were negative for cultural material. Additional efforts will need to be done to relocate this site. Site 3PU707 is located south of the Arkansas River on East 3rd Street near the Old Choctaw Station. This site consisted of a section of brick pavement that was documented during its demolition. This site is no longer present since the street was paved. Any evidence of brick roads will need to be documented during the survey of this project. Site 3PU834 is a historic site consisting of a cement ramp feature. No artifacts were associated with this site. Site 3PU457 is a low mound dating from the Early Archaic to Mississippi Period and is undetermined in its status to the NRHP. Significant work would be required to excavate this site if it is impacted. In our opinion, this site will probably be eligible to the NRHP and should be avoided. Site 3PU414 is a prehistoric and historic artifact scatter and is undetermined in its status to the NRHP. The entire site was excavated by SPEARS, Inc. in 1994 and is no longer present. The site was written up and cleared in a management summary. Site 3PU404 is a light lithic scatter within a disturbed context. This site was considered not eligible to the NRHP. If the project's limits are extended beyond the current buffer, these sites will need to be addressed. In order to protect the sites from looting and further destruction, all site information and location are not subject to the Freedom of Information Act and is not to be distributed to the public.

A total of 164 structures were evaluated for the current project within the proposed APE (Table 1). The AHPP had two structures already listed on the NRHP (Terminal Warehouse Building and Reichardt House) as well as four historic districts (Marshall Square, Hanger Hill, MacArthur Park, and Park Hill). Marshall Square Historic District has eight structures within the 100 foot buffer. Hanger Hill Historic District has five structures and MacArthur Park and Park Hill Historic Districts have four structures each within the buffer. These structures are considered eligible as part of a historic district. Of the 114 new structures evaluated, eighteen structures were determined potentially eligible to the NRHP. Four structures with SHPO numbers were determined as potentially eligible to the NRHP.

Table 1. Structures Evaluated for I-30 corridor.

	SHPO #	Historic District	New Structures	**TOTAL**
Eligible	2	21	0	**23**
Potentially Eligible	4	0	18	**22**
Not Eligible	23	0	96	**119**
TOTAL	**29**	**21**	**114**	**164**

An RTA for one hundred and sixty-four structures will be submitted to SHPO. All eligible and potentially eligible structures (n=45) are listed as a constraint on the attached maps and should be avoided.

ARKANSAS STATE HIGHWAY
AND
TRANSPORTATION DEPARTMENT

Scott E. Bennett
Director
Telephone (501) 569-2000
Voice/TTY 711

P.O. Box 2261
Little Rock, Arkansas 72203-2261
Telefax (501) 569-2400
www.arkansashighways.com

May 13, 2014

Mr. Eric Gilliland
Arkansas Historic Preservation Program
1500 Tower Building
323 Center Street
Little Rock, Arkansas 72201

RE: AHTD Job Number CA0602
I-530-Hwy. 67 (Widening & Reconst.)
(I-30 & I-40) (F)
Pulaski County

Dear Mr. Gilliland:

The department is conducting a planning study that will recommend improvements to Interstate 30 from the I-30 and I-530 interchange north to the I-30 and I-40 interchange in Little Rock and North Little Rock then east on Interstate 40 through the Hwy. 67/167 interchange in North Little Rock in Pulaski County. As part of our initial efforts to determine potential impacts, we are submitting one hundred sixty-four properties found adjacent to the existing interstates.

Photographs, descriptions and location maps for these properties are included so your staff may evaluate their eligibility for inclusion in the National Register of Historic Places. If you have any questions about the project, please contact Robert Scoggin of my staff at (501) 569-2077.

Sincerely,

Brenda Price

for Lynn P. Malbrough
Division Head
Environmental Division

LPM:DW:RS:jh

Enclosure
Request for Technical Assistance

The Department of
Arkansas Heritage

Mike Beebe
Governor

Martha Miller
Director

Arkansas Arts Council

Arkansas Natural Heritage Commission

Delta Cultural Center

Historic Arkansas Museum

Mosaic Templars Cultural Center

Old State House Museum

Arkansas Historic Preservation Program

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ENVIRONMENTAL
DIVISION

June 12, 2014

Mr. Lynn P. Malbrough
Division Head
Environmental Division
Arkansas State Highway and Transportation Department
PO Box 2261
Little Rock, AR 72203-2261

RE: Pulaski County – General
Section 106 Review – FHWA
Request for Technical Assistance
AHTD Job Number CA0602
AHPP Tracking Number 90015.1

Dear Mr. Malbrough:

This letter is written in response to your inquiry regarding properties of architectural or historical significance in the area of the proposed referenced project. The staff of the Arkansas Historic Preservation Program has reviewed the documents contained in your April 10 and May 13, 2014, letters. We have made a preliminary determination of the 164 properties possibly impacted. Of these two structures (PU3118 and PU3164) are listed in the National Register of Historic Places (NRHP) while 130 structures are ineligible and 32 structures are eligible for listing in the NRHP as listed below.

119 ineligible structures:
1-9, 11-12, 14, 16, 18-23, 25-39, 41, 43-44, 47, 48, 49-52, 55-56, 59-62, 64-80, 82-105, 107, 110, 112-113

PU4801S	PU5619	PU3288/5620	PU2955	PU2956	PU2944
PU2943	PU2942	PU2941	PU2940	PU2811	PU2939
PU2776	PU8195S	PU3463	PU3464	PU8200S	PU5348
PU0110	PU0111	PU0102	PU0103	PU0104	PU0165
PU5349					

45 eligible structures:
10, 13, 15, 17, 24, 40, 42, 46, 53, 57, 58, 63, 81, 106, 108-109, 111, 114

PU9072	PU9073	PU9074	PU9075	PU9080	PU9081
PU9082	PU9083	PU5613	PU5609	PU5606	PU5604
PU5603	PU2947	PU2957	PU2787	PU2953	PU3465
PU5347	PU5346	PU5345	PU0071	PU0078	PU0079
PU3118	PU3164	PU0109			

As we discussed in our meeting, we look forward to working with the Arkansas Highway and Transportation Department on determining the area of potential effect.

Please refer to the AHPP Tracking Number listed above in all correspondence. If you have any questions, please call Theresa Russell of my staff at (501)-324-9357.

Sincerely,

Frances McSwain

Frances McSwain
Deputy State Historic Preservation Officer

cc: Mr. Randal Looney, Federal Highway Administration
Dr. Richard Allen, Cherokee Nation of Oklahoma
Ms. Lisa LaRue-Baker, United Keetoowah Band of Cherokee Indians
Ms. Ladonna Brown, Chickasaw Nation
Dr. Ian Thompson, Choctaw Nation of Oklahoma
Ms. Dana Masters, Jena Band of the Choctaw Indians
Mr. Kenneth H. Carleton, Mississippi Band of Choctaw Indians
Mr. Emman Spain, Muscogee (Creek) Nation of Oklahoma
Mr. Robert Yargee, Alabama-Quassarte Tribal Town (Creek)
Mr. Jeremiah Hobia, Kialegee Tribal Town (Creek)
Ms. Barbara Welborn, Thlopthlocco Tribal Town (Creek)
Ms. Rebecca Brave, Osage Nation
Mr. Everett Bandy, Quapaw Tribe of Oklahoma
Ms. Natalie Harjo, Seminole Nation of Oklahoma
Dr. Ann Early, Arkansas Archeological Survey

Attachment B

Bridge Light



East Side



East Side 2



East Side 3



ES South End Stairway



NW Corner Sign



SE Corner Sign



View to North



View to North 2

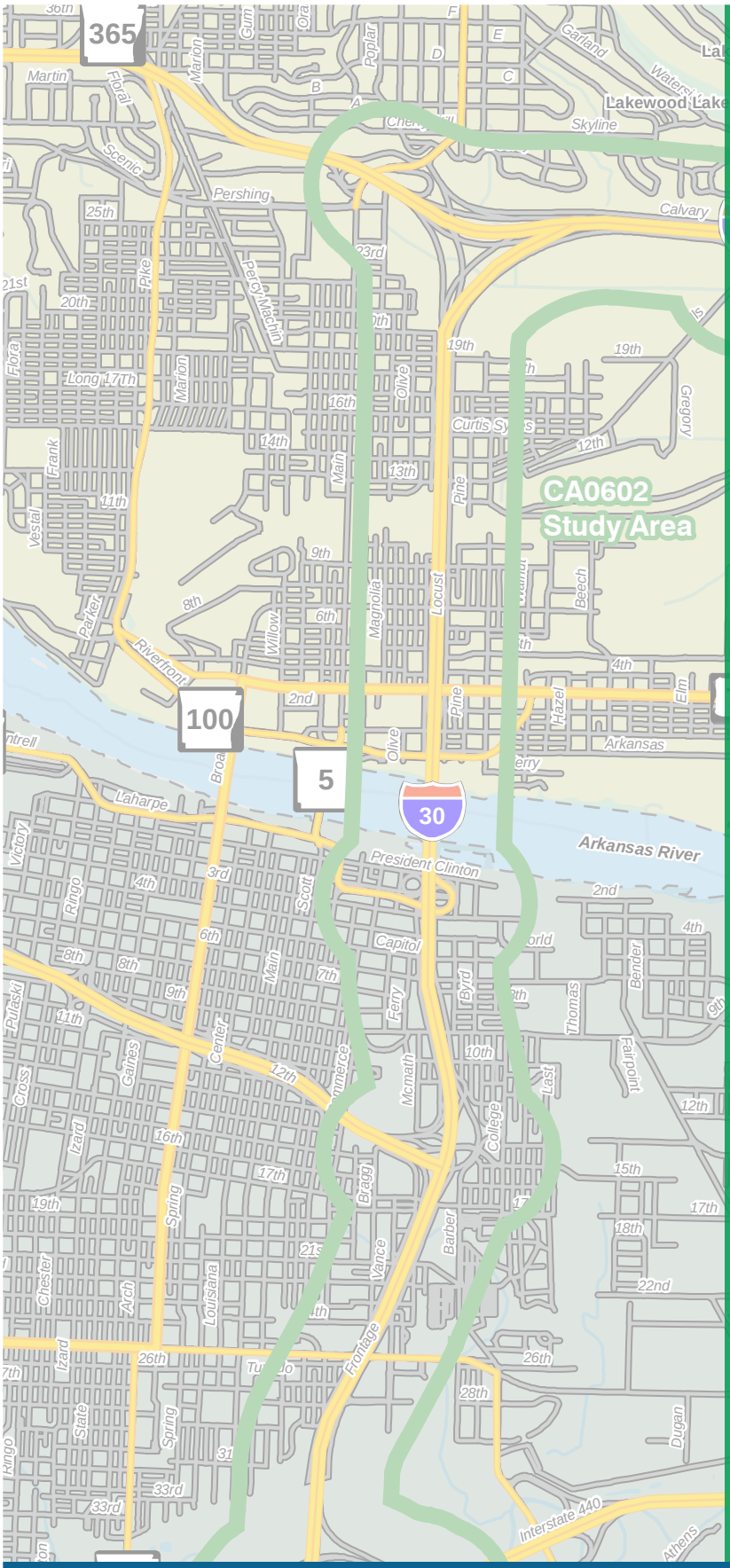


View to South



Appendix H:

PEL to NEPA Transition Report



PLANNING AND ENVIRONMENTAL LINKAGES TO NEPA TRANSITION REPORT

INTERSTATE 30

CA0602

Interstate 530 – Highway 67

May 2015

CONNECTING ARKANSAS PROGRAM CAP

Arkansas State Highway & Transportation Department

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1.0 INTRODUCTION

In order to be seamlessly incorporated into the National Environmental Policy Act (NEPA) process, all corridor and subarea studies utilizing the Planning and Environmental Linkages (PEL) study approach should follow Federal Highway Administration (FHWA) guidance and planning regulations, and include extensive public involvement and agency coordination. The regulations for a PEL study are formalized in the *Statewide Transportation Planning; Metropolitan Transportation Planning; Final Rule*[1], which details how results or decisions of transportation planning studies may be used as part of the overall project development process consistent with NEPA. Appendix A to Part 450—*Linking the Transportation Planning and NEPA Processes* describes how information, analysis and products from transportation planning can be incorporated into and relied upon in NEPA documents under existing laws[2]. Some of the key criteria that a Federal agency must consider in deciding whether to adopt planning-level analyses or decisions in the NEPA process include:[3]

- Involvement of interested state, local, tribal and Federal agencies;
- Public review;
- Reasonable opportunity to comment during the development of the corridor or subarea planning study;
- Documentation of relevant decisions in a form that is identifiable and available for review during the NEPA scoping process and can be appended to or referenced in the NEPA document; and
- The review by FHWA and the Federal Transit Administration (FTA), as appropriate.

In an effort to link planning studies to environmental processes that are compliant with NEPA, FHWA developed *Guidance on Using Corridor and Subarea Planning to Inform NEPA*, April 5, 2011. This guidance encourages the integration of initial highway and transit planning efforts into a NEPA process to minimize duplication of effort, number of review cycles and project costs. Likewise, and consistent with 23 CFR 450, the FHWA PEL Questionnaire acts a summary of the planning process, designed to ensure planning information and decisions are properly documented for utilization during the NEPA phase of project development.

2.0 I-30 PEL OVERVIEW

The Arkansas State Highway and Transportation Department (AHTD) conducted the I-30 Planning and Environmental Linkages (PEL) Study to develop conceptual transportation alternatives that would address transportation system mobility, safety and roadway and bridge deficiencies along I-30/I-40 within the PEL study area[4] that can advance to the schematic and environmental phase (NEPA) of project development. Several technical reports provide an overview of the I-30 PEL, including guidance on the PEL process (*I-30 PEL Process Framework and Methodology* – **Appendix I**); details about the extensive public and agency outreach (*Public and Agency Coordination Documentation* - **Appendix C**); and background and supporting documentation of the

[1] 23 CFR 450
[2] FHWA. 2008. *Planning and Environmental Linkages Implementation Resource Guide*.
[3] AASHTO. 2008. *Using the Transportation Planning Process to Support the NEPA Process.*
[4] Study area defined and shown *I-30 PEL Purpose and Need Report* (**Appendix A**).

problems and potential solutions for the I-30/I-40 facility (*I-30 PEL Purpose and Need Report* **- Appendix A**).

The I-30 PEL Study provided a tool for engaging the public and agencies in developing improvements within the study area and created a link between past, current and future transportation decisions, thus potentially minimizing any duplication of effort and time lost between studies. The I-30 PEL Study is expected to shorten the time needed to implement a project by allowing planning-level decisions to be carried into future, more detailed environmental studies.

3.0 ISSUES AND ANALYSES NOT INCLUDED IN THE I-30 PEL STUDY

3.1 Air Quality

The proposed I-30 PEL study area is located in Pulaski County, an area in attainment for all national ambient air quality standards (NAAQS); therefore, the transportation conformity rules do not apply and no additional air quality analysis was required at the time of the PEL Study. Central Arkansas is at risk for classification of non-attainment for the NAAQS for both ozone and particulate matter. Should there be a change in status, it is recommended that air quality be assessed during NEPA.

3.2 Indirect and Cumulative Impacts

Schematic design and project details of the PEL Recommendation were not developed enough at the time of the PEL Study to adequately assess impacts caused by the action later in time or farther removed in distance (indirect impacts)[5] or impacts resulting from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions (cumulative impacts)[6]. The PEL Recommendation would be further studied and refined in the next phase of project development, NEPA, such that indirect and cumulative impacts could be evaluated.

4.0 ISSUES TO BE STUDIED AND ANALYSES TO BE PERFORMED IN GREATER DETAIL DURING NEPA

The I-30 PEL Recommendation designates a conceptual alignment for widening and reconstruction; however this recommendation would likely require design refinements and other potential modifications as a more detailed schematic design and analysis is completed during the NEPA phase of project development. Accordingly, the I-30 PEL Study did identify several issues/analyses that require a more detailed evaluation and mitigation as applicable under NEPA, as presented below:

4.1 Design Refinements

The following additional design modifications would be evaluated during the NEPA phase of project development:

- **Intersection modifications to the PEL Recommendation:**
  - **2nd Street and Cumberland Street Intersection:** Although the proposed

[5] 40 CFR 1508.8
[6] 40 CFR 1508.7

design for the 2nd Street and Cumberland Street intersection operates at an acceptable Level of Service (LOS) C during the AM/PM peak periods, this intersection remains a safety concern for the reasons listed below and accordingly, would be re-evaluated in NEPA for an improved design.

- Heavy pedestrian activity; area has one of the highest vehicle/pedestrian accident rates in the metropolitan area.
- River Rail Street Car shares a lane with westbound 2nd Street through the intersection, affecting traffic flow.
- The short merging distance from I-30 southbound through the Cantrell interchange onto 2nd Street results in the sudden reduction of motorist speeds into an area with signals, pedestrians and street car in a shared lane.

- **Cantrell Road and Cumberland Street Intersection:** Due to a narrow turning radius, buses are unable to turn left onto southbound Cumberland Street from westbound Cantrell Road. Design refinements would be evaluated during NEPA with the goal of enlarging this turning radius, thereby providing buses inbound access to Rock Region Metro's River City Travel Center from I-30.

- **C/D Lane Modifications to the PEL Recommendation:**
  - The 10-lane C/D Reasonable Alternative eliminated 70 more crashes per year than the 10 Main Lane Alternative, but created weaving issues between I-40 and the C/D entrance ramp (southbound direction). The shortened C/D lanes of the PEL Recommendation (10-lane Downtown C/D) eliminated this weaving issue, but resulted in 38 fewer eliminated crashes per year compared to the 10-lane C/D Reasonable Alternative. The optimal location to terminate the northern end of the C/D lanes that both reduces the greatest number of crashes possible and eliminates the weaving issue would be evaluated during NEPA.
  - Shifting the lane organization for the PEL Recommendation (10-total lanes) from 3 Main Lanes and 2 C/D lanes in each direction to 2 Main Lanes and 3 C/D lanes in each direction and along the same general alignment, for a total of 10 lanes, would be evaluated during NEPA.

- **Bridges:**
  - **I-30 Bridge Construction:** During the PEL analysis, the new I-30 Bridge over the Arkansas River was expected to be constructed as close as possible to the centerline of the existing bridge, requiring phased construction. Due to the high cost and constructability issues associated with phased construction, the bridge would be re-evaluated for construction to the east or west of the existing bridge centerline.
  - **E-W Connectivity:** Bridge designs for the NEPA preferred alternative would be widened/lengthened, when practicable, thereby opening up east-west connectivity and giving more open space for bicycle/pedestrian access.

- **Bicycle/Pedestrian Access:** Bicycle/pedestrian access would continue to be coordinated with stakeholders and planners as part of the second Visioning Workshop scheduled to occur during the NEPA process. Ramp configurations, intersection and interchange designs for the NEPA preferred alternative would include considerations for bicycles/pedestrians, when practicable.

4.2 Future Adjacent Studies

The following capacity improvements outside the PEL study limits were determined necessary to accurately evaluate the PEL study area:

- I-630 from Louisiana Street west beyond the study limits; and
- I-30 southwest of the south terminal to 65th Street beyond the study limits.

These additional improvements were deemed necessary to avoid backups from congestion outside the PEL study limits impacting the traffic and safety inside the PEL study limits. AHTD has acknowledged both outside areas warrant additional study and plans exist to study and improve, as determined necessary, these outside areas. During NEPA, coordination with AHTD would occur to document the status of these plans and their relationship with the NEPA preferred alternative.

4.3 Additional Modeling

4.3.1 Mobility

Multiple Vissim model runs would be performed during the NEPA phase. Vissim model runs, during the 2041 design year AM/PM peak periods, are anticipated as follows:

- A modified PEL Recommendation with potential design refinements, such as alternative interchange configurations, identified in the NEPA phase.
- A modified PEL Recommendation with a lane organization of 2 Main Lanes and 3 C/D lanes in each direction for a total of 10-lanes, as discussed in **Section 4.1**.
- Interstate Justification Request (IJR) model runs:
  - Increased traffic demand (10%) for the NEPA preferred alternative;
  - NEPA preferred alternative without the outside improvements discussed in **Section 4.2**; and
  - A high level analysis of the approximate year the outside improvements (**Section 4.2**) would likely be needed due to increased congestion.

4.3.2 Safety

A Highway Safety Manual (HSM) detailed analysis of the No Action and NEPA preferred alternative would be performed. The analysis would provide a more detailed understanding of the safety measures of effectiveness for the IJR.

4.4 Environmental Resources/Issues to be Studied in More Detail

4.4.1 Field Work and Impact Analyses

At the PEL-level of analysis, environmental impacts were evaluated based on information generally collected through easily attainable database searches, imagery analyses, and desktop geographic information system (GIS) evaluations. The resulting

resource inventory of the study area is presented in the *I-30 PEL Constraints Report* (**Appendix B**). Comprehensive field work and detailed impact analyses using an increasingly developed, NEPA-level schematic for the preferred alternative would be completed, including but not limited to, the following:

- Community Impacts (displacements, EJ, public facilities, other transportation modes such as the River Rail Streetcar, etc.);
- Waters of the U.S., including Wetlands (Preliminary Jurisdictional Determination);
- Threatened and Endangered Species;
- Vegetation/Habitat;
- Hazardous Materials;
- Existing Noise Measurements and Noise Analysis; and
- Cultural Resources[7].

4.4.2 Section 4(f) Applicability

The type and magnitude of "use" (adverse impact to or occupancy of) a Section 4(f) resource would be determined during the NEPA phase. The NEPA-level study would build upon the PEL evaluation of three parks potentially impacted (North Shore Riverwalk Park, Julius Breckling Riverfront Park, and William J. Clinton Presidential Center and Park) and one historic site potentially impacted (NRHP-eligible historic Locust Street Bridge). Should additional parks, historic structures or archeological resources be impacted by the NEPA preferred alternative, Section 4(f) applicability determinations for those resources would be required. Additionally, airspace agreements previously executed between the cities and FHWA at the I-30 Arkansas River Bridge will be closely examined during NEPA for potential effects to parks.

4.4.3 Permitting

The need for the following permits would be evaluated during NEPA for the preferred alternative:

- **U.S. Army Corps of Engineers (USACE):** Section 10 of the Rivers and Harbors Act (33 USC 403), Section 404 of the Clean Water Act (CWA) (33 USC 1344) and Section 14 of the Rivers and Harbors Act (33 USC 408);
- **U.S. Coast Guard (USCG):** USCG bridge permit; and
- **Arkansas Department of Environmental Quality (ADEQ)[8]**: Section 401 of the CWA (33 USC 1344), Section 402 of the CWA (33 USC 1342) - National Pollutant Discharge Elimination System (NPDES) permit and a Short Term Activity Activation (STAA) permit.

4.4.4 Mitigation and Commitments

During NEPA, mitigation strategies to avoid or minimize any adverse impacts would be determined for the preferred alternative and carried forward to inform the design-build process. A draft Environmental Permits Issues and Commitment (EPIC) sheet, as described in the Connecting Arkansas Program (CAP) Environmental Manual, would be

[7] Environmental analysis of cultural resources to occur In accordance with the *I-30 PEL Cultural Resources Methodology Memorandum* (**Appendix G**).

[8] ADEQ Water Division performs stat certifications under Section 401 of the CWA on behalf of the U.S. Environmental Protection Agency (EPA).

completed for incorporation into plans, or in this instance into the Design-Build Request for Proposal, to ensure that implementation occurs through proper execution of the plans, specifications and estimates (PS&E) contract. Provisions will be included in the PS&E that require the contractor to make every reasonable effort to minimize construction impacts, including noise through abatement measures such as work-hour controls and proper maintenance of muffler systems.

4.5 Identification of Cooperating and Participating Agencies

Coordination would occur with AHTD and FHWA on the identification of cooperating and participating agencies. Cooperating agency means any Federal, state, tribal or local agency, other than a lead agency, that has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposed project. Cooperating agencies may adopt the environmental document of a lead agency when, after an independent review of the document, the cooperating agency concludes that its comments and suggestions have been satisfied[9].

At this stage of project development, it is anticipated that the USACE and USCG would be invited to be cooperating agencies due to their legal jurisdiction and special expertise; the USACE because the proposed project would require Section 10, Section 404 and Section 408 permits and the USCG because the project would to require a bridge permit. Invitation letters would be sent by the lead agency to all potential cooperating agencies outlining involvement requirements and a request for acceptance. It is anticipated that both the USACE and USCG would adopt the FHWA/AHTD NEPA document as their environmental document, issuing a joint Finding of No Significant Impact (FONSI) should that be the NEPA determination. All coordination, environmental documentation, review and decisionmaking with the USCG would occur in accordance with the Memorandum of Agreement (MOA) and Memorandum of Understanding (MOU) between the USCG and FHWA[10] and the Application for Coast Guard Bridge Permits guidance[11]. Additionally, the FHWA/AHTD NEPA document must comply with the USCG environmental document checklist before issuance of a joint NEPA decision.

Participating agencies are Federal or non-Federal agencies that may have an interest in the project, but involvement does not imply support for a proposed project, nor do they have jurisdiction over or special expertise with respect to evaluation of the project[12]. A Technical Work Group (TWG) was established to facilitate Federal, state, and local agency coordination during the PEL Study. More than 35 agencies were invited as TWG members, and their participation set the foundation for future agency coordination in NEPA. It is likely that participating agencies would include some TWG members, but all TWG members may not be participating agencies.

[9] 40 CFR 1508.5
[10] MOA and MOU between USCG and FHWA to *Coordinate and Improve Bridge Planning and Permitting (December 2014)*
[11] Application for Coast Guard Bridge Permits (September 2009)
[12] Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFETEA-LU) Section 6002

4.6 Funding/Project Phasing

It is unlikely that the entire set of solutions recommended in the PEL will be funded as one project. A key activity within the NEPA process is to further evaluate the PEL Recommendation, identify segments of independent utility and develop an implementation schedule for those improvements based on priories tied to purpose and need and project goals. As the design schematics of the NEPA preferred alternative are advanced, and cost estimates become more refined, the NEPA project team will identify the set of "most likely improvements", which will form the basis for the first construction phase. To maximize the amount of construction delivered, the project will be delivered using the Fixed Price – Best Design methodology as outlined in the *AHTD Design-Build Guidelines and Procedures*. AHTD will establish the baseline project scope and the not-to-exceed baseline project budget, consistent with the most likely set of improvements identified in NEPA. Operational modeling of the preferred alternative during the NEPA phase would provide relevant information needed in the determination of the priority of improvements for inclusion into the Fixed Price – Best Design project. Logical termini and sections of independent utility would be coordinated and approved by the lead agencies; and based on this modeling and coordination, a project phasing plan of the NEPA preferred alternative would be prepared and included in the NEPA documentation.

4.7 Project Management Plan (PMP) and Financial Plan (FP)

A PMP, a FP, and Annual Updates (AU) to the FP are required for all projects estimated at $500M or more that will receive Federal financial assistance[13]. The PMP establishes the framework for the management of a major project and the methodology for organizing, directing and coordinating the resources required for the project. The goal of the PMP is to document mechanisms for control of scope, budget, schedule and quality. The FP ensures that the necessary financial resources are identified, available and managed throughout the life of the project. An annual FP is a comprehensive document that reflects the project's scope, schedule, cost estimate and funding structure to provide reasonable assurance that there will be sufficient funding available to implement and complete the entire project, or a fundable phase of the project, as planned. A PMP and FP would be prepared for the proposed project during the NEPA phase of project development.

5.0 ISSUES AND ANALYSES TO BE CONTINUED THROUGH NEPA

5.1 Visioning Workshop #2

During the NEPA phase, a second Visioning Workshop that examines potential context sensitive solutions (CSS) and design concepts in greater detail would be held with stakeholders. Based on stakeholder feedback and available funding, CSS/aesthetic guidelines would be developed following this Visioning Workshop and included in the design-build-to-a-budget request for proposals, pending AHTD approval. The Visioning Workshop would include, among many topics, potential bicycle/pedestrian trails identified in the third TWG meeting by the Arkansas Department of Parks and

[13] 23 USC 106(h)

Tourism[14]. The Study Team would work with city planners and stakeholders to ensure that city goals for future development are given due consideration and incorporated, when practicable.

5.2 Public, Agency and Stakeholder Coordination

TWG, Stakeholder Advisory Group (SAG), Project Partner and community meetings similar to those held throughout the PEL process would continue throughout NEPA. Likewise, the NEPA process would include one public meeting presenting and gathering input on the proposed preferred alternative and one public hearing presenting the findings of the environmental analysis. The public meeting and hearing would be held in compliance with the AHTD Public Involvement Handbook and the CAP Environmental Manual.

5.3 Every Day Counts (EDC)

As an FHWA EDC-1 initiative, the PEL process was utilized for the proposed project to shorten project delivery. Results of the PEL Study would be used to inform the NEPA phase, resulting in less duplication of effort and in more informed project-level decisions. Likewise, the FHWA EDC-2 initiative of Implementing Quality Environmental Documents (IQED) was applied in the PEL by developing a specified purpose and need that supports the alternatives screening process, and preparing technical reports and public presentations that utilized effective visualization and communication of data to the public. Products and presentations developed during the NEPA phase would continue to implement EDC best practices.

6.0 INCORPORATING PEL ANALYSES INTO THE NEPA PROCESS

This section documents the processes and issues identified during the PEL Study that are integral to defining the parameters and facilitating the transition from PEL to NEPA.

6.1 Document Classification

Determining the type of environmental documentation required is central to the progression of the PEL findings into NEPA. The following sections present information necessary for that determination.

Project Planning: The *I-30 PEL Framework and Methodology* (**Appendix H**) was developed to foster proactive working relationships among the FHWA, AHTD, Metroplan and local governments. Improvements to the I-30/I-40 facility received voter approval as part of the CAP[15]. Additionally, the I-30 PEL Study builds upon previous studies identifying the need for improvements in the study area. The planning history associated with the facility and study area, as well as a discussion of the congruent relationship between the proposed project and local government/agency plans, is presented in the *I-30 PEL Purpose and Need Report* (**Appendix A**).

[14] Details related to the suggested bicycle/pedestrian trails are presented in the *TWG Comment Documentation* for TWG #3 (**Appendix C-3**).

[15] The CAP is a large highway construction program by AHTD established and funded through a 2012 voter-approved constitutional amendment for a 10-year, half-cent sales tax to improve the state's intermodal transportation system.

Potential Environmental Issues: The inventory and preliminary evaluation of the potentially affected social, economic and natural environment resulting from the PEL Recommendation provides the baseline information to be used in NEPA. As documented in the *I-30 PEL Environmental Impacts Report* (**Appendix E**), potential impacts to all resources were generally minimal. These environmental resources would be re-examined during NEPA following additional engineering design refinements, field work and continued public and agency outreach.

Public and Agency Involvement: The I-30 PEL Study included a robust outreach plan, comprised of agency, Project Partner, stakeholder, community, and public meetings, as well as various outreach strategies promoting involvement from a broad spectrum of the public. Details about the extensive and transparent outreach efforts are included in the *Public and Agency Coordination Documentation* (**Appendix C**).

Conclusion: An Environmental Assessment (EA) is prepared for actions in which the significance of the environmental impact cannot be clearly established and would be appropriate where the majority of available data shows there is no significant impact or where the significance of impact of only a few aspects of the proposed action cannot be clearly established or is unknown. Based on the extensive information gathered, analyzed, and documented during the PEL Study and in the resulting PEL Report, AHTD believes that the preparation of an EA is appropriate for the proposed I-30 project. AHTD's recommendation to prepare an EA is consistent with 23 CFR 771.119 which allows preparation of an EA "…*for each action that is not a categorical exclusion and does not clearly require the preparation of an environmental impact statement (EIS) or where it is believed that an EA would assist in determining the need for an EIS*" and "*If, at any point in the EA process, it is determined that the action is likely to have a significant impact on the environment, the preparation of an EIS would be required.*" The format of the EA would be determined by FHWA.

6.2 Moving Forward into NEPA

Results and conclusions of the technical reports produced for the I-30 PEL Study would be directly incorporated into the EA, as appropriate. The I-30 PEL Study would be referenced in the EA, attached as an appendix, and would be part of the project record/history of the decision-making process. NEPA would build upon the I-30 PEL Study findings including purpose and need, alternatives screening and identification, public and agency coordination, environmental constraints and affected environment.[16]

7.0 SUMMARY OF I-30 PEL RECOMMENDATION

The 10-lane Downtown C/D Alternative was identified as the PEL Recommendation to be carried forward to NEPA.

[16] As presented in the following I-30 PEL technical reports: *Purpose and Need Report* **(Appendix A)**; *Alternatives Screening Methodology* **(Appendix D-1)***; Universe of Alternatives* **(Appendix D-2***); Levels 1, 2, and 3 Screening Methodology and Results Memorandums* (**Appendices D-3** through **D-5**); *Public and Agency Documentation* (**Appendix C**); *Constraints Report* **(Appendix B)** *and Environmental Impacts Report* **(Appendix E).**

Features of the PEL Recommendation, shown in **Figure 1**, include:

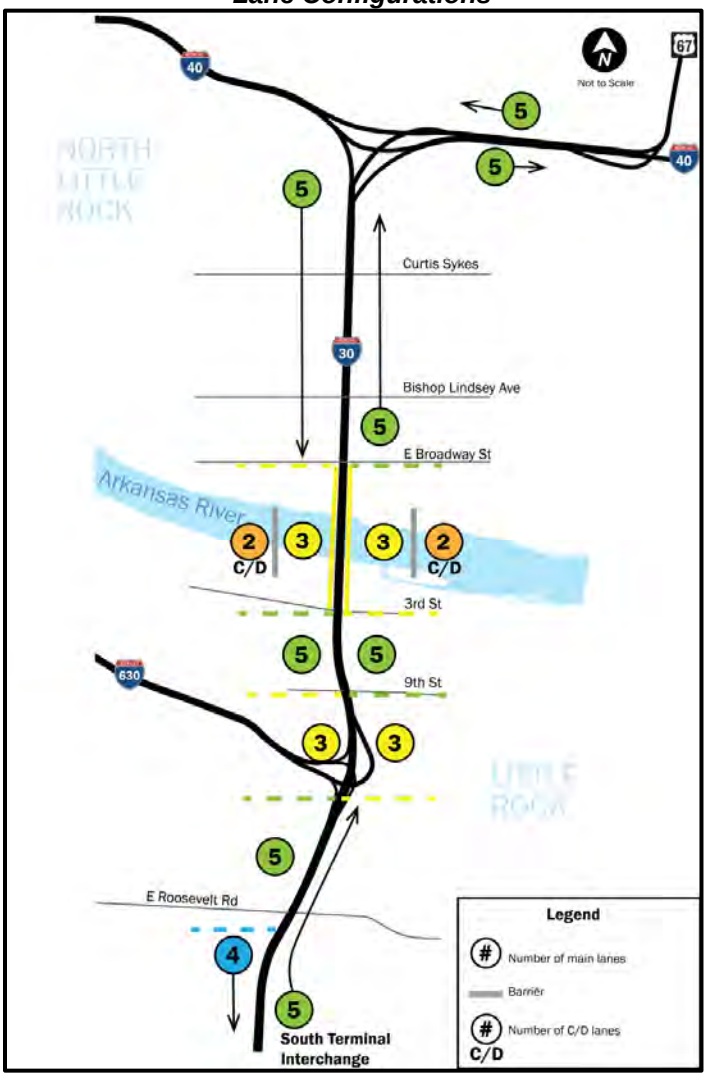
- 3 main lanes and 2 C/D lanes in each direction; outside the C/D lanes, facility is 5 main lanes in each direction;
- C/D lanes extending from about Broadway St. to the Cantrell Road interchange;
- Other alternatives incorporated into the PEL Recommendation (**Figure 1**); and
- Meets the purpose and need and study goals as outlined in the *I-30 PEL Purpose and Need Report* (**Appendix A**).

8.0 FHWA I-30 PEL RECOGNITION

It is anticipated that the FHWA would provide a written letter, acknowledging the completion of the I-30 PEL Study in accordance with the FHWA PEL guidance and planning regulations, concurrence with the identified I-30 PEL Recommendation, and concurrence that the planning products completed as part of the I-30 PEL Study shall be used to inform NEPA.

Figure 1. PEL Recommendation

Lane Configurations



Alternatives Incorporated into PEL Recommendation Design:

Highway Build

- Main Lane Widening
- Collector / Distributor (C/D) Roads
- Interchange Improvements
- Ramp Consolidation / Elimination
- Intersection Improvements
- Bottleneck Removal
- Auxiliary Lanes
- Roadway Shoulder Improvements
- Frontage Road Improvements
- Main Lane Pavement Rehabilitation
- Horizontal / Vertical Curve Improvements

I-30 Bridge

- I-30 Arkansas River Bridge Replacement

Congestion Management

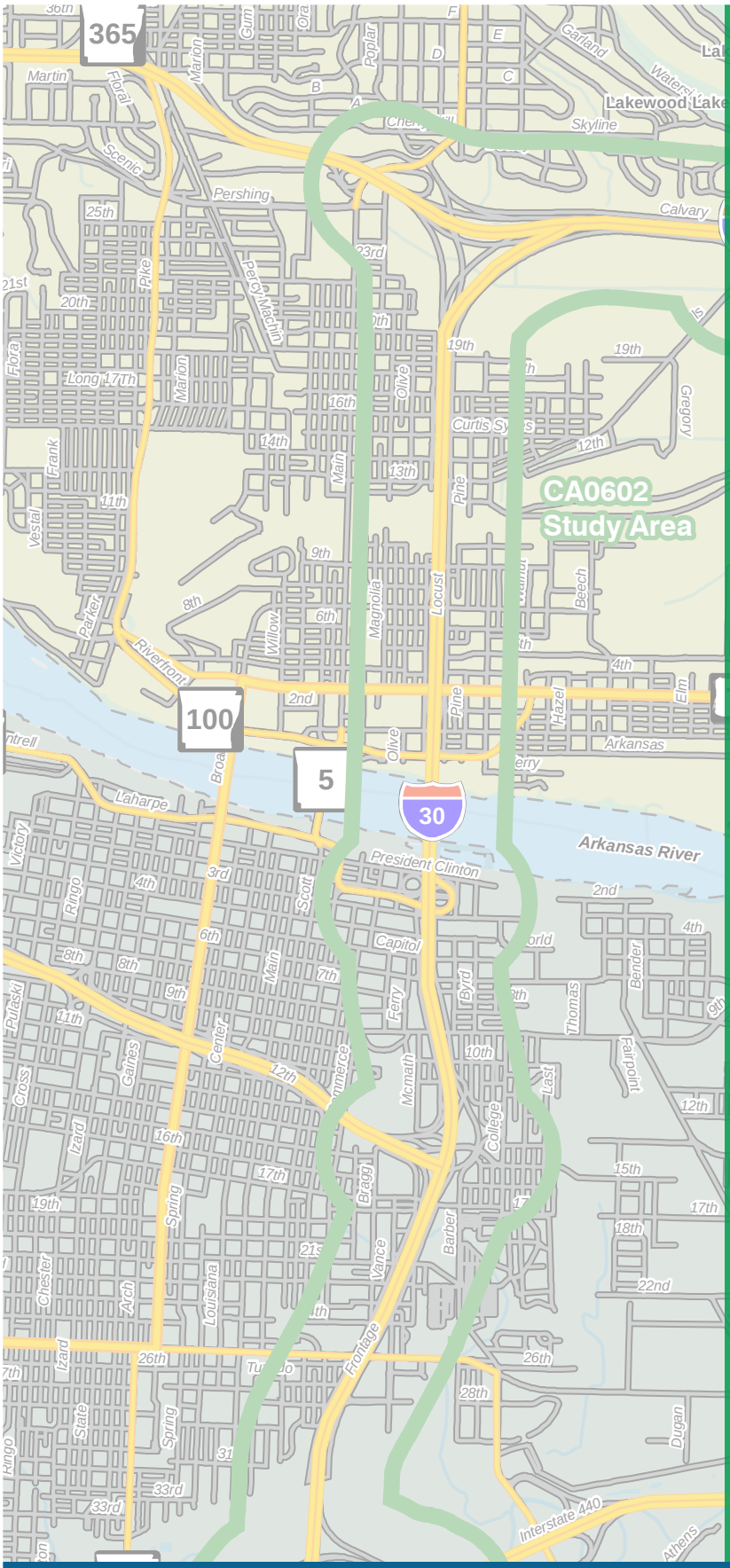
- Ramp Metering
- Transportation System Management (TSM)
- Wayfinding / Signage

Other Modes

- Bus on Shoulder
- Bicycle / Pedestrian

Appendix I:

PEL Questionnaire



PLANNING AND ENVIRONMENTAL LINKAGES QUESTIONNAIRE

INTERSTATE 30

CA0602

Interstate 530 – Highway 67

May 2015

CONNECTING ARKANSAS PROGRAM CAP

Arkansas State Highway & Transportation Department

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Attachment A I-30 PEL Process Framework and Methodology
Attachment B I-30 PEL Study Team
Attachment C I-30 PEL Agency and Stakeholder Participant Lists

FHWA PEL Questionnaire

The Federal Highway Administration (FHWA) has developed a questionnaire to serve as a guide for Planning and Environmental Linkages (PEL) Studies. This questionnaire is intended to act as a summary of the planning process and ease the transition from planning to NEPA studies. Listed below are responses to the FHWA PEL Questionnaire for the I-30 PEL Study. The responses and information were developed throughout the planning process and summarizes the approach used for the I-30 PEL Study.

1. Background:

a. Who is the sponsor of the PEL study? (state DOT, Local Agency, Other)

Sponsor: Arkansas State Highway and Transportation Department (AHTD).

b. What is the name of the PEL study document and other identifying project information (e.g. sub-account or State Transportation Improvement Program (STIP) numbers, long-range plan or transportation improvement program years)?

Identifying project information associated with the I-30 PEL Study is as follows:

- **PEL Study Name:** I-30 PEL Study
- **AHTD Job Number and Name:** CA0602, I-530 - Hwy. 67 (Widening and Reconstruction)(I-30 and I-40)
- **Connecting Arkansas Program (CAP):** The I-30 PEL Study is included and often identified as part the CAP, a highway construction program by AHTD established and funded through a 2012 voter-approved constitutional amendment for a 10-year, half-cent sales tax to improve the state's intermodal transportation system.
- **Long Range Metropolitan Transportation Plan (LRMTP)[1], Financially Constrained Plan (10-year commitment):** In the LRMTP, the facility name is listed as "Interstate 30", the limits are described as "Central Corridor", and the improvements are categorized as "Operation Improvements". Improvements to I-40 are described as "Interstate 40", the limits are described from "I-30/I-40 Interchange" to "Hwy. 67", and the improvements are categorized as "Rehabilitation". The financially constrained LRMTP notes that an amendment may be required upon completion of the PEL Study once the number of through lanes has been determined.
- **STIP/TIP:** The PEL Recommendation(s) will inform the next STIP (2016-2019) currently in development by AHTD. Likewise, and with a view towards achieving consistency with local and regional planning efforts, the PEL Recommendation(s) will be submitted to the Metropolitan Planning Organization (MPO) to inform

[1] *Imagine Central Arkansas, Blueprint for a Sustainable Region* (December 2014).

future updates/amendments to the LRMTP financially constrained plan and to the Transportation Improvement Program (TIP), consistent with the STIP.

c. Who was included on the study team (Name and title of agency representatives, consultants, etc.)?

The I-30 PEL Study Team includes representatives from the AHTD and the consultant team (Garver and HNTB Corporation). A listing of key staff that comprised the Study Team is presented in **Attachment B**.

d. Provide a description of the existing transportation facility within the corridor, including project limits, modes, functional classification, number of lanes, shoulder width, access control and type of surrounding environment (urban vs. rural, residential vs. commercial, etc.).

The I-30 PEL study area, shown in **Figure 1**, is located central Arkansas and stretches approximately 6.7 miles through Little Rock and North Little Rock. The study area begins at I-530 in the south, extends to I-40 in the north, and then east along I-40 to its interchange with Hwy. 67/167 in North Little Rock. Land use within the study area is predominately under urban development with commercial, single and multi-family residential, industrial and civic land uses. Various parks and water features, including the Arkansas River, are also located within the study area. There are undeveloped areas in the southern and northern portions of the study area. The Union Pacific Railroad (UPRR) crosses the study area at several locations. The *I-30 PEL Study Purpose and Need Report* (**Appendix A**) provides a description of the conditions within the study area, including major traffic generators.

I-30 is classified as an urban interstate. Generally speaking, there are 3 main lanes in each direction for the length of the corridor with occasional brief segments of 2 lanes at the study limits and 4 lanes between closely spaced ramps which include auxiliary lanes. **Table 1** lists the number of lanes of I-30/I-40 from north to south.

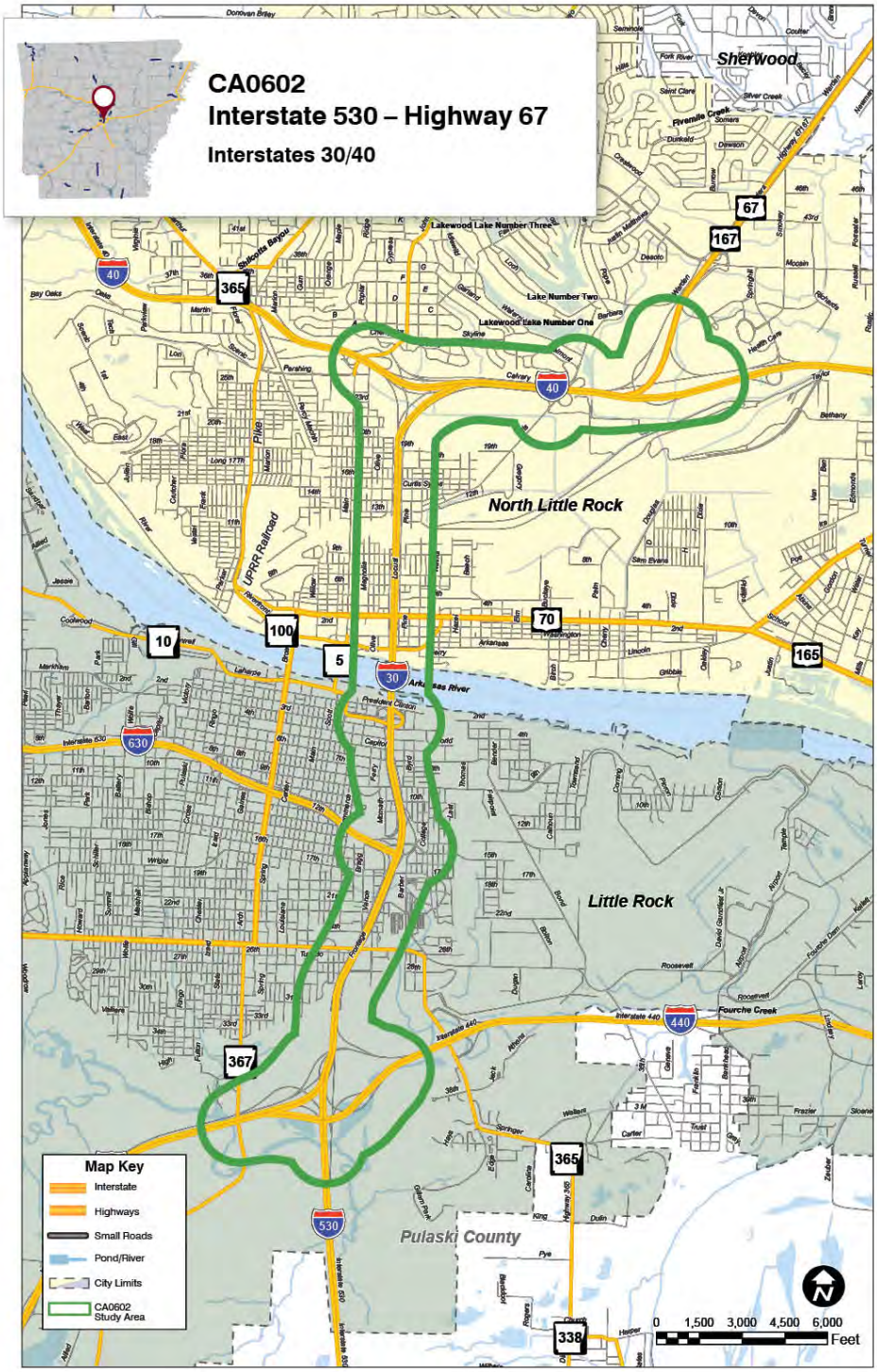
There are a total of 11 interchanges (4 system-to-system and 7 service interchanges) and eight underpasses/overpasses within the study area. All but five of these crossings provide pedestrian crossing infrastructure. There are a variety of interchange types in the study area consisting of fully directional, partial cloverleaf, diamond, split diamond and modified trumpet. An outer frontage road runs along the majority of both sides of I-30 and I-40. The frontage road consists of two-lane, one-way roads with northbound traffic on the east side of I-30 and southbound traffic on the west side. Stop signs and signals are used for traffic control at the end of entrance and exit ramps along I-30.

The I-30/I-40 facility in the study area contains the following system-to-system interchanges:

- I-40 and US 67;

- I-40 and I-30;
- I-30 and I-630; and
- I-30, I-530 and I-440.

Figure 1. I-30 PEL Study Area Map



*Source: I-30 PEL Study Team, 2014; I-30 PEL Purpose and Need Report (**Appendix A**)*

Table 1. Basic Lane Configuration along I-30/I-40 (from North to South)

From	To	Segment Length (miles)	Number Main Lanes SB[1]	Number Main Lanes NB[1]	Total Number of Main Lanes[1]
I-40/167 E Interchange	I-40/167 W Interchange	1.5	2	2	4
I-40/167 W Interchange	I-30/I-40 E Interchange	0.60	2	2	4
I-30/I-40 E Interchange	Curtis Sykes Dr	0.30	4	3	7
Curtis Sykes Dr	2nd St. N Interchange	1.40	3	3	6
2nd St. N Interchange	2nd St. S Interchange	0.10	3	3	6
2nd St. S Interchange	E 6th St. Interchange	0.20	4	3(1)	7(1)
E 6th St. Interchange	I-30/I-630 N Interchange	0.30	4	4	8
I-30/I-630 N Interchange	I-30/630 S Interchange	0.60	3	3	6
I-30/630 S Interchange	E Roosevelt Interchange	0.20	3(1)	3(1)	6(2)
E Roosevelt Interchange	I-30/440 N Interchange	0.80	3	3(1)	6(1)
I-30/440 N Interchange	I-30/440 W Interchange	0.60	2	2	4

Note: [1.] Lane count includes main lanes; auxiliary lanes are noted in parentheses.
*Source: I-30 PEL Traffic and Safety Report, 2015 (**Appendix F**)*

Table 2 summarizes the crossroads along the I-30/I-40 facility in the study area, including its functional classification, access type and available pedestrian access within the study area.

Table 2. Major Crossroads (from North to South)

Crossroad	Access Type	Functional Classification	Pedestrian Access
Highway 167	System Interchange	Interstate	No
N Hills Blvd	Service Interchange	Arterial	No
I-30	System Interchange	Interstate	No
E 19th St	Underpass	Collector	Yes
Curtis Sykes Dr	Service Interchange	Collector	Yes
E 13th St	Underpass	Arterial	Yes
E 9th St	Underpass	Collector	Yes

Crossroad	Access Type	Functional Classification	Pedestrian Access
Bishop Lindsey Ave	Service Interchange	Collector	Yes
E Broadway St	Service Interchange	Arterial	Yes
E Washington Ave	Underpass	Collector	Yes
East Riverfront Dr	Underpass	Arterial	Yes
E 2nd St	Service Interchange	Collector	Yes
E 4th St	Underpass	Collector	Yes
E 6th St	Service Interchange	Arterial	Yes
E 9th St	Overpass	Arterial	Yes
I-630	System Interchange	Interstate	No
E 21st St	Overpass	Collector	Yes
E Roosevelt Rd	Service Interchange	Arterial	Yes
I-440/I-530	System Interchange	Interstate	No

*Source: I-30 PEL Traffic and Safety Report, 2015 (**Appendix F**)*

e. Provide a brief chronology of the planning activities (PEL study) including the year(s) the studies were completed.

Previous planning activities that have been completed within this study area include the following, which are described in detail within the *I-30 PEL Purpose and Need Report* **(Appendix A)**:

- *Central Arkansas Regional Transportation Study, Areawide Freeway Study, Phases 1 and 2* (2003);
- *River Rail Airport Study, Phase II Final Report,* (2011)
- *I-630 Fixed Guideway Alignment Study* (2010);
- *Six Bridges Framework Plan Report* (late 1990s);
- *I-630 (from I-430 to I-30) Final Environmental Impact Statement* (1978); and
- Metroplan's LRMTP: *MOBILITY 2030.2* (March 2010), which was in affect at the beginning of the PEL Study; and *Imagine Central Arkansas, Blueprint for a Sustainable Region* (December 2014), the updated LRMTP completed during the PEL Study process.

This I-30 PEL Study was initiated in April of 2014. A timeline of major I-30 PEL Study-related activities and milestones is provided in **Figure 2** (see **Section 2.e**).

f. Are there recent, current or near future planning studies or projects in the vicinity? What is the relationship of this project to those studies/projects?-

The Metroplan 2030 LRMTP[2] was reviewed at the beginning of the study in April 2014. Subsequently, a 2040 LRMTP[3] was developed during the PEL process (December 2014). Review of the current LRMTP financially constrained plan (10-year project list) identified no projects within the I-30 PEL study area. Several projects, however, were identified within the proximity of the study area, as listed in **Table 3**.

Table 3. LRMTP Financially Constrained Projects in Proximity of the PEL Study Area

Facility	From	To	Improvement	Connection to PEL
I-530	I-30	Bingham Road	Rehabilitation	Project outside PEL study area, but immediately adjacent to the PEL southern terminus (south terminal or I-30/I-530/I-440 interchange). Would improve the facility leading in/out of the study area.
I-440	I-30/I-40 Interchange	Arkansas River Bridge	Rehabilitation	Project outside PEL study area, but immediately adjacent to the PEL southern terminus (south terminal or I-30/I-530/I-440 interchange). Would improve the facility leading in/out of the study area.
I-40	Hwy. 67	Hwy. 161	Rehabilitation	Project outside PEL study area, but immediately adjacent to the PEL northeast terminus (I-40/Hwy. 67/Hwy. 67 interchange). Would improve the facility leading in/out of the study area.
I-40	Hwy. 161	Lonoke/ Pulaski County Line	Rehabilitation	Project outside PEL study area, but begins where the above project terminates. Would improve the facility leading in/out of the study area.
I-440	Arkansas River Bridge	I-40	Rehabilitation	Project outside PEL study area, but begins where the above project terminates. Would improve the facility leading in/out of the study area.
I-630	I-30	Cross Street	Rehabilitation	Project outside PEL study area, but immediately adjacent to a major interchange of the study area (I-30/I-630). Would improve the facility leading in/out of the study area.
I-630	Cross Street	Dennison Street	Rehabilitation	Project outside PEL study area, but begins where the above project terminates. Would improve the facility leading in/out of the study area.
I-630	Dennison Street	Cedar Street	Rehabilitation	Project outside PEL study area, but begins where the above project terminates. Would improve the facility leading in/out of the study area.

Source: Imagine Central Arkansas, Blueprint for a Sustainable Region, December 2014

The 2040 LRMTP describes actions necessary to implement a balanced mobility "Vision". **Table 4** presents the mobility elements of the Vision portion of the LRMTP (not within the 10-year financially constrained plan).

[2] 2030 LRMTP - *MOBILITY 2030.2,* March 2010.
[3] 2040 LRMTP - *Imagine Central Arkansas*: *Blueprint for a Sustainable Region,* December 2014.

Table 4. LRMTP Vision Projects within Proximity of the PEL Study Area

Highway Operational Improvements Project Priorities				
Facility	**From**	**To**	**Improvement**	**Connection to PEL**
I-630	University	I-30	Operational Improvements	Project outside PEL study area, but immediately adjacent to a major interchange of the study area (I-30/I-630). Would Improve facility operations leading in/out of the study area.
I-40	Hwy. 67	I-440	Widening	Project outside PEL study area, but immediately adjacent to the PEL northeast terminus (I-40/Hwy. 67/Hwy. 67 interchange). Would improve operations on the facility leading in/out of the study area.
RAN Corridor 8[1]	Broadway	Pershing	Pedestrian Improvements	Project outside, but nearby the PEL study area. Pedestrian improvements would extend along a parallel route to I-30 in/out of the study area.
Local Transit Vision Project Priorities				
Service Area		**Project**		**Connection to PEL**
Central Little Rock		New local routes, routes to be determined. Expand existing route service		The PEL Recommendation includes bus on shoulder, which is the option for buses to travel on the highway during peak travel times or incidents. Improved bus mobility on I-30 could potentially make it easier for bus routes to expand elsewhere throughout the city.
North Little Rock				

Note: [1]Regional Arterial Network (RAN) Corridor 8 defined in 2040 LRMTP as Hwy. 36/Satillo Road/Clinton Road/Hwy. 365/McArthur Drive/Pike Avenue/Broadway.
Source: Imagine Central Arkansas, Blueprint for a Sustainable Region, December 2014

2. Methodology used:

a. What was the scope of the PEL study and the reason for completing it?

The I-30 PEL Study is a planning-level effort with the intent of establishing a link with past planning efforts and providing an updated study for the subsequent NEPA phase. This was accomplished through establishing the purpose and need statement for improvements, initiating public participation and agency coordination and engaging in an alternatives development and evaluation process. The decision-making process and issues identified during the I-30 PEL Study are integral to defining the parameters and facilitating the transition from the PEL phase to the NEPA phase of project development. The I-30 PEL Study scope includes:

- Determining/defining the purpose and need statement;
- Describing the affected environment;
- Developing and evaluating reasonable alternatives;
- Engaging the public and agencies in the planning process; and
- Recommending an alternative(s) for further study in NEPA.

The reasons for completing the I-30 PEL Study include:

- Develop conceptual transportation solutions for the I-30/I-40 facility that would address traffic congestion, roadway safety issues, roadway structural and

functional deficiencies, navigational safety issues and structural and functional bridge deficiencies; and
- Document the decision-making process used in the planning phase; thereby linking planning to NEPA and streamlining the overall project development process.

Details about the I-30 PEL Study scope and process are outlined in the *I-30 PEL Framework and Methodology* (**Attachment I**).

b. Did you use NEPA-like language? Why or why not?

Yes, NEPA terminology was used throughout the I-30 PEL Study in order to further establish the link between NEPA and planning. These terms are consistent with those used in NEPA. The planning-level process used was designed to inform and provide products that could be readily incorporated into NEPA, such as the *I-30 PEL Purpose and Need Report* (**Appendix A**), *Constraints Report* (**Appendix B**), and *Environmental Impacts Report* (**Appendix E**).

c. What were the actual terms used and how did you define them? Provide examples or list.

Example NEPA terms used include:

- **Study Area** – As defined in **Section 1.d** and shown in **Figure 1**, above.
- **Purpose and Need** – The purpose and need statement was developed through the review of data and analysis from previous studies, assessing current and future conditions, and engaging the public, agencies, and stakeholders to assist in defining the key problems and potential solutions to address future mobility needs within the study area.
- **Alternatives** – A Universe of Alternatives was developed based on the primary needs of the study area, public and agency input and relevant guiding studies. The Universe of Alternatives were screened to Preliminary Alternatives based on the purpose and need (fatal flaw screening); the Preliminary Alternatives were qualitatively screened to Reasonable Alternatives based on the study goals; and the Reasonable Alternatives were quantitatively screened to an alternative(s) for further development during NEPA, also called the PEL Recommendation(s). The I-30 PEL Study alternatives, as developed throughout the screening process, are further defined in **Section 6**.
- **Affected Environment** – The existing social, economic and environmental conditions for the I-30 PEL Study within the Little Rock/North Little Rock region. Inventory and evaluation of the affected environment provides the baseline information to be used in further project development and is documented in the *I-30 PEL Constraints Report* (**Appendix B**).

- **Environmental Consequences** – Environmental impacts and means to mitigate adverse environmental impacts resulting from the alternatives. Potential direct environmental impacts resulting from implementation of the PEL Recommendation(s) and mitigation/commitments are included in the *I-30 PEL Environmental Impacts Report* (**Appendix E**).
- **Environmental Justice** – The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies. Executive Order (EO) 12898 issued by President Clinton mandates that federal agencies achieve environmental justice. Environmental justice was a criterion that was evaluated during the Level 2 and Level 3 alternative screenings.
- **Minority Population** – Any readily identifiable groups of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons who will be similarly affected by a proposed FHWA program, policy and/or activity. A minority is a person who is Black, Hispanic, Asian American/Pacific Islander or American Indian/Alaskan Native.
- **Low-income Population** – Any readily identifiable groups of low-income persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons (such as migrant workers) who will be similarly affected by a proposed FHWA program, policy, and/or activity.
- **Regulatory Terms** - Various other NEPA regulatory terms were used, such as Section 404 of the Clean Water Act, Section 4(f) of the Department of Transportation Act of 1966; and Section 6(f) of the Land and Water Conservation Fund (LWCF) Act of 1965.

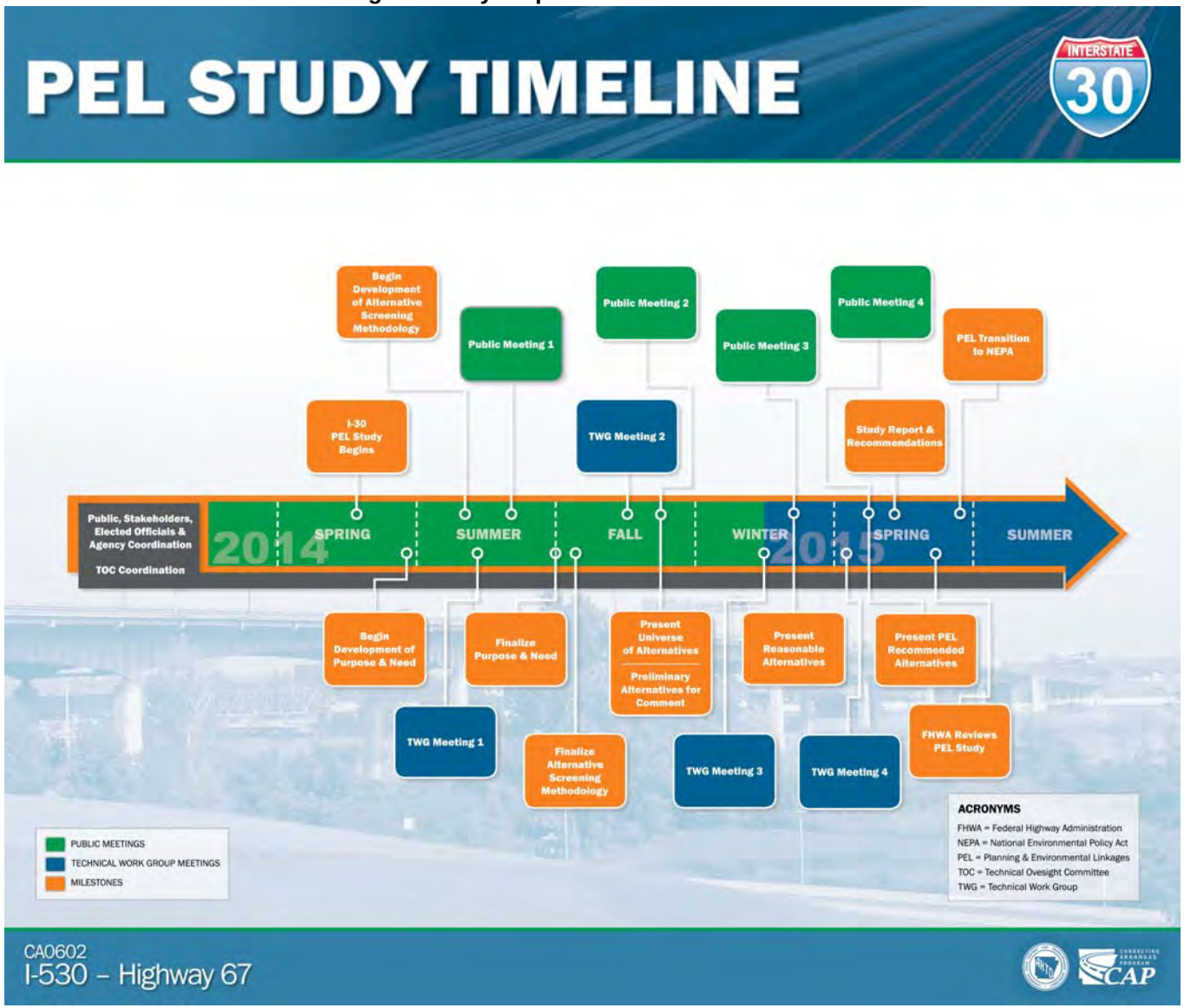
d. How do you see these terms being used in NEPA documents?

The terms are consistent with NEPA terminology and therefore could be seamlessly incorporated into future NEPA documents. This is based on the fact the methodologies used to arrive at decisions, such as the purpose and need statement and alternative screening processes, were based on similar compilations of public comment and technical support used in the NEPA process. In addition, FHWA provided comments on the PEL process and methodologies.

e. What were the key steps and coordination points in the PEL decision-making process? Who were the decision-makers and who else participated in those key steps? For example, for the corridor vision, the decision was made by state DOT and the local agency, with buy-in from FHWA, the USACE, and USFWS and other resource/regulatory agencies.

Meetings were held at key milestones with agencies, project stakeholders and the public throughout the I-30 PEL Study. **Figure 2** shows these key steps and coordination points in the decision-making process, which is further detailed below.

Figure 2. Key Steps and Coordination Points



Source: I-30 PEL Study Team, 2014-2015

Project Partners - While AHTD and the FHWA are the lead agencies for the I-30 PEL Study, Project Partners, comprised of the mayors of Little Rock and North Little Rock, the Pulaski County Judge and a Metroplan representative (members listed in **Attachment C**), served to provide expertise and input in the spirit of proactive teamwork amongst community leaders. A summary of the Project Partner's meetings and topics discussed is presented in the *Additional Outreach Documentation* appendix (**Appendix C-4**).

Technical Work Group (TWG) - The TWG, comprised of local, state and Federal staff, was created to facilitate agency coordination. A listing of agencies invited to participate in the TWG is presented in **Attachment C**. TWG meetings were held in advance of public meetings so that information obtained from these meetings could be shared with the public at the subsequent public meetings. TWG members were asked to provide comments over a designated comment period. Documentation of the TWG meetings, including comments received from all four meetings and responses by the Study Team are included in the *TWG Comment Documentation* appendix (**Appendix C-3)**.

Stakeholder Advisory Group (SAG) - The TWG was complemented by a SAG, made up of representatives appointed by the Pulaski County Judge and City Mayors, to provide additional community perspective and expertise (members listed in **Attachment C**). A summary of the SAG meetings and topics discussed is presented in the *Additional Outreach Documentation* appendix (**Appendix C-4**).

Supplementary Outreach - Additional outreach efforts included regular meetings with elected officials, community meetings, coordination meetings with interested parties, a series of four public meetings and a visioning workshop (members listed in **Attachment C**) where stakeholders in the community could provide insight into the functional and aesthetic vision of the corridor. A summary of these supplementary outreach efforts and topics discussed is presented in the *Additional Outreach Documentation* appendix (**Appendix C-4**).

EJ Specific Outreach - A multitude of outreach methods were utilized to specifically inform, engage and solicit input from EJ populations in the PEL process, as outlined below:

- Community meetings - Four community meetings were held at minority churches in October 2014 where Study Team members were able to reach out on a more personal level to attendees. Topics of discussion included the overall PEL process, the problems experienced on the I-30/I-40 facility and inviting questions and comments for potential transportation solutions.
- Fliers and letters: Fliers advertising the public meetings were distributed throughout low-income and minority communities, focusing on areas of congregation and public use such as churches, gas stations and community facilities like the Boys and Girls Club of Little Rock. With the goal of reaching out to parents, fliers were also sent home with students of the Horace Mann Arts and Science Magnet School, an institution with a predominantly EJ study body

(location of Public Meetings #2 and #4). Fliers and letters inviting participation at all the public meetings were mailed to ministers of minority congregations throughout the study area; and fliers were distributed to organizations/groups geared towards EJ communities including but not limited to the NAACP (Little Rock and North Little Rock chapters), Arkansas Hispanic and Black Chambers of Commerce, the Little Rock Housing Authority and various neighborhood associations of EJ areas.

- Visioning workshop – Representatives of minority and low-income communities participated in the visioning workshop held in November 2014, providing input on priorities important to their communities, from aesthetic issues to preserving and enhancing historic and community resources. These same representatives will be invited to the second visioning workshop to be held during the NEPA phase of project development.
- Advertisements: For all of the Public Meetings, advertisements were placed in the Spanish newspaper El Latino, and public service announcements were made on radio stations generally catering to minority populations.

f. How should the PEL information be presented in NEPA?

PEL Study products may be incorporated as appendices, referenced in text and included in the project record of the NEPA analysis, as warranted. The information produced and decisions made in the PEL Study will serve as a starting point for more detailed analyses in NEPA.

3. Agency coordination:

a. Provide a synopsis of coordination with Federal, tribal, state and local environmental, regulatory and resource agencies. Describe their level of participation and how you coordinated with them.

The *I-30 PEL Public Involvement and Agency Coordination Plan (PIACP)* (**Appendix C-1**), prepared prior to the initiation of the I-30 PEL Study, outlined various avenues for agency involvement and the dissemination of study-related information. Coordination with agencies was initiated at project inception and continued throughout the PEL Study. Early in the planning process, the Study Team established the TWG to serve as the primary means of agency coordination.

TWG participation was requested by AHTD from environmental regulatory and resource agencies typically involved during a NEPA study, as listed in **Attachment C**. Four TWG meetings were held at major study milestones. PEL analyses and documents were presented to the TWG, and comments were solicited. Responses to TWG comments were completed by the Study Team and TWG input was considered throughout the PEL process. More detailed information regarding agency coordination can be found in the *PIACP* (**Appendix C-1**) and *TWG Comment Documentation* appendix (**Appendix C-3**).

b. What transportation agencies (e.g. for adjacent jurisdictions) did you coordinate with or were involved during the PEL study?

The following transportation agencies were invited to participate in the four TWG meetings held throughout the I-30 PEL Study:

- FHWA
- AHTD
- Federal Transit Administration (FTA)
- Federal Railroad Administration - Southwest Division
- U.S. Coast Guard (USCG) – Western Rivers
- Arkansas Waterway Commission
- Rock Region METRO (formerly the Central Arkansas Transit Authority (CATA))
- Metroplan
- Union Pacific Railroad (UPRR)
- City of Little Rock – Planning and Development and Public Works
- City of North Little Rock – Planning and Development, Roadway, and Traffic
- Pulaski County, Departments of Road and Bridge, Public Works, and Planning and Development

c. What steps will need to be taken with each agency during NEPA scoping?

It is anticipated that agencies would continue to be engaged during the NEPA process in accordance with the regulatory jurisdiction of each agency. Agencies will be notified of the PEL Study's completion and the final I-30 PEL Study Report will be available on the CAP website for review. The agency contacts that were involved with the I-30 PEL Study would be maintained and updated once NEPA is initiated. TWG, Project Partner, SAG and community meetings would continue during NEPA. Cooperating and participating agencies would be identified by AHTD and FHWA, which is further described in the *I-30 PEL to NEPA Transition Report* (**Appendix H**).

4. Public coordination:

a. Provide a synopsis of your coordination efforts with the public and stakeholders.

Along with agency coordination previously described, the *I-30 PEL PIACP* (**Appendix C-1**) outlined various avenues for public and stakeholder involvement. Stakeholder involvement tools and strategies utilized for this effort included establishing the SAG, Project Partners, coordination with elected officials and participation in a visioning workshop. Public involvement tools included the CAP website hosted by AHTD, social media updates by AHTD, mailing lists, email communications, news media, community meetings and public meetings.

Public outreach was facilitated through four public meetings (series of 2 public meetings held for Public Meeting #1) held at major study milestones. The public

meetings were held at locations throughout the study area to provide a venue for public discussion and comment at various stages of the I-30 PEL process. All public outreach was advertised in a manner consistent with NEPA public meetings, complying with the respective two-week and one-week legal requirements of the AHTD *Public Involvement Handbook* (Draft Version - 2013) and the *CAP Environmental Manual* (2013). In addition, meetings were advertised through media releases and announcements, flier distribution throughout the community, email notifications and social media pages. Bilingual public meeting fliers were also posted at various businesses, places of worship, Chambers of Commerce, schools and other public gathering places in the study area. Summaries of the four public meetings, including comments received and responses to those comments, are included within the *Public Meeting Documentation* appendix (**Appendix C-2**).

5. Purpose and Need for the I-30 PEL Study:

a. What was the scope of the I-30 PEL Study and the reason for completing it?

The scope and reason for completing the I-30 PEL Study is as discussed in **Section 2.a.**

b. Provide the purpose and need statement, or the corridor vision and transportation goals and objectives to realize that vision.

The I-30 PEL Study purpose and need is shown in **Table 5**. The issues lead to increased vehicle delay, increased roadway and navigational safety hazards and the declining conditions of the roadways and bridges. The *I-30 PEL Purpose and Need Report* (**Appendix A**) contains a detailed description of the conditions in the study area and provides data to support the need for major transportation improvements within the study area.

Table 5. I-30 Purpose and Need

Needs (Problems)	Purpose (Solutions)
Traffic Congestion	To improve mobility on I-30 and I-40 by providing comprehensive solutions that improve travel speed and travel time to downtown North Little Rock and Little Rock and accommodate the expected increase in traffic demand. I-30 provides essential access to other major statewide transportation corridors, serves local and regional travelers and connects residential, commercial and employment centers.
Roadway Safety	To improve travel safety within and across the I-30 corridor by eliminating and/or improving inadequate design features.
Structural and Functional Roadway Deficiencies	To improve I-30 roadway conditions and functional ratings.
Navigational Safety	To improve navigational safety on the Arkansas River Bridge by eliminating and/or improving inadequate design features.
Structural and Functional Bridge Deficiencies	To improve I-30 Arkansas River Bridge conditions and functional ratings.

*Source: I-30 PEL Purpose and Need Report (**Appendix A**)*

In addition to the purpose and need, other project elements were established to balance transportation and environmental goals and objectives. Input sought from agencies and the public was incorporated to develop goals and guiding principles.[4]

Study goals (listed in no particular order):

- Improve opportunity for east-west connectivity;
- Enhance mobility;
- Improve local vehicle access to and from downtown Little Rock/North Little Rock;
- Connect bicycle/pedestrian friendly facilities across I-30/I-40;
- Accommodate existing transit and future transit;
- Improve system reliability;
- Minimize roadway disruptions during construction;
- Minimize river navigation disruptions during/after construction;
- Follow through on commitment to voters to improve I-30 as part of the CAP;
- Maximize cost efficiency;
- Optimize opportunities for economic development;
- Avoid and/or minimize impacts to the human and natural environment, including historic and archeological resources;
- Sustain public support for the I-30 Corridor improvements; and
- Improve safety.

Guiding principles (listed in no particular order):

- Accelerated Project Delivery;
- Context Sensitive Solutions/Aesthetically Pleasing Facility;
- Minimize the real, perceived and visual barrier of the freeway;
- Open public participation process; and
- Support of Local, Regional and Statewide Transportation Plan.

c. What steps will need to be taken during the NEPA process to make this a project-level purpose and need statement?

The purpose and need statement was developed in accordance with Appendix A, 23 CFR 450 – *Linking the Transportation Planning and NEPA Processes* (23 USC 139), which details how information, analyses and products from transportation planning can be incorporated seamlessly into the NEPA process at the project level. The *I-30 PEL Purpose and Need Report* (**Appendix A**) was a collaborative effort designed specifically to integrate public involvement and agency coordination in its development. In addition, detailed technical information was provided with regard to population trends and projections, major traffic generators, historic and future traffic projections and roadway and bridge design and safety conditions, all of which support the need for improvements along the I-30/I-40 facility within the study area. It is the intent to utilize this purpose and need statement to validate the NEPA preferred alternative during the NEPA decision-making process.

[4] Agency (local, state and federal) input gathered through TWGs; public input gathered through public meetings held on August 12, 2014 in North Little Rock and August 14, 2014 in Little Rock.

6. Range of alternatives: Planning teams need to be cautious during the alternative screening process; alternative screening should focus on purpose and need/corridor vision, fatal flaw analysis and possibly mode selection. This may help minimize problems during discussions with resource agencies. Alternatives that have fatal flaws or do not meet the purpose and need/corridor vision cannot be considered viable alternatives, even if they reduce impacts to a particular resource. Detail the range of alternatives considered, screening criteria and screening process, including:

a. What types of alternatives were looked at? (Provide a one or two sentence summary and reference document)

The Universe of Alternatives for the I-30 PEL Study included 43 potential Action Alternatives and a No Action Alternative. Each of these alternatives is described in more detail within the *I-30 PEL Universe of Alternatives* (**Appendix D-1**). The 43 Action Alternatives were grouped into categories based on the nature of the alternative. A brief description of these alternative categories, as well as the No Action Alternative, is summarized below and a complete listing is shown in **Figure 3**:

- **No Action** – Includes the preservation of the existing transportation network and any programmed transportation improvements that are reasonably expected to occur regardless of the outcome of the I-30 PEL Study.
- **Action Alternatives –** Action Alternatives were developed to address the needs identified in the study area (**Section 5.b**). The Action Alternative categories included the following:
    - **Highway Build** (14 alternatives) - Capital improvements to the I-30/I-40 main lanes, associated ramps and functional interchange areas.
    - **I-30 Arkansas River Bridge** (3 alternatives) - Capital investments to improve travel on I-30 across the Arkansas River.
    - **Other Modes** (10 alternatives) - Capital and operating improvements to non-highway modes including transit, rail, bicycle and pedestrian.
    - **Congestion Management** (11 alternatives) - Alternatives to general purpose highway lanes that focus on reducing congestion on I-30/I-40 by either adding capacity or reducing demand.
    - **Non-recurring Congestion** (5 alternatives) - Represents traffic incidents, bad weather, work zones and special events.

b. How did you select the screening criteria and screening process?

Alternative evaluation criteria and measures for the I-30 PEL Study were based upon both the purpose and need of the project and the study goals. The *I-30 PEL Alternative Screening Methodology* (ASM) (**Appendix D-2**) was developed to provide the decision-making framework to determine how well each alternative meets the purpose and need and study goals. The potential impacts of each alternative were analyzed and documented by the ASM evaluation criteria (e.g. congestion, order of magnitude cost estimates, displacements, etc.). The ASM

established how to screen and evaluate each alternative to determine elimination or advancement. The screening of alternatives for the I-30 PEL Study was conducted using a three-level screening process: Levels 1, 2 and 3 (Level 2 broken down into 2 parts – 2A and 2B). This three-level screening process is summarized in **Table 6** and presented in greater detail in the *Levels 1, 2 and 3 Screening Methodology and Result Memorandum(s)* (**Appendices D-3** through **D-5**).

Figure 3. I-30 PEL Universe of Alternatives



*Source: I-30 PEL Universe of Alternatives (**Appendix D-1**)*

Table 6. I-30 PEL Screening Process Summary

Description	Level 1	Level 2 – 2 Step Process		Level 3
		Level 2A	Level 2B	
Basis of Screening	Purpose and Need; Practicality[1]	Study Goals	Study Goals	Study Goals
Screening Type	Qualitative - Fatal Flaw	Primarily Qualitative (some Quantitative)	Primarily Qualitative (some Quantitative)	Primarily Quantitative (some Qualitative)
Rating System	Pass/Fail, See **Table 7**	See **Table 8**	See **Table 8**	Quantification by unit of measure and **Table 8** (when qualitative)
Screening Criteria	See **Table 7**	See **Table 9**	See **Table 9**	See **Table 10**
Screening Process	• Universe of Alternatives screened individually against purpose and need and practicality. • Pass not required on all criteria for alternative advancement, but alternative needed to show an overall positive impact on the I-30/I-40 facility and be determined practicable. • Resulted in ***Preliminary Alternatives.*** • See **Figure 4** for graphical representation of Level 1 Screening.	• Preliminary Alternatives screened individually against study goals. • Ratings based on engineering, safety, cost and environmental assumptions identified by the Study Team subject matter experts. • Resulted in Primary[2] or Complementary[3] Alternatives, and then grouped into ***Basic Scenarios.*** • See **Figure 5** for graphical representation of Basic Scenarios and **Figure 6** for graphical representation of the overall Level 2 Screening.	• Basic Scenarios screened against study goals. • Highway Capacity Manual (HCM) spot main lane level of service (LOS) analysis for evaluating mobility and safety measures. • Cost analysis varied proportionately to typical section width. • GIS spatial analysis using general footprint of Basic Scenarios for evaluating environmental measures. • Resulted in ***Reasonable Alternatives.*** • See **Figure 6** for graphical representation of the overall Level 2 Screening.	• Reasonable Alternatives screened against study goals. • Micro-simulation models (Vissim) for evaluating mobility and safety measures. • More detailed schematics for evaluating cost measures. • GIS spatial analysis of more detailed schematics for evaluating environmental measures. • See **Figure 7** for graphical representation of Level 3 Screening. • Resulted in ***PEL Recommendation(s)***

Description	Level 1	Level 2 – 2 Step Process		Level 3
		Level 2A	Level 2B	
Reasons for Alternatives Screened Out	• Did not meet purpose and need. • Impractical based on cost or effectiveness.	• Preliminary Alternatives did not adequately address study goals due to negative environmental impacts, costs and/or difficulties from an engineering standpoint. • Alternatives scored zero or less screened out.	• Basic Scenarios did not adequately address study goals due to negative environmental impacts, costs, and/or difficulties from an engineering standpoint. • Basic Scenarios scored zero or less screened out.	• Only the Reasonable Alternative that best addressed study goals from an overall standpoint (mobility, safety, cost and environmental) was identified as the PEL Recommendation; other remaining alternatives screened out.
Technical Report with Detailed Screening Analysis	*Level 1 Screening Methodology and Results Memorandum* (**Appendix D-3**)	*Level 2 Screening Methodology and Results Memorandum* (**Appendix D-4**)	*Level 2 Screening Methodology and Results Memorandum* (**Appendix D-4**)	*Level 3 Screening Methodology and Results Memorandum* (**Appendix D-5**)

Notes:

1. *For transportation projects, generally, an alternative is **practicable** if it: 1) meets the purpose and need; 2) is available and capable of being done (i.e., it can be accomplished within the financial resources that could reasonably be made available, and it is feasible from the standpoint of technology and logistics); and 3) will not create other unacceptable impacts such as severe operation or safety problems, or serious socioeconomic or environmental impacts. The evaluation of alternatives must consider a reasonable range of options that could fulfill the project sponsor's purpose and need. Reasonable Alternatives include those that "are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant" (Council on Environmental Quality, 1981).*
2. *Primary Alternatives - Considered to have the potential to substantially address the study goals as stand-alone alternatives.*
3. *Complementary Alternatives - Alternatives that when combined with the Primary Alternatives, address the study goals.*

*Source: I-30 PEL Study Team, 2014-2015; I-30 PEL Levels 1, 2, and 3 Screening Methodology and Results Memorandum(s)(**Appendices D-3** through **D-5**)*

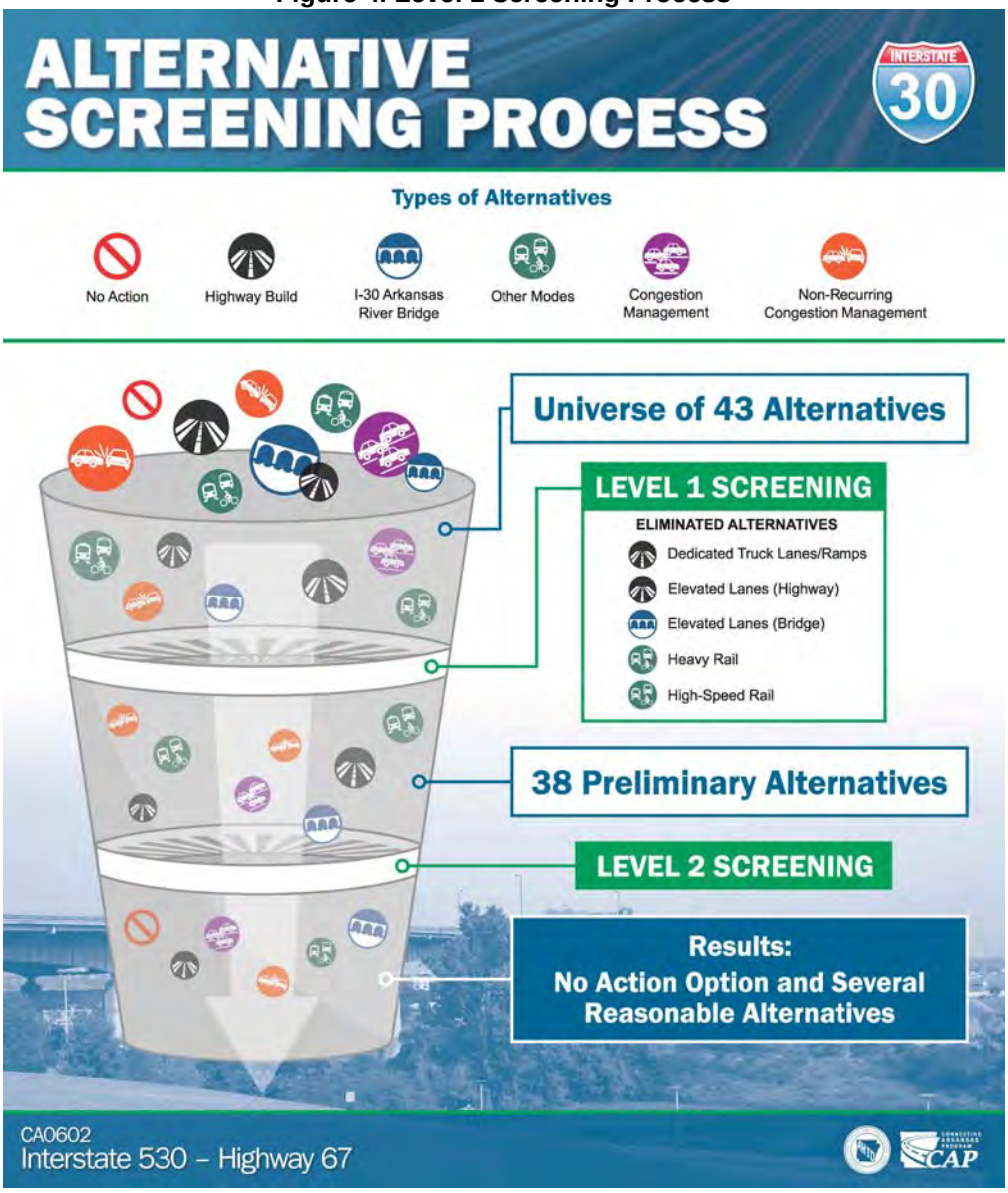
Table 7 presents the Level 1 Screening rating system and screening criteria. **Figure 4** presents the Level 1 screening process.

Table 7. Level 1 (Fatal Flaw) Screening Criteria and Rating System

Study Need	Rating
Relieve Traffic Congestion	Pass/Fail
Improve Roadway Safety	Pass/Fail
Address Structural and Functional Roadway Deficiencies	Pass/Fail
Improve Navigation Safety	Pass/Fail
Address Structural and Functional Bridge Deficiencies	Pass/Fail
Practicality [1]	Pass/Fail

*Note: [1] See **Table 6** for definition of Practicality*
*Source: I-30 PEL Level 1 Screening Methodology and Results Memorandum (**Appendix D-3**)*

Figure 4. Level 1 Screening Process



*Source: I-30 PEL Level 1 Screening Methodology and Results Memorandum (**Appendix D-3**)*

Table 8 and **Table 9** present the Level 2 rating system and screening criteria, respectively. **Figure 5** presents the compilation of the multi-modal Basic Scenarios for Level 2B Screening. **Figure 6** presents the overall Level 2 (Level 2A and 2B) Screening Process.

Table 8. Qualitative Rating System

Rating	Evaluation	Score
+ +	Substantial positive effects	2
+	Some positive effects	1
O	Neutral effects	0
–	Some negative effects	-1
– –	Substantial negative effects	-2

Source: *I-30 PEL Level 2 Screening Methodology and Results Memorandum* (**Appendix D-4**)

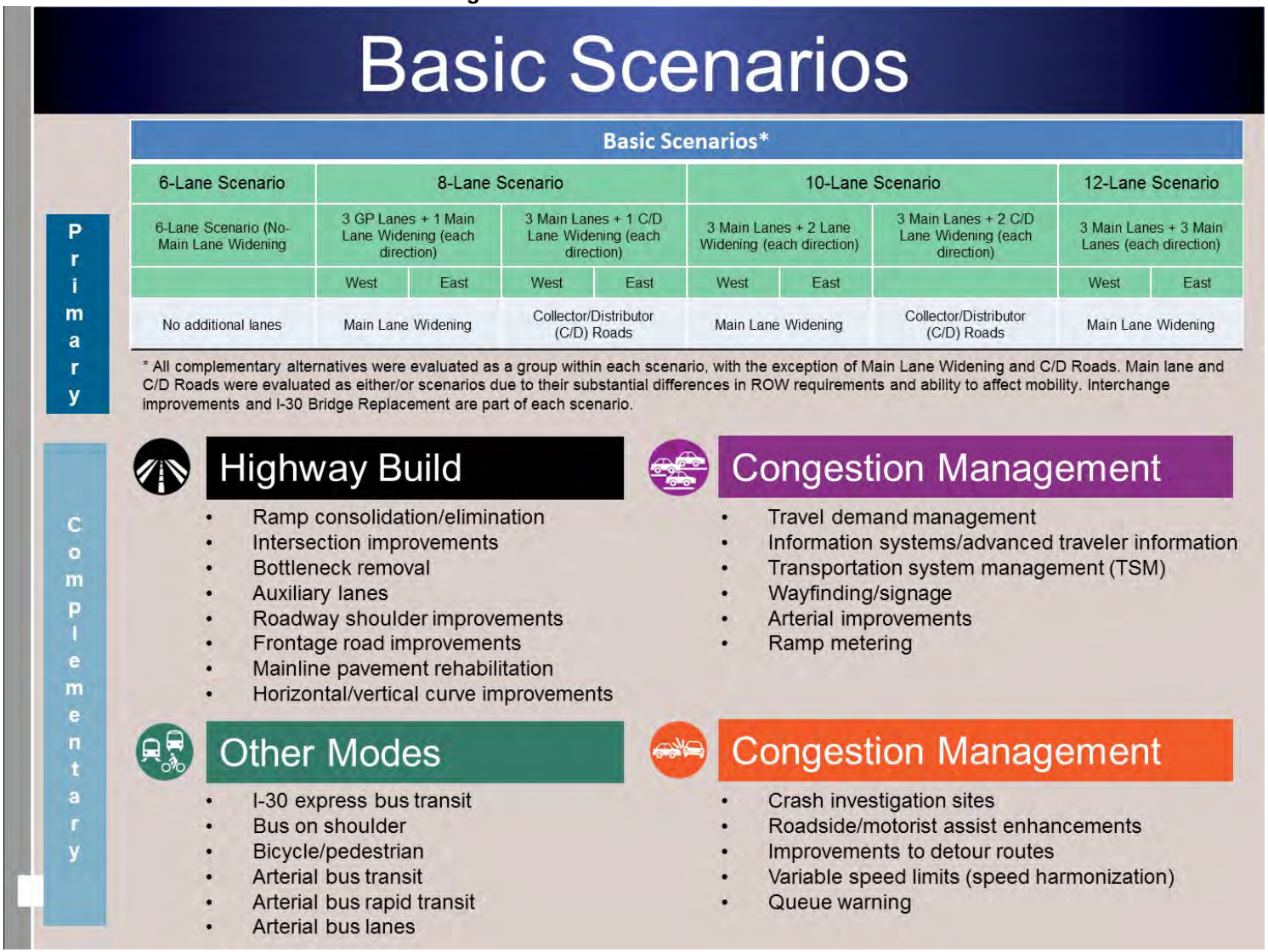
Table 9. Level 2 Alternative Screening Criteria

Group	Study Goal	Measure
Mobility	Enhance Mobility	Mobility on I-30 Mainline
		Total travel time savings vs. no build
		Average peak hour travel speed through corridor
	Access to Downtown	Mobility of key intersections along corridor
		Travel time to key destinations along corridor
	East-West Connectivity	Locations allowing for local street connectivity
		Designs allowing for open spaces across I-30
	Bicycle/Pedestrian	Grade separated bicycle/pedestrian accommodations across I-30
	Accommodate Transit	Transit ridership in the PEL study area
	Minimize Roadway Disruptions	Severity of I-30 lane closures; detours during construction
	Minimize River Disruptions	Severity of river closures during construction
		Location of navigational impediments (bridge piers)
	Opportunity for Economic Development	Access to existing / potential business sites within the PEL study area
	Commitment to Voters	Mobility on I-30 main lane
Safety	System Reliability	Potential accident reductions
		Emergency vehicle travel time
	Improve Safety	I-30 main lane conflict points in weaving/merge/diverge areas
		Number of ramps per mile on I-30 in the study area
		Ramp acceleration and deceleration lengths
		I-30 roadway and bridge structural conditions.
		Arterial connection conflict points

Group	Study Goal	Measure
Cost	Cost	Total conceptual cost to AHTD
		Total cost of ROW acquisition
		Impact to major utilities and infrastructure
		Total investment required by others
Environmental	Community Impacts	ROW/parcels/structures potentially directly impacted
		Potential displacements
		Are EJ/LEP populations present in the study area?
		Is there a potential for adverse direct impacts to EJ/LEP populations?
		Is there a potential for beneficial impacts and/or mitigation to offset any potential adverse effects to EJ/LEP populations?
	Cultural Resource Impacts	Recorded archaeological sites potentially directly impacted
		NRHP or NRHP-eligible sites potentially directly impacted
	Biological Resource Impacts	Potential direct park impacts
		Potential direct surface water crossings, wetlands impacts
		Potential direct impacts to listed and non-listed species and/or habitat, and rare locally important species
	Other Impacts	High risk hazardous material sites potentially directly impacted
		Potential noise impacts (sensitive noise receptors directly adjacent)
	Public/Agency Input	Meeting comments and local resolutions

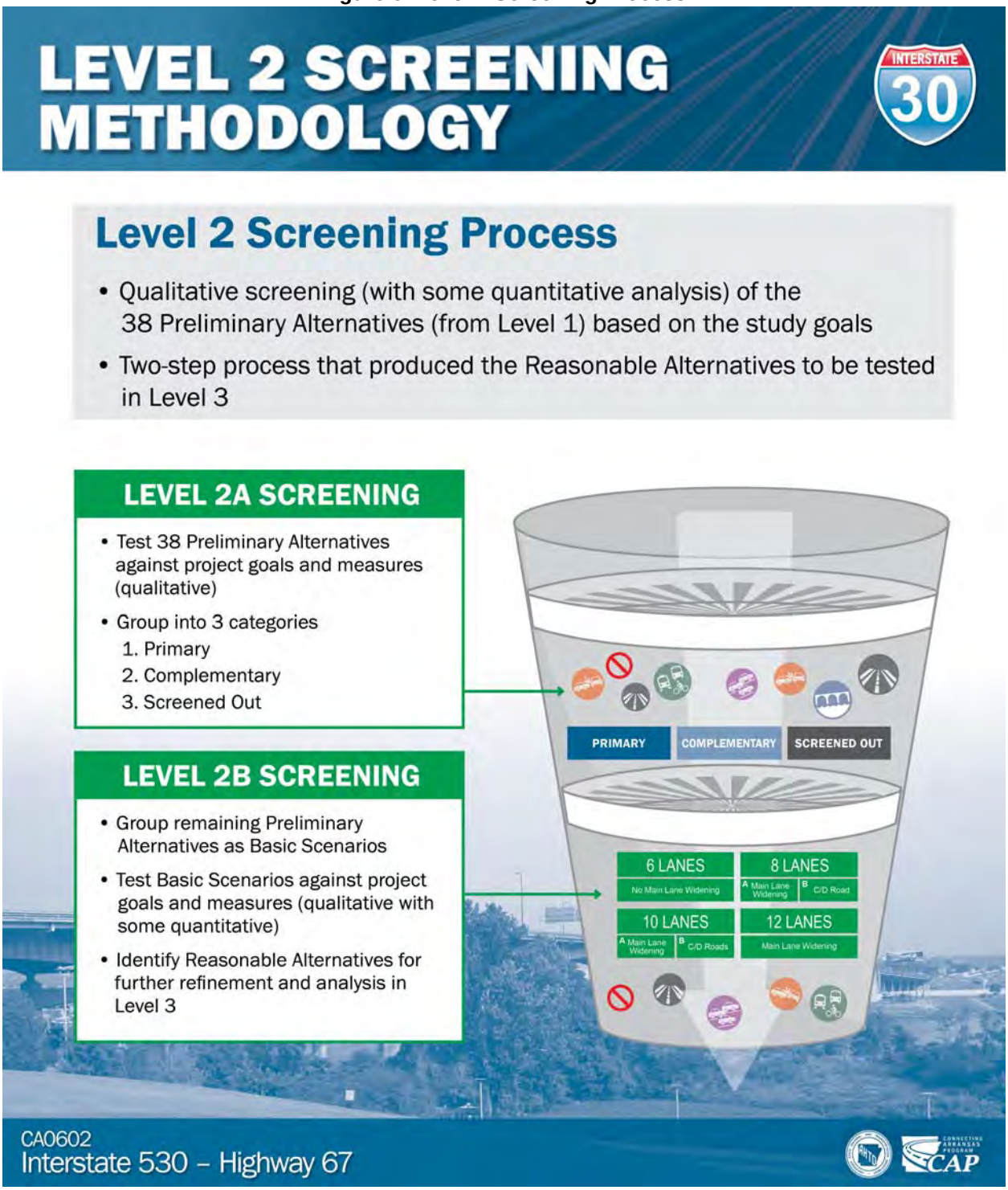
*Source: I-30 PEL Level 2 Screening Methodology and Results Memorandum (**Appendix D-4**)*

Figure 5. Level 2B Basic Scenarios



*Source: I-30 PEL Level 2 Screening Methodology and Results Memorandum (**Appendix D-4**)*

Figure 6. Level 2 Screening Process



*Source: I-30 PEL Level 2 Screening Methodology and Results Memorandum (**Appendix D-4**)*

Table 10 and **Figure 7** present the Level 3 screening criteria and screening process, respectively.

Table 10. Level 3 Alternatives Screening Criteria

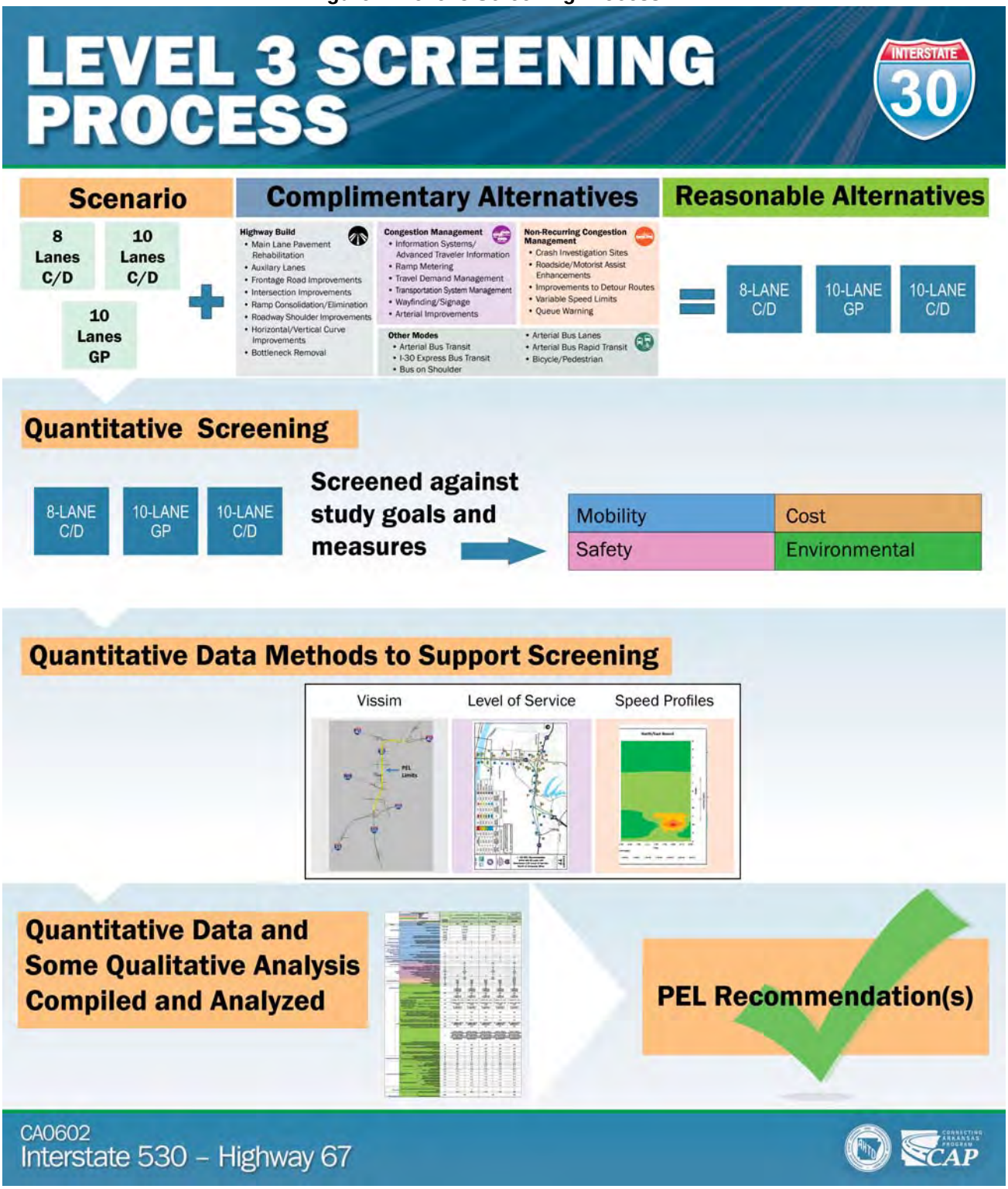
PEL Study Goals	Measures	Description of Evaluation
Mobility		
Enhance Mobility	Mobility in the PEL study area	Distance and duration of LOS E or F (Miles/Minutes during PM Peak).
	Mobility in the PEL study area	Distance and duration of LOS F (Miles/Minutes during PM Peak).
	Total Travel Time	Average travel time between the Hwy 67/I-40 Interchange and the Southern Interchange (Heading south in AM and north in PM).
	Average Peak Hour Travel Speed Through the Corridor	Average speed when traveling between the Hwy 67/I-40 Interchange and the Southern Interchange (Heading south in AM and north in PM).
Access to Downtown	Mobility of Key Intersections within the PEL study area	Number of intersections at LOS E and number of intersections at LOS F.
	Travel time to key destinations in the PEL study area	Travel time (min) from Hwy. 67 at McCain to the Capitol.
East-West Connectivity	Locations allowing for local street connectivity	Qualitative evaluation.
	Designs that allow for open space across I-30	Qualitative evaluation.
Connect Bicycle and Pedestrian-Friendly Facilities	Grade-separated bicycle and pedestrian facilities	Qualitative evaluation.
Accommodate Existing and Future Transit	Transit Ridership in the PEL study area	Qualitative evaluation.
Minimize Roadway Disruptions	Severity of I-30 lane closures, detours during construction	Qualitative evaluation.
	Severity of river closures during construction	Qualitative evaluation.
	Location of navigational impediments (bridge piers)	Qualitative evaluation.
Opportunity for Economic Development	Access to existing / potential business sites within the PEL study area	Qualitative evaluation.
Commitment to Voters	Mobility on I-30 main lanes	Qualitative evaluation.
Safety		
Crashes	Quantified 2010-2012 crashes	Crashes broken down by location, type of crash, and severity of crash.
	2010-2012 Crash Rates	Crash rates developed for each section based on average daily traffic and number of crashes.
	2041 Projected Crashes	Based on crash rate for 2012 and 2041 projected traffic volumes; estimated crashes projected for 2041.

PEL Study Goals	Measures	Description of Evaluation
Conflict Points	Quantified arterial connection points	Conflict points counted based on number of vehicle paths that cross, merge, and diverge with another vehicle based on legitimate movements through an intersection.
	Quantified main lane conflict points	Conflict points quantified from the merge and diverge points on main lanes; if ramp had designated lane and no lane change was required to stay on the man lanes, then no conflict point was counted.
	Quantified Collector/Distributor (C/D) Road Conflict Points	Conflict points quantified from the merge and diverge points on C/D road. If a ramp had a designated lane and no lane change was required, then no conflict point was counted.
Deficient Ramps and Weaving Lengths	Quantified deficient acceleration and deceleration ramp lengths	Deficient acceleration and deceleration according to the larges applicable minimum (AASHTO Green Book and AHTD Standards).
	Quantified deficient weaving lengths	Deficient weaving lengths counted based on AASHTO Green Book minimum guidelines for all alternatives.
Ramps per Direction	Quantified main lane ramps	Ramps counted in each direction of the study section.
	Quantified C/D ramps	Ramps counted in each direction for the length of the C/D system.
Potential Crash Reductions	Quantified potential crash reductions	Crash modification factors applied to different design elements for the Build Alternatives; assumed no improvements to the No Action Alternative.
Cost		
Maximize Cost Efficiency	Construction cost	Estimated costs based on total square feet of pavement and bridge deck area.
	Total cost of ROW acquisition	Estimated cost based on general market value.
	Total cost to AHTD	Construction cost + ROW cost.
	Total Investment by others	To be determined during NEPA.
Environmental		
Community	ROW	Acres of proposed ROW required, calculated using design files for each Reasonable Alternative.
	Parcels	Number of parcels where ROW could be required as identified using County Assessors Mapping Program (CAMP) Pulaski County parcel data.
	Displacements / Structures	Number of displacements (residential and commercial) and structures (billboards) potentially affected by proposed ROW as identified using CAMP Pulaski County parcel data and aerial photographs.
	Environmental Justice/ Limited English Proficiency (EJ/LEP)	Series of questions used to identify potential adverse impacts to EJ/LEP populations; the potential for avoidance, minimization, and mitigation to offset adverse impacts to EJ/LEP populations; and the potential for beneficial impacts associated with the improvements, as applicable. Details of the E/LEP analysis, including a listing and description of the evaluation questions, are provided in the *I-30 PEL Level 3 Screening Methodology and Results Memorandum* (**Appendix D-5**)**.**

PEL Study Goals	Measures	Description of Evaluation
Cultural Resources	Recorded archeological sites	Number of recorded archeological sites located within proposed ROW. Recorded archeological sites identified by the AHTD through background research and field reconnaissance, and subsequent coordination with the Arkansas Historic Preservation Program (AHPP).
	NRHP or NRHP-eligible sites	Number of National Register of Historic Places (NRHP) or NRHP-eligible sites located within proposed ROW. Sites identified by AHTD through background research and field reconnaissance, and subsequent coordination with the AHPP.
	High probability areas for archeological resources	Number of areas along existing and proposed ROW determined to have a high probability for archeological resources, as identified in accordance with the *I-30 PEL Cultural Resources Survey Methodology Memorandum* (**Appendix G**). High probability areas determined through geospatial analysis of 1913 Sanborn Fire Insurance Maps overlaid with current aerial imagery to identify locations where structures once existed but are no longer intact; and through the analysis of United States Geological Survey (USGS) topographic maps to identify upland areas that may contain intact cultural deposits based on high elevation contours.
Natural Resources	Parks	Names and acres of parks located within proposed ROW for each Reasonable Alternative as identified using Arkansas Geographic Information Office park data, as well as AHTD provided data.
	Surface Water Crossings/Wetlands	Acres of surface water crossings and wetlands located within proposed ROW for each Reasonable Alternative. Wetlands classified by type (emergent or forested/shrub) using 2014 aerial photography and verified with AHTD input and National Wetland Inventory maps for reference.
	Listed and non-listed species and/or habitat, and rare locally important species	Acres of quality habitat within proposed ROW of each Reasonable Alternative. Vegetation classified by type (non-maintained herbaceous, woodland, and riparian) using 2014 aerial photography and input from AHTD. Existing ROW classified as maintained herbaceous and not considered quality habitat.
Other	Hazardous Materials Sites	Number of encroachments on hazardous material sites for each Reasonable Alternative and potential impacts to sites. Site descriptions, history and current status determined using Arkansas Department of Environmental Quality (ADEQ) database information.
	Traffic Noise Receptors	Number of sensitive noise receptors (residences, churches, schools, daycares) along the proposed alignment for each Reasonable Alternative as identified using public facility data provided by AHTD, online research, and CAMP Pulaski County parcel data.
Public Input	Meeting Comments	Percentage of comments received at Public Meeting #3 that identified a preference for a specific Reasonable Alternative (Reasonable Alternatives presented at Public Meeting #3).

*Source: I-30 PEL Level 3 Screening Methodology and Results Memorandum (**Appendix D-5**)*

Figure 7. Level 3 Screening Process



*Source: I-30 PEL Level 3 Screening Methodology and Results Memorandum (**Appendix D-5**)*

c. For alternative(s) that were screened out, briefly summarize the reasons for eliminating the alternative(s). (During the initial screenings, this generally will focus on fatal flaws)

Level 1

The following alternatives from the Universe of Alternatives (**Figure 3**) were eliminated from further consideration because they did not meet the purpose and need of the project, or they were deemed impractical[5]. More detailed information regarding the results of the Level 1 Screening analysis is included in the *I-30 PEL Level 1 Screening Methodology and Results Memorandum* (**Appendix D-3**).

- **Elevated Lanes (Roadway)** – This alternative was deemed impractical and eliminated because of the high construction cost and the difficulties associated with constructability.
- **Truck Lanes/Ramps** – This alternative was eliminated because it would have minimal effect due to the low percentage of trucks currently using I-30.
- **Elevated Lanes (Bridge)** – This alternative was deemed impractical and eliminated because of the high construction cost and the difficulties associated with constructability.
- **Heavy Rail** – This alternative was deemed impractical and eliminated because of the high construction and operating cost.
- **High Speed Rail** – This alternative was deemed impractical and eliminated because of the high construction and operating cost.

Level 2

The set of Preliminary Alternatives included 12 highway build alternatives, 2 bridge alternatives, 8 other travel mode alternatives, 10 congestion management strategies and 5 non-recurring congestion alternatives. The Preliminary Alternatives were evaluated against the study goals during the two-step (Level 2A and Level 2B) screening process.

Level 2A - The following alternatives were screened out from further consideration during the Level 2A Screening process.

Highway Build

- **Bypass Route** – This alternative was eliminated due to the moderate reduction in I-30 traffic[6], environmental impacts (e.g., anticipated ROW impacts; potential displacements; and potential park, surface waters, and habitat impacts associated

[5] For transportation projects, generally, an alternative is practicable if it: 1) meets the purpose and need; 2) is available and capable of being done (i.e., it can be accomplished within the financial resources that could reasonably be made available, and it is feasible from the standpoint of technology and logistics); and 3) will not create other unacceptable impacts such as severe operation or safety problems, or serious socioeconomic or environmental impacts.

[6] Metroplan's Travel Demand Model runs showed that the addition of a bypass route would reduce peak hour traffic on I-30 by approximately 3.5%.

with a new Arkansas River Bridge crossing), and lack of a dedicated funding source identified in the LRMTP.

I-30 Arkansas River Bridge

- **Rehabilitation** – The Arkansas River Bridge rehabilitation alternative had poor scoring in categories related to structural condition, project cost and navigational impediments which resulted in its elimination from further consideration. Additionally, bridge rehabilitation would not address the cited concerns related to existing pier configuration by the USACE, USCG and Arkansas Waterways Commission.

Other Modes

- **Light Rail (Street Car)** –This alternative was screened out as a result of Rock Region METRO (formerly CATA) not including light rail in their 10-year Strategic Plan and the lack of a dedicated funding source identified in the Metroplan LRMTP.
- **Commuter Rail** – This alternative was screened out as a result of Rock Region METRO (formerly CATA) not including commuter rail in any of their future planning documents and the lack of a dedicated funding source identified in the Metroplan LRMTP.

Congestion Management

- **Managed Lanes** – This alternative was screened out due to the increase in conflict points in weaving areas, the high initial cost given the lack of an existing managed lane system, the continued operational costs and potential negative impact to low-income populations given the added monetary cost for use of these lanes.
- **Reversible Lanes** – This alternative was screened out due to high initial cost, continued operational cost, increased conflict points in the weaving areas and ROW requirements.
- **Hard Shoulder Running** – This alternative was screened out due to potential safety impacts resulting from interference with emergency vehicles and conflict with the Bus on Shoulder transit option, which Rock Region METRO (formerly CATA) identified as a preferential congestion management alternative for possible future implementation.
- **Land Use Policy** – This alternative would not result in near-term benefits to the I-30/I-40 facility, nor does it meet a study goal to “follow through on commitment to voters to improve I-30 as part of the CAP.” Elimination of this alternative does not mean that land use is not important to the corridor or region, but that it is not considered to be a main solution for addressing safety, mobility and associated roadway deficiencies along I-30/I-40.

Level 2B - The Level 2B Screening evaluated alternatives based on Basic Scenarios. The following Basic Scenarios were screened out from further consideration due to their low scores in the Level 2B Screening.

- **6 Main Lanes** (3 main lanes in each direction) – This Basic Scenario was screened out because it failed to substantially improve mobility and safety in the study area, and as traffic volumes continue to increase, the conditions will grow progressively worse over the next 20 years.
- **8 Main Lanes** (4 main lanes in each direction) East and West[7] Basic Scenarios – These scenarios were screened out because they incurred costs and environmental impacts while not adequately addressing mobility and safety in the study area.
- **12 Main Lanes** (6 main lanes in each direction) East and West[9] Basic Scenarios – These scenarios were screened out because the HCM traffic analysis showed that the 10-lane alternatives were capable of addressing mobility and safety along the study corridor, and therefore the extra lanes were not needed. These scenarios also had high construction, ROW and utility costs, along with the most serious impacts to parks, water crossings, endangered species, hazardous material sites and parcels, many of which resulted in displacements.

More detailed information regarding the results of the Level 2 Screening analysis is included in the *I-30 PEL Level 2 Screening Methodology and Results Memorandum* (**Appendix D-4**).

Level 3

Three Reasonable Alternatives (8-lane C/D, 10 Main Lane and 10-lane C/D) and the No Action Alternative were evaluated in the Level 3 Screening, of which the following were eliminated:

- **8-lane C/D –** This alternative had the lowest cost and the least environmental impacts of the Reasonable Alternatives. The addition of the C/D system did substantially reduce crashes by separating the slower moving traffic destined for the downtown areas from the main lanes, but this alternative performed poorly in the mobility measures. By 2041, several locations will experience peak hour travel speeds below 25 mph and the southbound direction will experience LOS F congestion (worst operational conditions) for nearly the entire AM peak period. The afternoon peak period also has several locations with LOS F congestion lasting more than an hour. Therefore, this alternative does not meet the purpose and need, or the study goals of the project, and will not be advanced to NEPA as a PEL Recommendation.

- **10 Main Lanes –** This alternative was comparable to the other alternatives for the environmental measures and costs slightly less than the 10-lane C/D Alternative, though more than the 8-lane C/D Alternative. The 10 Main Lane Alternative performed well on the mobility measures, having peak hour travel speeds of 58 mph through much of the corridor. Travel time through the study

[7] Each widening Basic Scenario, with the exception of the 10-lane C/D Basic Scenario, had an east and a west option. This represents the location of the bridge replacement, with staged construction of the new bridge beginning to the east or west of the existing bridge.

area in the year 2041 was reduced to 7 minutes in the southbound direction, compared to 17 minutes for the No Action. Crashes were also reduced significantly, though not as much as the 10-lane C/D Alternative.

d. Which alternatives should be brought forward into NEPA and why?

Based on the results of the Level 3 Screening, the 10-lane C/D Alternative was identified as the top alternative. This alternative performed well in all mobility measures, having average peak hour travel speeds of 59 mph along the facility, compared to 25 mph for the 8-lane C/D Alternative and 58 mph to the 10 Main Lane Alternative. The addition of the C/D lanes removed slower moving traffic destined for the downtown areas from the main lanes, thereby eliminating 70 crashes per year compared to the non-C/D alternative (10 Mane Lane Alternative). Moreover, the slower speeds traveled on the C/D lanes are anticipated to result in less severe crashes than the higher speed main lanes.

The C/D lanes also serve to create a new local connection between Little Rock and North Little Rock across the Arkansas River Bridge, allowing motorists to travel between the downtown areas without entering the main lanes of the interstate. Serving as an additional crossing of the Arkansas River that is separate from main lane traffic, the C/D lanes would provide more convenient access to and between the downtown economic districts and support improved connectivity and cohesion of these financially viable commercial and tourist areas. This qualitative assessment of the additional mobility, safety, connectivity and economic benefits of the 10-lane C/D Alternative demonstrates a substantial improvement compared to the 10 Main Lane Alternative that outweighs the slight differences in environmental impacts and cost of the 10 Main Lane Alternative.

Slight design modifications, such as shortening the C/D road system's northern limits to increase the weaving distance between the north terminal interchange and the C/D system, were made to this top alternative to achieve additional mobility and cost benefits. The resulting alternative, called the **10-lane Downtown C/D Alternative**, was identified as the **PEL Recommendation** to be carried forward into the NEPA process.

The PEL Recommendation would include 3 main lanes and 2 C/D lanes in each direction. The C/D lanes for both southbound and northbound travel would extend from just south of Broadway Street in North Little Rock to the Cantrell Road interchange just north of 3rd Street in Little Rock. Outside the location of the C/D roads, the new facility would generally include 5 main lanes in each direction. Other alternatives such as bus on shoulder and ramp metering were incorporated into the PEL Recommendation. The PEL Recommendation is shown in **Figure 8**, with a complete listing of the alternatives incorporated into the PEL Recommendation.

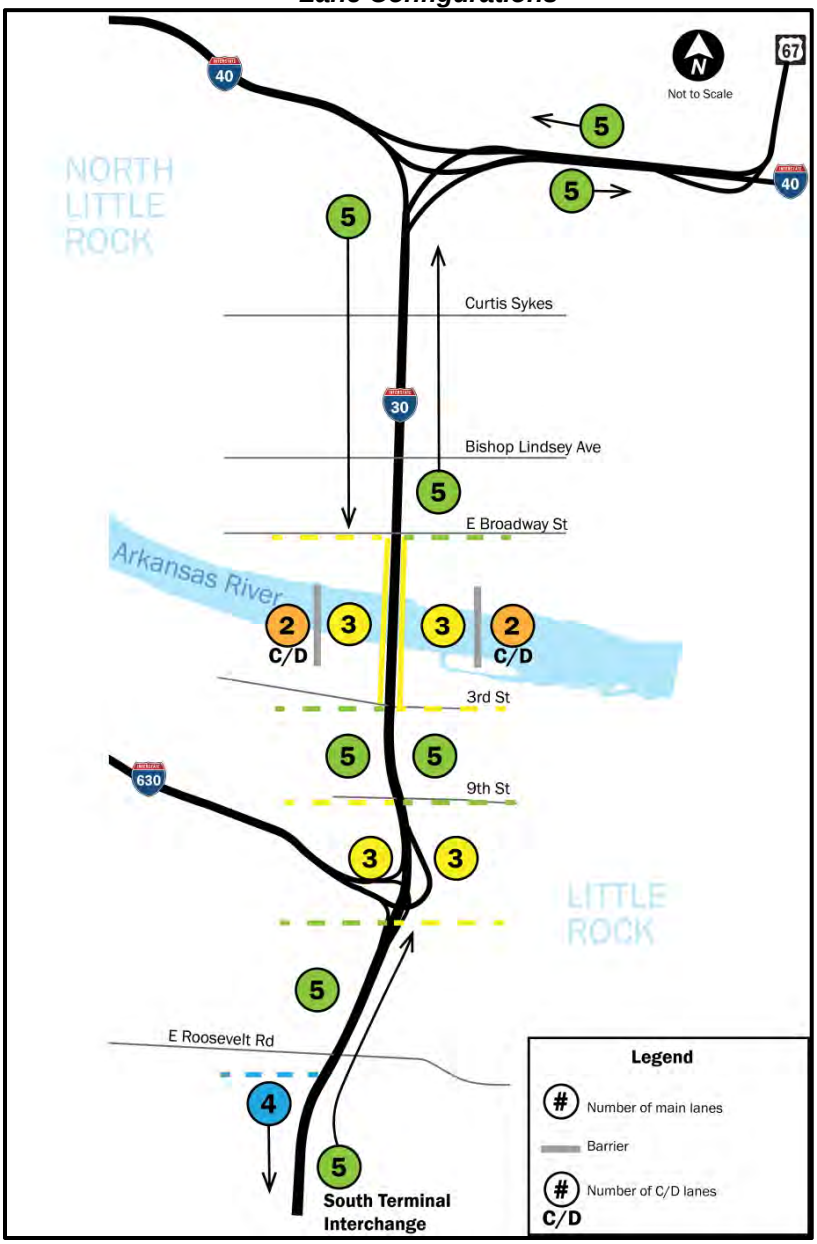
The I-30 PEL Study determined that the 10-lane Downtown C/D Alternative would best relieve traffic congestion, improve roadway safety, address structural and

function roadway deficiencies, improve navigation safety and address structural and functional bridge deficiencies in accordance with the purpose and need, as well as meet the study goals, as defined by the study team, agencies and public.

Project-specific determinations regarding the roadway design, exact location of ramps and interchanges and project funding would be analyzed and decided through the NEPA process. Issues/design features to be determined during NEPA are further detailed in the *I-30 PEL to NEPA Transition Report* (**Appendix H**).

Figure 8. PEL Recommendation

Lane Configurations



Alternatives Incorporated into PEL Recommendation Design:

Highway Build

- Main Lane Widening
- Collector / Distributor (C/D) Roads
- Interchange Improvements
- Ramp Consolidation / Elimination
- Intersection Improvements
- Bottleneck Removal
- Auxiliary Lanes
- Roadway Shoulder Improvements
- Frontage Road Improvements
- Main Lane Pavement Rehabilitation
- Horizontal / Vertical Curve Improvements

I-30 Bridge

- I-30 Arkansas River Bridge Replacement

Congestion Management

- Ramp Metering
- Transportation System Management (TSM)
- Wayfinding / Signage

Other Modes

- Bus on Shoulder
- Bicycle / Pedestrian

*Source: I-30 PEL Level 3 Screening Methodology and Results Memorandum (**Appendix D-5**)*

e. Did the public, stakeholders, and agencies have an opportunity to comment during this process?

As described in **Sections 2.e, 3.a, 3.b** and **4.a**, the I-30 PEL Study included a robust outreach plan, such that the public, agencies and stakeholders were actively engaged throughout the entire PEL process.

An opportunity was provided during the first series of public meetings for the public to comment on the study area, problems and goals of the study area and environmental constraints. As part of the second public meeting, the public was asked to comment on the Universe of Alternatives, Level 1 Screening and draft Preliminary Alternatives. Comments from the public were solicited at the third public meeting on the Level 2 Screening and the draft Reasonable Alternatives. During the fourth (final) public meeting, the public were able to comment on the Level 3 Screening and draft PEL Recommendation(s) for future study under NEPA.

TWG meetings were held prior to each of the four public meetings, thereby providing the Study Team the opportunity to meet with subject matter experts to provide information, answer questions and gather their input and feedback. This information was important to take into account and incorporate prior to presenting concepts to the public. Likewise, Project Partner meetings, SAG meetings, and meetings with elected officials were scheduled throughout the PEL process at key milestones and as needed to keep stakeholders up-to-date on the progression of the study and to solicit input and comments on that progression.

A summary of the public meetings is presented in **Table 11**. A summary of the TWGs and other coordination is summarized in **Section 2.e**. Public, TWG and other outreach methods (stakeholder, Project Partners, etc.) are detailed in the *Public Meeting Documentation* (**Appendix C-2**), *TWG Documentation* (**Appendix C-3**) and *Additional Outreach Documentation* (**Appendix C-4**) appendices, respectively.

Table 11. I-30 PEL Study Public Meetings

Public Meeting	Date/Time	Location	Purpose and Meeting Highlights
Public Meeting Series #1	Tuesday, August 12, 2014 4 p.m. – 7 p.m.	North Little Rock Chamber of Commerce Bank of the Ozarks Conference Center 100 Main St. North Little Rock, Arkansas 72114	• Introduced CAP • Introduced the PEL study process and study area • Requested input from public on problems and goals for the study area to assist in development of purpose and need • Presented traffic and safety overview • Presented alternative screening process • Presented I-30 PEL study area constraints
	Thursday, August 14, 2014 4 p.m. – 7 p.m.	Comfort Inn & Suites Presidential Cash/Campbell Ballroom 707 Interstate 30 Little Rock, Arkansas 72202	

Public Meeting	Date/Time	Location	Purpose and Meeting Highlights
#2	Thursday, November 6, 2014 4 p.m. – 7 p.m.	Horace Mann Arts and Science Magnet Middle School (Cafeteria) 1000 East Roosevelt Rd. Little Rock, Arkansas 72206	• Presented draft purpose an need statement • Introduced draft Universe of Alternatives • Presented Level 1 Screening methodology and results • Presented draft Preliminary Alternatives and the draft Basic Scenarios • Requested input from public on alternatives they would like to see further evaluated in the PEL Study • Presented example main lane typical sections
#3	Thursday, January 29, 2015 4 p.m. – 7 p.m.	Friendly Chapel Church of the Nazarene (Gym) 116 South Pine Street North Little Rock, Arkansas 72114	• Reviewed Level 1 Screening and results • Presented Level 2A and Level 2B Screening methodology and results • Presented draft Reasonable Alternatives
#4	Thursday, April 16, 2015 4 p.m. – 7 p.m.	Horace Mann Arts and Science Magnet Middle School (Cafeteria) 1000 East Roosevelt Rd. Little Rock, Arkansas 72206	• Reviewed Level 2 Screening and results • Presented Level 3 Screening methodology and results • Presented Vissim model results through speed profiles of the Reasonable Alternatives • Presented draft PEL Recommendation(s) • Presented animated video of draft PEL Recommendation

Source: I-30 PEL Study Team, 2014-2015

f. Were there unresolved issues with the public, stakeholders and/or agencies?

The I-30 PEL Recommendation designates a conceptual alignment for widening and reconstruction; however this recommendation would likely require design refinements and other potential modifications as a more detailed schematic design and analysis is completed during the NEPA phase of project development. Accordingly, the I-30 PEL Study did identify several issues/analyses that require continued study or a more detailed evaluation under NEPA, as summarized below and detailed in the *I-30 PEL to NEPA Transition Report* (**Appendix H**).

- Research and document, as applicable, the status of existing and potential future studies for the needed outside improvements:
  - I-630 from Louisiana Street west beyond the study limits; and
  - I-30 southwest of the south terminal interchange to 65th Street beyond the study limits.

- Additional Vissim Modeling.
- Highway Safety Manual analysis of No Action and NEPA preferred alternative.
- Design modifications at Cantrell Interchange/2nd Street/Cumberland Street Interchange; east or west widening of the Arkansas River Bridge; C/D lanes length optimization and addressing turning radius for buses at Cantrell Road and Cumberland Street.
- Comprehensive field work and detailed impacts analyses of environmental resources, permitting and mitigation/commitments.
- Identification and invitation of cooperating and participating agencies.
- Funding/Segmentation.
- Continuation of TWG, SAG, Project Partner and other stakeholder outreach through NEPA.
- Completion of a visioning workshop during NEPA to examine potential CSS and design concept guidelines.

7. Planning assumptions and analytical methods:

a. What is the forecast year used in the I-30 PEL study?

The forecast year is 2041, 20 years after the anticipated opening year (2021).

b. What method was used for forecasting traffic volumes?

Several methods were investigated to project future volumes for years 2021 (opening year) and 2041 (design year). The methodology is detailed in the *I-30 PEL Traffic and Safety Report* (**Appendix F**) and is summarized below:

- Average Daily Traffic (ADT) counting stations along I-30, I-40 and side roads within the project limits were identified from the AHTD's database of historic traffic counts. The historic counts were plotted and the linear equation was used to project future year traffic volumes.
- The annual growth rate was determined using the oldest available traffic count and most recent available traffic count.
- The *Traffic Monitoring System Handbook* (AHTD 2013) provided a table of 2012 County and Statewide Growth that was used to project future year traffic volumes.
- Metroplan provided 2010 and 2040 volumes from the Central Arkansas Regional Transportation Study (CARTS) Travel Demand Model. These two years of volumes were used to calculate an annual growth rate. The calculated growth rates along with 2013 ADTs, when available, were used to project future traffic volumes.

An average annual growth rate (AGR) was determined based on the various sources. When calculating the average, engineering judgment was used to determine which volumes were applicable.

The No Action Alternative and the three Reasonable Alternatives were evaluated using Vissim models to evaluate mobility. To analyze mobility, a comprehensive set of mobility measures were developed. Such primary mobility measures include LOS, vehicle travel time, vehicle travel speed, vehicle hours of travel and vehicle hours of delay. A full list of the mobility measures evaluated using Vissim are presented in the *I-30 PEL Traffic and Safety Report* (**Appendix F**).

c. Are the planning assumptions and the corridor vision/purpose and need statement consistent with the long-range transportation plan?

The I-30 PEL Study purpose and need statement supports the goals from the recently approved 2040 LRMTP, as outlined in **Table 12**.

Table 12. Consistency of the I-30 PEL Study with the LRMTP

LRMTP Goals and Vision	I-30 PEL Study Purpose and Need
Transportation and Mobility: Freeway Vision (FV) The primary purpose of the regional freeway network is to connect the central Arkansas economy with the state, national and global economies. As such, freight movement and long-distance travel are their primary missions. An important secondary mission is to provide intraregional connections that enlarge market areas for businesses and consumers and to enlarge the potentially available work-force for central Arkansas businesses. Without a balanced metropolitan transportation system, these two missions can come into conflict with each other.	One of the purposes of the I-30 PEL Study is to address congestion through improving mobility on I-30 and I-40 by providing comprehensive solutions that improve travel speed and travel time to downtown North Little Rock and Little Rock and accommodate the expected increase in traffic demand. I-30 provides essential access to other major statewide transportation corridors, serves local and regional travelers and connects residential, commercial and employment centers. Additional needs of the study address roadway safety issues, roadway structural and functional deficiencies, navigational safety issues and structural bridge deficiencies. Furthermore, the following goals and guiding principles of the I-30 PEL Study correlate to the listed LRMTP Goals and Visions as noted in parentheses: • Improve opportunity for east-west connectivity (LDH); (QCTC); (HSC) • Enhance mobility (FV) • Improve local vehicle access to and from downtown Little Rock/North Little Rock (EGV); • Connect bicycle/pedestrian friendly facilities across I-30/I-40 (QCTC); (HSC) • Accommodate existing transit and future transit (QCTC); (HSC) • Improve system reliability (FV), (QCTC); • Maximize cost efficiency (QCTC);
Economic Growth and Vitality (EGV) Maintain and grow the central Arkansas economy as a diverse, globally competitive market through responsible development practices to attract people and businesses that contribute to economic growth and vitality	
Quality Corridors & Transportation Choice (QCTC) Build and enhance a regional network of quality transportation corridors with high design standards for efficiency in moving traffic, with provision for pedestrian, bicycle and transit options, and with consideration of freight needs. Create a metropolitan system that allows all citizens reasonable access to services and jobs without regard to age, income or disability by providing many transportation choices.	

LRMTP Goals and Vision	I-30 PEL Study Purpose and Need
<u>Land Development and Housing</u> (LDH) Protect and enhance the efficiency of the metropolitan transportation system by linking land development and the provision of transportation facilities. Proper land development is essential for creating conditions that foster sustainable housing and neighborhoods. Housing for central Arkansas should be safe, affordable, energy-efficient, geographically available and accessible	• Optimize opportunities for economic development (EGV); • Avoid and/or minimize impacts to the human and natural environment, including historic and archeological resources (LDH);(HSC) • Improve safety (FV); (QCTC); (HSC) • CSS/Aesthetically pleasing facility (QCTC);(LDH) • Minimize the real, perceived and visual barrier of the freeway (QCTC); (LDH) The LRMTP does identify the improvements to the I-30/I-40 facility within both the financially constrained and vision plan. The financially constrained LRMTP notes that an amendment may be required upon completion of the PEL Study once the number of through lanes has been determined.
<u>Healthy and Safe Communities</u> (HSC) Create and support the conditions that will enable central Arkansas to become known as the healthiest and safest community in America (improve safety, efficiency and convenience of active transportation modes).	

Source: 2040 Long-range Metropolitan Transportation Plan (LRMTP) – Imagine Central Arkansas: Blueprint for a Sustainable Region, December 2014 and I-30 PEL Study Team, 2015

d. What were the future year policy and/or data assumptions used in the transportation planning process related to land use, economic development, transportation costs and network expansion?

Future year policy and/or data assumptions used in the I-30 PEL transportation process are described in detail in the *I-30 PEL Traffic and Safety Report* (**Appendix F**). The following summarizes the land use, economic development, transportation costs and network expansion assumptions.

<u>Land Use</u>

Land use assumptions for the I-30 PEL Study were from the 2040 LRMTP. These assumptions were the foundation for the CARTS Travel Demand Model – the official travel-forecasting model for central Arkansas, which was used in part to estimate the 2041 design year traffic for this study.

The CARTS Travel Demand Model uses two land development scenarios, an emerging trend scenario and regional vision (transit supportive) scenario. Both scenarios assume the same overall regional growth in population and employment – developed from historical trends and assumptions on birth and immigration rates and key economic indicators - but vary in intensity and where growth occurs.

The emerging trend scenario continues the development patterns of the past several years while recognizing a recent demand for in-fill development, regional lifestyle centers, and technology changes. The supportive transit (Vision) trend assumes an enhanced transit system to support an increased population and employment

density in the central downtown areas and transit corridor extending into each of the regions counties. Because the vision scenario includes substantial unfunded transit improvements, the study team decided to use the emerging trend scenario for this study. Additional information on scenarios can be found in the LRMTP.

Economic Development

Economic development within the central Corridor was assumed to improve as mobility improved as a result of the reduced travel times required for travelers to reach their destinations.

Transportation Costs

Although traditional benefit/cost analysis was not performed in the I-30 PEL, the study did use the Vissim model to analyze transportation costs. Transportation costs of travel time and safety were calculated in addition to a number of other mobility and safety measures.

Network Expansion

Network expansion within the CARTS Travel Demand Model includes only those projects currently committed to in the TIP and the CAP. The Northbelt Freeway was not assumed in the model runs or transit improvements (all unfunded). The widening of I-30 west of I-440/I-530 and I-630 from I-30 to University was not assumed as part of the CARTS Travel Demand Model runs but were added later as part of the Vissim analysis.

The network was expanded and tested in a detailed Vissim model for an 8-lane C/D, 10-lane main lane and 10-lane C/D system based on the PEL screening process. The Vissim model network was expanded outside the study area to understand the I-30 PEL study area improvements without outside influences. The improvements that were assumed outside the study area are listed below:

- I-630 from Louisiana Street west beyond the study limits; and
- I-30 southwest of the south terminal to 65th Street beyond the study limits.

Bottlenecks at these locations caused traffic congestion to back up into the study corridor, preventing the Vissim model from accurately assessing the mobility of each alternative. AHTD has acknowledged both of these outside areas warrant additional study. Plans exist to study and improve, as determined necessary, these two outside study corridors.

8. Environmental resources (wetlands, cultural, etc.) reviewed. For each resource or group of resources reviewed, provide the following:

a. In the I-30 PEL Study, at what level of detail was the resource reviewed and what was the method of review?

Resources were reviewed from April 2014 through April 2015 based on existing datasets, studies and plans. Qualitative and/or quantitative detail was provided for key resource areas following the latest guidelines available at the time of research. Existing resources present in the study area have been identified and documented in the *I-30 PEL Constraints Report* (**Appendix B**); and potential impacts resulting from the PEL Recommendation and the method of review for each resource is documented in the *I-30 PEL Environmental Impacts Report* (**Appendix E**), consistent with a planning-level study.

b. Is this resource present in the area and what is the existing environmental condition for this resource?

Key resources are present within the study area and details about the existing environmental conditions of these resources are provided for each in the *I-30 PEL Constraints Report* (**Appendix B**).

c. What are the issues that need to be considered during NEPA, including potential resource impacts and potential mitigation requirements (if known)?

The I-30 PEL Recommendation designates a conceptual alignment for widening and reconstruction; however this recommendation would likely require design refinements and other potential modifications as a more detailed schematic design and analysis is completed during the NEPA phase of project development. Issues that need to be considered during NEPA, including potential resource impacts and mitigation/commitments are described in the *I-30 PEL to NEPA Transition Report* (**Appendix H, Sections 4.0** and **5.0**).

d. How will the data provided need to be supplemented during NEPA?

At the PEL-level of analysis, environmental impacts were evaluated based on information generally collected through easily attainable database searches, imagery analyses and desktop evaluations. The resulting resource inventory of the study area is presented in the *I-30 PEL Constraints Report* (**Appendix B**). Comprehensive field work and detailed impact analyses using an increasingly developed, NEPA-level schematic for the preferred alternative would be completed, including but not limited to, the following:

- Community Impacts (displacements, EJ, public facilities, other transportation modes such as the River Rail Streetcar, etc.);
- Waters of the U.S., including Wetlands (Preliminary Jurisdictional Determination);

- Threatened and Endangered Species;
- Vegetation/Habitat;
- Hazardous Materials;
- Existing Noise Measurements and Noise Analysis; and
- Cultural Resources[8].

9. List environmental resources you are aware of that were not reviewed in the I-30 PEL Study and why? Indicate whether or not they will need to be reviewed in NEPA and explain why.

- Air Quality - The proposed I-30 PEL study area is located in Pulaski County, an area in attainment for all national ambient air quality standards (NAAQS); therefore, the transportation conformity rules do not apply and no additional air quality analysis was required at the time of the PEL Study. Central Arkansas is at risk for classification of non-attainment for the NAAQS for both ozone and particulate matter. Should there be a change in status, it is recommended that air quality be assessed during NEPA.
- Indirect and Cumulative Impacts (see **Section 10** below).

The level of analysis detail would be greater in a NEPA study for all resources.

10. Were cumulative impacts considered in the I-30 PEL Study? If yes, provide the information or reference where it can be found.

Cumulative impacts, as well as indirect impacts, were not considered in the I-30 PEL Study. The planning effort in this PEL Study was utilized to determine possible viable alternatives for a long-term solution and recommend alternatives for further evaluation. Schematic design and project details necessary to adequately assess indirect and cumulative impacts of the PEL Recommendation were not developed at the PEL level. The PEL Recommendation would be further studied and refined in the next phase of project development, NEPA. During NEPA, the schematic design would be completed and project level details would be researched and evaluated.

11. Describe any mitigation strategies discussed at the planning level that should be analyzed during NEPA.

During NEPA, mitigation strategies to avoid or minimize any adverse impacts would be determined for the preferred alternative and carried forward to inform the design-build process. A draft Environmental Permits Issues and Commitment (EPIC) sheet, as described in the CAP Environmental Manual, would be completed for incorporation into plans, or in this instance into the Design-Build Request for Proposal, to ensure that implementation occurs through proper execution of the

[8] Environmental analysis of cultural resources to occur In accordance with the *I-30 PEL Cultural Resources Methodology Memorandum* (**Appendix G**).

plans, specifications and estimates (PS&E) contract. Mitigation strategies are also discussed in **Section 8.c**.

12. What needs to be done during NEPA to make information from the I-30 PEL Study available to the agencies and the public? Are there I-30 PEL Study products which can be used or provided to agencies or the public during the NEPA scoping process?

The I-30 PEL Study Report will be incorporated into the NEPA process by reference and become part of the administrative record and history of the decision-making process. Further, the I-30 PEL Study Report, including associated technical reports, will be integrated into the NEPA process and made available to the public, as well as to TWG members and the resource and regulatory agencies that were engaged during the I-30 PEL process. Project information and technical reports were drafted in advance of public meetings and placed on the CAP website, as well as presented at meetings for public comment throughout the duration of the I-30 PEL Study. The *I-30 PEL Study Report*, including this questionnaire will also be available on the CAP website.

13. Are there any other issues a future project team should be aware of?

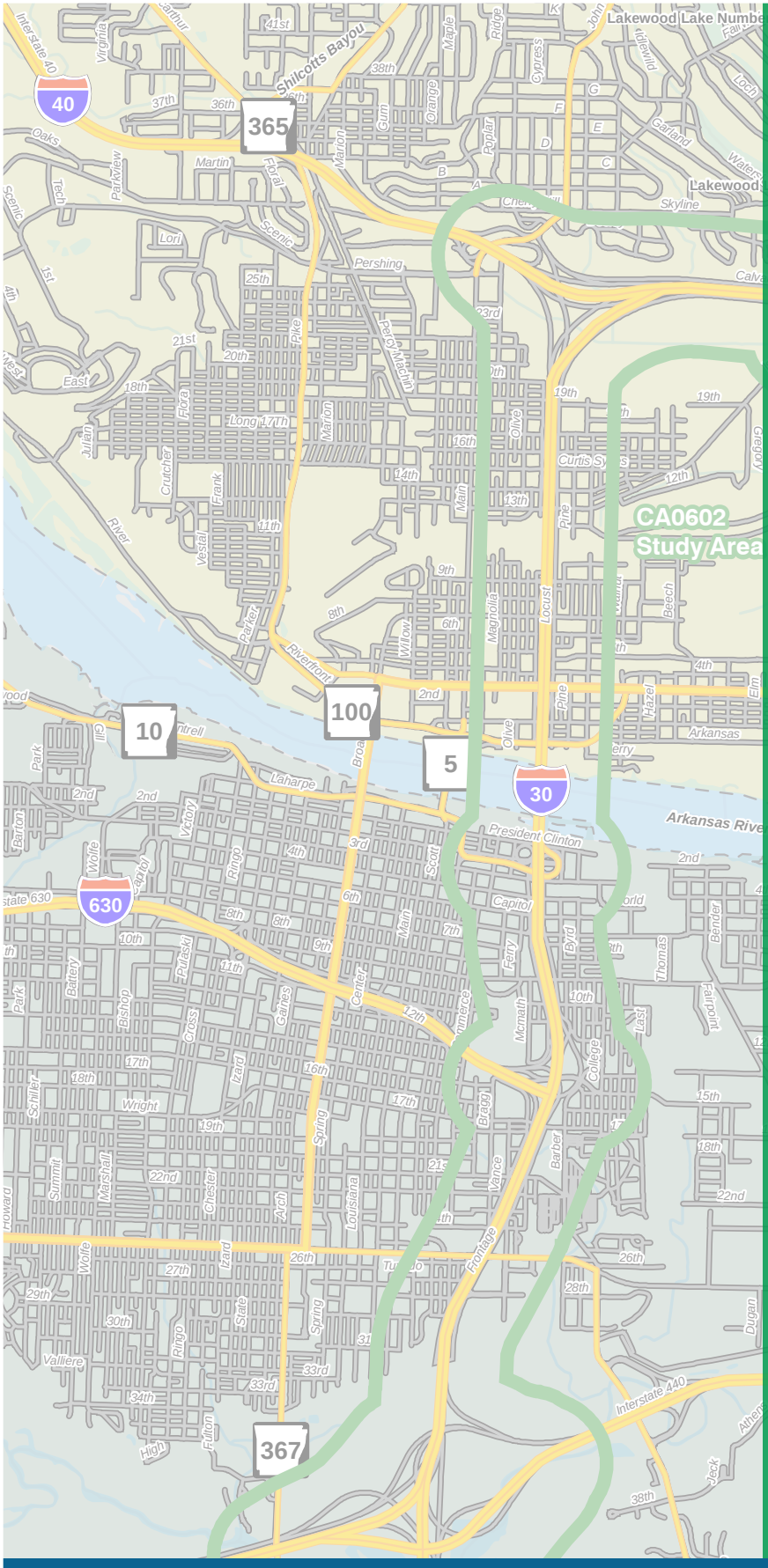
a. Examples: Controversy, utility problems, access or ROW issues, encroachments into ROW, problematic land owners and/or groups, contact information for stakeholders, special or unique resources in the area, etc.

There are no substantive issues to describe to a future project team. However, some key areas of focus include, but are not limited to:

- Noise modeling and mitigation
- Negotiating with land owners and business owners in relation to ROW requirements, temporary and permanent access changes and related impacts
- USACE, USGS and ADEQ permitting as presented in **Section 8.c**
- Future adjacent studies
- Regional studies coordination
- Coordination and updates to the LRMTP and TIP
- Section 4(f) determinations
- Construction Impacts
- Funding and project phasing as presented in the *I-30 PEL to NEPA Transition Report* (**Appendix H**)

Attachment A:

I-30 PEL Process Framework and Methodology



PLANNING AND ENVIRONMENTAL LINKAGES PROCESS FRAMEWORK AND METHODOLOGY

INTERSTATE 30

CA0602

Interstate 530 – Highway 67

September 2014

CONNECTING ARKANSAS PROGRAM CAP

Arkansas State Highway & Transportation Department

Proposed PEL Process Framework and Methodology for CA0602

In the spirit of cooperation and collaboration, and acknowledging the critical role that a number of agencies play in achieving the transportation goals of the State of Arkansas, the central Arkansas metropolitan area and the cities of Little Rock and North Little Rock, this Framework and Methodology Agreement has been developed to foster proactive working relationships among the Federal Highway Administration (FHWA), Arkansas State Highway and Transportation Department (AHTD), Metroplan (the Metropolitan Planning Organization for central Arkansas) and the local governments of Little Rock, North Little Rock and Pulaski County. The FHWA, in conjunction with the AHTD, are the lead agencies and Metroplan and the local governments are project partners. The cooperation among the lead agencies and project partners will be integral to the success of a collaborative environmental and transportation planning process.

The purpose of the Framework and Methodology is to encourage the use of a Planning and Environmental Linkages (PEL) process to meet agency needs while expediting transportation project delivery and to formalize the scope, schedule and expectations for the Connecting Arkansas Program (CAP) CA0602 project. This Framework and Methodology is meant to foster a united process that supports:

- Early communication, coordination, and collaboration with and input by other local, state and federal agencies in the transportation planning process;
- Better informed and strategic transportation decisions; and
- Efficient and cost-effective solutions.

Early communication and collaboration among all interested parties is essential to the success of future planning, informing the National Environmental Policy Act (NEPA) process, and identifying issues.

Purpose

To conduct analysis and planning activities with resource agencies and the public in order to produce transportation planning products that effectively serve the community's transportation needs. By using the PEL process, more effective environmental stewardship and decisions should result and will be used to inform a subsequent project-specific NEPA process.

Study Area

The proposed PEL study area has been delineated as depicted in **Figure 1** below. It is approximately 6.7 miles in length and extends through portions of Little Rock and North Little Rock in central Arkansas. The proposed study area includes a 0.25 mile buffer extending from the centerline of I-30 from I-530 to the south and I-40 to the north, and along I-40 to its interchange with I-67 in North Little Rock. This corridor was previously assessed and recommended as an alternative for further study as part of *Phase 1 Arkansas River Crossing Study*, completed in 2003. This study analyzed travel through central Arkansas and across the Arkansas River. This study area also corresponds with the voter-endorsed improvements to I-30, a project that was included as part of the constitutional amendment passed during the November 2012 election for a 10-year, half-cent sales tax to improve highway and infrastructure throughout the state of

Arkansas. I-30 not only provides access from the downtown areas of Little Rock and North Little Rock, but also supports traffic traveling to and from origins and destinations outside of the immediate metropolitan area. The proposed project study area will be developed by AHTD for FHWA review and will be presented at future Technical Work Group meetings for comment.

Figure 1. Proposed PEL Study Area



PEL Process Framework

Linking planning and NEPA is the purpose of the PEL process and will be followed in order to minimize duplication of effort, promote environmental stewardship, and reduce delays in project implementation. The PEL process framework includes:

- Identifying the Transportation Need;
- Identifying Stakeholders;
- Defining Roles and Responsibilities;
- Defining and Refining the Travel Corridor (including logical termini);
- Developing Purpose, Need, Goals and Objectives;
- Developing Performance Measures;
- Developing Alternatives and Defining Modes of Travel;
- Evaluating and Screening Alternatives;
- Addressing Potential Funding Options and Staging Scenarios;
- Identifying Environmental Impacts, including Potential Mitigation Options/Priorities;
- Documenting the Evaluation Process; and
- Developing reports to document and finalize the PEL Study.

The PEL Study will be completed in accordance with the following legislation and regulatory guidance so that it can be used to inform the NEPA process:

- **The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)** – This 2005 surface transportation funding and authorization bill included several provisions intended to enhance the consideration of environmental issues and impacts within the transportation planning process and encourage the use of the products from planning in the NEPA process. Specifically, Section 6001, *Environmental Considerations in Planning*, requires certain elements and activities to be included in the development of long-range transportation plans, including:
    - Consultations with resource agencies, such as those responsible for land-use management, natural resources, environmental protection, conservation and historic preservation, which shall involve, as appropriate, comparisons of resource maps and inventories;
    - Discussion of potential environmental mitigation activities;
    - Participation plans that identify a process for stakeholder involvement; and
    - Visualization of proposed transportation strategies where practicable.

- **23 CFR 450.212 and 23 CFR 450.318** – In 2007, FHWA issued new planning regulations that eliminated the requirement for a major investment study and implemented provisions enacted by SAFETEA-LU. In its place, the regulations created a new optional procedure for linking transportation planning and NEPA studies. These procedures are contained in 23 CFR 450.212 (statewide planning) and 23 CFR 450.318 (metropolitan planning).

- **Moving Ahead for Progress in the 21st Century (MAP-21)** – This 2012 funding bill promotes accelerating project delivery and encourages innovation through the increased use of programmatic approaches and planning and environment linkages.

With a view towards achieving consistency with local and regional planning efforts, it is anticipated that the PEL process and its subsequent recommendations will determine refinements to the next long-range Metropolitan Transportation Plan (MTP), developed by Metroplan, and the CARTS Transportation Improvement Program (TIP) and Statewide Transportation Improvement Program (STIP). Additionally, it is anticipated that the PEL process will follow in accordance with the CARTS Agreement of Understanding between Metroplan and the local jurisdictions and transit authorities.

In order to meet the above requirements, the PEL process will be NEPA-like and include the following components:

- Coordination with local, state, tribal, and federal agencies;
- Context Sensitive Solutions (CSS);
- Public review of the PEL Study, including opportunity for public/agency involvement;
- Documentation of relevant decisions in a format that is identifiable and available for review during the NEPA scoping process so that it can be appended or referenced in the NEPA document; and
- Adherence to and completion of the *Planning/Environmental Linkages Questionnaire* that will be included in the PEL Study.

Additionally, the FHWA direction provided in the *Guidance on Using Corridor and Subarea Planning to Inform NEPA* (April 2011) and AHTD's *Preliminary Environmental Review* (PER) will be consulted to support the study approach.

The PEL process is part of the FHWA *Every Day Counts* (EDC) Initiative intended to identify and deploy innovation aimed at shortening project delivery. The EDC PEL initiative is included in the first group of innovations identified by FHWA in 2010 (EDC-1) and encourages the use of information developed in planning to inform the NEPA process. FHWA's newest set of innovations, EDC-2 (launched in 2012), includes the Implementing Quality Environmental Documents (IQED) initiative. IDEQ best practices such as preparing effective summaries and technical reports, effective visualization and presentation of data to the public, and developing a specific purpose and need that supports the alternatives screening process in selecting the alternatives for further evaluation will be implemented as part of this PEL Study.

Methodology

The Study Team (AHTD and Consultants) will follow the processes outlined below in accordance with the defined framework. The results of the PEL process will be documented as described below and will follow the timelines shown in the PEL Study Process/Product Flow Chart (attached).

Study Team/Lead Agency/Project Partner PEL Process Coordination

The Study Team will meet with AHTD to review the proposed PEL process framework, methodology, planning products, review cycles, and the schedule to receive feedback/approval. Following input from AHTD, the Study Team will meet with FHWA to determine if the proposed PEL process would satisfy the thresholds established above.

Once determined by FHWA that the PEL process framework meets the requirements of the listed components so that the information, analysis and transportation planning products generated can be incorporated into the NEPA process, the Study Team will begin public involvement efforts with elected officials, agencies and the public.

The Study Team will coordinate with AHTD and FHWA as required throughout the PEL process to coordinate reviews and obtain input on the development of the PEL Study. The list of local, state, federal, and tribal agencies to be coordinated with, as well as coordination responsibilities, will be determined in conjunction with the AHTD and FHWA as part of the Public Involvement and Agency Coordination Plan (PIACP) that will be developed by the Study Team. Ongoing coordination with Metroplan will occur as well to incorporate the PEL Study recommendations as part of Metropolitan Transportation Plan updates.

Public Involvement/Agency Coordination

The Study Team will prepare a PIACP as a roadmap for addressing how affected or interested members of the public; study area property owners; and project stakeholders, including federal, state, tribal and local agency and public officials would be included as part of the PEL process. Public involvement efforts will be completed in accordance with the most current versions of AHTD's Public Involvement Handbook and supported by the CARTS Public Participation Plan.

Outreach efforts will include:

1) A Technical Work Group (TWG) will be created and serve as the primary means of agency coordination for the PEL Study. The TWG will include local, state, federal and tribal staff to provide technical input and expertise throughout the study. The TWG will be called upon to meet prior to the open house/public meetings. TWG meetings may also include representatives from local businesses, environmental advocacy groups and representatives from major regional institutions. Letters will be prepared and sent inviting local, state, tribal and federal agency participation and seeking feedback throughout the PEL process.

2) Project Partner Meetings (PPMs) will be scheduled and occur in advance of each TWG to review planning documents and other materials and information prepared by the Study Team.

3) A Stakeholder Advisory Group (SAG), comprised of local individuals who bring unique knowledge and skills complementing those of the TWG, will be established in order to ensure early and ongoing decision making throughout the study. The SAG's role is to make recommendations and/or provide key information and materials to the Study Team. The SAG will include twelve representatives, with the Mayors of Little Rock and North Little Rock each appointing four, as well as four selected by the Pulaski County Judge. SAG members provide a one-of-a-kind perspective to the areas of interest each represents within the community, allowing the Study Team to gather valuable input. The SAG will meet regularly throughout the PEL process.

4) Open House/Public Meeting(s) will be held in conjunction with key project goals such as the development of the purpose and need and transportation goals and objectives. The Open House/Public meetings will also be utilized to obtain input and feedback on the alternatives analysis methodology and development of alternatives. In order to follow a NEPA-like process, the Study Team will follow the AHTD Public Involvement Handbook (Draft Version - 2013) and the CAP Environmental Manual (2013) for all Public Meetings.

5) A study-specific page will be created on the www.connectingarkansasprogram.com website to communicate project information and public involvement activities throughout the PEL process. The CAP project email address and phone number will be listed on the website and all outreach materials.

6) Other outreach tools and events such as newsletters and agency coordination meetings/briefings will be prepared and conducted throughout the duration of the PEL Study.

7) Visioning Workshops will be conducted to obtain early feedback and develop a foundation for continued community outreach. One visioning workshop will be conducted with stakeholders during the PEL process, and another visioning workshop will be held during the NEPA/Schematic phase. During the first visioning workshop, and with an understanding of the purpose and need and goals and objectives of the PEL Study, stakeholders will have the opportunity to incorporate their ideas and priorities for the I-30 corridor. From this visioning workshop, renderings of possible solutions that preserve and enhance aesthetic, historic and community resources will be developed. During the NEPA/Schematic phase, a second visioning workshop will be held with stakeholders that examines potential context sensitive solutions (CSS) and design concepts in greater detail. Based on stakeholder feedback and available funding, CSS/aesthetic guidelines will be developed following this second visioning workshop and included in the design-build request for proposals, pending AHTD approval.

As the PEL Study progresses, the project partners will have the opportunity to review the following four PEL milestones: purpose and need, alternatives screening methodology, PEL Recommendation(s), and final PEL report. All comments received from project partners at these milestones will be addressed and resolved, to the extent practicable, in a formal comment-resolution process. Any relevant issues identified during the PEL Study will be documented for potential inclusion in future NEPA studies, as applicable. As the goal of the PEL approach is to reduce project delivery times and improve environmental outcomes, efforts will be made to resolve any project partner concerns during the course of the PEL process so that decisions made during the PEL Study can be incorporated by reference during NEPA with minimal duplication of effort. Consistent with FHWA's authority under NEPA (40 CFR 1500-1508 and 23 CFR 771) and FHWA's planng regulations (23 CFR 450), final decisions regarding the inclusion of any planning products, decisions or coordination activities that occur during the PEL Study and their applicability towards future NEPA studies will be made solely by the lead federal agency(ies) at the initiation of the NEPA studies.

Additionally, agency input on key milestones will be received through the TWG, and public and stakeholder input will be solicited through public meetings and outreach. All meetings will be documented accordingly, and similar to comments from the project partners, agency, stakeholder and public comments received will undergo a comment-resolution and response process where comments are addressed and resolved to the extent practicable.

Public Involvement Planning Products:

- Public Involvement and Agency Coordination Plan
- Mailing Lists
- Website/Project e-mail address/phone number
- Agency Coordination Letters
- Public Notices for Public Meetings
- News Releases for Public Meetings
- Public Meeting Summaries
- Technical Work Group Meeting Summaries
- CSS Workshop Summary
- Public Involvement and Agency Coordination Report (for inclusion in the PEL Study)

PEL Study

The Study Team has proposed the planning products and approaches below in accordance with the planning thresholds and regulations previously listed. The planning products listed below would also address the questions posed by FHWA's *Planning/Environmental Linkages Questionnaire,* which is encouraged to be a guide throughout the PEL process.

Review of Previous Project History

- Evaluate use of goals and objectives, purpose and need, and alternatives of previous studies as a foundation for the PEL Study.
- Evaluate current or near future planning studies or projects in the vicinity of the PEL study area and the relationship of this PEL study to those studies/projects
    - Planning Product: Previous Project History Summary Report

Purpose and Need/Transportation Goals and Objectives

- Describe the scope of the PEL study and the reason for completing it. Will also provide the purpose and need statement, and the transportation goals and objectives to realize the expected corridor vision. The FHWA *Every Day Counts* 2012 Initiative (EDC-2) for Implementing Quality Environmental Documentation will be utilized when developing the purpose and need. Following the SMART Technique, the purpose and need will be **S**pecific, **M**easurable, **A**ctionable, **R**ealistic, and **T**ime-Related. In doing so, the purpose and need will be unambiguous and provide an understandable and project specific detail for the PEL and future NEPA analysis.
    - Planning Product: Purpose and Need/Transportation Goals and Objectives Technical Report

Alternatives Evaluation Methodology

- Development of the performance measures, fatal flaw analysis criteria, alternative evaluation screening criteria and mode selection analysis based on qualitative and quantitative measures.
- The alternative evaluation screening process will include criteria that measure the effectiveness of addressing issues identified in the purpose and need (e.g., congestion, safety) as well as other engineering, environmental, cost, and stakeholder input. Having a specific, well-defined purpose and need, as developed using the SMART Technique described above, supports the alternative screening process in identifying the alternatives for further evaluation.
- Review of the travel demand model to develop design criteria and typical sections.
    - Planning Product: Alternatives Evaluation Methodology Technical Report

Constraints Analysis and Environmental Consequences

- Collect data (includes a high-level constraints mapping analysis using ArcGIS), field reconnaissance, discussion of existing environment and analyses of potential impacts.
- Additionally, permitting/mitigation options would be considered and potential indirect and cumulative impacts analyses may be described and analyzed.

- Planning Products: Environmental Constraints Map; Constraints Technical Report and Environmental Consequences Technical Report.

Alternatives Development and Evaluation

- Based on initial data collection efforts, project partners, TWG and previous stakeholder input, the Universe of Alternatives will be developed followed by a fatal flaw analysis (purpose and need) to assist in the screening process.
- After the Universe of Alternatives are developed and evaluated with the associated input, the First Screening of Alternatives would occur → Universe to Preliminary.
- After the Preliminary Alternatives are developed and evaluated with the associated input, the next phase would be the development and evaluation of the Reasonable Alternatives. This includes additional data collection/analysis, input from the TWG and other stakeholders, resulting in the Second Screening of Alternatives → Preliminary to Reasonable.
- After the Reasonable Alternatives are developed and evaluated with the associated input, the final phase would be the development and evaluation of the PEL recommendations. This includes additional data collection/analysis, input from the project partners, TWG and other stakeholders, resulting in the Final Screening of Alternatives → Reasonable to PEL recommendations.
- After input is received on the PEL recommendations, the development and evaluation of the Universe, Preliminary, and Reasonable Alternatives and PEL recommendations will be documented.
  - Planning Products: Alternatives Development and Evaluation Technical Report

PEL Study and PEL/NEPA Transition Technical Report

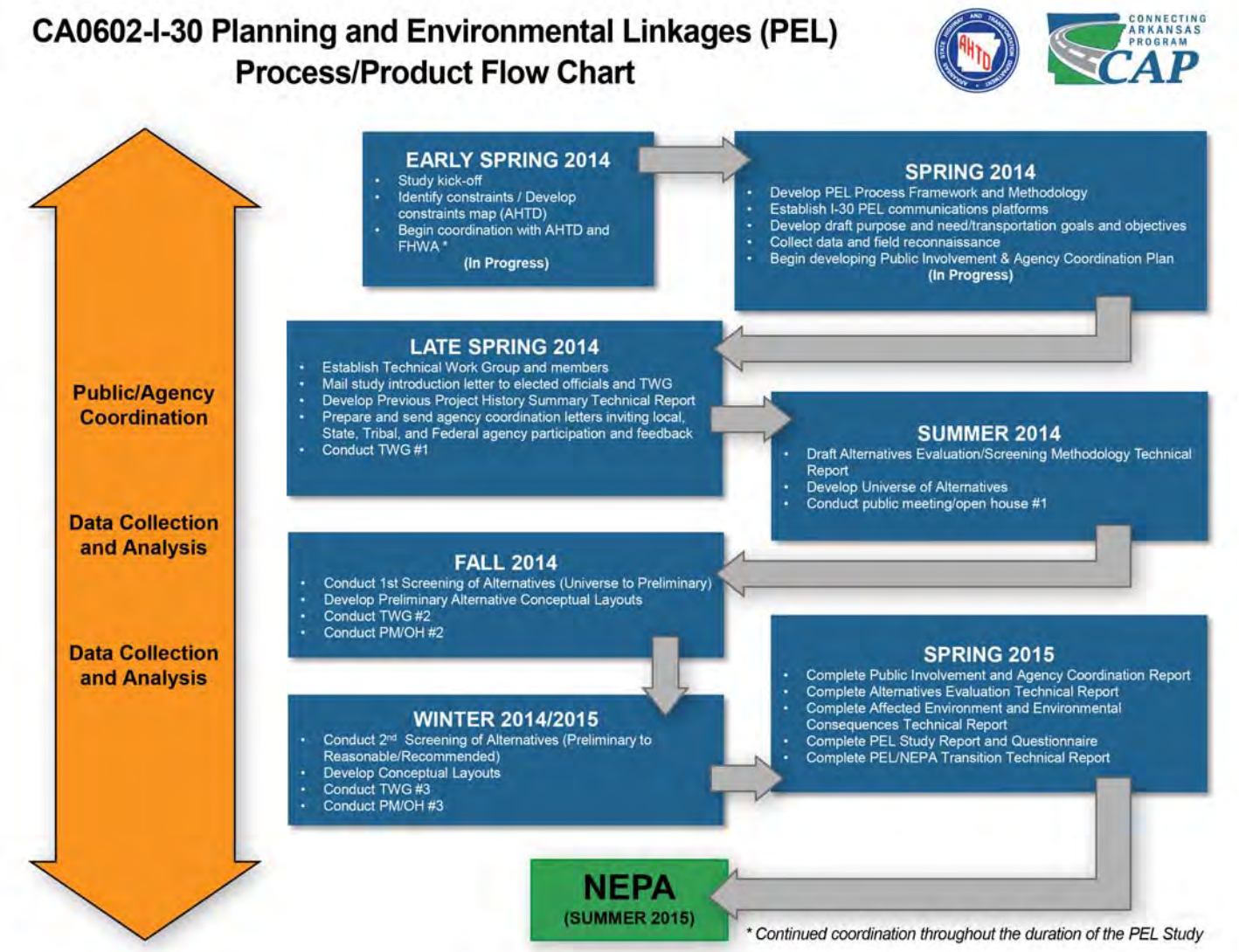
- The PEL Study would be a comprehensive transportation planning document that incorporates the Public Involvement and Agency Coordination Plan; Previous Project History Summary; Purpose and Need/Transportation Goals and Objectives Technical Report; Alternatives Evaluation Methodology Technical Report; Affected Environment and Environmental Consequences Technical Report; and Alternatives Development and Evaluation Methodology Technical Report. The PEL Study will also include a completed version of the FHWA *Planning/Environmental Linkages Questionnaire* as an Appendix.
- A PEL/NEPA Transition Technical Report would address:
  - Environmental Resources not reviewed in the PEL study and why and whether they would be reviewed in a NEPA study.
  - Mitigation issues/strategies to be analyzed during the NEPA process.
  - What should be accomplished during the NEPA process to make information from the PEL study available to agencies and the public.

- What PEL study result or products will be carried forward to NEPA process.
- Any special issues or problems the Study Team should be aware of.
  - Planning Products: PEL Study and PEL to NEPA Transition Technical Report

Project Documentation

In accordance with PEL best practices, which suggest detailed documentation of project events, an “Issues Tracking Log” and a “Project History” will also be maintained.

Attachment


CA0602-I-30 Planning and Environmental Linkages (PEL)
Process/Product Flow Chart
CONNECTING ARKANSAS PROGRAM
CAP
Public/Agency Coordination
Data Collection and Analysis
Data Collection and Analysis
EARLY SPRING 2014
Study kick-off
Identify constraints / Develop constraints map (AHTD)
Begin coordination with AHTD and FHWA *
(In Progress)
SPRING 2014
Develop PEL Process Framework and Methodology
Establish I-30 PEL communications platforms
Develop draft purpose and need/transportation goals and objectives
Collect data and field reconnaissance
Begin developing Public Involvement & Agency Coordination Plan
(In Progress)
LATE SPRING 2014
Establish Technical Work Group and members
Mail study introduction letter to elected officials and TWG
Develop Previous Project History Summary Technical Report
Prepare and send agency coordination letters inviting local, State, Tribal, and Federal agency participation and feedback
Conduct TWG #1
SUMMER 2014
Draft Alternatives Evaluation/Screening Methodology Technical Report
Develop Universe of Alternatives
Conduct public meeting/open house #1
FALL 2014
Conduct 1st Screening of Alternatives (Universe to Preliminary)
Develop Preliminary Alternative Conceptual Layouts
Conduct TWG #2
Conduct PM/OH #2
WINTER 2014/2015
Conduct 2nd Screening of Alternatives (Preliminary to Reasonable/Recommended)
Develop Conceptual Layouts
Conduct TWG #3
Conduct PM/OH #3
SPRING 2015
Complete Public Involvement and Agency Coordination Report
Complete Alternatives Evaluation Technical Report
Complete Affected Environment and Environmental Consequences Technical Report
Complete PEL Study Report and Questionnaire
Complete PEL/NEPA Transition Technical Report
NEPA
(SUMMER 2015)
* Continued coordination throughout the duration of the PEL Study

Attachment B:
I-30 PEL Study Team

I-30 PEL Study Team

Federal Highway Administration – Arkansas Division
700 West Capitol Avenue
Little Rock, Arkansas 72201
Phone: (501) 324-5625

Contact	Title
Terry Daniel	TOC Member, (Bridge Engineer)
Randall Looney	TOC Member, (Environmental Coordinator)

Arkansas State Highway and Transportation Department
10324 Interstate 30
Little Rock, Arkansas 72209
Phone: (501) 569-2374
Toll Free: (800) 245-1672

Contact	Title
Keli Wylie	Technical Oversight Committee (TOC) Chair, (CAP Administrator)
John Fleming	TOC Member, (Environmental Division Head)
Jessie Jones	TOC Member, (Planning Division Head)
Kevin Thornton	TOC Member, (Assistant Chief Engineer - Planning)
Benjamin Browning	TOC Member, CA0602 Project Director, Program Management Division Head
Kevin White	TOC Member, Staff Construction Engineer

Garver
4701 Northshore Drive
North Little Rock, AR 72118
Phone: (501) 376-3633

Contact	Title
Wayne Black	Roadway Engineer
John Cantabery	Senior Roadway Engineer
Rama Dhanikonda	Traffic/Planning Engineer
Glynn Fulmer	CAP Deputy Program Manager - Engineering
Jon Hetzel	Communications Manager
Alex Holder	Public Involvement Staffer
Jerry Holder	Connecting Arkansas Program (CAP) Manager
Summer Khairie	Public Involvement Staffer
Bill McAbee	Environmental Manager
Betty McPherson	Technical Writer
Earl Mott	CA0602 Project Manager
Daniel Payne	Graphic Artist
Jeff Pierce	Conceptual Engineering Task Lead
John Ruddell	Senior Bridge Engineer
Nicci Tiner	Senior Traffic/Planning Engineer
Lawren Wilcox	Senior Bridge Engineer

HNTB Corporation
5910 W. Plan Pkwy, Ste. 200
Plano, TX 75093
Phone: (972) 661-5626

Contact	Title
Joe Blasi	Traffic/Planning Engineer
Kyle Berg	Traffic/Planning Engineer
Ryan Bricker	Context Sensitive Solutions
David Dye	CAP Deputy Program Manager – Programming
April English	Environmental Planner
James Frye	Context Sensitive Solutions Task Lead
Stephanie Guillot	Environmental Planner
Jennifer Halstead	Environmental Task Lead
Scott Inglish	Environmental Planner
Michele Lopez	Environmental Planner
Shannon McCord	Public Involvement Task Lead
Julian Rivera	Traffic/Planning Engineer
Danielle Terry	Traffic/Planning Engineer
Tina Rust	Environmental Planner
Kip Strauss	Traffic Engineering Task Lead
Lisa Thomas	CA0602 Project Controls Lead

Attachment C:

I-30 PEL Agency and Stakeholder Participant Lists

I-30 PEL Study Agency and Stakeholder Participant Lists

Technical Work Group (TWG) Invitees

Agency/Firm	Name
AHTD	Antonio Johnson *
AHTD	Emanuel Banks
AHTD	Kristina Boykin *
AHTD	Andy Brewer *
AHTD	Ben Browning
AHTD	John Fleming *
AHTD	Ralph Hall *
AHTD	Mark Headley
AHTD	Antonio Johnson *
AHTD	Jessie Jones *
AHTD	Tony Sullivan
AHTD	Kevin Thornton
AHTD	Lorie Tudor *
AHTD	Kevin White *
AHTD	Jared Wiley *
AHTD	Keli Wylie *
AHTD	Diana Wilks *
Arkansas Archeological Survey	Ann M. Early *
Arkansas Archeological Survey	Elizabeth Horton *
Arkansas Archeological Survey	John Thurston
Arkansas Archeological Survey	Jamie Brandon *
Arkansas Commissioner of State Lands	John Thurston
Arkansas Department of Emergency Management	Bill Cantrell *
Arkansas Department of Emergency Management	Sheila Annable *
Arkansas Department of Emergency Management	Russell Pridgen *
Arkansas Department of Environmental Quality	Nat Nehus *
Arkansas Department of Health	Stephanie Burchfield
Arkansas Department of Health	Jeff Stone *
Arkansas Department of Parks and Tourism	Amanda Jones *
Arkansas Department of Parks and Tourism	Matt McNair *
Arkansas Department of Parks and Tourism	Mike Sprague *
Arkansas Economic Development Commission	Morris Jenkins *
Arkansas Forestry Commission	Joe Fox
Arkansas Game and Fish Commission	Jennifer Sheehan *
Arkansas Game and Fish Commission	Justin Stroman *
Arkansas Geological Survey	Bill Prior *
Arkansas Geological Survey	Scott Ausbrooks *
Arkansas Historic Preservation Program	Patricia Blick *
Arkansas Historic Preservation Program	Eric Gilliland
Arkansas Historic Preservation Program	Cary Tyson *
Arkansas Historic Preservation Program	Stacy Hurst

Agency/Firm	Name
Arkansas Natural Heritage Commission	Cindy Osborne *
Arkansas Natural Heritage Commission	Katie Shannon *
Arkansas Natural Resources Commission	John Turner *
Arkansas Natural Resources Commission	Randy Young
Arkansas State Police	Darran Austin *
Arkansas State Police	Alex Finger *
Arkansas Waterways Commission	Gene Higginbotham *
Arkansas Waterways Commission	Katie McManners *
Central Arkansas Transit Authority	Jarod Varner *
Central Arkansas Transit Authority	Bill Adcock *
Central Arkansas Transit Authority	Kathleen Lambert *
City of Little Rock - Planning and Development	Walter Malone *
City of Little Rock - Public Works	Brian Minyard *
City of Little Rock - Public Works	Jon Honeywell *
City of Little Rock Parks and Recreation	Mark Webre
City of Little Rock Parks and Recreation	Leland Couch *
City of Little Rock Parks and Recreation	Truman Tolefree *
City of North Little Rock	Robert Voyles *
City of North Little Rock	Chris Wilbourn *
City of North Little Rock	Mike Smith
City of North Little Rock Parks and Recreation	Bob Rhoads
Federal Highway Administration	Brent Dather *
Federal Highway Administration	Pete Jilek *
Federal Highway Administration	Gary DalPorto *
Federal Highway Administration	Amy Heflin *
Federal Highway Administration	Randal Looney *
Federal Railroad Administration, Southwest Region	Vence Haggard
Housing & Urban Development	Wanda Merritt *
Housing & Urban Development	David Blick *
Little Rock District Corps of Engineers	Bill Gray *
Little Rock District Corps of Engineers	Johnny McLean *
Little Rock School District	Kelsey Bailey
Little Rock School District	Michael Martello *
Little Rock School District	Dexter Suggs
Metroplan	Casey Covington *
Metroplan	Jim McKenzie *
North Little Rock A&P Commission	Bob Major *
North Little Rock Visitors Bureau	Stephanie Slagle *
North Little Rock School District	Kelly Rodgers
North Little Rock School District	Michael Stone *
Pulaski County	Barbara Richard
Pulaski County	Sherman Smith
Pulaski County Planning & Development	Van McClendon *
Pulaski County Special School District	Charles Blake
Pulaski County Special School District	Jerry Holder *
Pulaski County Special School District	Jerry D. Guess

Agency/Firm	Name
Union Pacific Railroad	Clay McManaman
US Army Corps of Engineers	Roderick Gaines *
US Coast Guard - Western Rivers	David Orzechowski *
US Department of the Interior - National Park Service	Guy Headland
US Environmental Protection Agency Region 6	Michael Jansky
US Fish and Wildlife Service	Mitch Wine *
US Fish and Wildlife Service	Lindsey Lewis *
US Geological Survey - Arkansas Water Science	Jaysson Funkhouser
Federal Emergency Management Agency	Tony Robinson
US Natural Resources Conservation Service	Michael Sullivan
Federal Transit Administration	Robert Patrick
Federal Highway Administration	

* TWG invitees that attended at least one TWG meeting.

Project Partners

Title	Name
AHTD Director	Scott Bennett
Pulaski Country Judge	Barry Hyde
Metroplan Executive Director	Jim McKenzie
FHWA Administrator	Sandra Otto
North Little Rock Mayor	Joe Smith
Little Rock Mayor	Mark Stodola

Stakeholder Advisory Group (SAG) Members

Title	Name
Pulaski County Appointee	Sandra Brown
Little Rock Appointee	Tony Curtis
Pulaski County Appointee	Ronnie Dedham
Little Rock Appointee	Chris East
North Little Rock Appointee	George Glover
North Little Rock Appointee	Jerome Green
North Little Rock Appointee	Donna Hardcastle
North Little Rock Appointee	Terry Hartwick
Pulaski County Appointee	Jeff Hathaway
Little Rock Appointee	Bruce Moore
Pulaski County Appointee	Jimmy Moses
Little Rock Appointee	Sharon Priest
Little Rock Appointee	Stephanie Streett

Visioning Workshop Attendees

Title	Name
North Little Rock Appointee	Belinda Burney
Little Rock Appointee	Doug Carmichael (for Michael Eliason)
Little Rock Appointee	Larry Carpenter
Little Rock Appointee	Tony Curtis
Little Rock Appointee	Chris East
Pulaski County Appointee	Mason Ellis
North Little Rock Appointee	Charley Foster
North Little Rock Appointee	George Glover
Pulaski County Appointee	Jeff Hathaway
Pulaski County Appointee	Jennifer Herron
Little Rock Appointee	James Jones (for Bruce Moore)
Pulaski County Appointee	Frederick Love
North Little Rock Appointee	Clark McGlothin
Pulaski County Appointee	Jimmy Moses
Pulaski County Appointee	Martie North
Little Rock Appointee	Sharon Priest
Little Rock Appointee	Jim Rice (for Gretchen Hall)
Little Rock Appointee	Debbie Shock (for Stephanie Streett)
North Little Rock Appointee	Stephanie Slagle (for Bob Major)
Little Rock Appointee	Bill Worthen