EAST-WEST CONNECTOR STUDY

ARDOT ARKANSAS DEPARTMENT OF TRANSPORTATION

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Study Overview

The Arkansas Department of Transportation (ARDOT) and Metroplan, in cooperation with Federal Highway Administration (FHWA) and local governments, are conducting a study of potential improvements to connect points within northern Pulaski County and to connect northern Pulaski County to Interstate 40 and Highway 67/167.

Study Began December 2019

Public Involvement Opportunity

Introduce the purpose and process of the study and provide an opportunity for public input on the goals, objectives, and potential alternatives for the study.

Alternative Development

Develop alternatives to connect arterials in the northern Pulaski County region by using existing roadways where possible.

Alternatives Analysis

Perform a comprehensive and technical evaluation of potential solutions against selected performance measures.

Public Involvement Opportunity

Gather public input on the evaluated alternative alignments and whether they serve as appropriate solutions.

Study Concludes Late 2021

Study Area Map

Study Sponsors

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Study Partner

PULASKI COUNTY

Study Team

ATG ALLIANCE TRANSPORTATION GROUP

Michael Baker INTERNATIONAL

Study Motivations

The study will determine effective solutions that agree with the goals of the Arkansas Long Range Intermodal Transportation Plan (LRITP) and Metroplan's Metropolitan Transportation Plan (MTP) by improving mobility and safety, minimizing environmental impacts, and supporting a quality of life that is valued by residents and business owners alike. The study will explore new alignments that may use existing roadways as a means to increase connectivity.

Motivations for the Study

- Identify a cost-effective alternative that serves and meets the needs of the state and local communities.
- Decrease travel time between destinations in northern Pulaski County, while relieving congestion on Highway 107 and other North-South routes in the study area.
- Improve connectivity in the study area to better accommodate and promote growth and development.
- Develop context sensitive alternatives that minimize negative impacts to the community and the environment and maximize the use of available land for right-of-way (ROW).
- Provide information in a timely manner to support funding decisions.

Study Goals, Objectives, and Performance Measures

Goals and Objectives

Congestion Reduction, Mobility, and System Reliability

Objective:
Reduce travel time and delay and improve level of service

Multimodal Transportation System

Objective:
Improve safety, accessibility, and connectivity for people and goods

Economic Competitiveness

Objective:
Support and strengthen local economic markets

Safety and Security

Objective:
Reduce the number and severity of crashes

Environmental Sustainability

Objective:
Minimize potential impacts on natural and cultural resources

Infrastructure Condition

Objective:
Invest to preserve and maintain existing highways and bridges

Performance Measures

- Travel Time between Selected Origins and Destinations
- Delay (Total time lost for all vehicles traveling on studied roadway segments.)
- Level of Service (Measure used to relate the quality of intersection operating conditions and the flow of traffic.)
- Number and Severity of Crashes by Facility Type
- Construction Costs on Existing Roadways
- Construction Costs on New Roadway Segments

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Study Area Roadway Characteristics

Sources: Google Earth Imagery, CARTS Travel Demand Model, Arkansas GIS Office, ARDOT, USA NAIP Imagery

Key Characteristics

- Four-lane roadways primarily run North-South and feed into the freeway system.
- No continuous four-lane roadways traveling East-West.

Typical Roadway Cross Sections - Two-Lane Arterials

There are two primary travel needs served by roadways: mobility and access. Mobility is the ability to move people or goods efficiently between locations. Access is the ability to reach numerous desired destinations. While all roadways serve these two needs to some degree, by design, certain type of roadways serve one need better than the other.

Two-Lane Undivided Arterial Not Access Controlled

Two-Lane Undivided Arterial Access Controlled

Two-Lane Divided Arterial with Center Turn Lane

Typical Roadway Cross Sections - Four-Lane Arterials

There are two primary travel needs served by roadways: mobility and access. Mobility is the ability to move people or goods efficiently between locations. Access is the ability to reach numerous desired destinations. While all roadways serve these two needs to some degree, by design, certain type of roadways serve one need better than the other.

Four-Lane Undivided Arterial

Four-Lane Divided Arterial with Center Turn Lane

Four-Lane Divided Arterial with Raised Median

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Current Travel Time and Delay

Sources: Google Maps Travel Time, Arkansas GIS Office, ARDOT, USA NAIP Imagery

Travel Delay

- Increased Travel Time during AM and PM peak hours.
- Delay on study area arterials and freeways is estimated to increase by 2050, as reported by the CARTS Travel Demand Model.

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Current Traffic Volumes - Average Daily Traffic (ADT)

Historical Trends

- Traffic Volumes are historically growing throughout the region.

2019 Volumes

- Heavy North-South travel in study area.
- East-West travel feeds onto North-South routes.

Current Land Uses

Prevalent Land Uses

- Residential Neighborhoods are prevalent in the study area.
- Commercial and Institutional buildings are located along major established roadways such as Highway 107, East Kiehl Avenue, and Highway 67/167.
- Industrial uses exist in the western study area.

Notable Landmarks

Unique Challenges

- The study area has a number of landmarks that may serve as unique challenges or constraints in determining potential roadway alternatives.

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Physical and Environmental Characteristics

Constraints

- Water related constraints and hazards in the eastern side of the study area.
- Constraints can influence the selection of a cost-effective solution.
- Most constraints in the study area are in close proximity to established four-lane roadways (Highway 107 and East Kiehl Avenue) and would have minimal impact on an East-West connection.