

**FEDERAL HIGHWAY ADMINISTRATION
FINDING OF NO SIGNIFICANT IMPACT
UPRR RAILROAD OVERPASS & REALIGN. (MAYFLOWER) (S)
F.A.P. NUMBER STP-RHE-0023(44)
ARDOT JOB NUMBER 080457
FAULKNER COUNTY, ARKANSAS**

Upon consideration of the Federal Highway Administration (FHWA) approved Environmental Assessment (EA), public comments, and other considerations, the FHWA has determined that the Preferred Alternative for the proposed Union Pacific Railroad (UPRR) Overpass and Realignment (Highway [Hwy.] 89 Improvements) project will have no significant impact on the human environment and hereby issues a Finding of No Significant Impact (FONSI) pursuant to 23 CFR 771(a).

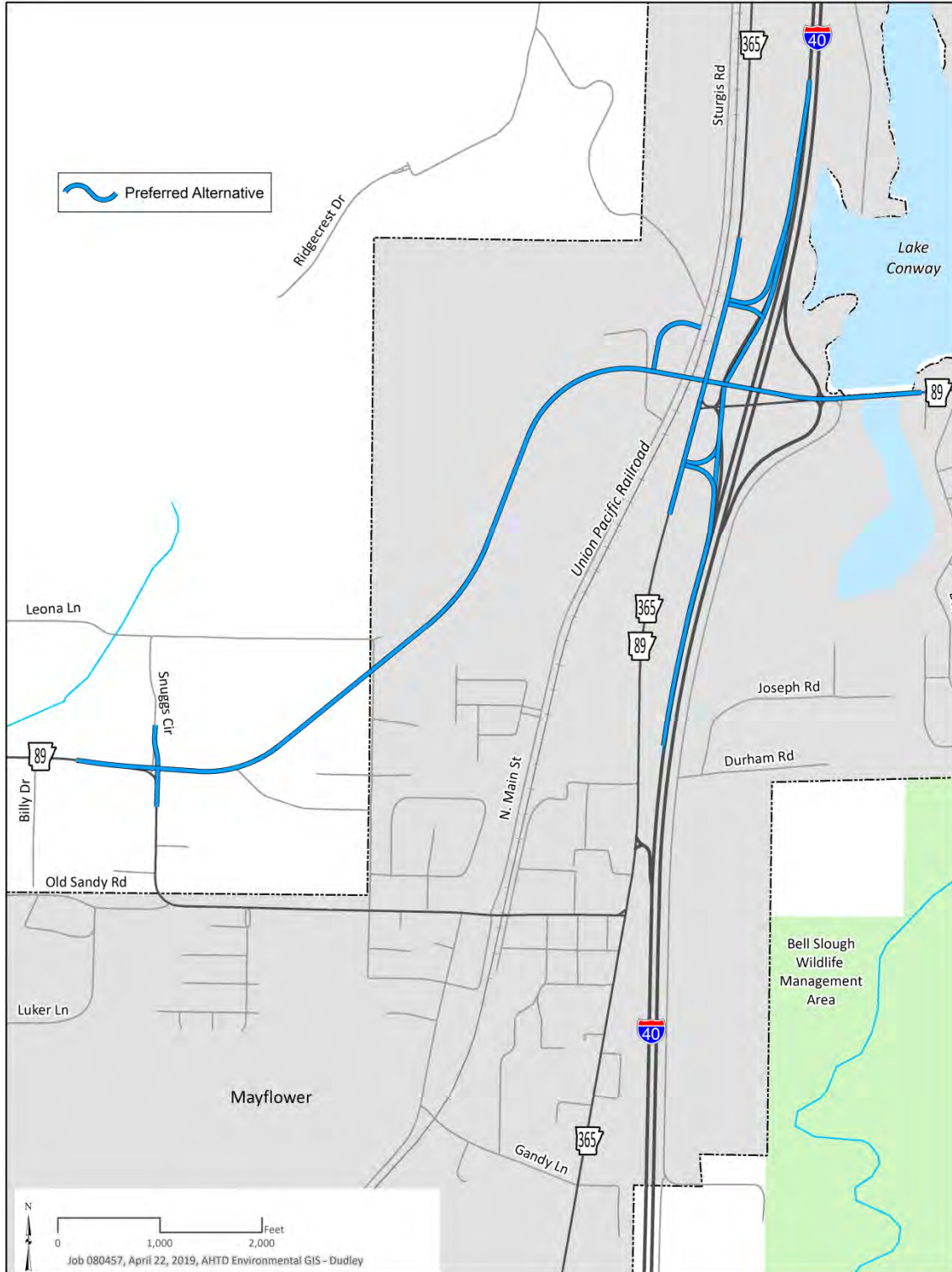
As shown on **Figure 1**, the Hwy. 89 Improvements project is located in the City of Mayflower, Faulkner County. Interstate 40 (I-40) divides Mayflower into two sections, east and west. Hwy. 89 is the only east-west highway in Mayflower, connecting to and crossing I-40, and connecting the two sections of the city. Hwy. 89 currently has two 11-foot wide travel lanes with 3-foot shoulders east of I-40, with two 10-foot wide travel lanes and variable (up to 2-foot) shoulder widths west of I-40. Hwy. 89 is joined with Hwy. 365 for approximately 1 mile. This north-south section of road through west Mayflower has two 12-foot wide travel lanes and 6-foot wide shoulders. The I-40/Hwy. 89 interchange has single-lane eastbound and westbound entrance and exit ramps.

Existing railroad crossings in Mayflower are at-grade; passing trains therefore cause frequent traffic delays. Emergency vehicles responding to incidents west of the railroad are unable to avoid such delays because Mayflower's fire station, medical clinic, and nearest hospital are all located east of the railroad.

The I-40/Hwy. 89 interchange area is a mix of local and through traffic, with congestion occurring during commuting hours. Vehicles stack up and block the Hwy. 89 travel lanes near the interchange ramps as drivers wait to make left turns. Additionally, incidents on I-40 cause major delays on Hwy. 89 when traffic diverts through Mayflower. Increases in travel volumes are associated with an increase in crash risk. Rear-end collisions are also more likely to occur as vehicles waiting to make left turns stack up in the travel lanes.

The Hwy. 89 Improvements project proposes to alleviate traffic delays by providing a rail-grade separation, improve east-west travel in Mayflower, and increase traffic safety. The project would construct a railroad overpass west of the existing I-40 interchange and provide a new route from the overpass to the intersection of Hwy. 89 and Billy Drive.

Figure 1. Project Location



The railroad overpass would provide four 11-foot wide travel lanes, a 12-foot wide dedicated center lane, an 11-foot wide right turn lane, and a pedestrian facility. The new location route would initially be constructed with two 12-foot wide travel lanes, a 12-foot wide painted median, and open shoulders. The existing interchange modifications would involve constructing a new I-40 overpass and widening adjacent sections of Hwy. 365. The I-40 overpass would have four 11-foot wide travel lanes and a 12-foot wide dedicated center lane for making left turns onto the ramps.

West of I-40, right of way sufficient to allow for future expansion to a five-lane roadway would be acquired. East of I-40, the proposed right of way sufficient to allow for future expansion to a three-lane roadway will be acquired. Highway 89 at the east end of the project crosses the Lake Conway causeway. The causeway will therefore need to be widened to accommodate a three-lane roadway. The traffic lanes east of I-40 will initially be striped to match the existing two-lane configuration, leaving an extra width of unutilized pavement at this location until the remainder of the widening of Highway 89 east of this location is completed under a separate project.

This FONSI is based on the FHWA's independent evaluation. The information contained in the EA has been determined to adequately and accurately discuss the need, environmental issues, and impacts of the proposed project and appropriate mitigation measures. The EA provides sufficient evidence and analysis for determining that no identified impacts would cause significant adverse effects to the natural or social environment.

Environmental Impacts

The environmental impacts for the Preferred Alternative were described in the approved EA. The EA was transmitted to numerous federal and state environmental resource agencies and was made available for public review prior to and at the Location Public Hearing and Design Public Hearing, held in April 2017 and November 2018, respectively. No comments were received from the environmental resource agencies or any member of the public that suggested the project would have a significant environmental impact.

The following is a summary of the Preferred Alternative's environmental impacts:

Land Use

Approximately 45.9 acres of new right of way will be required. **Table 1** provides the estimated total acreage of new right of way for each land use category. The Preferred Alternative is compatible with Mayflower's current and intended uses of their designated Mixed Use Center and Highway zones.

A section of the project may not be compatible with the intended use of the Single Family zone; however, the amount of acreage required within this zone is less than 2 acres.

Table 1. Land Use Acreage

Land Use Category	Total Acreage
Single Family	1.7
Mixed Use	26.5
Highway	5.4
Resort Commercial	0.5
Prime Farmland	9.6
Vegetation Cover	31.3 *

* Approximately 25.7 acres of total Vegetation Cover comprised of oak-hickory-pine forest.

The FHWA finds that the impacts to land use are not significant.

Social

Community Facilities/Services. Community facilities and services located within the study area include: a medical clinic, church, and grocery store; banks; and the Mayflower City Hall, Fire and Police Departments, Public Library, and Senior Citizens Center. No community facilities or services are located where new right of way would be acquired. The Preferred Alternative would not negatively impact the community services and facilities located along Hwy. 89 (west) and Hwy. 365. Traffic and businesses will be temporarily disrupted during construction, however.

Neighborhood and Community Cohesion. The Preferred Alternative’s improvements would improve both emergency services response time and access to public facilities. The addition of bicycle accommodations and sidewalks would meet Mayflower’s planning goals and enhance community cohesion.

Environmental Justice

This project was developed in accordance with *The Civil Rights Act of 1964*, as amended, and *Executive Order 12898* on Environmental Justice. These federal actions stipulate that no person shall, on the grounds of race, color, religion, sex, national origin, marital status, handicap, family composition, age, or income be excluded from participation in, be denied the benefits of, or be otherwise subject to discrimination under any program of the federal, state, or local government.

No person was discriminated against or denied the opportunity to comment on the proposed project alternatives.

Public Participation. Public meetings held by ARDOT are as described below.

A Public Involvement Meeting was held at the Mayflower Middle School on June 25, 2013 to introduce the proposed project to the public, share available information, and gather public input for consideration during study development.

An estimated one hundred forty-seven (147) persons attended the Location Public Hearing held at the First Baptist Church in Mayflower on April 6, 2017. Eighty-three (83) comment forms, one (1) email, and one (1) letter were received either during the meeting or the subsequent comment period.

An estimated one hundred twenty-three (123) persons attended the Design Public Hearing held at the First Baptist Church in Mayflower on November 15, 2018. A total of eighteen (18) comment forms and one (1) email were received either during the meeting or the subsequent comment period. A copy of the resultant Disposition to Public Comments is provided in **Appendix A**.

Public officials meetings preceded the Public Involvement Meeting and Public Hearings. Available materials at all of the meetings included aerial photograph display boards showing the project alternatives, project alternative descriptions, comment forms, and small-scale maps identical to the aerial photograph display boards. Additional materials available at the Public Hearings included copies of the EA, alternative impact comparison table display boards, and design roll-outs.

Environmental Justice Impacts. In light of Executive Order 12898, a review of the disproportionate effects of the Preferred Alternative was conducted. There are no minority and low income populations along the corridor that would suffer disproportionately high and adverse effects from the project.

The 2014 U.S. Census data covers the project area and provided population demographic characteristics. The total population of this census tract is approximately 2,431 residents.

Approximately 16 percent of residents are over 65, which is slightly higher than in the surrounding Faulkner County. The Mayflower population is 8.1 percent minority, or not of the white race category. The percentage of minority residents in the county as a whole is substantially higher than the percentage of minority residents in Mayflower. Slightly over 1 percent of the residents in the study area identify themselves as Hispanic or Latino, compared to 4 percent of the entire county. The Census data and field observations indicate the minimal presence of EJ/Title VI populations in the project area.

The FHWA finds that the Preferred Alternative would not have disproportionately high and adverse effects on minority and low-income populations, and finds that the impacts would not be significant.

Cultural Resources/Historic Properties

A cultural resources survey and survey addendum were completed for the project in accordance with Section 106 of the *National Historic Preservation Act*. No architectural or archeological historic properties have been identified. The State Historic Preservation Office concurrences obtained in February 2018 and December 2018 are included in **Appendix B**.

The FHWA finds that impacts to cultural resources/historic resources are not anticipated.

Section 4(f) / 6(f)

No Section 4(f) or 6(f) resources were identified in the project study area. The FHWA therefore finds that impacts to Section 4(f) / 6(f) properties are not anticipated.

Right of Way/Relocation

Approximately 45.9 acres of new right of way and will be required. While it is possible there will be some variation once contact with potentially displaced persons is initiated, the following relocation information is based on the best estimates currently available.

The Preferred Alternative will require seven residential relocations, two businesses, and one landlord business relocations. The residential relocations include one disabled, one elderly, and three low income households. Relocations will be conducted in accordance with *The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970*, as amended.

The FHWA finds that the right of way and relocation impacts are not significant.

Air Quality

This project has been determined to generate minimal air quality impacts for Clean Air Act criteria pollutants and has not been linked with any special mobile source air toxic (MSAT) concerns. As such, this project will not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause a meaningful increase in MSAT impacts of the project from that of the no-build alternative.

Moreover, Environmental Protection Agency (EPA) regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with

EPA's MOVES2014 model forecasts a combined reduction of over 90 percent in the total annual emissions rate for the priority MSAT from 2010 to 2050 while vehicle-miles of travel are projected to increase by over 45 percent (Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents, Federal Highway Administration, October 12, 2016). This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project.

The FHWA finds that the air quality impacts are not significant.

Noise

In accordance with the *Title 23 Code of Federal Regulations Part 772, Procedures for Abatement of Highway Traffic Noise and Construction Noise*, a noise analysis was conducted to determine potential noise impacts associated with the proposed project. The noise analysis results indicated that the projected traffic volume increase during the planning period would cause a minor increase in noise levels along the existing route. However, no sensitive receptors would be impacted by noise level increases.

The FHWA finds that the noise impacts are not significant.

Water Quality and Aquatic Resources

The project area lies completely within the U.S. Geological Survey-designated Lake Conway-Point Remove Watershed. The project area contains three unnamed intermittent streams and one ephemeral stream. The streams are all tributaries to Lake Conway.

A total of approximately 433 linear feet of the ephemeral and two of the intermittent streams would be impacted by the Preferred Alternative. However, stream impacts should be minimal with little to no stream realignment. Any unavoidable impacts would be mitigated.

There are no encroachments into special flood hazard areas – also known as the 100-year floodplain. The Preferred Alternative may involve minor fill in Lake Conway at the interchange ramps and the causeway. However, the fill areas would not obstruct any inlet streams and would not affect water surface elevation, which is controlled by the lake's dam. The floodplain north of the proposed interchange is part of the lake. The ramp work will not encroach the floodplain as currently designed.

The FHWA finds that the impacts to water quality and aquatic resources are not significant.

Wetlands and Waters of the U.S.

In accordance with *Executive Order 11990*, special considerations were taken in developing and evaluating the alternatives to avoid and minimize wetland impacts associated with this project. The Preferred Alternative will have permanent impacts to less than 1 acre of an herbaceous wetland. Of the three Build alternatives evaluated for this project, the Preferred Alternative has the least wetland impacts. A permit from the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act will be obtained. As part of this process, it is anticipated that stream and wetland mitigation will be offered at an approved mitigation bank site at a ratio approved by the U.S. Army Corps of Engineers during the permitting process.

The FHWA finds that impacts to wetlands and waters of the U.S. are not significant.

Threatened and Endangered Species

The threatened Piping Plover (*Charadrius melodus*) and the endangered Least Tern (*Sterna antillarum*) are known to utilize the proposed project area. These listed species are known to utilize Lake Conway for foraging habitat. Increased soil disturbance due to land clearing, culvert construction, and the operation of equipment and vehicles may temporarily impact water quality during project construction. Although such impacts could affect the foraging habits of the listed species, they are expected to be temporary and minimal. United States Fish and Wildlife Service (USFWS) concurrence will be obtained.

The FHWA finds that there are no significant impacts identified to threatened or endangered species.

Hazardous Materials

The Preferred Alternative will require the removal of at least two underground storage tanks associated with the Valero gas station. An oil spill occurred in the project study area in 2013. The oil and its contaminated debris, soils, and water have been removed; however, it is possible that oil pockets could still be discovered during future excavation activities near Lake Conway. A Special Provision (SP) addressing the oil spill, its impacts, and its present condition will provide notification procedures to ARDOT staff. The SP will include contact information for the Arkansas Department of Environmental Quality (ADEQ) and the oil spill response contractor in case oil spill contamination is encountered during construction. The SP will also provide the construction contractor an ARDOT contact person for reporting purposes if oil spill contamination is discovered. Additional construction-specific information is provided in the following section.

An asbestos survey will be conducted by a certified asbestos inspector on all buildings prior to the development of demolition plans. If the survey detects the presence of any asbestos-containing materials, plans will be developed to accomplish the safe removal of these materials prior to demolition. All asbestos abatement work will be conducted in conformance with the ADEQ, Environmental Protection Agency, and Occupational Safety and Health Administration asbestos abatement regulations.

The FHWA finds that hazardous materials impacts are not significant.

Construction

Although temporary environmental impacts may occur during construction, these can be controlled, minimized, or mitigated through careful attention to prudent construction practices and methods. Potential temporary construction impacts not referenced in the preceding resource sections are summarized below.

Hazardous Materials. If hazardous materials, unknown illegal dumps, or additional underground storage tanks are identified or accidentally uncovered by the Construction Contractor, ARDOT will determine the type, size, and extent of the contamination according to ARDOT's response protocol. The ARDOT, in consultation with ADEQ, will develop and implement appropriate procedures for the proper management of contaminated materials and coordinate the removal, disposal, and/or treatment of the materials, as necessary. If contaminated groundwater is encountered during construction, ARDOT will implement appropriate specifications for proper management and treatment of the water, as necessary.

Land Use. Approximately 4.8 acres of temporary construction easement will be required. This easement will be short-term and returned to the previous land use upon completion of the project.

Solid Waste Disposal. Any solid waste impacts created during construction would be temporary. All solid waste material resulting from clearing and grubbing, demolition, or other construction operations would be removed from the project and disposed of in an appropriate manner.

Air Quality. Emissions may be produced in the construction of this project from heavy equipment and vehicle travel to and from the site, as well as fugitive sources. Construction emissions are short term or temporary in nature and should not be significant.

Noise. Construction activity may cause intermittent fluctuations in noise levels. All reasonable measures will be taken to minimize noise impacts from these activities. The ARDOT's Policy on Highway Traffic Noise Abatement, Section 9.0 Construction Noise

establishes construction noise guidelines. The Construction Contractor will be required to conform to these guidelines to reduce the impact of construction noise on the surrounding community.

Public and Private Water Supplies. No public surface water intakes, wellheads, or associated protection areas of either type are in the project area. The ARDOT would take action to mitigate any project construction-related private drinking water source impacts.

The FHWA finds that the construction impacts would not be significant.

Indirect and Cumulative Impacts

Indirect and cumulative impacts to community resources, water resources, and cultural resources were evaluated. As part of this analysis, the direct and indirect effects of the Preferred Alternative, as well as the effects of past and present projects, and reasonably foreseeable impacts of future projects, were evaluated for the resources of concern.

Increased urban development can result from this type of project. Urban development is associated with decreases in water quality both temporarily and permanently. Temporary impacts most commonly result in increased rates of sedimentation from stormwater runoff from disturbed soils during construction. Permanent impacts include increased rates of pollutants such as fertilizer, herbicides, insecticides, and petroleum products in stormwater runoff.

Other than the potential for increased soil disturbance and temporary water quality impacts, adverse indirect and/or cumulative impacts associated with the Preferred Alternative are not anticipated. The FHWA therefore finds that indirect and cumulative impacts would not be significant.

Council on Environmental Quality's Regulations

The Council on Environmental Quality's regulations requires consideration of a project's context and intensity in determining whether the project will have a significant impact (40 C.F.R. 1508.27).

Context is defined as: "Context means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant."

Regarding intensity, the regulations identify issues that should be considered in determining if the intensity of a project's impacts is substantial enough to warrant the preparation of an Environmental Impact Statement (40 C.F.R. 1508.27(b)(1-10)). The following issues are considered in the determination of whether there is a significant impact:

1. *Impacts that may be both beneficial and adverse* – In addition to the adverse impacts described above, the Preferred Alternative would also have beneficial impacts. Beneficial impacts include increasing local connectivity and improving mobility - both locally in Mayflower on the Highway 89 corridor.
2. *The degree to which the project affects public health or safety* – It is not anticipated that the project would adversely affect public health and safety. To the contrary, the project would improve police and emergency services by removing delays at the existing railroad crossing.
3. *Unique characteristics of the geographical area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers or ecologically critical areas* – No historic or cultural resources, park lands, wild and scenic rivers, or ecologically critical areas will be impacted by the project. As discussed in the preceding sections, the impacts to prime farmlands and wetlands are not significant.
4. *The degree to which the effects on the environment are expected to be highly controversial* – The term “controversial” refers to cases where substantial dispute exists as to the size, nature, or effect of the action rather than to the existence of opposition to a use, the effect of which is relatively undisputed. On this project, there has been no documented dispute regarding the size, nature, or effect of the project from the state or federal environmental resource agencies or any other entity. Further, no environmental resource agency has opposed the project. Based on the above, we find that the degree to which the effects on the environment are expected to be highly controversial does not require an environmental impact statement for this project.
5. *The degree to which the effects on the quality of the human environment are highly uncertain or involve unique or unknown risks* – There are no known impacts on the quality of the human environment that can be considered highly uncertain or involve unique or unknown risks.
6. *The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration* – This action will not set a precedent for future actions with

significant effects or represent a decision in principle about a future consideration. The FHWA's regulations at 23 CFR 771.115(a) list the types of actions normally requiring the preparation of an Environmental Impact Statement. The provision of rail-grade separations, interchange ramps, and roadway widening are not included on the list. The provision of rail-grade separations, interchange ramps, and roadway widening are not included on the list. The project has logical termini and independent utility and represents a reasonable expenditure; it does not force additional improvements to be made to the transportation system. This decision will not establish a precedent.

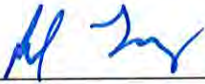
7. *Whether the action is related to other actions with individually insignificant but cumulatively significant impacts* – Although widening of Highway 89 east of the project's terminus has been proposed as a separate project, the Hwy. 89 Improvements project has logical termini and independent utility. Other than the potential for increased soil disturbance and temporary water quality impacts, adverse indirect and/or cumulative impacts associated with the proposed project are not anticipated.
8. *The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss of significant scientific, cultural, or historic resources* – No cultural resources listed in or eligible for listing in the National Register of Historic Places will be adversely affected by the project. Pursuant to the regulations implementing Section 106 of the National Historic Preservation Act, the Preferred Alternative would have no adverse effect on historic resources.
9. *The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act* – The threatened Piping Plover (*Charadrius melodus*) and the endangered Least Tern (*Sterna antillarum*) are known to utilize Lake Conway for foraging habitat. Based on the analysis summarized in the Threatened and Endangered Species section of this FONSI, any potential impacts to these listed species would be temporary and minimal. As described in the EA, FHWA and ARDOT will complete the Section 7 consultation process and with the USFWS.

The FHWA finds that there are no significant impacts identified to threatened or endangered species.


10. *Whether the action threatens a violation of federal, state, or local law or requirements imposed for the protection of the environment* – The proposed action does not knowingly threaten a violation of any federal, state, or local law for the protection of the environment. All applicable permits will be acquired prior to construction.

Conclusion

Based upon the EA, the Public Involvement Meeting and Location Public Hearing comments, the Disposition of Public Comments for the Design Public Hearing, and the foregoing information and other supporting information, the FHWA concludes that the Preferred Alternative will not have a significant impact on the environment. Therefore, no additional NEPA documentation is required for this project. If changes in laws or regulations occur that affect the project during design or construction, or there are major design changes that result in significantly greater impacts than those that are evaluated in this document, a re-evaluation of the EA will be performed. The ARDOT has completed the assessment of the proposed project and the FHWA issues a Finding of No Significant Impact for the Hwy. 89 Improvements project in Faulkner County, Arkansas.



Randal Looney
Environmental Coordinator
Federal Highway Administration



Date

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APPENDIX A
DISPOSITION OF PUBLIC COMMENTS

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DISPOSITION OF PUBLIC COMMENTS

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UPRP Overpass & Realignment (Mayflower) (Hwy. 89)
Faulkner County

An Open Forum Design Public Hearing for this project was held on November 15, 2018 at the First Baptist Church of Mayflower (Fellowship Hall). The proposed design was displayed on an aerial photograph, depicting design features on an approximate scale of 1":100'. Representatives of various ARDOT Divisions as well as District 8 were present to explain the proposed design and to answer questions. Copies of the Environmental Assessment and other general project information were available.

Nineteen (19) written comments were received. Summaries of these comments and responses thereto follow:

1. **COMMENT:** Mr. John Gray, the Mayflower School District Superintendent, stated that the Mayflower School District is looking into adding an additional road with help from the County [Judge]. The new road is planned to connect with Highway 89 on the West end of the proposed improvement.
RESPONSE: This comment was noted.
2. **COMMENT:** Mr. Tom Anderson, Faulkner County Administrator, asked if there is any way to add a bicycle or walking lane to the length of the project.
RESPONSE: The current project is designed with open shoulders, which will accommodate bicycles. The ultimate design is projected to have sidewalks.
3. **COMMENT:** Ms. Marsha Joyner requested the addition of a walking/bike path to the entire project.
RESPONSE: The current project is designed with open shoulders, which will accommodate bicycles. The ultimate design is projected to have sidewalks.
4. **COMMENT:** Mr. Lance Beckman asked if: a) there will be a Traffic light at Station 107+00 at the intersection of proposed Highway 89 and Arkansas River Trail; b) straightening Snuggs Lane on the Northwest side of proposed Highway 89 at Station 133+00 was considered.
RESPONSE: The intersection of proposed Highway 89 and Arkansas River Trail does not include a traffic signal. The intersection of proposed Highway 89 and Snuggs Circle was designed to utilize as much of the existing pavement as possible, and to decrease the impact to the traveling public.
5. **COMMENT:** Mr. Daniel Davis stated that the project is way past due for Mayflower. Mr. Davis also suggested the access road to Main Street be extended to the corner of Scenic Hill Road and Main Street by way of a roundabout. Mr. Davis also suggested that the Department look into a roundabout at the intersections of the I-40/Highway 89 and I-40/Highway 365. Mr. Davis stated his concern with drainage of stormwater under the railroad from this new alignment on the west side of the railroad track to the east side of the railroad, and felt that this issue should be addressed at this

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time. He stated that one person has already drowned from stormwater that was dammed up by the railroad.

RESPONSE: The geometry and capacity needs for the intersections in question do not allow for the efficient utilization for roundabouts. The drainage design will be evaluated per Department design procedures and policies.

6. **COMMENT:** Ms. Bridgett Hendrickson stated that the new road is coming right through where her mobile home sits. Her main concern is whether she can get a loan for another piece of property. Ms. Hendrickson asked if she could receive the funds upfront to move because she does not have the resources to come out of pocket for a down payment.

RESPONSE: Residential owner and tenant occupants whose dwellings are acquired for the project will be eligible for relocation assistance in accordance with federal law and Department policy. Relocation assistance includes moving cost payments and replacement housing payments that can be made in advance to avoid or reduce a hardship, and advisory services that assist displaced residential occupants with searching for financing. Because loans on property are made by the private market, the Department cannot guarantee that every displaced person will be able to receive financing. No person to be displaced shall be required to move from his or her dwelling unless at least one comparable replacement dwelling has been made available to the person.

7. **COMMENT:** Mr. Byron Giles stated that Snuggs Circle will create a traffic problem in its current condition. The road is not wide enough for two vehicles to pass without one pulling off in a driveway. The street has no shoulders and deep drop-offs on both sides. Since the road sits on the city/county lines, neither entity wants to make improvements.

RESPONSE: The current configuration of Snuggs Circle will be bisected by the construction of Highway 89, creating two new intersections. Each of the two intersections and approaches will be designed per Department design policies within the proposed right of way limits.

8. **COMMENT:** Ms. Deborah Hickman asked if the address of 50 Snuggs Circle will be affected and, if so, to what extent.

RESPONSE: The property at the 50 Snuggs Circle will be directly impacted by the proposed construction limits and proposed Right of Way limits due to the proximity of the bypass. According to county data records, a dwelling not shown on ARDOT's current map is on the property. The dwelling is obscured by a heavy tree canopy and was not visible on available aerial imagery. The Right of Way Division will reserve additional comments and further detail about specific impact(s) to the property until the ARDOT and Right of Way maps are more developed. Upon gaining authority and approval to acquire the property, the Right of Way Division will send Ms. Hickman an

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initial contact letter by mail and arrange a time to inspect the property at her convenience.

9. **COMMENT:** Mr. Roger L. Marcum asked if his shop on Snuggs Circle will be affected and, if so, to what extent.

RESPONSE: Some permanent right of way will be acquired on the north side of the structure in question for construction of Highway 89, and a temporary construction easement will be acquired for the construction of the intersection of Snuggs Circle and Highway 89. At this time, the Right of Way Division does not have the exact location of the referenced shop building, and Mr. Marcum's name did not appear in the Faulkner County records. The Right of Way Division will reserve any additional comments and further detail about the specific impact(s) to the property until the ARDOT and right of way maps are more developed. Upon gaining authority and approval to acquire the property, the Right of Way Division will send Mr. Marcum an initial contact letter by mail and arrange a time to inspect the property at his convenience.

10. **COMMENT:** Mr. Joel Ward asked if he could be sent a copy of the EA.

RESPONSE: The Environmental Division provided a copy of the EA to Mr. Ward in December 2018.

11. **COMMENT:** Mr. John C. Meeks requested copies of his family properties, which are within the station limits of 108+00-110+00 to better see details on how the properties will be affected.

RESPONSE: The requested information was mailed to Mr. Meeks on December 7, 2018 from the Roadway Design Division.

12. **COMMENT:** Mr. Ken Tugwell stated that he is excited about the project and will not be affected by the route.

RESPONSE: This comment was noted.

13. **COMMENT:** Mr. Philip Loken stated that he is happy with the design since it is really needed.

RESPONSE: This comment was noted.

14. **COMMENT:** Mr. Joseph Poe III stated that the intersection design looks strange, but given the space constraints in which this is constructed, it should work fine. This is a much needed project, so he is 100 percent for the project as is designed, yet only suggested to be built as soon as possible.

RESPONSE: This comment was noted.

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Faulkner County

15. **COMMENT:** Mr. Geroge J. Uran asked about the pipeline relocation and traffic control for the I-40 Eastbound Exit at Highway 89 intersection.
- RESPONSE:** The intersection at the Eastbound I-40 Exit and Highway 89 will be controlled with a traffic signal. The Department is working to minimize the impact to the existing pipeline by both design avoidance and protection measures designed by the pipeline company so there will be no need to relocate the pipeline
16. **COMMENT:** Ms. Patricia Barnes Loken stated that the project is a long time coming.
- RESPONSE:** This comment was noted.
17. **COMMENT:** Mr. Scott Ausbrooks stated that his properties at 44 and 46 Snuggs Circle will be directly impacted, yet fully supports the design as presented. Mr. Ausbrooks requested that he be informed of any changes if the design in the area is adjusted.
- RESPONSE:** This comment was noted.
18. **COMMENT:** Mr. David Leffler and Ms. Jean Leffler state that rather than building a new overpass and rerouting Highway 89 through vacant land, we should keep the existing I-40 Interchange as-is. The Department should widen Satterfield Drive and build an overpass over the railroad then continue Satterfield Drive to State Highway specifications all the way West to tie into the existing Hwy. 89 at the cemetery, and improve Main Street to city street specification from the existing Hwy. 89 to railroad overpass. This may affect more homes but could cut project cost and build time in half and improve Fire Department and school bus routes. They feel the entrance and exit to I-40 and Highway 365 and would be eliminated if the Department uses these recommendations.
- RESPONSE:** The alignment shown during the Public Hearing was the preferred option of the City of Mayflower, Faulkner County, and Metroplan due to its benefit for regional connectivity and its potential to more positively impact the city of Mayflower. The Leffler family's recommendations were studied in the planning phase of the project, and it was determined that the preferred alternative would have the least impact on existing businesses, churches, and schools in the city. These properties would be severely impacted by constructing the overpass on the existing alignment.
19. **COMMENT:** Mr. John Bearden stated the following concerns: a) Usage of explosives during the project interfering with the community of Pin Village on Round Mountain. The communities obtain their water from well systems, so any type of shockwave could potentially cause damage such as collapsing or dropping the wells and result in losing the ability to retrieve water; b) The proposed entrance of the project is within 200 feet of the current intersection of Scenic Hill Road, North Main Street, and Sturgis Road. This intersection is a prominent one in the area, since these

DISPOSITION OF PUBLIC COMMENTS

Job 080457

UPRP Overpass & Realignment (Mayflower) (Hwy. 89)
Faulkner County

three roads are commonly used as a way of travel. Mr. Bearden feels the new intersection will be difficult for commuters to traverse due to its proximity to the existing intersection and the sight distance obstruction caused by thick forestation in the area; c) Difficulties of keeping wildlife in the area (such as deer, fox, and turkey) off the project during the construction. Following project completion, the animal's natural habitat will be disturbed, leading to an increase in the number of human and animal interactions and causing significant car accidents.

RESPONSE: Regarding items 1) and 2) - No explosive charges will be used for the construction of this project. The intersection of North Main Street and the Highway 89 Connector are all designed to safely accommodate all turning movements. Scenic Hill Road is not within the project limits and will not be affected by this project. Regarding item c) - The wildlife in the area will naturally avoid the area during the construction phase of the project. The use of heavy equipment and vehicles will deter the animals due to the increased noise and vibration. Post construction, wildlife tend to adjust to the habitat changes and modify their travel routes and nesting areas. The project lies in close proximity to several existing roadways and transportation corridors; therefore, the wildlife within the project area likely have some previous familiarity with transportation facilities such as the one proposed.

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APPENDIX B
SHPO CLEARANCES

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ARKANSAS DEPARTMENT OF TRANSPORTATION

ArDOT.gov | IDriveArkansas.com | Scott E. Bennett, P.E., Director

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81884.02
FHWA

January 31, 2018

AHPP

FEB 01 2018

Ms. Stacy Hurst
Arkansas Historic Preservation Program
1100 North Street
Little Rock, Arkansas 72201

Re: Job Number 080457
UPRR Overpass & Realign.
(Mayflower) (S)
Faulkner County

Dear Ms. Hurst:

A Project Identification Form for the referenced project is enclosed. Please review for concurrence with the findings of my staff. If you have any questions or require additional information, please contact Kristina Boykin of my staff at (501) 569-2079.

Sincerely,

John Fleming
Division Head
Environmental Division

JF:DW:KB:fc

Enclosure
PIF

RECEIVED
ARDOT

FEB 05 2018

ENVIRONMENTAL
DIVISION

Date 2/1/2018
No known historic properties will be affected by this undertaking. This effect determination could change should new information come to light.

Arkansas State Historic Preservation Officer



THE DEPARTMENT OF ARKANSAS
HERITAGE

Asa Hutchinson
Governor

Stacy Hurst
Director

December 10, 2018

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

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ENVIRONMENTAL
DIVISION

Arkansas Arts Council

Arkansas Historic
Preservation Program

Arkansas Natural
Heritage Commission

Arkansas State Archives

Delta Cultural Center

Historic Arkansas Museum

Mosaic Templars
Cultural Center

Old State House Museum

RE: Faulkner County – Mayflower
Section 106 Review – FHWA
Request for Technical Assistance
AHTD Job Number 080457
UPRR Overpass & Realign
AHPP Tracking Number: 81884.03

Dear Mr. Fleming:

The staff of the Arkansas Historic Preservation Program (AHPP) has reviewed the submitted documents submitted regarding the proposed undertaking referenced above.

We agree this undertaking will not affect any cultural resources in the area of potential effect (APE). Therefore, we concur that the proposed undertaking will have no adverse effect to historic properties and that no further work is required.

Tribes that have expressed an interest in the area include the Cherokee Nation (Ms. Elizabeth Toombs), the Chickasaw Nation (Ms. Karen Brunso), the Choctaw Nation of Oklahoma (Dr. Ian Thompson), the Muscogee (Creek) Nation (Ms. Corain Lowe-Zepeda), the Osage Nation (Dr. Andrea Hunter), the Quapaw Nation of Oklahoma (Mr. Everett Bandy), and the Shawnee Tribe of Oklahoma (Ms. Tonya Tipton). We recommend that they be consulted in accordance with 36 CFR § 800.2 (c) (2).

Thank you for the opportunity to review this undertaking. 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,

Scott Kaufman
Director, AHPP

cc: Mr. Randal Looney, Federal Highway Administration
Dr. Ann Early, Arkansas Archeological Survey



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HIGHWAY 89 IMPROVEMENTS (MAYFLOWER)

AHTD Job 080457

Environmental Assessment



HIGHWAY 89 IMPROVEMENTS (MAYFLOWER)

F.A.P. Number STP-RHE-0023(44)

Environmental Assessment

Submitted pursuant to:

The National Environmental Policy Act
42 U.S.C. §4322(2)(c) and 23 C.F.R. §771

Submitted by:

FEDERAL HIGHWAY ADMINISTRATION

and

**ARKANSAS STATE HIGHWAY AND TRANSPORTATION
DEPARTMENT**

The following people may be contacted for additional information concerning this document:

Randal Looney
FHWA
700 W. Capitol, Room 3130
Little Rock, AR 72201-3298
(501)324-6430

John Fleming
AHTD
P.O. Box 2261
Little Rock, AR 72203-2261
(501)569-2281

In compliance with the National Environmental Policy Act, this Environmental Assessment describes the proposed project to provide improvements to Highway 89 in the City of Mayflower. The analysis did not identify any significant adverse environmental impacts and identifies Alternative 3 as the Preferred Alternative.

Comments should be directed to:

Mail: Environmental - Public Involvement
AHTD
P.O. Box 2261
Little Rock, AR 72203-2261

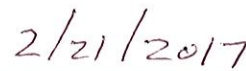
Email: info@ahtd.ar.gov

This Environmental Assessment is also available for review online at:

<http://www.arkansashighways.com/>



Randal Looney
Environmental Specialist
Federal Highway Administration



Date of Approval



Arkansas State Highway and
Transportation Department



Americans with Disabilities Act (ADA) Information

Materials can be provided in alternative formats: large print, Braille, or audiotope for people with disabilities by contacting AHTD's EEO/DBE Section Head (ADA/504/Title VI Coordinator) at (501) 569-2298 (Voice/TTY 711), or at the following email address: EEO_DBE_Section_Head@ahtd.ar.gov. Persons who are deaf or hard of hearing may contact the AHTD through the Arkansas Relay Service at 7-1-1.

Title VI

The Arkansas State Highway and Transportation Department (AHTD) ensures full compliance with Title VI of the Civil Rights Act of 1964 by prohibiting discrimination against any person on the basis of race, color, national origin or sex in the provision of benefits and services resulting from its federally assisted programs and activities. The AHTD public involvement process did not exclude any individuals due to income, race, color, religion, national origin, sex, age, or disability. For questions regarding the AHTD's Title VI Program, you may contact the Department's EEO/DBE Section Head (ADA/504/Title VI Coordinator) at (501) 569-2298 (Voice/TTY 711), or at the following email address: EEO_DBE_Section_Head@ahtd.ar.gov.

A federal agency may publish a notice in the Federal Register, pursuant to 23 USC §139(l), indicating that one or more federal agencies have taken final action on permits, licenses, or approvals for a transportation project. If such notice is published, claims seeking judicial review of those federal agency actions will be barred unless such claims are filed within 180 days after the date of publication of the notice, or within such shorter time period as is specified in the federal laws pursuant to which judicial review of the federal agency action is allowed. If no notice is published, then the periods of time that otherwise are provided by the federal laws governing such claims will apply.

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Chapter 1 – Purpose and Need

Chapter 1 describes current transportation problems, explains how the proposed project could resolve these problems, and outlines the project's lead agency roles.

1.1 What is the Highway 89 Improvements project?

The Arkansas State Highway and Transportation Department (AHTD) is proposing to improve Highway (Hwy.) 89. The project would alleviate Hwy. 89 railroad track crossing delays and improve east-west travel in the City of Mayflower. The project would also include either widening the existing route or constructing a new location route.

1.2 What are the existing road conditions?

Local

As shown on **Figure 1**, Interstate 40 (I-40) divides Mayflower into two sections, east and west. Hwy. 89 is the only east-west highway in Mayflower, connecting and crossing to I-40, and connecting the two sections of the city. Hwy. 89 currently has two 11-foot wide travel lanes with 3-foot wide shoulders east of I-40. Hwy. 89 has two 10-foot wide travel lanes, with variable shoulder widths (up to 2 feet wide) west of I-40.

Hwy. 89 is joined with Hwy. 365 for approximately 1 mile. This north-south section of road through west Mayflower has many businesses. It parallels the Union Pacific Railroad track to the east. It has two 12-foot wide travel lanes and 6-foot wide shoulders.

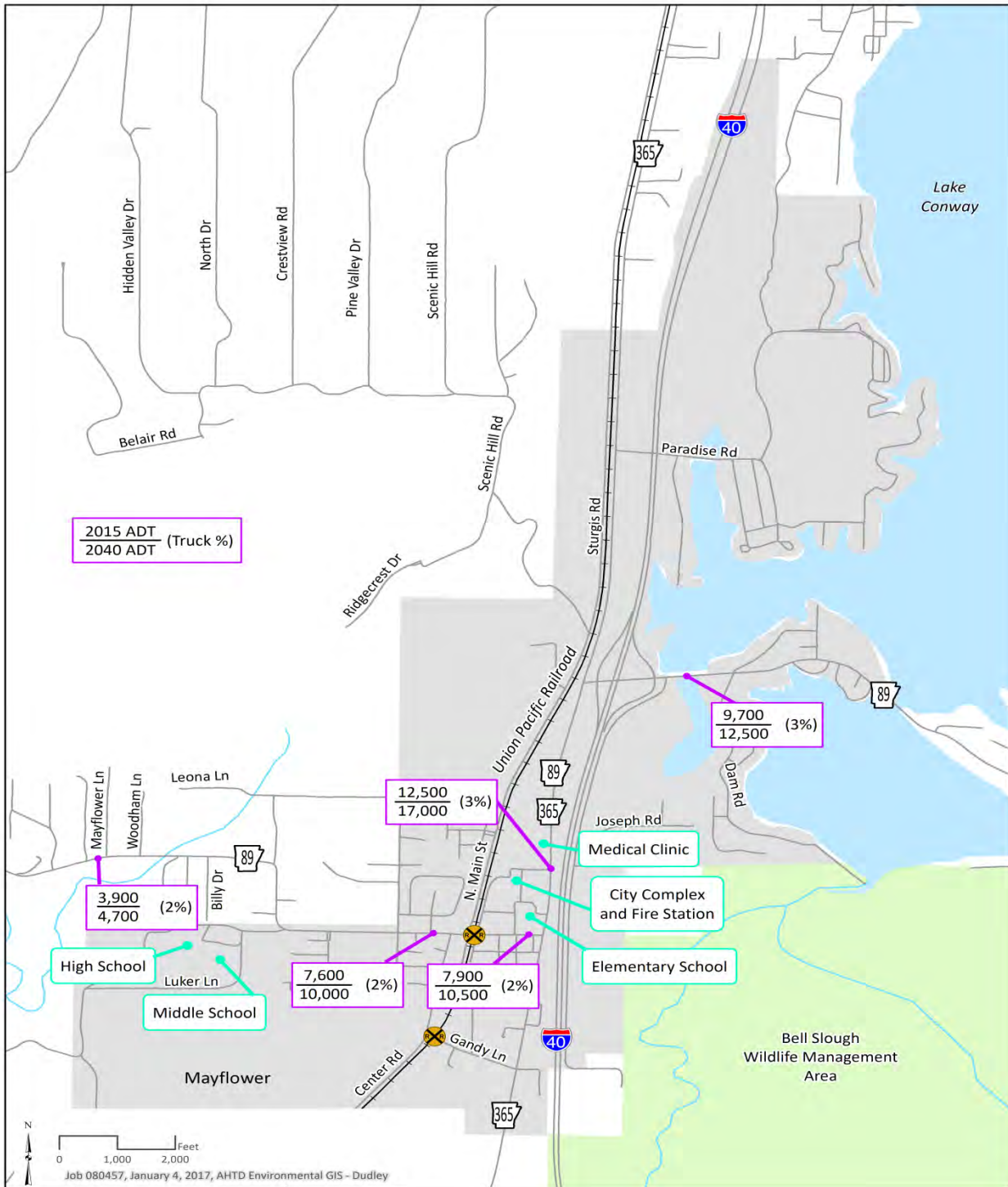
North Main Street (N. Main St.) extends north of its intersection with Hwy. 89 West and runs parallel to, and west of, the railroad track. N. Main St. has two 8-foot wide travel lanes and no shoulders. The travel lane widths increase or decrease by up to 1 foot at some locations through the project area.

The I-40/Hwy. 89 interchange has single-lane eastbound and westbound entrance and exit ramps.

Current (2015) and predicted (2040) average daily traffic (ADT) numbers are also provided on Figure 1 for different points along Hwy. 89 in the project area.

Average daily traffic estimates are used to monitor the growth in traffic from year to year. These estimates are also useful for analyzing traffic accident rates.

Figure 1 Local Area



There are only two road crossings of the railroad track in Mayflower. One crossing is on Hwy. 89 west of I-40 and the other is on a city street, Gandy Lane.

Numerous driveways and intersections along Hwy. 89 create conflict points for vehicles and for bicyclists and pedestrians. Traffic flows are disrupted by vehicles making turns. There are no bicycle and pedestrian facilities along the route.

Regional

As shown on **Figure 2**, Hwy. 89 runs from near the Arkansas River eastward into Mayflower before intersecting with Hwy. 365. It joins with Hwy. 365 northward to the I-40 interchange, where it crosses I-40 and continues eastward across Faulkner County to the Pulaski County Line. It begins again 5.9 miles to the east at Hwy. 107 and runs eastward to Hwy. 67 in Lonoke County. Hwy. 89 then travels southward through the City of Lonoke to Hwy. 70, south of I-40. Most of the route lacks bicycle and pedestrian facilities.

Hwy. 365 connects the City of Conway to the City of North Little Rock. It also serves as the only traffic relief route for I-40 between these cities, meaning travelers often divert to Hwy. 365 when traffic on I-40 is either moving slowly or stopped.

1.3 Why are Highway 89 improvements needed?

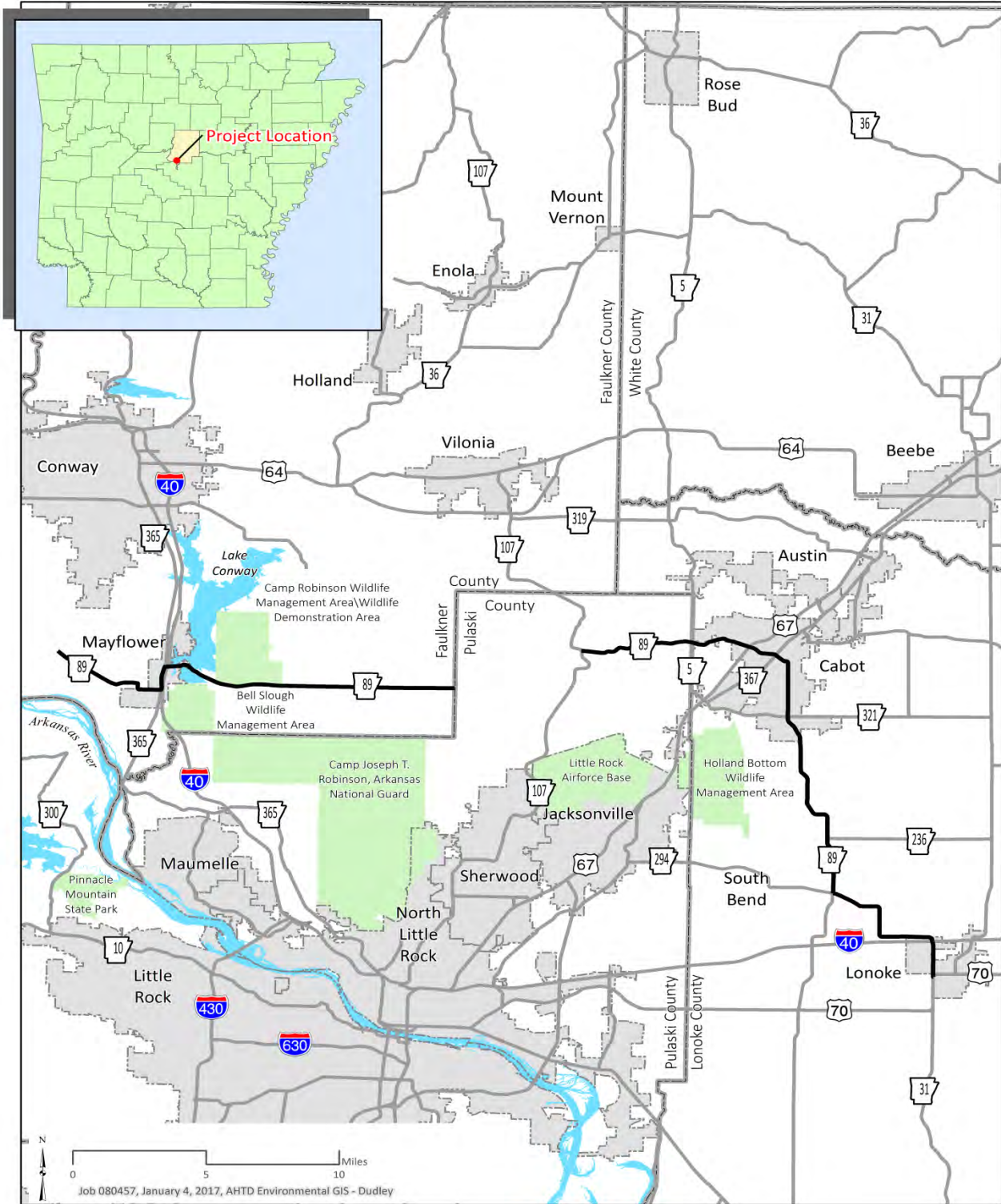
Railroad Track Crossing Delays and Safety

The existing railroad track crossings in Mayflower are at-grade, meaning the track and the roadway are on the same level. Passing trains frequently cause traffic delays lasting up to 8 minutes. Delays can be particularly long (up to 45 minutes) during railroad operations such as train switching. Because the Mayflower fire station, medical clinic, and nearest hospital are all located east of the railroad, emergency vehicles responding to incidents west of the railroad are unable to avoid these delays. Providing a rail-grade separation at either the existing Hwy. 89 location or at a new location would help solve railroad crossing delays. The Hwy. 89 railroad crossing's hazard rating indicates it is the 214th most dangerous out of 2,453 at-grade crossings.

Conflict points are where a roadway user can cross, merge, diverge, etc. with another roadway user. Conflict points are commonly used to explain the accident potential of a roadway.

Hazard ratings for railroad crossings are used to describe relative safety. The ratings are calculated using average daily traffic, number of trains per day, number and types of tracks, and number of crashes within the last 15 years.

Figure 2 Project Region



Traffic Volumes and Delays

Both the Central Arkansas Regional Transportation Study Travel Demand Model and historical traffic volume count trends were used to evaluate traffic volumes. The modeling results and trends predict an increase in Mayflower's traffic volumes. Figure 1 shows current and predicted ADT volumes.

The I-40/Hwy. 89 interchange area is a mix of local and through traffic, with congestion occurring during morning and evening commuting hours. Vehicles stack up and block the Hwy. 89 travel lanes near the interchange ramps during these times as drivers wait to make left turns. Additionally, incidents on I-40 cause major delays on Hwy. 89 when traffic diverts through Mayflower.

The Mayflower Elementary, Middle, and High Schools create much of the local traffic on Hwy. 89. Traffic congestion occurs during student drop-off and pick-up times. Vehicles parking along the highway's narrow shoulders near the schools contribute to the problem.

Traffic performance simulation software was used to model and compare the I-40/Hwy. 89 interchange operations performance. The comparison measured network travel efficiency – in other words, mobility – using vehicle-miles traveled and vehicle-hours traveled. Detailed traffic modeling information is provided in **Appendix A**.

Level of Service

The 2010 Highway Capacity Manual was used to evaluate Level of Service (LOS). LOS is a term used to describe roadway operating conditions from the drivers' perspective. The LOS system assigns quality levels to traffic service based on how well roadway systems perform. LOS ratings range from A (representing free flow conditions) to F (representing a breakdown in traffic flow).

LOS Ratings A through D are considered acceptable for minor arterials such as Hwy. 89 and Hwy. 365. As shown in **Table 1**, the current LOS rating for both highways is E, which is considered unacceptable. The table also shows predicted future LOS ratings as unacceptable. The year 2040 is used to coincide with the 2040 planning horizon.

LOS Ratings take into account road and traffic conditions that affect traffic flow, such as:

- Traffic volume and speed
- Shoulder and lane width
- Percent of the daily traffic that consists of trucks, buses, or recreational vehicles
- Passing opportunities
- Number of traffic signals
- Terrain

Arterial roads serve statewide or interstate travel, linking cities and large towns to an integrated highway network.

Table 1. Hwy. 89 and Hwy. 365 LOS Ratings

Highway	LOS	
	2015	2040
Highway 89 (west of Highway 365)	E	E
Highway 365	E	E
Highway 89 (east of Highway 365)	E	E

Vehicle Conflicts and Safety

Increases in travel volumes are associated with decreases in safety. Additionally, rear-end collisions are more likely to occur as vehicles waiting to make left turns stack up in the travel lanes.

Conflict points on roadways, such as driveways and street intersections, are associated with an increase in crash risk. When conflict points are numerous and dense, drivers have more information to process and less time to react to unexpected situations. As travel volumes increase, the safety performance of roadways with numerous conflict points can be poor.

Appendix A includes additional traffic safety information.

1.4 How is the project related to other transportation plans and goals?

Metroplan is central Arkansas's Metropolitan Planning Organization (MPO). As an MPO, Metroplan is responsible for regional transportation planning activities. Metroplan coordinates these activities with the AHTD.

In June 2016, the AHTD entered into an agreement with Metroplan to study the need for, and feasibility of, a continuous Hwy. 89 corridor from Cabot through Mayflower to west Conway. This study is supported by the Arkansas 89 Corridor Coalition, a group comprised of city mayors, county judges, and state representatives.

Metroplan has identified a Regional Arterial Network (RAN), a set of existing arterial roads that can provide viable alternatives to the interstate system. Hwy. 89 is designated as a high priority RAN corridor that, with identified improvements, could connect communities in Faulkner, Pulaski, and Lonoke counties.

MPOs are policy-making groups made up of representatives from local government representatives and governmental transportation authorities.

The proposed RAN corridor improvements are designed to increase regional connectivity and mobility. In short, Hwy. 89 improvements are needed to connect people with the places they want to go and make it easier to transport goods and provide services.

Imagine Central Arkansas (ICA) is Metroplan's 2040 long range plan for central Arkansas. The plan emphasizes improving regional connectivity and achieving a high level of mobility. To accomplish this, ICA recommendations for RAN corridors (such as Hwy. 89) include intersection improvements, grade-separated rail crossings, and widening at select locations.

The *Mayflower Master Street Plan*, the *Heart of Mayflower Regulating Plan*, and the *Walkable Mayflower Pedestrian Plan* provide transportation plans and goals. As stated in its planning policies, Mayflower intends to promote alternatives to automobile travel by providing multiple transportation modes. To this end, guidances for integrating a network of sidewalks and bicycle paths into the roadway network have been developed.

Community cohesion is a component of Metroplan's and Mayflower's planning principles. The location of highways, railroad tracks, or other transportation facilities can be barriers to community cohesion if they impede access within the community. Transportation planners therefore often consider ways to remove or improve transportation barriers such as at-grade railroad crossings.

1.5 What are the project purposes?

Given the transportation needs, goals, and objectives described above, the purposes of this project are as follows:

- Eliminate or reduce traffic delays at the Hwy. 89 railroad track crossing.
- Reduce travel delays and improve safety along Hwy. 89.

Connectivity refers to the number and directness of routes and roadways. Good connectivity is provided by multiple routes and connections serving the same origins and destinations.

Mobility is the easy movement of people and goods through an area.

Connectivity and mobility improvements increase traffic flow and roadway capacity.

Community cohesion describes the degree to which people have a sense of belonging to their community and have formed strong attachments to neighbors, groups, and institutions.

1.6 Who is leading the proposed project?

The FHWA is the federal lead agency and the AHTD is the state lead agency for the proposed project. The FHWA is involved because it would fund a portion of the project. The project would also require state funds allocated to the AHTD. The AHTD is responsible for administering and maintaining the state highway system, including Hwy. 89.

1.7 How and why was this Environmental Assessment prepared?

This Environmental Assessment (EA) was prepared in compliance with the National Environmental Policy Act of 1969 (NEPA).

The EA serves to:

- Explain the proposed action's purpose and need.
- Describe the alternatives considered for implementing the proposed action.
- Evaluate the social, economic, and environmental effects of the alternatives.
- Inform the public and decision makers about potential impacts of the proposed action.
- Provide sufficient evidence and analysis to determine whether to prepare a more detailed Environmental Impact Statement or a Finding of No Significant Impact (FONSI).

A **Finding of No Significant Impact (FONSI)** presents the reasons why an action will not have significant environmental effects and therefore does not require preparing an Environmental Impact Statement. Based on analyses and project feedback received to date, the AHTD anticipates preparing a FONSI for this project.

Chapter 2 – Alternatives

Chapter 2 identifies the project limits, explains how project alternatives were developed, and describes the alternatives evaluated in this EA.

2.1 What are the project limits?

The proposed project would start at the I-40/Hwy. 89 interchange and extend southwest to the intersection of Hwy. 89 and Billy Drive. As shown on **Figure 3**, the project limits encompass the existing railroad track crossing and the areas where a new crossing could reasonably be located.

2.2 How were the project alternatives developed?

In 2005, two new location alternatives were proposed as part of a 1997 Mayflower Planning Study update. Four alternatives were later identified in 2012 during a comprehensive I-40 corridor improvement study. Subsequent stakeholder input and feasibility considerations resulted in the proposal of three alternatives in 2013. Additional refinements were then made in response to evolving stakeholder, Metroplan, and AHTD planning considerations. This process resulted in the alternatives described below. Relevant stakeholder correspondence is included in **Appendix B**.

The AHTD would be responsible for designing and constructing the Hwy. 89/I-40 interchange improvements and a railroad overpass. Metroplan, Mayflower, and Faulkner County would be responsible for designing and constructing any new location routes and implementing an access management plan.

2.3 What alternatives are evaluated in this EA?

Four alternatives are being evaluated for this project: the No Action Alternative and three build alternatives. **Figure 4** shows the typical roadway cross section for the proposed alternatives. The alternatives are described below.

No Action Alternative

The No Action Alternative would provide only routine roadway maintenance in the project area. Overall LOS and delays due to passing trains and traffic congestion would worsen as traffic volumes increase.

Access management strategies involve planning and controlling the location of driveways, median openings, and intersections. By reducing the number of conflict points, access management improves traffic flow, roadway capacity, and safety.

NEPA requires including a “**no action**” alternative in environmental analysis. Although it is unlikely to meet the project’s purpose and need, the “no action” alternative provides a baseline against which the other alternatives can be compared.

Figure 3 Proposed Project Limits

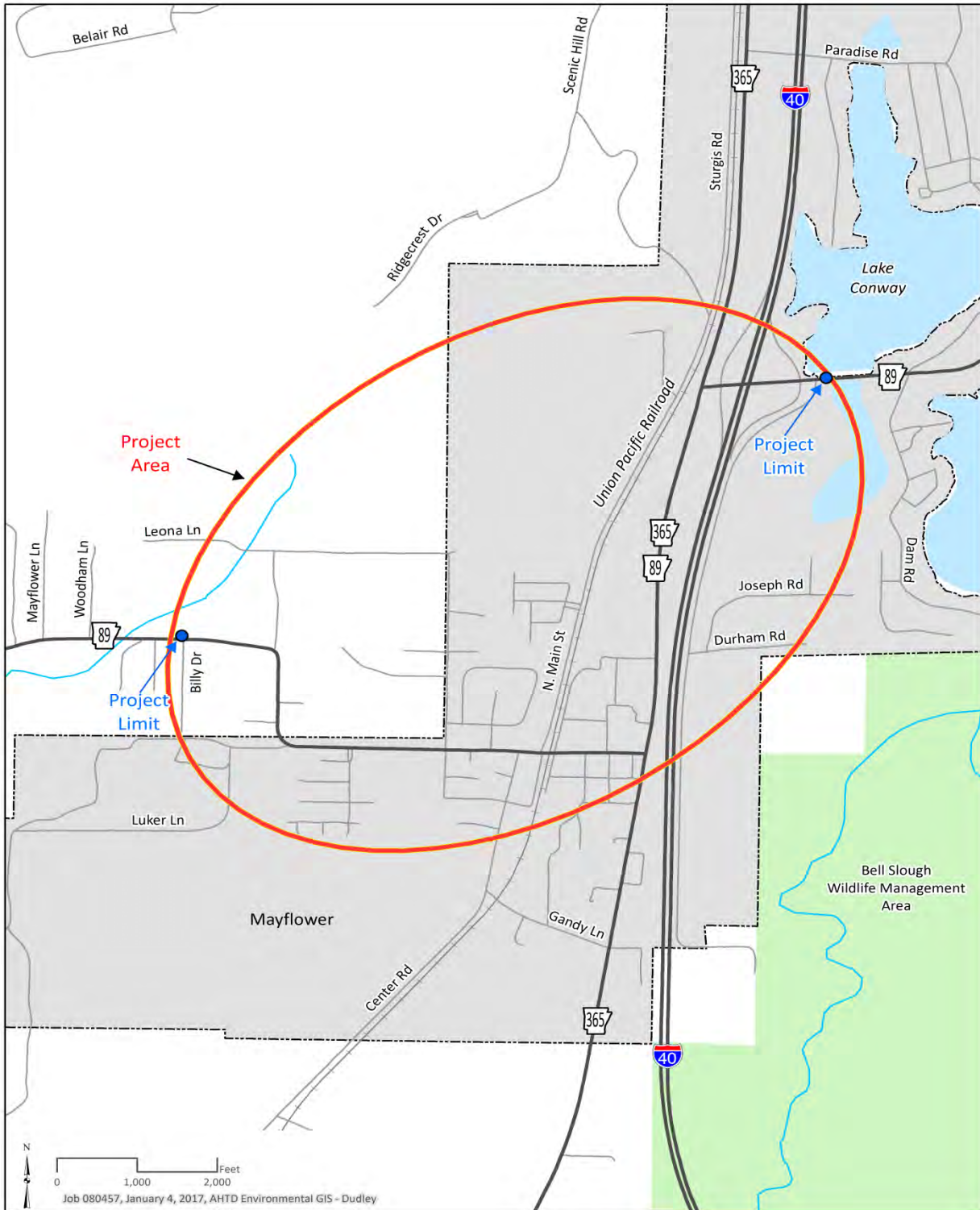
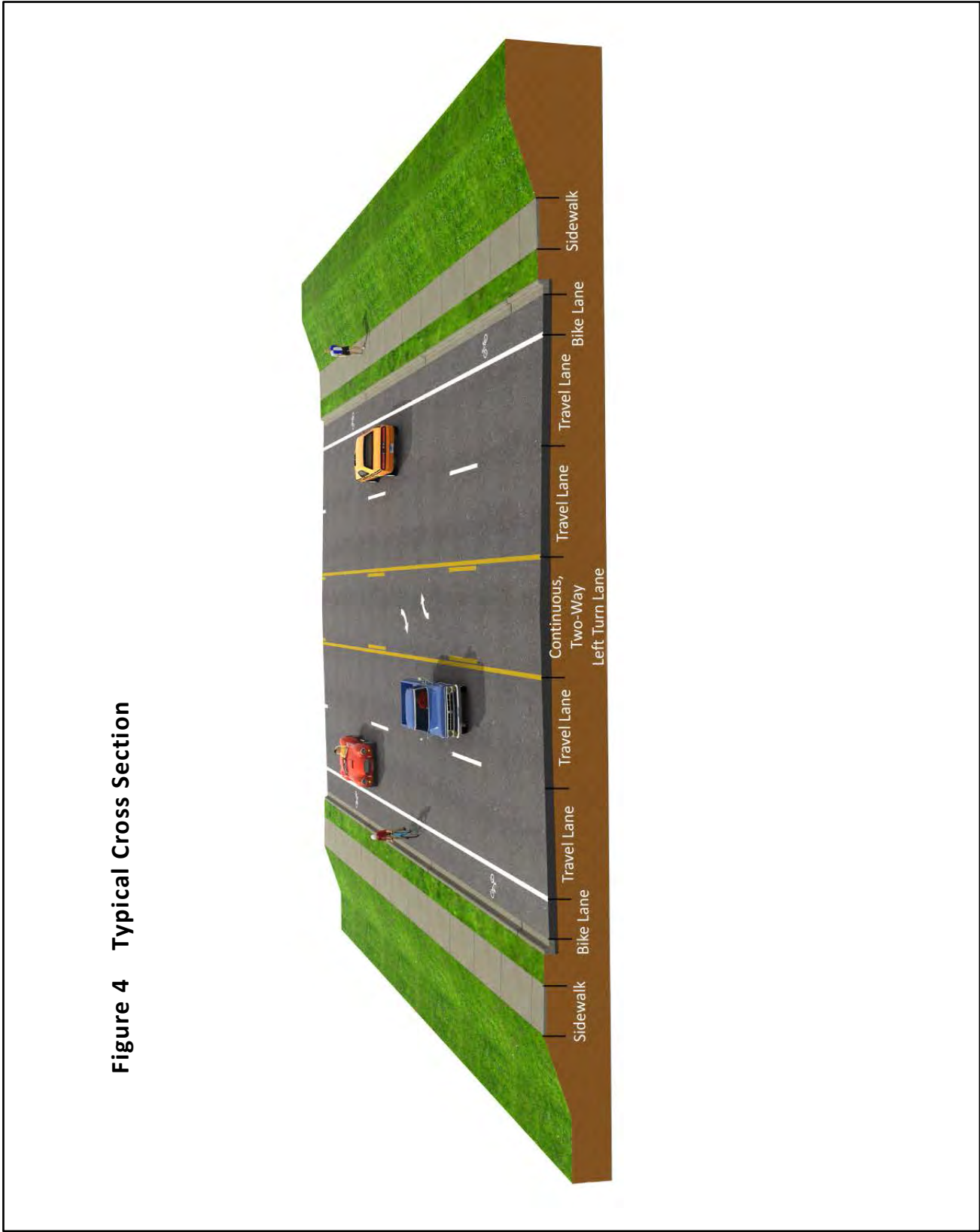


Figure 4 Typical Cross Section



Alternative 1

As shown on **Figure 5**, this alternative would construct an overpass to replace the existing Hwy. 89 railroad crossing. It would also realign the right angle curves at the Old Sandy Road and Snuggs Circle intersections. Hwy. 89 would be widened to four 12-foot wide travel lanes with a continuous, two-way left turn lane in order to provide acceptable future traffic operations through the project area.

The existing I-40 overpass would be widened to four travel lanes with a dedicated center lane for making left turns onto the ramps. Alternative 1 would include bicycle and pedestrian facilities and a connection to N. Main St. The total construction cost for this alternative is estimated at \$18.3 million in 2016 dollars.

Alternative 2

This alternative would construct a railroad overpass west of the existing I-40 interchange. The existing Hwy. 89 railroad crossing would remain in place. As shown on **Figure 6**, this alternative would also connect the east and west segments of Hwy. 89 with a new location route. The new route would start at the new railroad overpass and connect to the intersection of Hwy. 89 and Billy Drive. A connection to N. Main St. from the new route would also be provided.

Alternative 2 would initially be constructed as a two-lane roadway, with the additional lanes constructed in the future when needed. Right of way sufficient to allow for future expansion to a four-lane roadway with a raised median would be acquired. Alternative 2 would include bicycle and pedestrian facilities.

A new I-40 overpass would be constructed in addition to the railroad overpass. It would provide four travel lanes and a dedicated center lane for making left turns onto the ramps. The overpass would cross I-40 at a skewed angle, requiring a longer bridge than would a perpendicular crossing. The I-40 eastbound entrance ramps would be modified into a partial cloverleaf configuration. However, this design would require lower than desirable design speeds. The total construction cost for this alternative is estimated at \$18.6 million in 2016 dollars.

Figure 5 Alternative 1



Figure 6 Alternative 2



Alternative 3

Similar to Alternative 2 and as shown on **Figure 7**, Alternative 3 would construct a railroad overpass west of the existing I-40 interchange and provide a new route from the overpass to the intersection of Hwy. 89 and Billy Drive. The existing Hwy. 89 railroad crossing would remain in place. A connection from the new route to N. Main St. would also be provided.

Alternative 3 would initially be constructed as a two-lane roadway, with the additional lanes constructed in the future when needed. Right of way sufficient to allow for future expansion to a four-lane roadway with a raised median would be acquired. Alternative 3 would include bicycle and pedestrian facilities.

A new I-40 overpass would provide four travel lanes and a dedicated center lane for making left turns onto the ramps. The overpass would cross I-40 at perpendicular angle, requiring a shorter bridge than would a skewed angle crossing. The total construction cost for this alternative is estimated at \$18.6 million in 2016 dollars.

2.4 How well would each alternative improve traffic operations?

Figure 8 shows the existing and predicted traffic volumes for the alternatives and **Table 2** summarizes how LOS on existing Hwy. 89 would be affected for each build alternative. As shown in the table, Alternative 1 would provide the greatest local LOS improvement. This is largely because Alternative 1 would add travel lanes and a continuous, left-turn lane to Hwy. 89 through Mayflower. As detailed in the discussion following the table, however, LOS is not the only consideration for traffic operation improvements.

No Action Alternative

As regional and local growth continue, traffic volumes and travel-time delays would worsen and LOS would decline. Vehicle delays at the railroad track crossing would continue, and emergency services would continue to be adversely effected.

Figure 7 Alternative 3

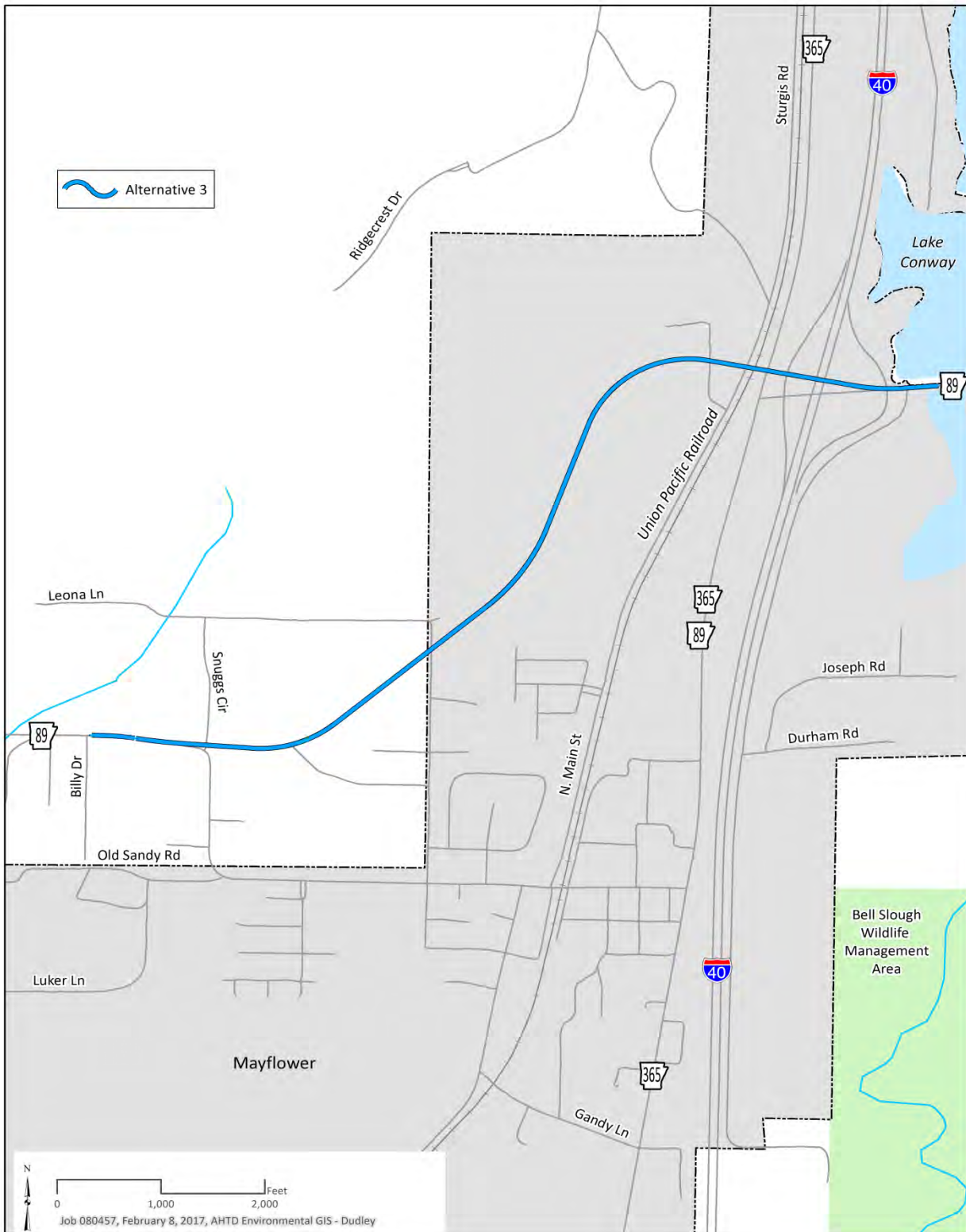


Figure 8 Existing and Predicted Average Daily Traffic Volumes

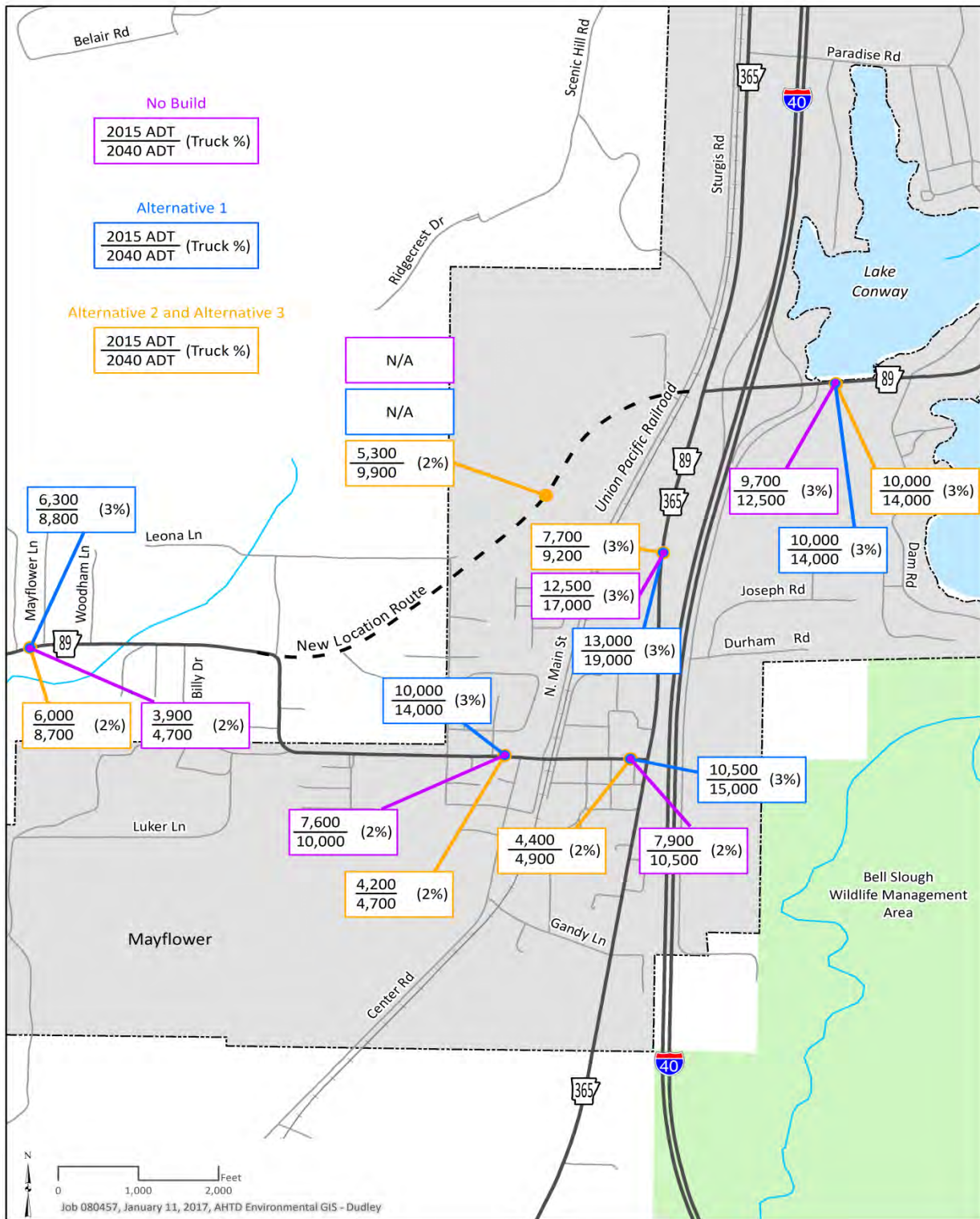


Table 2. Predicted LOS for Hwy. 89 and Hwy. 365 for All Alternatives

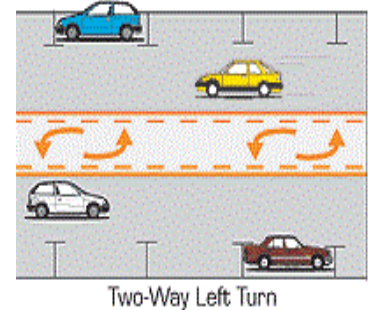
Highway	No Action		Alternative 1		Alternatives 2 and 3	
	2015	2040	2015	2040	2015	2040
Existing Highway 89 (west of Highway 365)	E	E	A	A	D	D
Highway 365	E	E	A	B	C	D
Existing Highway 89 (east of Highway 365)	E	E	A	B	B	B

Note: Assumes Highway 89 is upgraded into a regional arterial between Interstate 40 and Highway 67.

Alternative 1

Providing a railroad overpass would eliminate delays at the existing Hwy. 89 crossing. With emergency response vehicles no longer delayed at the crossing, community safety would be improved. Other safety improvements would include:

- Straightening the right angle curves at the Old Sandy Road and Snuggs Circle intersections.
- Providing a continuous, two-way left turn lane to separate left-turning traffic from through traffic, reducing delays and rear-end crashes.



As shown in Table 2, adding lanes and widening the road would locally improve the LOS of Hwy. 89 within Mayflower. Alternative 1 would somewhat improve how well Hwy. 89 performs as a regional arterial road, although not to the same degree as Alternatives 2 and 3.

Alternative 2

Providing a railroad overpass and an improved interchange would reduce delays at the existing railroad track crossing by providing an optional route with no railroad crossing delays. Community safety would be improved when emergency vehicles are able to avoid delays. Other safety improvements would include:

- Diverting a portion of east-west regional traffic from Hwy. 89 onto the new route resulting in fewer vehicle conflicts because the overall number of vehicles sharing the same roadway would be reduced.
- Lower driveway density leading to fewer conflicts for new route users.

The dedicated center lane for making left turns onto the interchange ramps would reduce congestion in the travel lanes at the I-40 interchange because vehicles waiting to turn would no longer block the travel lanes.

The partial cloverleaf configuration of the I-40 eastbound entrance ramps would require lower than desirable design speeds. This means traffic would merge onto I-40 at slower speed, causing safety concerns and, to a lesser extent, delays.

Providing a new route directly linking the east and west segments of Hwy. 89 would reduce local east-west travel time. The diversion of a portion of local east-west travel would result in acceptable LOS ratings for existing Hwy. 89.

Alternative 3

Traffic impacts for Alternative 3 would be similar to those described for Alternative 2. However, the ramp configurations would meet desirable design speed criteria so vehicles could merge more safely and with less delay.

2.5 How would bicyclists and pedestrians be accommodated?

The No Action Alternative would not provide bicycle or pedestrian facilities. The inclusion of bicycle and pedestrian facilities for each build alternative would benefit bicyclists and pedestrians.

2.6 How has the public been involved?

Both a public officials meeting and an open forum public involvement meeting were held on June 25, 2013, at the Mayflower Elementary School. Fifteen people attended the public officials meeting, and 35 people attended the public involvement meeting. Sixteen comment forms and one email were received. A majority of the commenters preferred Alternative 3. The public involvement meeting synopsis is included in Appendix B. As evident in the public meeting synopsis, Alternative 1's previous configuration was different than Alternative 1 as currently proposed.

The project has continued to evolve since 2013 in response to additional considerations. As indicated in 2014-2015 correspondence provided in Appendix B, Alternative 3 has been identified as the

preferred alternative by Metroplan, Faulkner County, and the cities of Mayflower and Conway.

Location and Design Public Hearings will be held upon completion of the EA process and prior to issuing a FONSI. The FONSI will address public input resulting from the hearings.

2.7 How have tribal governments been involved?

Section 106 of the *National Historic Preservation Act* requires federal agencies to consult with tribes where projects could affect tribal areas with historical or cultural significance. The FHWA initiated coordination with tribes having an active cultural interest in the area. The Tribal Historic Preservation Officers were given the opportunity to comment on the proposed project. These comments are included as tribal correspondence in Appendix B.

Chapter 3 – Project Impacts

This chapter summarizes potential project impacts on people and the environment.

3.1 How were potential impacts evaluated?

AHTD environmental and planning specialists conducted studies to determine how the project might impact the area’s natural and built environments. Studies and analyses results not incorporated by reference or included as EA appendices are contained in the project file.

The analyses considered both the intensity of the effects and their duration (e.g., short-term during construction, or remaining permanently after construction). The effects discussed in this chapter are presumed to be permanent unless otherwise noted.

Effects are generally described in terms such as beneficial or adverse. Mitigation measures are sometimes available to minimize or neutralize negative effects, and can enhance positive effects.

3.2 How would the project affect land uses in the project area?

Figure 10 provides a land use map. Portions of the study area outside the Mayflower city limits are not covered by specific zoning categories. These portions are a mix of residential, commercial, and pasture uses. In addition to traditional zoning categories (e.g., Single Family) Mayflower has established character zoning categories, as described below:

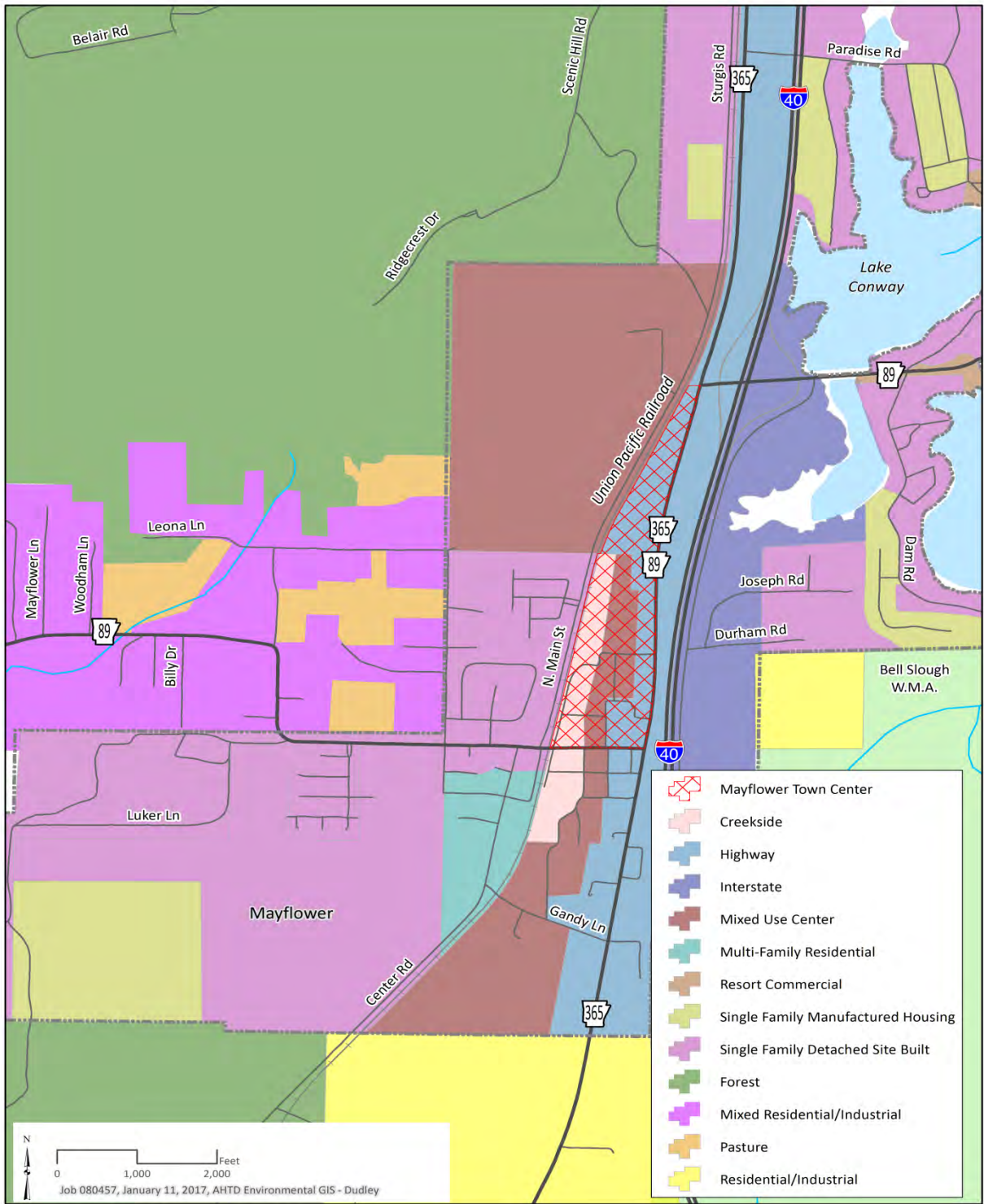
Mixed Use Center extends civic activity around City Hall and incorporates mixed use development along the central core. This zone includes Mayflower’s new town center plan.

Creekside encourages a dense residential neighborhood to support Mayflower’s revitalization and provide for transitions between the creek, the new town center, and Mixed Use Zone commercial uses.

Highway provides development opportunities to take advantage of Hwy. 89 and Hwy. 365 road access while providing transitions to the new town center’s pedestrian-oriented development and Mixed Use Zone uses.

Potential impacts are changes or effects that could occur as a result of a proposed action. The impacts may be social or cultural, economic, or ecological. The terms “impact” and “effect” can be used interchangeably.

Figure 9 Land Use



Interstate Drive addresses the connection to Lake Conway from the existing mixed use and highway frontages in the heart of Mayflower. Development in the zone should focus on opportunities to enhance the lakefront and wilderness areas using low impact development techniques.

Additional existing and planned land use information is provided in **Appendix D**.

No Action Alternative

Because new right of way would not be acquired, the No Action Alternative would not directly impact current or future land uses.

Alternative 1

The acreage amounts needed for Alternative 1 within each zone are shown in **Table 3** and discussed below.

This alternative is compatible with the intended uses of the Mixed Use Center and Highway zones. Land use effects are therefore likely to be beneficial in these zones.

The alternative is not compatible with the intended uses of the Single Family and Creekside zones. This is because these zones require lower speeds and narrower roadway cross sections than those proposed by this alternative. Land use effects are therefore likely to be adverse in these zones.

Alternative 2

The acreage amounts needed for Alternative 2 within each zone are shown in **Table 4** and discussed below.

This alternative is compatible with the intended uses of the Mixed Use Center and Highway zones. Land use effects are therefore likely to be beneficial in these zones.

The alternative may not be compatible with the intended use of the Single Family zone; however, the amount of acreage required would not be substantial. Land use effects are therefore likely to be neutral or slightly adverse in this zone.

Table 3. Alt. 1 Zone Acreage Requirements

ZONE	ACRES
Single Family	9.7
Creekside	2.4
Mixed Use Center	1.0
Highway	9.6
Interstate Drive	0

Table 4. Alt. 2 Zone Acreage Requirements

ZONE	ACRES
Single Family	1.6
Creekside	0
Mixed Use Center	16.5
Highway	7.7
Interstate Drive	0

Alternative 3

The acreage amounts needed for Alternative 3 within each zone are shown in **Table 5** and discussed below.

This alternative is compatible with the intended uses of the Mixed Use Center and Highway zones. Land use effects are therefore likely to be beneficial in these zones.

The alternative may not be compatible with the intended use of the Single Family zone; however, the amount of acreage required would not be substantial. Land use effects are therefore likely to be neutral or slightly adverse in this zone.

3.3 Which properties would be displaced and how much would it cost?

The types and numbers of properties potentially displaced under the build alternatives are described below. Additional displacement and relocation information is provided in **Appendix D**.

No Action Alternative

Since new right of way would not be needed, existing residences, businesses, or other properties would not be affected. No relocation costs would be incurred under this alternative.

Alternative 1

A total of 53 properties would be displaced under this alternative. This includes 26 residential owners and tenants; 17 businesses; seven landlord businesses; and one non-profit organization. Alternative 1 has the potential to impact 100 to 120 employees. The following number and type of special category households would be relocated:

- Two disabled
- Two minority
- Five elderly
- Six low income

Total displacement and relocation costs under this alternative are estimated at \$1.9 million in 2016 dollars.

Table 5. Alt. 3 Zone Acreage Requirements

ZONE	ACRES
Single Family	1.8
Creekside	0
Mixed Use Center	24
Highway	5.1
Interstate Drive	0

Relocations occur when a residence, business, or nonprofit organization is impacted severely enough that they cannot continue to live or do business at their current location. This usually occurs when proposed right of way acquisition requires removing a structure, taking most of a business’s parking, or severing access to a property.

Alternatives 2 and 3

Up to 10 properties would be displaced under these alternatives. This includes seven residential owners and tenants; two businesses; and one landlord business. Alternative 2 has the potential to impact 15 to 25 employees. Alternative 3 has the potential to impact eight to 12 employees.

The following number and type of special category households would be relocated:

- One disabled
- One elderly
- Three low income

Total displacement and relocation costs under these alternatives are estimated at \$392,000 in 2016 dollars.

3.4 What utilities would need to be relocated and how much would it cost?

Utilities in the project area include the following: water, sewer, electric power, gas, phone, and cable telecommunications. These utilities are transmitted by both above- and below-ground lines.

Since new right of way would not be needed, utility relocation costs would not be incurred under the No Action Alternative. **Table 6** provides the total utility relocation cost for each build alternative in 2016 dollars.

3.5 Would any Prime Farmland be impacted by the project?

The acres of Prime Farmland that would be converted to transportation uses under each build alternative are provided in **Table 7**. Since new right of way would not be needed, Prime Farmland would not be acquired under the No Action Alternative. **Appendix E** provides a copy of the Farmland Conversion Rating Form the AHTD submitted to the Natural Resources Conservation Service.

Table 6. Total Utility Relocation Costs

ALT.	COST
1	\$3.1 m
2	\$1.9 m
3	\$2.2 m

Prime Farmland is defined by the U.S. Department of Agriculture as land that has the best combination of physical and chemical characteristics for producing crops.

Table 7. Total Prime Farmland Acreage Requirement

ALT.	ACRES
1	9
2	14
3	13

3.6 What characterizes the community and how would the project affect residents, services, and businesses?

Faulkner County and Mayflower respectively have populations of approximately 121,552 and 2,431 persons. These populations increased by 33 and 37 percent, respectively, between 2000 and 2010. Faulkner County and Mayflower residents have higher education and income levels relative to Arkansas as a whole. Faulkner County residents are relatively younger than the state's population, and Mayflower residents are relatively older.

Residences, farms, and Conway's new airport are located along Hwy. 89 to the west of Mayflower. The majority of retail businesses along Hwy. 89 in Mayflower are small and local.

Community service facilities in the immediate project area include banks, a grocery store, medical clinic, laundromat, and a church. Civic institutions in the project area include City Hall, the fire and police departments, the public library, and the senior citizens center.

Located adjacent to Mayflower's east side, Lake Conway and the Bell Slough Wildlife Management Area provide recreational opportunities. These areas draw tourists, which in turn contribute to the local economy.

Jump Start Mayflower is a cooperative program helping Mayflower lay the groundwork for future economic development. To this end, targeted investment of public and private funds within small areas and neighborhoods is ongoing. The Jump Start program includes an initiative to design and construct a new town center located in the heart of Mayflower.

Appendix F contains detailed socio-economic information for Mayflower and its vicinity. Potential effects under each alternative are summarized below.

No Action Alternative

Delays at the railroad track crossing would continue and traffic congestion would increase. By doing nothing to address these conditions or improve mobility, the No Action Alternative would have an adverse impact on the community and businesses.

Alternative 1

The incompatibility of the Slow Street town center plan with Hwy. 89 widening would cause an adverse effect. Although this alternative would not sever any subdivisions, it would relocate numerous businesses and several homes located in established, interdependent neighborhoods. Adverse effects to businesses are possible.

Alternative 1 would have a beneficial impact on Hwy. 89 and Hwy. 89/365 mobility within Mayflower. Eliminating delays at the existing Hwy. 89 railroad track crossing and adding bicycle and pedestrian facilities would also be a beneficial impact.

Some potentially permanent disconnections or divisions of the community would occur as a result of the high number of displacements and relocations. However, existing community services would not be eliminated. Project construction activities would temporarily have adverse effects on community cohesion and on businesses because access to Mayflower schools, other community services, and shops would be impeded.

Alternatives 2 and 3

Alternatives 2 and 3 would have a beneficial impact on Hwy. 89 mobility both locally in Mayflower and on the Hwy. 89 regional corridor.

Reducing the amount of traffic at the existing Hwy. 89 railroad crossing and providing a route to avoid railroad crossing delays would be a beneficial impact. The addition of bicycle and pedestrian facilities linking adjoining neighborhoods and communities would be another beneficial impact.

Permanent disconnections or divisions of community or neighborhoods would not occur. Existing community services would not be eliminated. Project construction activities would temporarily have adverse effects on nearby businesses and residences because access would be impeded. However, relative to Alternative 1, Alternatives 2 and 3 would have fewer overall community and business impacts.

Other than for the No Action Alternative, all of the proposed project alternatives would provide benefits to public services by improving response times for police and emergency vehicles.

Mayflower's **Slow Street** plan will provide a walkable town center combining the best qualities of the American Main Street with those of a town square. It is the centerpiece of the city's Jump Start revitalization efforts.

3.7 How would the project area’s visual quality be affected?

Increased roadway widths would alter the appearance of the existing roadway for travelers along the road and for residents and businesses (referred to as project “neighbors”). The removal of residences, businesses, and trees and other vegetation would alter visual resources along the project corridor. Remaining residences and commercial buildings would be in closer proximity to the roadway.

The railroad overpass would be approximately 25 feet in elevation at its uppermost portion and include fencing over the railroad track. For this reason, an overpass at any of the proposed locations would introduce a structure considerably higher than others in the area. Its height would increase neighbors’ views of the overpass. Likewise, it would expand travelers’ views of the surrounding area.

Project visual resources would not detract from the area’s overall existing visual character. Local planning and development guidelines would be taken into consideration to ensure compatibility (see Appendix C). For these reasons, overall visual quality impacts are likely to be beneficial, particularly for travelers. Impacts may also be beneficial for business neighbors, which may benefit from increased visibility to travelers. Impacts may be adverse for residential neighbors for whom views of the roadway would become more prominent, however.

Project construction would result in vegetation clearing and the short-term presence of construction vehicles and equipment, temporarily altering the area’s visual character. Impacts in roadside cleared areas would be minor and short-term until new vegetation becomes established.

Adverse impacts to overall visual quality are not expected as a result of the project. A Visual Impact Assessment Scoping Questionnaire and technical memorandum (including visual impact definitions) are provided in **Appendix G**.

Project viewers include **travelers** (drivers, bicyclists, and pedestrians) with views *from* the road and **neighbors** with views *to* the road.

Visual resources include features such as land and vegetation; buildings and other manmade structures; and roadway elements such as cross sections and construction materials.

Visual character is created by the overall composition of visual resources. The degree to which a proposed project is compatible with an area’s visual character is used to gauge changes to visual resources.

Visual quality impacts are determined by predicting viewer responses to changes in the project area’s visual resources.

3.8 How would water resources, wetlands, and protected species be affected by the project?

Figure 11 shows the water resources and wetland locations in the project study area.

The proposed project area contains three unnamed intermittent streams (designated as Stream A, C, and D) and one unnamed ephemeral stream (designated as Stream B). The streams are all tributaries to Lake Conway.

Wetland A is a depressional forested area located inside the southeast quadrant of the I-40 interchange. Wetland B is a forested, scrub/shrub area located between I-40 and Hwy. 89. The wetland is located along the floodplain of an intermittent stream. Wetland C is an herbaceous wetland that is located in a depressional drainage area spanning multiple pastures.

The Endangered Least Tern (*Sterna antillarum*) and the threatened Piping Plover (*Charadrius melodus*) are known to utilize the proposed project area. Although these shore birds typically inhabit gravel and sand bars along large rivers, they are known to utilize Lake Conway for foraging habitat. Potential impacts to these protected species were therefore analyzed in the context of water resource impacts.

Appendix H provides a technical memorandum prepared for potential water resource and wetland impacts. Protected species impacts are included in **Appendix I**. The No Action Alternative would not have wetland, stream, or protected species impacts.

An **endangered species** is one that is in danger of extinction throughout all or a significant portion of its range. Endangered species receive the highest level of protection. A **threatened species** is one that is likely to become endangered in the near future.



Endangered Least Tern

Figure 10 Water Resources and Wetlands

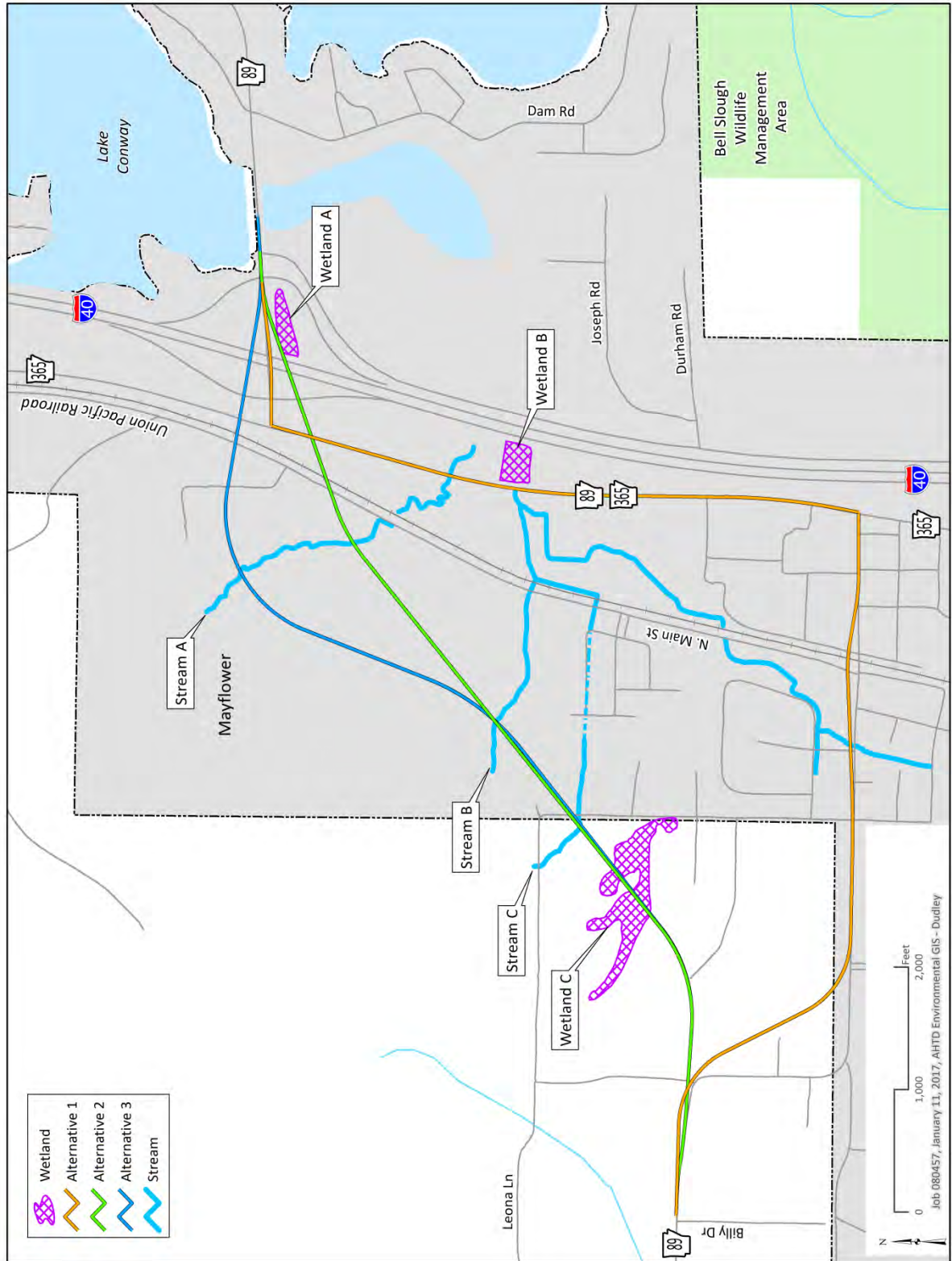


Table 8 summarizes the total number of wetland acres of impacted and linear feet of streams impacted under each build alternative.

Table 8. Total Wetland and Stream Impacts

ALTERNATIVE	TOTAL WETLAND ACREAGE	TOTAL LINEAR FEET OF STREAM
1	0.4	412
2	1.3	633
3	0.6	632

Direct stream and wetland impacts are as follows:

Alternative 1

Alternative 1 would impact Wetland A and Wetland B as well as Streams A, C, and D. Stream impacts should be minimal with little to no stream realignment; however, the proposed railroad overpass could potentially result in the realignment of Stream D.

Alternative 2

Alternative 2 would result in impacts to Wetland A and Wetland C as well as Streams A, B, and C. Stream impacts should be minimal with little to no stream realignment.

Alternative 3

Alternative 3 would result in impacts to Wetland C and Streams A, B, and C. Stream impacts should be minimal with little to no stream realignment.

Water Quality Impacts and Protected Species Impacts Under All Build Alternatives

Water quality impacts could occur due to soil disturbance from land clearing, culvert construction, and operating construction equipment and vehicles. Stormwater runoff during the construction phase of the proposed project would also temporarily impact water quality.

Temporary water quality impacts during construction could affect the foraging habits of the protected species, although impacts are expected to be temporary and minimal. U.S. Fish and Wildlife Service concurrence would be obtained once a Preferred Alternative is identified.

3.9 How would vegetation be affected by the project?

Current vegetation is a combination of oak-hickory-pine forest, oak-pine forest, oak forest, loblolly-shortleaf pine forest or pine-oak forest. In the upland forests, shortleaf pine is present, while loblolly pine is native only to wet lowland sites such as riparian areas. A few native species were noted in the project area, but non-native Japanese honeysuckle and Japanese stiltgrass have become established in the forest understory. Bermuda grass and tall fescue were the most prominent in pastures.

Appendix I provides additional information regarding potential vegetation impacts. Direct vegetation impacts are as follows:

No Action Alternative

The No Action Alternative would not affect existing vegetation.

Alternative 1

This alternative would affect approximately 30 acres of existing vegetation, of which 3.7 acres is upland oak-hickory-pine forest.

Alternative 2

This alternative would affect approximately 37.2 acres of existing vegetation, of which 21 acres are forested with upland hardwood trees.

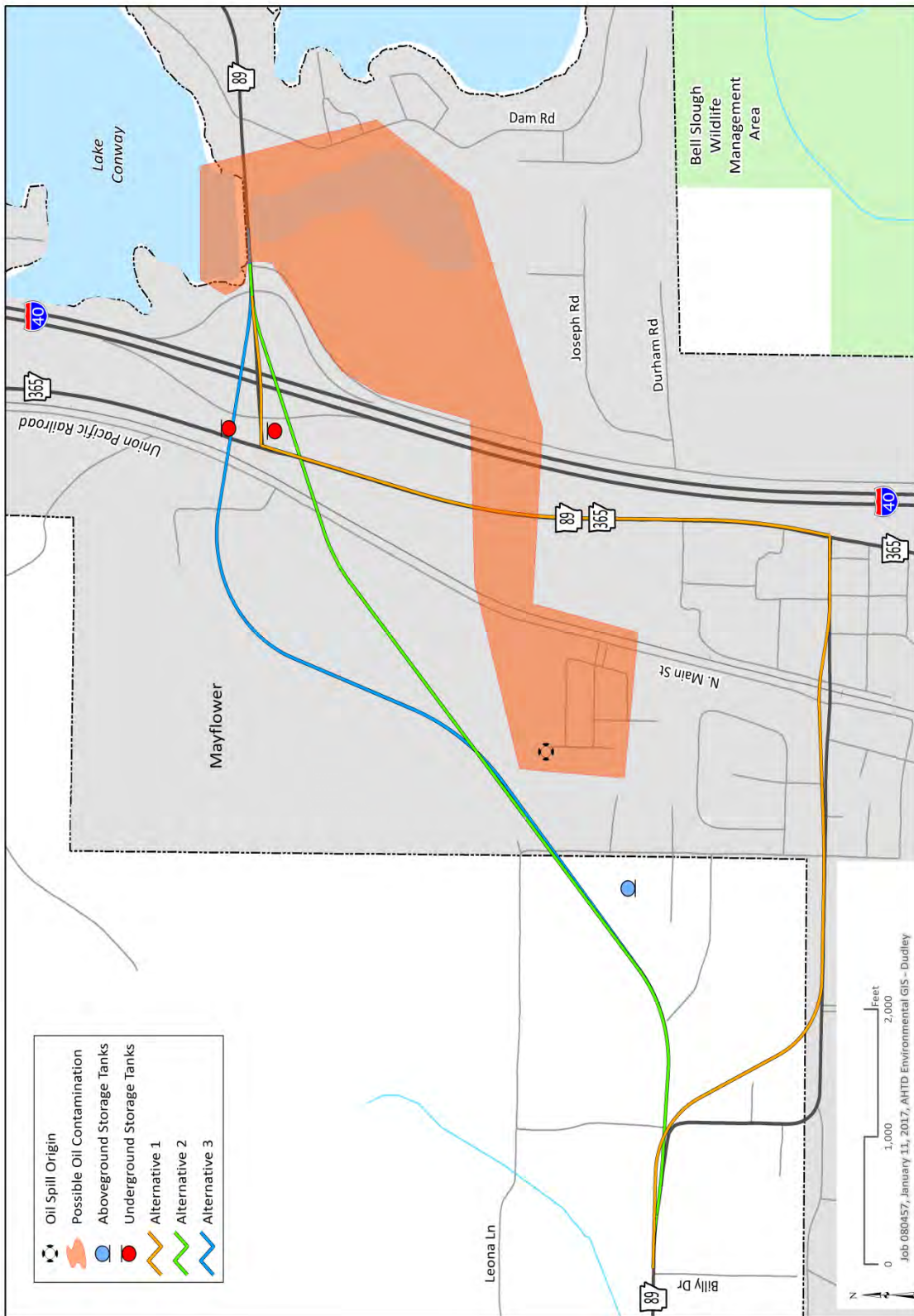
Alternative 3

This alternative would affect approximately 42 acres of existing vegetation, of which 28.4 acres is upland oak-hickory-pine forest.

3.10 Are there any hazardous material, waste, or contaminated sites in the project area?

As shown on **Figure 12**, seven underground storage tanks (USTs) and two aboveground storage tanks (ASTs) are located in the project study area. The USTs are associated with two gas stations (Mayflower Quick Mart and Valero Corner Store).

Figure 11 Hazardous Material and Hazardous Waste Sites



The ASTs are associated with a commercial site. No UST or AST leaks or spills have been reported. One electrical substation was identified in the project study area.

The subsurface pipeline rupture in March 2013 released 210,000 gallons of heavy crude oil. The oil flowed from the rupture site into Lake Conway. Containment and cleanup of oil and contaminated soil was subsequently completed. However, it is possible that future excavations could encounter pockets of subsurface contamination in and near the spill site.

Appendix J provides additional information regarding potential hazardous material and waste impacts. Potential impacts under each alternative are summarized below.

No Action Alternative

The No Action Alternative would not have any effects on hazardous material or waste sites.

Alternative 1

Although both gas stations are near Alternative 1's proposed centerline, their USTs are not likely to be effected.

The oil spill crossed portions of Hwy. 89. Adverse impacts could occur should subsurface contamination be encountered during construction in these areas.

Alternative 2

This alternative would adversely impact five 8,000-gallon USTs at the Mayflower Quick Mart. The removal of two ASTs at a commercial site may also be necessary.

Adverse impacts could occur along a small segment of Hwy. 89 east of I-40 should subsurface oil contamination be encountered during construction.

Alternative 3

This alternative would adversely impact five 8,000-gallon USTs at the Mayflower Quick Mart. It would also adversely impact one 8,000-gallon and one 10,000-gallon USTs at the Valero Corner Store. The removal of two ASTs at a commercial site would also be necessary.

Adverse impacts could occur along a small segment of Hwy. 89 east of I-40 should subsurface oil contamination from the pipeline rupture be encountered during construction.

An electrical substation is located within Area 3's alignment. Adverse impacts could occur should the substation need to be moved due to the potential presence of oils and lubricants. Potential PCB contamination is also associated with substations.

3.11 What resources are either not present or not affected?

Air Quality

The proposed project is within an area designated by the U.S. Environmental Protection Agency (EPA) as meeting transportation pollutant standards. Procedures for conforming with the *Clean Air Act*, as amended, are therefore not applicable. Air quality impacts are not anticipated.

Cultural Resources

Section 106 of the *National Historic Preservation Act* requires agencies to consider the effects of federal actions to historic properties. In compliance with Section 106 requirements, AHTD cultural resource specialists consulted with the State Historic Preservation Officer (SHPO) and Native American tribes. Project-related impacts are not anticipated. **Appendix K** provides additional Cultural Resource information.

Floodplains

There are no encroachments into special flood hazard areas – also known as the 100-year floodplain. Alternatives 2 and 3 may involve minor fill in Lake Conway at the I-40/Hwy. 89 interchange ramps. However, the fill areas would not obstruct any inlet streams and would not affect water surface elevation, which is controlled by the lake's dam. The floodplain north of the proposed interchange is part of the lake. The ramp work does not encroach the floodplain as currently designed. However, any ramp work that may extend northward would require evaluating an existing culvert under I-40.

Noise

Noise modeling indicates that a minor increase in noise levels would occur along the existing route from the projected traffic volume increase during the planning period. No sensitive receptors would be impacted by noise on any of the alternatives. **Appendix L** provides the noise analysis prepared for the proposed project.

Sensitive noise receptors include residences and public places that have a special sensitivity to noise, such as schools, churches, and parks.

Environmental Justice and Title VI Populations

Environmental Justice and Title VI populations exist in small numbers in the project study area. While some impacts would be borne by those populations, the level of adverse impacts would not be disproportionately high. As detailed in the Environmental Justice/Title VI report prepared for the proposed project, the study area is not considered a minority-predominant community.

Wild and Scenic Rivers

No Wild and Scenic Rivers or other federal or state regulated waterbodies would be impacted by the proposed project.

Landforms, Geology, and Soils

The landforms, geological resources, and soils described in Appendix I would not be impacted by any of the alternatives.

Public and Private Water Supplies

The Arkansas Department of Health public water supply database was reviewed to determine if any surface water intakes, wellheads, or associated protection areas of either type were present in the project area. The project area is not within a public drinking water system's Wellhead Protection Area.

If any permanent impacts to private drinking water sources resulted from this project, the AHTD would take action to mitigate these impacts.

Indirect and Cumulative Impacts

Increased urban development can result from this type of project. Urban development is associated with decreases in water quality both temporarily and permanently. Temporary impacts most commonly result in increased rates of sedimentation from stormwater runoff from disturbed soils during construction. Permanent impacts include increased rates of pollutants such as fertilizer, herbicides, insecticides, and petroleum products in stormwater runoff.

Other than the potential for increased soil disturbance and temporarily water quality impacts referenced in section 3.8, adverse indirect and/or cumulative impacts associated with the proposed project are not anticipated.

Environmental Justice at the FHWA means identifying and addressing disproportionately high and adverse effects of the agency's programs, policies, and activities on minority populations and low-income populations to achieve an equitable distribution of benefits and burdens. **Title VI** of the Civil Rights Act of 1964 prohibits discrimination on the basis of race, color, sex, national origin, religion, or disability under any program or activity receiving federal financial assistance.

Indirect effects are reasonably foreseeable effects that may be caused by the project but would occur in the future or outside of the project area.

Cumulative effects result from the total effects of a proposed project when added to other past, present, and reasonably foreseeable future projects or actions.

Chapter 4 – Results and Recommendations

This chapter summarizes environmental analysis results and recommendations.

4.1 What are the results of this EA?

Table 9 summarizes quantitative alternative impacts for comparison purposes.

Table 9 <i>Alternative Impact Comparison</i>							
Alternative	Total Project Cost (2016 dollars)	Construction Cost (2016 dollars)	Other* (2016 dollars)	Right of Way (acres)	Relocations	Wetland Impacts (acres)	Stream Impacts (linear feet)
No Action	0	0	0	0	0	0	0
Alternative 1	30.2 million	18.3 million	11.9 million	31.7	51	0.4	412
Alternative 2	23.2 million	18.6 million	4.6 million	40.1	10	1.3	633
Alternative 3	23.4 million	18.6 million	4.8 million	43.8	10	0.6	632

***Other includes relocation, utility, and right of way acquisition costs**

Alternative 1 is likely to present more adverse impacts than Alternatives 2 and 3 for the following reasons:

- Less compatible with existing and planned land uses.
- More disruptive of access to schools, businesses, residences, and services during construction.
- Greater community division associated with high number of relocations.

The overall environmental impact of Alternative 2 and Alternative 3 is similar. As described in Chapter 2 and detailed in Appendix A, Alternative 3 best suits the project's purpose and need. Additionally,

Metroplan, Faulkner County, and the cities of Mayflower and Conway have expressed a preference for Alternative 3.

Traffic modeling results indicate that Alternative 3 would optimize mobility.

For the reasons described above, Alternative 3 was identified as the Preferred Alternative.

Commitments

The AHTD's standard commitments regarding relocation procedures, hazardous waste abatement, cultural resources discovery, water quality impact controls, and revegetation have been made for this project. They are as follows:

- The relocation procedures provided in Appendix E will be followed.
- If hazardous materials, unknown illegal dumps, or USTs are identified or accidentally uncovered by AHTD personnel or its contractors, the type and extent of the contamination will be determined according to the AHTD's response protocol. In cooperation with the ADEQ, appropriate remediation and disposal methods will be determined.
- An asbestos survey will be conducted by a certified asbestos inspector on each building slated for acquisition and demolition. All detected asbestos-containing materials will be removed prior to demolition in accordance with ADEQ, EPA, and Occupational Health and Safety regulations.
- An intensive cultural resources survey will be conducted for the Preferred Alternative. If sites are affected, a report documenting the survey results and stating the AHTD's recommendations will be prepared and submitted for SHPO review. If prehistoric sites are impacted, FHWA-led consultation with the appropriate Native American Tribe will be conducted and the site(s) evaluated to determine if Phase II testing is necessary. Should any of the sites be determined as eligible or potentially eligible for National Register of Historic Places nomination and avoidance is not possible, site-specific treatment plans will be prepared and data recovery conducted at the earliest practicable time. All borrow pits, waste areas and

Phase II testing involves surveying and archeological testing to determine site boundaries, cultural and scientific importance, and National Register of Historic Places eligibility.

work roads will be surveyed for cultural resources when locations become available.

- Project construction will be in compliance with all applicable *Clean Water Act*, as amended, requirements. This includes obtaining the following: Section 401 Water Quality Certification; Section 402 National Pollutant Discharge Elimination Permit; and Section 404 Permit for Dredged or Fill Material.
- Stream and wetland mitigation will be offered at an approved mitigation bank site at a ratio approved during the Section 404 permitting process.
- A Water Pollution Control Special Provision would be incorporated into the contract to minimize potential water quality impacts.
- Appropriate action will be taken to mitigate any permanent impacts to private drinking water sources should they occur due to this project.
- A wildflower seed mix will be included in the permanent seeding for the project.

Mitigation banks are water resource areas used to provide compensation for unavoidable impacts. The banks allow many small wetland or stream mitigation projects to be consolidated into a larger, potentially more ecologically valuable site.

4.2 Is the NEPA process finished?

After this EA is approved by the FHWA for public dissemination, Location and Design Public Hearings will be held.

After a review of comments received from citizens, public officials, and public agencies, a FONSI document will be prepared by the AHTD and submitted to the FHWA. Approval of the FONSI by the FHWA will identify the Selected Alternative and conclude the NEPA process.

Acronyms

ADEQ	Arkansas Department of Environmental Quality
ADT	Average Daily Traffic
AHTD	Arkansas State Highway and Transportation Department
EA	Environmental Assessment
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impacts
ICA	<i>Imagine Central Arkansas</i>
LOS	Level of Service
MPO	Metropolitan Planning Organization
RAN	Regional Arterial Network
NEPA	National Environmental Policy Act
SHPO	State Historic Preservation Officer

Appendix A – Transportation Planning Analysis

**TRANSPORTATION PLANNING ANALYSIS
JOB 080457
Highway 89
UPRR Overpass & Realignment (Mayflower)
FAULKNER COUNTY**

PURPOSE OF PROPOSED PROJECT

The Arkansas State Highway and Transportation Department is proposing to construct an improved east-west route in the vicinity of Mayflower. The purpose of this project is to improve community cohesion, safety, and enhance regional connectivity in the greater northern central Arkansas region. Community cohesion refers to a community's sense of unity while regional connectivity describes the ability for vehicles to travel between different areas within a specified transportation network. See Figure 1 for a map of the northern central Arkansas region.

DISCUSSION OF NEEDS

Metropolitan Planning Background

Metroplan is the designated metropolitan planning organization (MPO) that is responsible for long-range transportation planning for central Arkansas.

Rail Grade Separation

In 1996, Metroplan reviewed the regional needs for rail grade separations by using quantifiable evaluation factors such as delay, accessibility, connectivity, geographic distribution, and safety. In addition to the evaluation factors, consideration was given to locations that could leverage other projects and mitigate congestion. Through this process, Metroplan identified a rail grade separation as being needed in Mayflower. Subsequently, the Arkansas Highway Commission authorized a 1997 Mayflower Planning Study to evaluate the need for and feasibility of a rail grade separation in Mayflower. The study determined that the relocation of Highway 89 from Highway 365 around Mayflower, including grade-separation of the UPRR, was feasible. An update of this study, conducted in 2005, verified this conclusion.

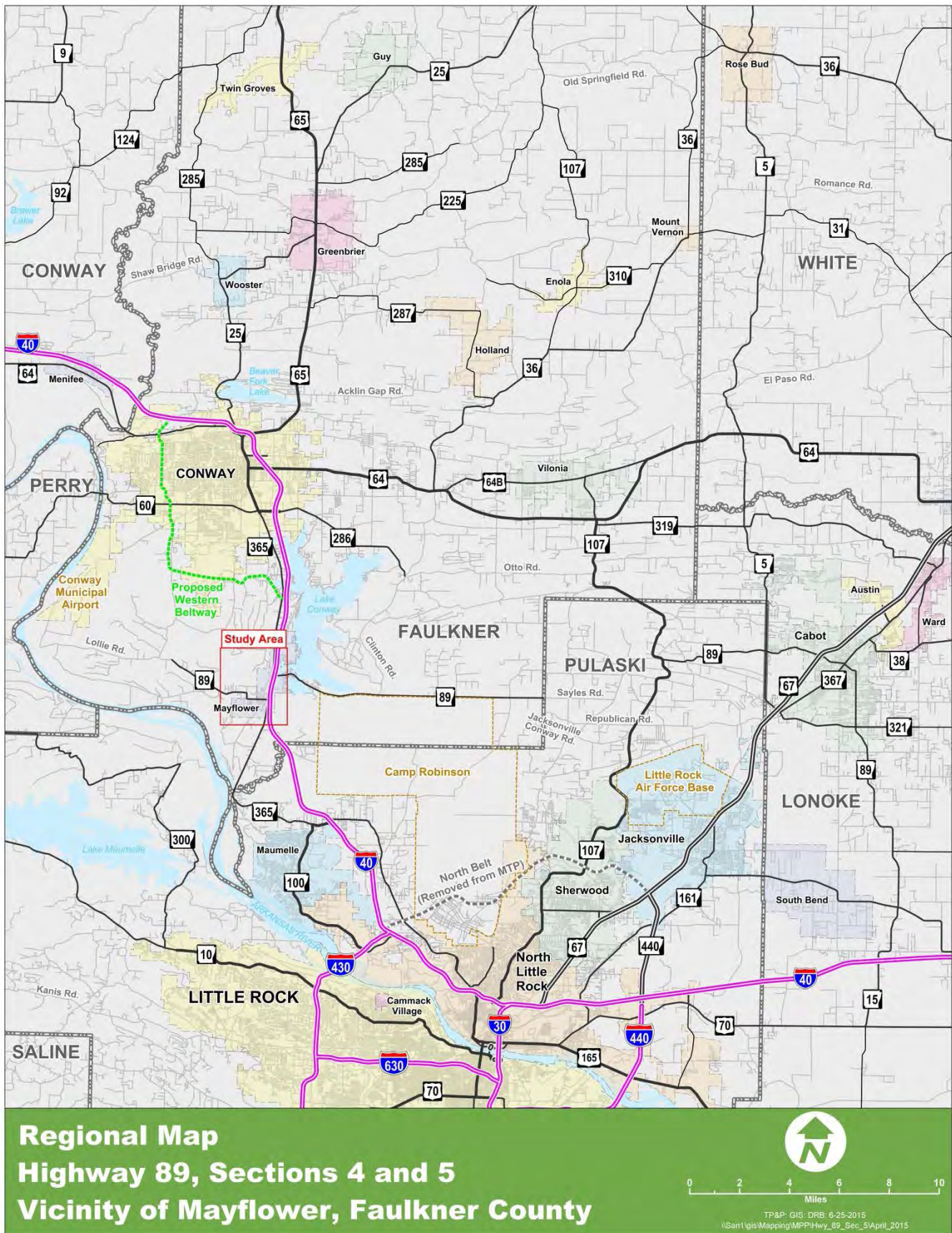


Figure 1 – Regional Map

Regional Arterial Network

Beginning in 1999, Metroplan identified the Regional Arterial Network (RAN) which is a set of regionally significant non-freeway roads that emphasize connectivity and mobility. In its 2040 long-range metropolitan transportation plan (MTP) - Imagine Central Arkansas, the RAN vision was again highlighted for providing an adequate series of arterials that serve intra-regional travel and major traffic generators for all modes of transportation, thereby providing an alternative to the freeway network. To achieve this, the RAN should have a high level of mobility that can be accomplished by intersection improvements, access management strategies, road widening, and grade-separated rail crossings. Highway 89 was identified as one of the RAN corridors to connect communities like Cabot, Jacksonville, Mayflower, and Conway.

In May 2014, the North Belt Freeway Toll Feasibility Study was completed for the connection from the Interstate 40 and Interstate 430 interchange to the Highway 67 and Highway 440 interchange. The study concluded that significant costs for the North Belt Freeway could not be paid for by toll revenue alone. Since then, Metroplan has removed the North Belt Freeway from its fiscally constrained MTP and has placed added importance on the RAN in the northern portion of the central Arkansas region.

Bicycle and Pedestrian Accommodations

Providing bicycle and pedestrian accommodations both on and off the roadways is one of the primary goals outlined in Metroplan's MTP and the Mayflower Master Street Plan (MSP). Highway 89 and Highway 365 have been identified as regional bike routes and will need to be addressed as such. Figure 2 shows the central Arkansas bike routes identified in Metroplan's MTP.

Access Management

An access management plan may be required between the Department and the appropriate local jurisdiction(s). Access management strategies that control the location of driveways and intersections are critical to maximizing the safe and efficient performance of a roadway. Frequent and heavily-used access points create more conflict and delay which result in an increased risk of collisions and decreased capacity on the roadway. Access management of the RAN is a key objective in Metroplan's

MTP. The Mayflower MSP also identifies access management as one of its primary goals to promote safety, convenience, and aesthetics.



(Source: Metroplan's MTP)

Figure 2 – Central Arkansas Bike Routes

Economic Analysis

An economic analysis was conducted for Faulkner County and the Mayflower area. The population of Faulkner County has increased from 86,014 to 114,745 (33%) between 2000 and 2010. Faulkner County has a younger population that has achieved higher levels of education. Table 1 shows the demographic data.

The economic vitality of the Faulkner County is driven mostly by the abundant educational and employment opportunities. Conway is home to the University of Central Arkansas, Hendrix College, and Central Baptist College. Faulkner County also contains several well-known business entities, including Acxiom Corporation and a Hewlett-Packard center that specializes in technical support and sales. Approximately half of the work force in Faulkner County is in the educational, manufacturing, and retail/food service industries. Employers rely heavily on the efficiency of the transportation network for the area.

Improving the Highway 89 connection through Mayflower would improve the economic vitality of the region. Residences, farms, and Conway's new airport are located along Highway 89 to the west of Mayflower. These destinations are segmented from the greater transportation network by the Union Pacific Railroad (UPRR) and are subject to slow travel through Mayflower. Direct access to the Interstate 40 interchange and improved reliability through a railroad grade separation would improve the accessibility of these establishments, placing residents closer to jobs and farms closer to markets. However, improvements, particularly if conducted on the existing facility, carry the risk of negatively impacting current residents and landowners through required relocations.

Table 1 – Demographic Data

Attribute	Mayflower	Faulkner County	State of Arkansas
Population 2010	2,234	114,745	2,915,918
Population 2000	1,631	86,014	2,673,400
Population 1990	1,414	60,006	2,350,725
Percent Change 1990/2000	15%	43%	14%
Percent Change 2000/2010	37%	33%	9%
Median Resident Age	39.8	31.5	37.4
Median Household Income	\$ 42,435	\$ 51,095	\$ 41,264
Median Household Value	\$ 131,000	\$ 141,700	\$ 108,700
White-Non Hispanic	91.7%	83.2%	77.0%
Black	5.0%	10.0%	15.4%
Other Races	3.3%	6.8%	7.6%
<i>Education Attained by Age 25+</i>			
High School Graduates	72.8%	72.7%	80.3%
Bachelor's Degree or Higher	10.5%	22.0%	18.7%
<i>Employment by Industry Type</i>			
Educational, Health Care & Social Services	26.9%	24.8%	24.0%
Manufacturing	7.7%	8.6%	13.5%
Retail, Food Services & Accommodations	13.1%	12.5%	13.4%
Other	44.9%	46.7%	39.8%
Unemployment Rate	7.4%	7.3%	9.2%

Existing Conditions***Highway Characteristics***

In the greater northern central Arkansas region, Highway 89 runs eastward from west of Mayflower to the Pulaski County line. Direct connectivity between Pulaski and Lonoke Counties is limited, and local road travel is necessary to get from Mayflower to Highway 67 and Cabot.

In Mayflower, Highway 89 is the only east-west highway that connects Interstate 40 to the western portion of Mayflower (see Figure 3). Highway 89 is primarily a two-lane, minor arterial with access to Interstate 40. Highway 89 runs concurrent with Highway 365 between the north and south Highway 89 intersections. Highway 89 has 11-foot travel lanes with 3-foot shoulders east of Highway 365 and 10-foot travel lanes with no shoulders west of Highway 365. Highway 89, in the study area, has numerous

closely spaced driveways and side streets. Combined with Lollie Road, Highway 89 provides access to the Conway Municipal Airport located near the Arkansas River.

The UPRR mainline tracks run through the heart of Mayflower. There are two railroad crossings in the city. One is on Highway 89; the other is on Gandy Lane, which is not part of the state highway system. Both facilities are served by at-grade crossings. Frequent train activities have caused delays to motorists and pedestrians on Highway 89 and created disruption to the community. Long delays are common when a train switch occurs and train cars block the crossings. This situation prevents Highway 89 from functioning well as a regional arterial.

The posted speed limit on Highway 89 east of Highway 365 is 35 miles per hour (mph) from the Interstate 40 interchange to the intersection with Highway 365. The posted speed limit on Highway 89 west of Highway 365 is also 35 mph from the intersection with Highway 365 to the east approach to the railroad crossing. West of the railroad crossing the posted speed limit increases to 40 mph, and then increases to 55 mph west of Mayflower. There are two right angle curves on Highway 89, one at the Old Sandy Road intersection and the other at the Snuggs Circle intersection with advisory speeds of 30 mph and 20 mph, respectively.

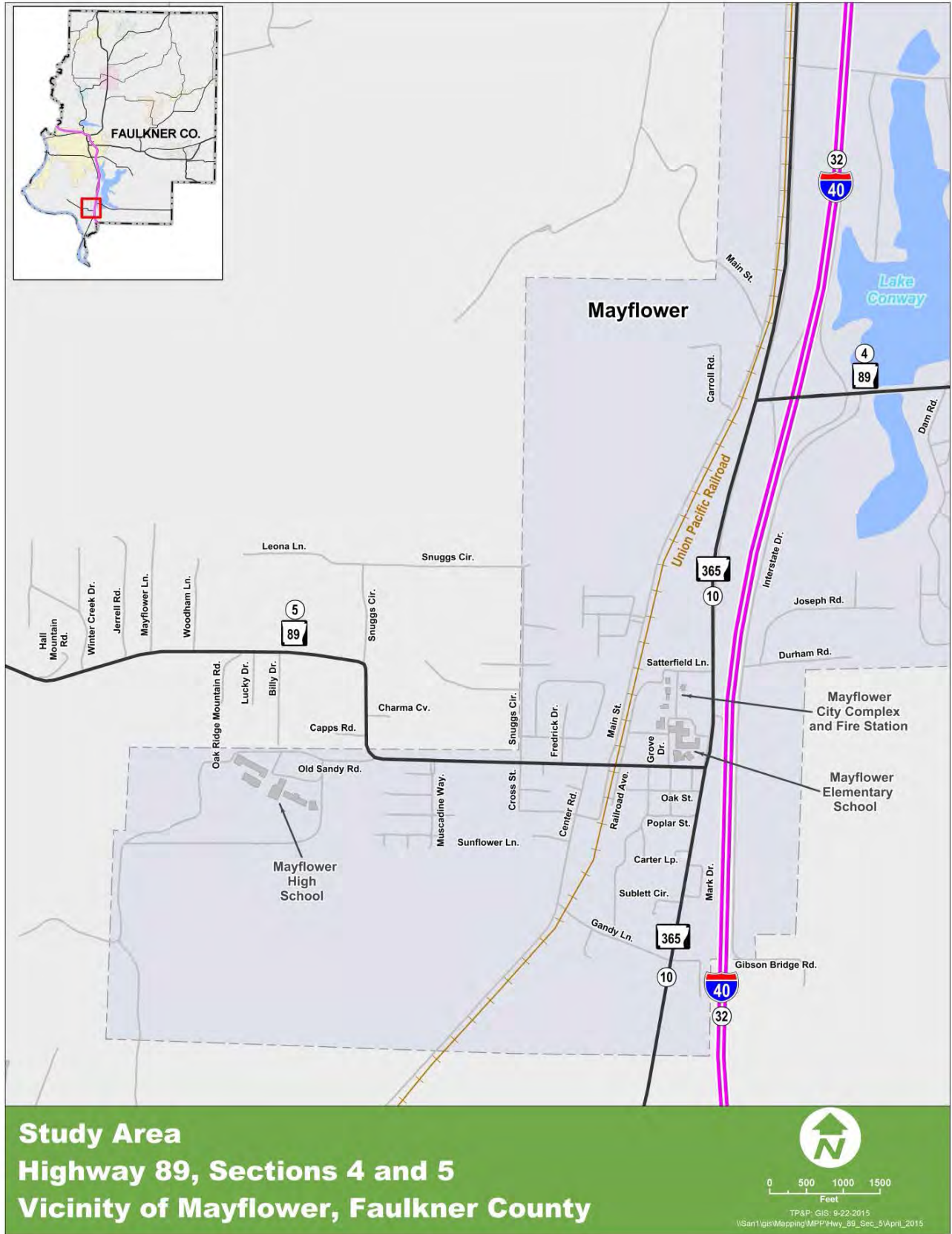


Figure 3 – Study Area

Highway 365 is a two-lane, minor arterial with 12-foot travel lanes and 6-foot shoulders. It is a north-south route that runs parallel to Interstate 40, connecting Conway to North Little Rock. It serves as the only relief route if an incident occurs on Interstate 40. Numerous driveways and side streets exist along Highway 365. The posted speed limit on Highway 365 is 45 mph between the north Highway 89 intersection and the Satterfield Lane intersection. The speed limit is reduced to 35 mph between the Satterfield Lane intersection and the south Highway 89 intersection.

Land Use

Most of the land use near the Highway 89 corridor in the study area consists of rural residential and small commercial developments. The Mayflower Elementary School is located one block off of Highway 365 and Highway 89 at the intersection of Grove Street and Mitchell Street. The elementary school is accessible from both highways. Mayflower Middle and High Schools are located off Highway 89 via Old Sandy Road on the west end of Mayflower. These schools are the primary traffic generators in the area. Congestion occurs during student drop-off and pick-up times, and vehicles park along the 2-foot shoulder on Highway 89 to wait for student dismissal.

Operational Analysis

Traffic Volumes

Traffic volumes for the year 2040 were estimated using both the Central Arkansas Regional Transportation Study (CARTS) Travel Demand Model (TDM) and historical traffic volume count trends. Volumes were projected to the year 2040 in order to coincide with Metroplan's 2040 MTP. The existing and projected traffic volumes shown in Figure 4 assume Highway 89 is upgraded to a regional arterial between Interstate 40 and Highway 67.

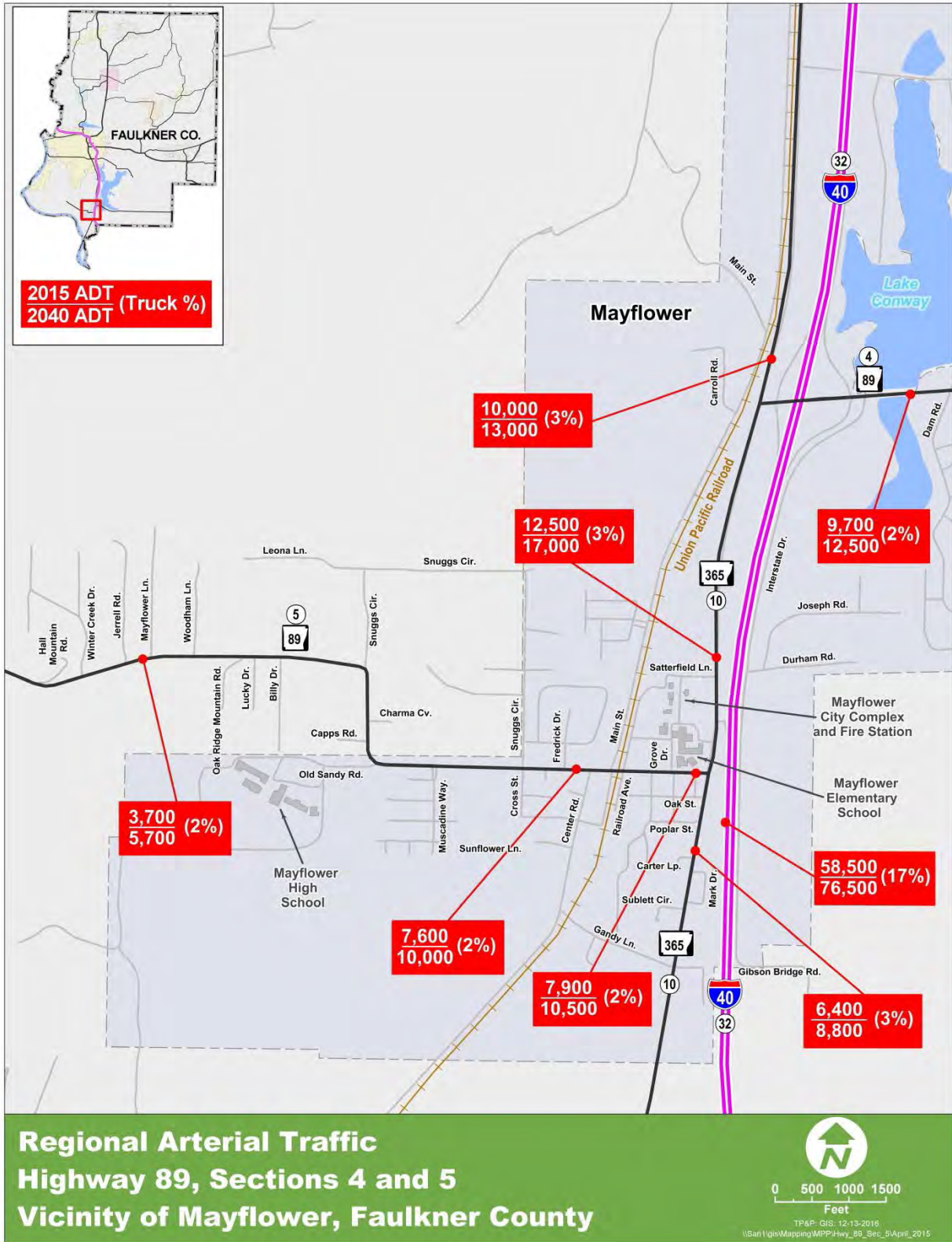


Figure 4 – Existing and Projected Traffic Volumes

Level of Service Analysis

The traffic operation performance of a roadway can be described by its level of service (LOS), with LOS A being best and LOS F being worst. The 2010 Highway Capacity Manual defines LOS as a quality measure to describe traffic conditions that may include speed, travel time, delay, maneuverability, traffic interruptions, and comfort. (See Appendix A for a detailed explanation of Level of Service.) LOS D or better is considered acceptable for urban roadways such as Highway 89 and Highway 365. Table 2 shows the LOS based on current (2015) and future (2040) traffic.

Table 2 – LOS for Highway 89 and Highway 365

Highway	LOS	
	2015	2040
Highway 89 (west of Highway 365)	E	E
Highway 365	E	E
Highway 89 (east of Highway 365)	E	E
Note: Assumes Highway 89 is upgraded into a regional arterial between Interstate 40 and Highway 67.		

Operations on both Highway 365 and Highway 89 would be at unacceptable levels if Highway 89 were to become an arterial serving regional traffic. Highway 89 is approaching full capacity at the Interstate 40 and Highway 89 interchange area, and conditions will further deteriorate as traffic volumes increase. Queue spillback is expected to worsen at the interchange, particularly for the westbound left-turn movement at the northern Highway 89 and Highway 365 intersection and the eastbound left-turn movement at the westbound ramp terminal. Queues will likely extend into adjacent intersections during peak traffic periods.

Crossing Delay Study

A delay study was conducted at the Highway 89 railroad crossing to estimate the extent of motorist delay caused by train movements. The study consisted of measuring the actual delay time experienced by vehicles waiting for trains at the crossing from 7:00 a.m. to 10:00 a.m. and from 3:00 p.m. to 6:00 p.m., then expanding this sample to a 24-hour period. Table 3 shows the delay study results.

Table 3 – Crossing Delay Study Results

Average Number of Vehicles Delayed (vehicles/day)	Average Delay (seconds/vehicle)	Approximate Annual Delay Cost*
279	128	\$70,000
Note: *Based on a Delay Cost of \$19.24/vehicle hour (updated to current year) Source: <i>User and Non-User Benefit Analysis for Highways</i> (2010).		

As shown in the delay study, about 279 vehicles per day are delayed for approximately 128 seconds each, resulting in an average of 10 vehicle-hours of delay per day. Using an hourly delay cost of \$19.24, the cost of vehicle delay at the crossing is approximately \$70,000 per year.

The time delay study indicated that, on average, vehicles are delayed for approximately two minutes. Although train log data showed that trains are typically on the tracks ranging from one to eight minutes, trains do occasionally stop on the tracks for an extended period due to switching operations.

Safety Analysis

Crash rates are an effective tool to measure the relative safety of a highway. The combination of crash frequency, traffic volumes, and length of the highway segment being evaluated are used to calculate crash rates.

Annual average crash rates were calculated using crash records for the years 2011, 2012 and 2013 (the three most recent years for which data is available). Crash rates are expressed as the total number of crashes (all severity types) per million vehicle miles traveled (mvm). Additionally, fatal (K) and serious injury (A) crash rates were evaluated separately and are expressed as KA per 100 mvm traveled.

The limits of the crash analysis for Highway 89 include two segments. Segment one begins one mile east of the northern intersection of Highway 365 and Highway 89 and ends at that intersection. The second segment begins at the southern intersection of Highway 365 and Highway 89 and ends two miles west of that intersection. The limits

of the crash analysis for Highway 365 begin at the northern Highway 89 intersection and end at the southern Highway 89 intersection.

The safety analysis compared crash rates for Highway 89 and Highway 365 to the statewide average crash rates. The resulting crash rates are shown in Table 4 and the associated crash locations are shown in Figure 5.

Table 4 – Crash Rates (2011-2013)

Year	Route/Section	Length (mi)	Weighted ADT	Crashes/KA Crashes	Crash Rate*	Statewide Average**	KA Crash Rate**	Statewide Average** KA Crash Rate***
2011	89/5	2.00	4,500	3/1	0.98	2.81	32.62	9.94
2012	89/5	2.00	4,500	0/0	0.00	2.78	0.00	11.43
2013	89/5	2.00	4,600	2/1	0.60	2.34	29.78	12.47
2011	365/10	1.00	9,500	0/0	0.00	2.81	0.00	9.94
2012	365/10	1.00	9,900	0/0	0.00	2.78	0.00	11.43
2013	365/10	1.00	10,000	2/1	0.55	2.34	27.40	12.47

* Crash rates (all severity types) are expressed in per million vehicle miles traveled (MVM).
 ** Two-lane, undivided, urban highways
 *** KA crash rates are expressed in per 100 MVM.

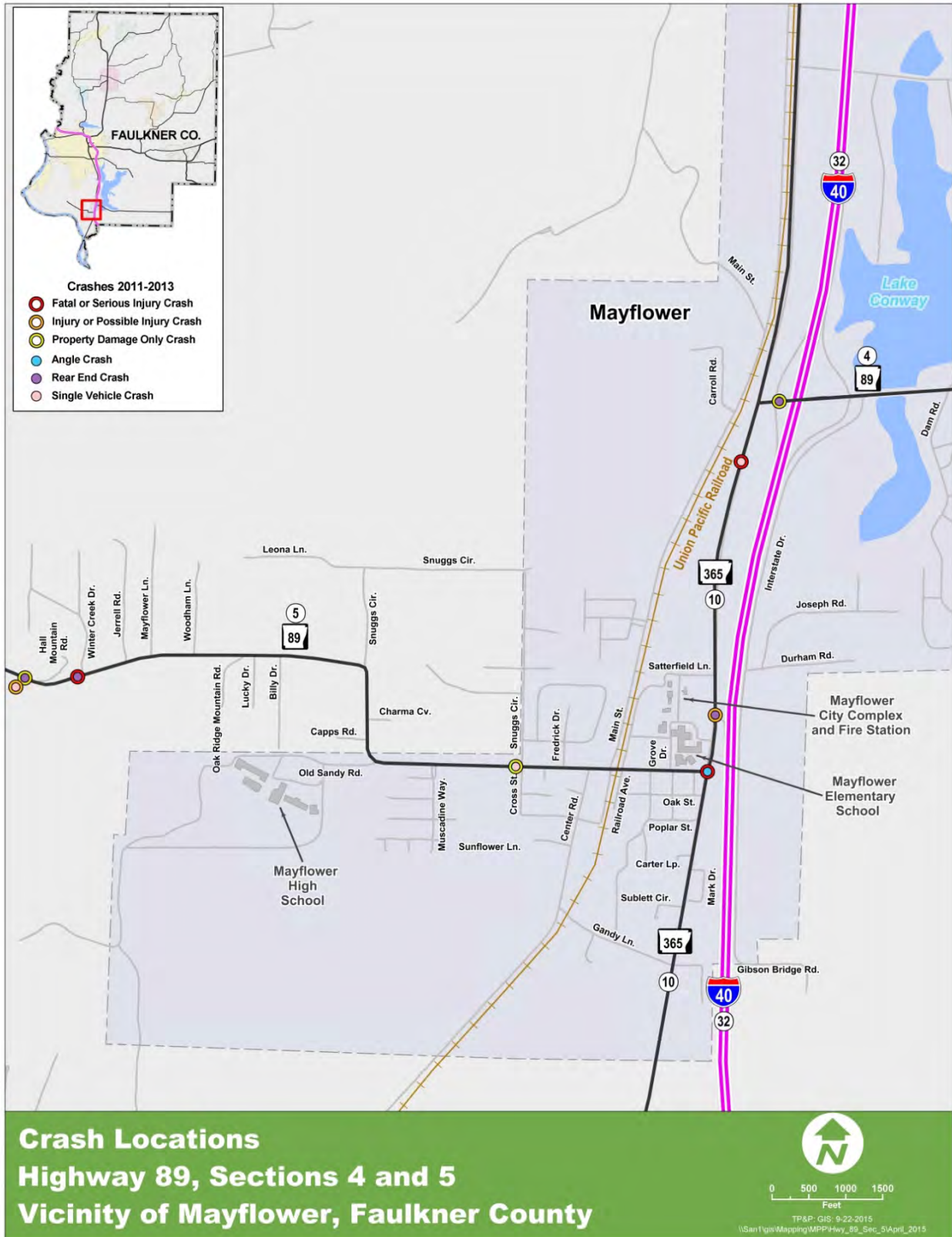


Figure 5 – Crash Locations (2011-2013)

For Highway 89, there were three rear-end crashes, two single-vehicle crashes, and one angle crash over the three-year time period. Serious injuries were caused by the angle crash and one of the three rear-end crashes. For Highway 365 there was one single-vehicle crash and one rear-end crash. The single-vehicle crash resulted in a serious injury.

A review of crash data for the Highway 89 railroad crossing (Union Pacific crossing ID 434214S) revealed that there have not been any crashes at this location in the past 15 years. The statewide ranking for this location is 214 out of 2,453 at-grade railroad crossings. This means there were 213 crossings in greater need of improvement than this one, at the time of the evaluation.

DESCRIPTION OF ALTERNATIVES

In addition to the No Action Alternative, three build alternatives were considered for the project as shown in Figure 6.

No Action

This alternative would not provide any improvements to the Mayflower area other than routine maintenance. Delays due to passing trains and congestion would become progressively worse as traffic volumes increase.

Alternative 1

This alternative would construct an overpass at the existing Highway 89 railroad crossing. It would also realign the two right angle curves at the Old Sandy Road and Snuggs Circle intersections. In order to provide acceptable traffic operations in the future, Highway 89, west of Highway 365, and Highway 365, between the Highway 89 north and south intersections, would need to be widened to four travel lanes with a continuous, two-way left-turn lane. This alternative would also include bike lanes and pedestrian facilities. The Interstate 40 overpass would also be widened to four travel lanes and a dedicated left-turn lane for traffic turning onto the Interstate 40 ramps. A connection to Main Street will be provided with this alternative.

Alternative 2

This alternative would connect Highway 89 South and Highway 89 North with a new location route. The new location route would start at the westbound ramps of the Interstate 40 interchange and connect to existing Highway 89 near Billy Drive, west of Mayflower. The bypass would initially be built as a 2-lane highway. However, acquiring the necessary right-of-way for future expansion to a 4-lane highway with a raised median would be prudent. The interstate overpass would need to provide four travel lanes in addition to a dedicated left-turn lane. The overpass would cross Interstate 40 at a skewed angle, which would require a longer bridge than a perpendicular crossing. A connection from the eastbound exit ramp to Highway 365 and a connection to Main Street from the new location route will be provided with this alternative.

Alternative 3

Similar to Alternative 2, Alternative 3 would provide a new location route from the westbound ramps of the Interstate 40 interchange to existing Highway 89 at Billy Drive, west of Mayflower. The bypass would initially be built as a 2-lane highway. However, acquiring the necessary right-of-way for future expansion to a 4-lane highway with a raised median would be prudent. The interstate overpass would need to provide four travel lanes in addition to a dedicated left-turn lane. A connection from the eastbound exit ramp to Highway 365 and a connection to Main Street from the new location route will be provided with this alternative.

Future traffic volumes will vary based on the alternative chosen as shown in Figure 7.

ANALYSIS OF ALTERNATIVES

The alternatives were evaluated based on their ability to meet the purpose and need by improving regional connectivity, mobility, and safety while enhancing community cohesion. Community cohesion refers to a community's sense of unity while regional connectivity describes the ability for vehicles to connect to destinations within a specified transportation network. Typically, a lack of regional connectivity can impact community cohesion by limiting alternative routes. The analyses were based under the assumption that Highway 89 is upgraded to a regional arterial between Interstate 40 and Highway 67.

Although Alternative 1 would allow traffic flow through Mayflower without the disruption by train activities, it would require widening Highway 365 and Highway 89 west of Highway 365 to four travel lanes with a continuous, two-way left-turn lane. This is particularly important if Highway 89 is developed as a regional arterial. This alternative would have significant impacts to local businesses and homes along the route due to the major widening.

Alternative 2 and Alternative 3 would meet the regional long range planning vision by providing greater regional connectivity and mobility. A bypass would offer commuters on the east side of Interstate 40 a more efficient route choice to get to the west side of town. The improved route would reduce the effects of Interstate 40 and the UPRR as community barriers. One result of that is enhanced community cohesion due to the diversion of regional trips. No modifications would need to be made to Highway 365 or existing Highway 89 west of Highway 365 if Alternative 2 or 3 were implemented.

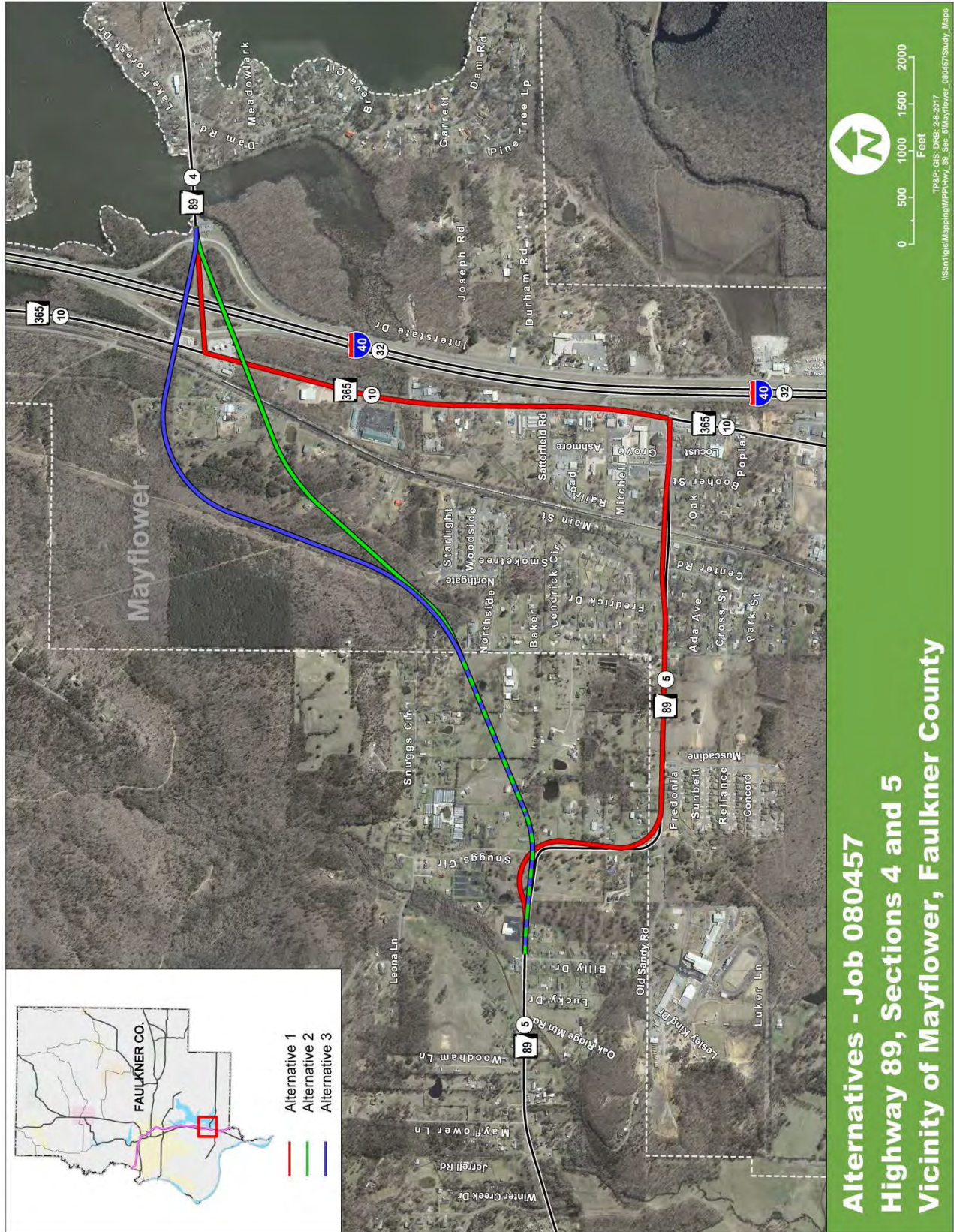


Figure 6 – Alternatives 1, 2, & 3

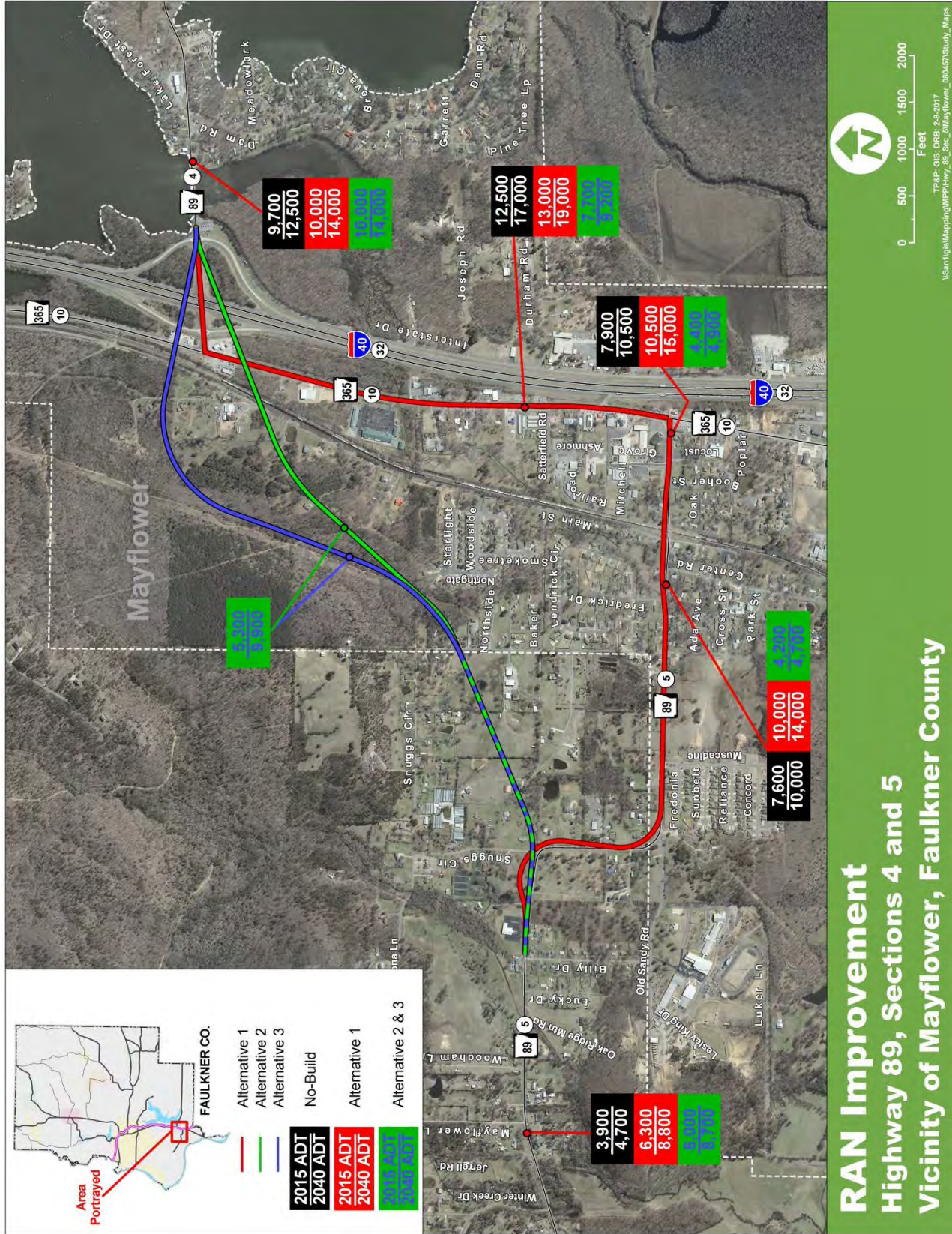


Figure 7 – Traffic Volumes for Alternatives

Operational Performance

East-west travel time through Mayflower with the implementation of a bypass was evaluated. The results of this evaluation are shown in Table 5 and indicate that the No Action Alternative and Alternative 1 do not provide the same level of mobility for east-west trips as Alternatives 2 and 3.

Table 5 – Average East-West Travel Time

No Action AM (PM)	Alternative 1 AM (PM)	Alternatives 2 and 3 AM (PM)
398 (391)	387 (379)	134 (135)
Note: travel times are in seconds		

In addition to the travel time savings, a bypass would also provide an alternate route choice for through traffic. The diversion of traffic would result in an acceptable LOS on existing Highway 365 and Highway 89, west of Highway 365, through the study period. Table 6 shows the Highway 89 and Highway 365 LOS for the alternatives.

Table 6 – LOS for Existing Highway 89 and Highway 365 for All Alternatives

Highway	No Action		Alternative 1		Alternatives 2 and 3	
	2015	2040	2015	2040	2015	2040
Existing Highway 89 (west of Highway 365)	E	E	A	A	D	D
Highway 365	E	E	A	B	C	D
Existing Highway 89 (east of Highway 365)	E	E	A	B	B	B
Note: Assumes Highway 89 is upgraded into a regional arterial between Interstate 40 and Highway 67.						

Proposed Cross Sections

The proposed cross sections depend on the selected alternative. Table 7 describes the cross sections associated with each alternative.

Table 7 – Cross-Sections

Highway ¹	Alternative 1	Alternatives 2 and 3
Existing Highway 89 (west of Highway 365)	Four travel lanes with continuous, two-way left-turn lane ²	No Change
Highway 365	Four travel lanes with continuous, two-way left-turn lane ²	No Change
Existing Highway 89 (east of Highway 365)	Four travel lanes with continuous, two-way left-turn lane ²	Four travel lanes with continuous, two-way left-turn lane ²
Mayflower Bypass	-	Two travel lanes ³
¹ All improved segments would provide sidewalks ² Bike lanes would be provided ³ Acquisition of right-of-way required for future expansion to a 4-lane facility with a raised median would be prudent since numerous assumptions had to be made		

CONCLUSIONS

The need to improve Highway 89 for regional connectivity near Mayflower, including a grade-separation of the UPRR, was identified as early as 1997. Regional growth, an increased interest in regional connectivity, and the designation of Highway 89 as a priority route on the RAN have increased the need for improving this facility. Highway 89 is the only east-west arterial between Faulkner and Pulaski Counties. Traffic operations on Highway 89 have been deteriorating in the Mayflower area due to traffic growth and train activity, making it less than optimal as a regional arterial.

Three build alternatives were developed for consideration in improving regional connectivity, community cohesion, and safety. It was assumed that Highway 89 would be developed into a 4-lane arterial between Interstate 40 and Highway 67. The facility would also include access management components to protect its capacity and safety performance. Alternative 1 involves the construction of a railroad overpass on the Highway 89 alignment, while Alternative 2 and Alternative 3 propose new location routes connecting Highway 89 North to Highway 89 South and a railroad overpass.

The overall results of the alternatives evaluation indicate that although Alternative 1 provides an acceptable level of service for the existing facilities, it is not as beneficial as the other alternatives on a regional basis. Alternative 1 would also require widening Highway 365 and Highway 89 west of Highway 365 to four travel lanes with a continuous, two-way left-turn lane. This would require additional right-of-way which could cause major impacts on local businesses and homes along the route.

Alternatives 2 and 3 would benefit the region by enhancing connectivity and community cohesion. Providing a bypass would diminish the UPRR crossing as a barricade without inducing major impacts to residential homes and local businesses. The bypass would also divert traffic from the existing route, resulting in fewer vehicular conflicts. As a result, safety and operations would be improved.

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APPENDIX A

Level of Service

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Explanation of Level of Service

The 2010 Highway Capacity Manual defines LOS as a quality measure to describe traffic conditions that may include speed, travel time, delay, freedom to maneuver, traffic interruptions, and comfort.

For Two-Lane Highways (One travel lane in each direction)

LOS A: At LOS A, motorists experience high operating speeds and little difficulty in passing. A small amount of platooning would be expected. Drivers should be able to maintain operating speeds close or equal to the free-flow speed (FFS) of the facility.

LOS B: At LOS B, passing demand and passing capacity are balanced. Platooning becomes noticeable. It becomes difficult to maintain FFS operation, but the speed reduction is still relatively small.

LOS C: At LOS C, most vehicles are traveling in platoons. Speeds are noticeably reduced on all three classes of highway.

LOS D: At LOS D, platooning increases significantly. Passing demand is high but passing capacity approaches zero. A high percentage of vehicles are now traveling in platoons, and percent time-spent-following (PTSF) is quite noticeable. The fall-off from FFS is now significant.

LOS E: At LOS E, demand is approaching capacity. Passing is virtually impossible, and PTSF is more than 80%. Speeds are seriously reduced. Speed is less than two-thirds the FFS. The lower limit of this LOS represents capacity.

LOS F: LOS F exists whenever demand flow in one or both directions exceeds the capacity of the segment. Operating conditions are unstable, and heavy congestion exists on all two-lane highways.

For Multi-Lane Highways (More than one travel lane in each direction)

LOS A: LOS A describes free-flow operations where FFS prevails and vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream. The effects of incidents or point breakdowns are easily absorbed.

LOS B: LOS B represents reasonably free-flow operations where FFS is maintained. The ability to maneuver within the traffic stream is only slightly restricted, and the general level of physical psychological comfort provided to drivers is still high. The effects of minor incidents and point breakdowns are still easily absorbed.

- LOS C:** LOS C provides for flow with speeds near the FFS. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver. Minor incidents may still be absorbed, but the local deterioration in service quality will be significant. Queues may be expected to form behind any significant blockages.
- LOS D:** LOS D is the level at which speeds begin to decline with increasing flows, with density increasing more quickly. Freedom to maneuver within the traffic stream is seriously limited and drivers experience reduced physical and psychological comfort levels. Even minor incidents can be expected to create queuing, because the traffic stream has little space to absorb disruptions.
- LOS E:** LOS E describes operation at capacity. Operations at this level are highly volatile because there are virtually no usable gaps within the traffic stream, leaving little room to maneuver within the traffic stream. Any disruption to the traffic stream can establish a disruption wave that propagates throughout the upstream traffic flow. At capacity, the traffic stream has no ability to dissipate even the most minor disruption, and any incident can be expected to produce a serious breakdown and substantial queuing. The physical and psychological comfort afforded to drivers is poor.

Appendix B – Public Involvement and Correspondence

Stakeholder Correspondence

ARKANSAS STATE HIGHWAY COMMISSION



DICK TRAMMEL
CHAIRMAN
ROGERS

THOMAS B. SCHUECK
VICE CHAIRMAN
LITTLE ROCK

ROBERT S. MOORE, JR.
ARKANSAS CITY

FRANK D. SCOTT, JR.
LITTLE ROCK

DALTON A. FARMER, JR.
JONESBORO

SCOTT E. BENNETT, P.E.
DIRECTOR OF
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WWW.ARKANSASHIGHWAYS.COM • WWW.IDRIVEARKANSAS.COM

March 9, 2015

Mr. Jim McKenzie
Executive Director, Metroplan
501 W. Markham St. Suite B
Little Rock, AR 72201

RECEIVED
AHTD

MAR 09 2015

ENVIRONMENTAL
DIVISION

Dear Mr. ^{Jim} McKenzie:

Reference is made to your letter regarding the Highway 89 Union Pacific Railroad overpass and roadway realignment project located in the City of Mayflower in Faulkner County.

As you are aware, the current Statewide Transportation Improvement Program (STIP) for Federal Fiscal Years 2013-2016 has identified the following funds to implement this project.

Type Funds	Amount
Surface Transportation Program (STP)	\$8,000,000
Rail Highway Crossing-Hazard Elimination (RRP) ⁽¹⁾	\$4,500,000
State Match	\$2,500,000
Total	\$15,000,000

(1) RRP funds will only be eligible if the existing Highway 89 railroad crossing is closed.

Three alignments are being evaluated and are illustrated on Attachment 1. You have stated that Alignment 3 is preferred by the City of Mayflower, the City of Conway, Faulkner County, and Metroplan. Thank you for your comments, which are being considered and will be documented to the project file. As you are aware, if a railroad overpass is built on new location and the existing Highway 89 railroad crossing is not closed, then this project will not be eligible for RRP

Mr. Jim McKenzie

March 9, 2014

Page 2

funds and the amount of funding the Department will have available will be reduced to \$10 million for construction.

Currently, the Department is developing the "purpose and need" for the project and Metroplan's long range transportation goals will be considered. This step is an essential component of the National Environmental Policy Act (NEPA) process and ultimate selection of a preferred alternative. The Department is committed to completing the NEPA process as quickly as possible.

Contingent upon the completion of the NEPA process and the possible selection of Alignment 3 as the preferred alternative, the Department will agree with the following partnering arrangement you have proposed, which is also illustrated on Attachment 2:

- **Metroplan, Faulkner County, the City of Mayflower and Private Property Owners:**
 - ✓ The cost to construct the new roadway from Main Street to existing Highway 89 near the western end of Snuggs Circle. The estimated cost for this portion shall include design, right-of-way acquisition, utility relocation, construction and construction engineering.
 - ✓ The City of Mayflower will accept ownership of the bypassed portion of existing Highway 89.
- **Department:**
 - ✓ Dedicate the \$10 million in the STIP to reconfigure the Highway 89 interchange and to construct a railroad overpass on new location that will connect with Main Street. This funding is set aside for 2016 and will be included in (or rolled into) the STIP for Federal Fiscal Years 2016-2019.

Mr. Jim McKenzie

March 9, 2014

Page 3

Your willingness to partner with the Department on such an important regional project is certainly appreciated. However, this arrangement cannot be officially finalized until the NEPA process is complete and the preferred alternative is selected. Upon completion, we will notify you of the results and determine the next steps to move forward with implementation of this project. Thank you for your interest in Arkansas' transportation system.

Sincerely,

A handwritten signature in blue ink, appearing to read "Scott", is positioned above the typed name.

Scott E. Bennett, P.E.
Director of Highways
and Transportation

Enclosures

c: Highway Commission
Deputy Director and Chief Operating Officer
Deputy Director and Chief Engineer
Assistant Chief Engineers
Environmental
Program Management
Transportation Planning and Policy
District 8
Mayor Randy Holland, City of Mayflower
Mayor Tab Townsell, City of Conway
Judge Jim Baker, Faulkner County
Job 080457 'B' File



METROPLAN

SMART PLANNING MAKES SMART PLACES.

November 25, 2014

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

Subject: #080457 Hwy 89 (UPRR Overpass and Re-alignment (Mayflower)) (S) I-40 Interchange and UPRR Grade Separation Mayflower

SCOTT
Dear Mr. Bennett:

As we have discussed on several occasions, the SH 89 rail grade crossing in Mayflower is of great importance to the City of Mayflower and to Metroplan. This crossing was selected by Metroplan in 1997, following a thorough analysis of all railroad crossings in the region, as one of twelve high priority locations for rail grade separations. Over the intervening years the Department has been most helpful in working with Metroplan and the local jurisdictions to build those crossings on state highways. The crossing at Mayflower is the last such route on the list and after the twin disasters that have struck the city in the past two years, its construction is seen as a key to the long-term recovery of the community.

A total of \$15 million is programmed in the FY 2016 STIP for the railroad overpass and interchange realignment project. Recent discussions with AHTD staff have indicated that the Department is considering two primary alternatives (1) a southern alignment (Alignment 1 on attached map) utilizing the current SH 89 corridor and (2) a northern alignment (Alignments 2-3 on attached map) extending from the current SH 89/I-40 interchange connecting first with Main Street and then on new alignment with SH89 on the west side of Mayflower.

Alignment 3 is the preferred alignment of the City of Mayflower, Faulkner County, the City of Conway and Metroplan due to its benefit for regional connectivity, its potential to more positively impact Mayflower's recovery, and its connection to the new Conway Airport located west of Mayflower. It would also have the least impact on existing businesses, churches and schools in the city that would be severely impacted by constructing the overpass on the existing alignment.

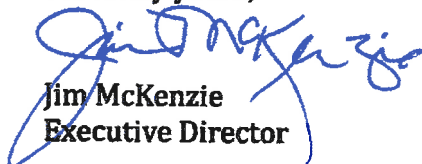
Unfortunately, the \$15 million in the current STIP includes approximately \$5 million in rail safety funding which cannot be used on the preferred alignment (Alternative 3). Consequently, if the Department can provide complete funding for the interchange and rail grade separation to Main Street in the new 2016-2019 STIP, Metroplan is committed to partnering on this project to construct the connecting roadway along Alternative 3 as the new alignment for SH 89.

The City of Mayflower, the current and future Faulkner County Judges and private property owners along the corridor are prepared to partner with Metroplan on constructing the new roadway connecting the grade separation with SH 89 as shown in Alternative 3, to dedicate that new roadway to AHTD and to assume ownership and maintenance of the current SH 89 alignment between SH 365 and SH 89's intersection with the new roadway.

In order to move forward on this project as expeditiously as possible, we need (1) a commitment from the Department to fund the interchange and rail grade separation, with funding perhaps split between the current STIP and the FY2016-2019 STIP and (2) a prompt completion of the environmental processing on the project so that we can begin the work of building local partnerships for the connecting roadway.

We look forward to working with the Department and the City of Mayflower and others on this critical project and hope to hear from you soon.

Sincerely yours,



Jim McKenzie
Executive Director

Attachment

Copies: Mayor Randy Holland
Judge Allen Dodson
Cascy Covington
Lorie Tudor
Jesse Jones
Paul Simms

RECEIVED
DEC 01 2014
Asst. Chief Engr.-Planning

ARKANSAS STATE HIGHWAY COMMISSION



DICK TRAMMEL
CHAIRMAN
ROGERS

THOMAS B. SCHUECK
VICE CHAIRMAN
LITTLE ROCK

ROBERT S. MOORE, JR.
ARKANSAS CITY

P.O. Box 2261
LITTLE ROCK, ARKANSAS 72203-2261
PHONE (501) 569-2000 • VOICE/TTY 711 • FAX (501) 569-2400
WWW.ARKANSASHIGHWAYS.COM • WWW.IDRIVEARKANSAS.COM

FRANK D. SCOTT, JR.
LITTLE ROCK

DALTON A. FARMER, JR.
JONESBORO

SCOTT E. BENNETT, P.E.
DIRECTOR OF
HIGHWAYS AND TRANSPORTATION

June 15, 2015

The Honorable French Hill
United States Congress
1229 Longworth House Office Building
Washington, DC 20515

RECEIVED
AHTD

JUN 15 2015

ENVIRONMENTAL
DIVISION

Dear Congressman Hill:

Reference is made to your letter regarding the Highway 89 Union Pacific Railroad overpass and roadway realignment project located in the City of Mayflower in Faulkner County.

Contingent upon the completion of the National Environmental Policy Act (NEPA) process and the possible selection of Alignment 3 as the preferred alternative as shown in Attachment 1, the Department has agreed to the following partnering arrangement as illustrated in Attachment 2:

- **Metroplan, Faulkner County, the City of Mayflower and Private Property Owners:**
 - ✓ The cost to construct the new roadway from Main Street to existing Highway 89 near the western end of Snuggs Circle. The estimated cost for this portion shall include design, right-of-way acquisition, utility relocation, construction and construction engineering.
 - ✓ The City of Mayflower will accept ownership of the bypassed portion of existing Highway 89.

- **Department:**
 - ✓ Dedicate the \$10 million in the Statewide Transportation Improvement Program (STIP) to reconfigure the Highway 89 interchange and to construct a railroad overpass on new location that will connect with Main Street. This funding is set aside for 2016 and will be included in (or rolled into) the STIP for Federal Fiscal Years 2016-2019.

The Honorable French Hill
June 15, 2015
Page Two

Your comments will be considered as the Department completes the NEPA process and ultimate selection of a preferred alternative. Thank you for your interest in and support of Arkansas' transportation system.

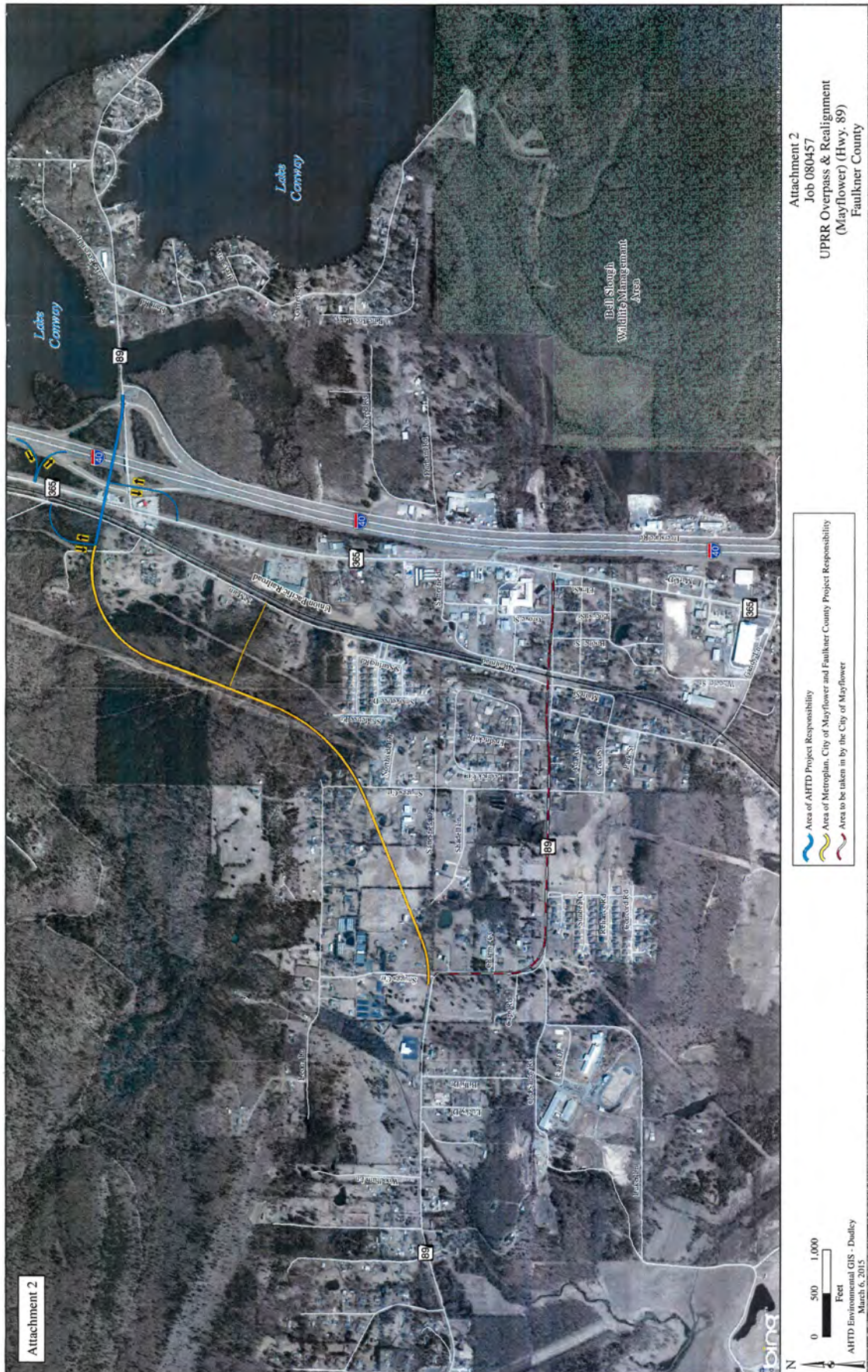
Sincerely,



Scott E. Bennett, P.E.
Director of Highways
and Transportation

Enclosures

- c: Highway Commission
 - Deputy Director and Chief Operating Officer
 - Deputy Director and Chief Engineer
 - Assistant Chief Engineers
 - Environmental ✓
 - Program Management
 - Transportation Planning and Policy
 - District 8
 - Mayor Randy Holland, City of Mayflower
 - Mayor Tab Townsell, City of Conway
 - Judge Jim Baker, Faulkner County
 - Jim McKenzie, Metroplan
 - Job 080457 'B' File



FRENCH HILL
2ND DISTRICT, ARKANSAS

COMMITTEE ON FINANCIAL SERVICES
SUBCOMMITTEE ON CAPITAL MARKETS AND
GOVERNMENT SPONSORED ENTERPRISES
SUBCOMMITTEE ON OVERSIGHT AND
INVESTIGATIONS



Congress of the United States
House of Representatives
Washington, DC 20515

May 20, 2015

WASHINGTON, DC OFFICE
1229 LONGWORTH HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
PHONE: (202) 225-2808
FAX: (202) 225-6903

CONWAY DISTRICT OFFICE
1105 DEER STREET, SUITE 12
CONWAY, AR 72032
PHONE: (501) 358-3481
FAX: (501) 358-3484

LITTLE ROCK DISTRICT OFFICE
1501 NORTH UNIVERSITY AVENUE, SUITE 150
LITTLE ROCK, AR 72207
PHONE: (501) 324-5841
FAX: (501) 324-6028

Scott Bennett
Director of Highways and Transportation
Arkansas State Highway and Transportation Department
PO Box 2261
Little Rock, AR 72203-2261

Dear Director Bennett:

I write to pass along my constituents' support for the State Highway (SH) 89 interchange and rail separation proposal in Mayflower.

In 1997, the Arkansas State Highway and Transportation Department (AHTD) conducted a planning study of several location options for a rail-grade separation in the city of Mayflower. That study was updated in 2005. Two primary alignments were identified -- southern alignment utilizing the current SH 89 alignment and a northern alignment extending from the current Hwy 89/I-40 and connecting on the west side of Mayflower. As I understand, the northern alignment is the preferred alignment by the City of Mayflower, Faulkner County, the City of Conway, and Metroplan. The southern route on the current SH 89 alignment would replace the grade crossing at that location and is therefore eligible for \$5 million in federal railroad safety funds. However, as I understand, a grade separation at this location would be limited to two lanes and could have a negative impact on access to local businesses, and could make it make it impossible for a future grade separation at the preferred location.

It is my understanding that the AHTD has estimated that reconstructing the SH 89 interchange and constructing a grade separation at the preferred location would cost \$17 million, and that AHTD has \$12 million in the Statewide Transportation Improvement Program (STIP) for the project. It is my understanding that Metroplan is willing to commit the approximately \$10 million in additional funds needed to complete the project, and intend to partner with local property owners, developers, and the City of Mayflower to do so. I encourage you to give full and fair consideration to including funding for the new SH 89 overpass and rail grade separation in Mayflower in the FY2016-2019 STIP.

Thank you for your attention to this matter, and I look forward to your response. If you have any questions or concerns, my office contact for this issue is Dylan Frost, and he can be reached at 202-225-2506, or Dylan.Frost@mail.house.gov.

Sincerely,

French Hill
Member of Congress

Enclosures

Cc: Dick Trammel
Frank Scott

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

INTEROFFICE MEMORANDUM

June 17, 2016

TO: Master Files

FROM: Jared D. Wiley, Division Engineer – Program Management *JDW*

SUBJECT: Highway 89 Corridor Study
Faulkner, Lonoke, and Pulaski Counties

Commission Minute Order 2016-060 authorized the Director to enter into agreements with Metroplan to conduct a study to determine the need for and feasibility of a continuous Highway 89 corridor from Cabot through Mayflower to west Conway. The following job number and job name have been assigned for this study.

NEW PROJECT

Job 012276, Cabot - Conway (Hwy. 89 Study) (S)

Attachments

DISTRIBUTION

Deputy Director and Chief Operating Officer
Deputy Director and Chief Engineer
Assistant Chief Engineer – Planning
Assistant Chief Engineer – Design
Assistant Chief Engineer – Operations
Program Management
Bridge
Construction
Consultant Contracts
Environmental
Fiscal Services
Right of Way
Roadway
Surveys
System Information and Research
Transportation Planning and Policy
Districts 6 & 8
Job 012276 "C" File

ARKANSAS STATE HIGHWAY COMMISSION

MINUTE ORDER

District: Six and Eight
County: Lonoke, Pulaski, and Faulkner
Category: Miscellaneous

Page 1 of 1 Page

WHEREAS, IN LONOKE, PULASKI, AND FAULKNER COUNTIES, local officials have requested a study to determine the need for and feasibility of a continuous Highway 89 corridor from Cabot through Mayflower to West Conway; and

WHEREAS, Metroplan has agreed to partner with the Department to conduct this study.

NOW THEREFORE, the Director is authorized to enter into any agreements necessary with Metroplan to conduct a study to determine the need for and feasibility of a continuous Highway 89 corridor.

Approved:

[Signature] Chairman
[Signature] Vice-Chairman
[Signature] Member
[Signature] Member
[Signature] Member

TP&P

Submitted By:

[Signature]
Assistant Chief Engineer - Planning

Approved:

[Signature]
Director

Minute Order No.

2016 060

MEJ
lkt

Date Passed

JUN 1 2016

ARKANSAS STATE HIGHWAY COMMISSION



DICK TRAMMEL
CHAIRMAN
ROGERS

THOMAS B. SCHUECK
VICE CHAIRMAN
LITTLE ROCK

ROBERT S. MOORE, JR.
ARKANSAS CITY

P.O. Box 2261
LITTLE ROCK, ARKANSAS 72203-2261
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WWW.ARKANSASHIGHWAYS.COM • WWW.IDRIVEARKANSAS.COM

FRANK D. SCOTT, JR.
LITTLE ROCK

DALTON A. FARMER, JR.
JONESBORO

SCOTT E. BENNETT, P.E.
DIRECTOR OF
HIGHWAYS AND TRANSPORTATION

May 5, 2016

Arkansas 89 Corridor Coalition
501 West Markham
Little Rock, Arkansas 72201

Reference is made to your recent letter to Highway Commission Chairman Dick Trammel requesting a planning study of the Highway 89 Corridor in Faulkner and Pulaski Counties. Commissioner Trammel asked that I respond on his behalf.

A Minute Order authorizing the Department to partner with Metroplan to conduct this study will be submitted to the Highway Commission for consideration at their June 1, 2016 meeting. If approved, we will begin working with Metroplan staff to develop the scope for this study.

Thank you for your interest in and support of Arkansas' transportation system. If additional information is needed, please let me know.

Sincerely,

Scott E. Bennett, P.E.
Director of Highways
and Transportation

c: U.S. Senator John Boozman
U.S. Senator Tom Cotton
U.S. Congressman Rick Crawford
U.S. Congressman French Hill
Arkansas State Senator Jane English
Arkansas State Senator Eddie Joe Williams
Arkansas State Senator Jason Rapert
Arkansas State Representative Karilyn Brown
Arkansas State Representative Bob Johnson
Arkansas State Representative Douglas House
Arkansas State Representative Tim Lemons
Arkansas State Highway Commission

Deputy Director and Chief Operating Officer
Deputy Director and Chief Engineer
Assistant Chief Engineer - Planning
Mayor Gary Fletcher, City of Jacksonville
Mayor Bill Cypert, City of Cabot
Mayor Randy Holland, City of Mayflower
Mayor Tab Townsell, City of Conway
Mayor Sammy Hartwick, City of Greenbrier
Mayor Virginia Young, City of Sherwood
Judge Jim Baker, Faulkner County
Judge Doug Erwin, Lonoke County
Colonel Charles E. Brown, Jr. LRAFB
Jim McKenzie, Metroplan Executive Director

Arkansas 89 Corridor Coalition

*501 West Markham
Little Rock, Arkansas 72201*

April 14, 2016

Mr. Dick Trammel
Chairman
Arkansas Highway Commission
P.O. Box 2261
Little Rock, Arkansas 72203

RE: State Highway 89 Corridor

Dear Chairman Trammel:

We are writing this joint letter to ask the Commission and the Arkansas State Highway and Transportation Department to conduct a planning study on the SH 89 corridor from Cabot west through Mayflower and up into west Conway. As you know, the Northbelt Freeway was supposed to be a major east west connector across north Pulaski County and, importantly, across Camp Robinson. With the removal of Northbelt from regional and state plans due to its high cost, a significant demand in northern Pulaski and southern Faulkner County is left wanting, including improved access to the Little Rock Air Force Base.

Given the enhanced need for security after 9/11, we do not believe it is feasible to find another route through Camp Robinson. Our focus turns then to the most feasible corridor just north of the Camp's boundaries, and that is State Highway 89. We believe that improvements to this existing corridor and some street connections and improvements on the south end of the Camp in Sherwood and North Little Rock, can absorb a significant amount of the traffic demand that would have used the Northbelt.

Work Already Underway

Indeed AHTD is already working on improvements on each end of the corridor. In Cabot, the draft STIP contains a project to reconstruct and add capacity to the SH 89 interchange on US 67/167, and the roadway has been improved west to SH 5. On the west end, the draft STIP contains a project to reconstruct the Mayflower interchange on 1-40 and include a rail grade separation as part of the project. Metroplan, the City of Mayflower and Faulkner County have agreed to partner with the Department in relocating existing SH 89 through Mayflower. These

*Mr. Dick Trammel
Arkansas 89 Corridor Study
April 14, 2016*

are two important and long-needed projects, and we commend the Commission for advancing them.

The Next Step

We believe that a planning study that encompasses the entire corridor is the next prudent step to take. We suggest that the study focus on four opportunities in the corridor. First, is to close the gap that exists between SH 107 where SH 89 currently ends and the Faulkner County line where it begins again. Today traffic is directed south on SH 107 to Republican Road (Pulaski County Route 89) to the Faulkner County line. A more direct route would be preferable.

Second, the study should determine the feasibility and location for a new interchange in Jacksonville in the vicinity of the old Coffelt Crossing. Such an interchange could relieve pressure on the SH 321 interchange in south Cabot. A road on new location could then connect it with the west end of Republican Road and into the SH 89 corridor at the Faulkner County line. An important consideration of this part of the project would be safeguarding the approach zone at the end of the Air Base runway from inappropriate development. As progress continues on widening US 67/167, it is important that the design of improvements in the vicinity of Coffelt Crossing be done in such a way that a new interchange can be added with minimal reconstruction of that roadway.

Third, currently state maintenance of SH 89 ends just west of Mayflower, but the roadway continues as Lolly Road and Sand Gap Road to the Arkansas River, turning north past the new Conway Airport before joining SH 60 (Dave Ward Drive) in west Conway. We would like the study to look at the benefits of extending SH 89 to SH 60. It provides an intermodal connection, system connectivity and another option for people in rapidly developing west and south Conway to access I-40. As part of the on-going interest in this part of the corridor, Judge Jim Baker is replacing an out-dated bridge on Lolly Road this year.

Finally, we believe that the corridor is almost uniquely situated so that it can be improved in phases as demand warrants once the full connections have been made. The planning study should lay out a roadmap, if you will, of those phased improvements .

Metroplan has stated its willingness to partner with the Department on such a study, and we strongly urge you to make such an effort a priority in the near future. If your staff has any questions regarding this request, please have them contact Jim McKenzie at 372-3300 or mckenzie@metroplan.org.


Mr. Dick Trammel
Arkansas 89 Corridor Study
April 14, 2016

With appreciation for all that the Commission and its staff do, we remain


Sincerely yours,



Mayor Gary Fletcher
City of Jacksonville

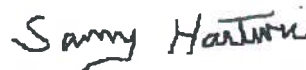


Mayor Bill Cypert
City of Cabot




Mayor Randy Holland
City of Mayflower


Mayor Tab Townsell
City of Conway



Mayor Sammy Hartwick
City of Greenbrier



Mayor Virginia Young
City of Sherwood



Judge Jim Baker
Faulkner County



Judge Doug Erwin
Lonoke County


Sen. Jane English
District 34



Sen. Eddie Joe Williams
District 29



Sen. Jason Rapert
District 35



Rep. Karilyn Brown
District 41

Mr. Dick Trammel
Arkansas 89 Corridor Study
April 14, 2016



Rep. Bob Johnson
District 42



Rep. Douglas House
District 40



Rep. Tim Lemons, P.E.
District 43



Jim McKenzie
Executive Director
Metroplan

Copies:

- Congressman French Hill**
- Congressman Rick Crawford**
- Senator John Boozman**
- Senator Tom Cotton**
- Colonel Charles E. Brown, Jr., LRAFB**
- Mr. Tom Schueck**
- Mr. Frank Scott**
- Mr. Robert Moore**
- Mr. Alec Farmer**
- Mr. Scott Bennett**

Public Involvement Synopsis

PUBLIC INVOLVEMENT MEETING SYNOPSIS

Job Number 080457
UPRR Overpass & Realign. (Mayflower) (Hwy. 89)
Faulkner County
Tuesday, June 25, 2013

A public officials meeting was held for the proposed project at 2:00 p.m. on Tuesday, June 25, 2013 followed by an open forum public involvement meeting from 4:00 – 7:00 p.m. Both meetings were held in the Mayflower Elementary School (Cafeteria). Efforts to inform the public and involve minorities of the meeting included:

- Display advertisement placed in the *Arkansas Democrat-Gazette* on Sunday, June 16, 2013 and Sunday, June 23, 2013.
- Public Service Announcement on *Heartbeat 106.7 FM* which aired on Saturday, June 22, 2013 through Tuesday, June 25, 2013.
- Distribution of flyers in the project area.

The following information was available for inspection and comment:

- Three copies of an aerial photograph display showing the project alternatives at a scale of one inch equals 300 feet.

Handouts for the public included a comment sheet and a small-scale map that was identical to the aerial photograph display. Copies of these are attached.

Table 1 describes the results of participation at the meetings.

TABLE 1	
Public Participation	Totals
Attendance at the public officials meeting (including AHTD staff)	15
Attendance at the public involvement meeting (including AHTD staff)	35
Total comment forms received	16
E-Mail received	1

AHTD staff reviewed all comments received and evaluated their contents. 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. Some of the comments were combined and/or paraphrased to simplify the synopsis process.

An analysis of the responses received as a result of the public survey is shown in Table 2.

TABLE 2	
Survey Results	Totals
Believes a need exists to improve Highway 89	17
Does not believe a need exists to improve Highway 89	0
Preferred Alternative 1	4
Preferred Alternative 2	2
Preferred Alternative 3	10
Preferred Alternative 1 & 2	1
Preferred No Build Alternative	0
Has knowledge of cultural resources in the project area	0
Has knowledge of environmental constraints in the project area	0
Believes the proposed project would have beneficial impacts	10
Believes the proposed project would have both beneficial and adverse impacts	3
Did not select beneficial or adverse impacts	4

Other comments concerning issues associated with the proposed project were as follows:

- Shoulders and sidewalks should be added to Highway 89.
- Trains block emergency services and access to the schools.
- Alternative 1 would affect fewer landowners and cost less.
- The overpass through Mayflower would impact fewer homeowners if located south of the existing highway.
- The new location alternatives would relieve traffic near the churches and schools.
- Alternative 2 is straighter and shorter.
- The project will provide better access to western Faulkner County.
- Alternative 3 will impact less people.
- Access to the interstate should be maintained.
- The new location alternatives should be four lanes.
- Alternative 2 impacts homes.
- Alternative 3 will open a new area for commercial development.

Attachments: Blank comment form
 Small-scale alternatives map

RJ: RS
 DN: DN

SS:ym

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT (AHTD)

CITIZEN COMMENT FORM

**AHTD JOB NUMBER 080457
UPRR Overpass & Realign. (Mayflower) (Hwy. 89)
FAULKNER COUNTY**

**LOCATION:
MAYFLOWER ELEMENTARY SCHOOL, CAFETERIA
4 GROOVE ST.
MAYFLOWER, AR
4:00 – 7:00 P.M.
TUESDAY, JUNE 25, 2013**

Make your comments on this form and leave it with AHTD personnel at the meeting or mail it within 15 days to: Arkansas State Highway and Transportation Department, Environmental Division, Post Office Box 2261, Little Rock, Arkansas 72203-2261. Email: environmentalpimeetings@ahtd.ar.gov.

Yes No

Do you feel there is a need for the proposed improvements on Highway 89 in Mayflower? Comment (optional) _____

Which Alternative Alignment would you consider to be your preferred alternative for the proposed improvements of Highway 89?

- Alternative 1
- Alternative 2
- Alternative 3
- NO BUILD Alternative

Why is that your preference? _____

Do you know of any historical sites, family cemeteries, or archaeological sites in the project area? Please note and discuss with staff. _____

(Continue on Back)

Yes No

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? Please note and discuss with AHTD staff. _____

Does your home or property offer any limitations to the project, such as septic systems, that the Department needs to consider in its design? _____

Do you have a suggestion that would make this proposed project better serve the needs of the community? _____

Do you feel that the proposed project will have any impacts (Beneficial or Adverse) on your property and/or community (economic, environmental, social, etc.)? Please explain. _____

It is often necessary for the AHTD to contact property owners along potential routes. If you are a property owner along or adjacent to the route under consideration, please provide information below. Thank you.

Name : _____ (Please Print)

Address: _____ Phone: (____) _____ - _____

E-mail: _____

Please make additional comments here. _____

For additional information, please visit our website at www.arkansashighways.com

Tribal Correspondence



U.S. Department
of Transportation
**Federal Highway
Administration**

Arkansas Division

October 6, 2014

700 West Capitol Ave
Suite 3130
Little Rock AR 72201
(501) 324-6423

In Reply Refer To:
AHTD Job No. 080457
UPRR Overpass & Realign.
(Mayflower) (S)
Faulkner County, Arkansas
HDA-AR

Rebecca Brave
Tribal Historic Preservation Officer
The Osage Nation
Post Office Box 779
Pawhuska, Oklahoma 74056

Dear Ms. Brave:

This letter is written in order to initiate consultation between the Federal Highway Administration, Arkansas Division Office and the Osage Nation regarding a federal-aid highway project that may potentially affect ancestral lands or properties that may be of religious or cultural significance to your Tribe.

The Arkansas Highway and Transportation Department (AHTD) plans to realign the UPRR overpass on Highway 89 in the city of Mayflower in Faulkner County (see project location map). To date, a survey of existing records regarding previously recorded archeological sites has been conducted and no previously recorded archeological sites are located near the project area. In an effort to determine the existence of archeological sites within the proposed project area, the AHTD is planning to conduct a cultural resources survey of the project area.

Please review this information and notify us of any constraints or concerns that you may have regarding this undertaking. We would greatly appreciate your input regarding not only this project but also sites or properties in the immediate area that might be of cultural or religious significance to your Tribe. If you have any questions or need additional information, please contact me at (501) 324-6430.

Sincerely,

A handwritten signature in blue ink, appearing to read "R. Looney".

Randal Looney
Environmental Coordinator

Enclosure



U.S. Department
of Transportation
**Federal Highway
Administration**

Arkansas Division

October 6, 2014

700 West Capitol Ave
Suite 3130
Little Rock AR 72201
(501) 324-6423

In Reply Refer To:
AHTD Job No. 080457
UPRR Overpass & Realign.
(Mayflower) (S)
Faulkner County, Arkansas
Polk County, Arkansas HDA-AR

Everett Bandy
Tribal Historic Preservation Officer
Quapaw Tribe of Oklahoma
Post Office Box 765
Quapaw, Oklahoma 74363-0765

Dear Mr. Bandy:

This letter is written in order to initiate consultation between the Federal Highway Administration, Arkansas Division Office and the Quapaw Tribe of Oklahoma regarding a federal-aid highway project that may potentially affect ancestral lands or properties that may be of religious or cultural significance to your Tribe.

The Arkansas Highway and Transportation Department (AHTD) plans to realign the UPRR overpass on Highway 89 in the city of Mayflower in Faulkner County (see project location map). To date, a survey of existing records regarding previously recorded archeological sites has been conducted and no previously recorded archeological sites are located near the project area. In an effort to determine the existence of archeological sites within the proposed project area, the AHTD is planning to conduct a cultural resources survey of the project area..

Please review this information and notify us of any constraints or concerns that you may have regarding this undertaking. We would greatly appreciate your input regarding not only this project but also sites or properties in the immediate area that might be of cultural or religious significance to your Tribe. If you have any questions or need additional information, please contact me at (501) 324-6430.

Sincerely,

A handwritten signature in blue ink, appearing to read "R. Looney".

Randal Looney
Environmental Coordinator

Enclosure



U.S. Department
of Transportation
**Federal Highway
Administration**

Arkansas Division

October 6, 2014

700 West Capitol Ave
Suite 3130
Little Rock AR 72201
(501) 324-6423

In Reply Refer To:
AHTD Job No. 080457
UPRR Overpass & Realign.
(Mayflower) (S)
Faulkner County, Arkansas
Polk County, Arkansas HDA-AR

Mr. Earl J. Barbry, Jr.
Tribal Historic Preservation Officer
Tunica-Biloxi Tribe of Louisiana, Inc.
Post Office Box 1589
Marksville, LA 71351

Dear Mr. Barbry:

This letter is written in order to initiate consultation between the Federal Highway Administration, Arkansas Division Office and the Tunica-Biloxi Tribe of Louisiana, Inc. regarding a federal-aid highway project that may potentially affect ancestral lands or properties that may be of religious or cultural significance to your Tribe.

The Arkansas Highway and Transportation Department (AHTD) plans to realign the UPRR overpass on Highway 89 in the city of Mayflower in Faulkner County (see project location map). To date, a survey of existing records regarding previously recorded archeological sites has been conducted and no previously recorded archeological sites are located near the project area. In an effort to determine the existence of archeological sites within the proposed project area, the AHTD is planning to conduct a cultural resources survey of the project area.

Please review this information and notify us of any constraints or concerns that you may have regarding this undertaking. We would greatly appreciate your input regarding not only this project but also sites or properties in the immediate area that might be of cultural or religious significance to your Tribe. If you have any questions or need additional information, please contact me at (501) 324-6430.

Sincerely,

A handwritten signature in blue ink, appearing to read "R. Looney".

Randal Looney
Environmental Coordinator

Enclosure



U.S. Department
of Transportation
**Federal Highway
Administration**

Arkansas Division

October 6, 2014

700 West Capitol Ave
Suite 3130
Little Rock AR 72201
(501) 324-6423

In Reply Refer To:
AHTD Job No. 080457
UPRR Overpass & Realign.
(Mayflower) (S)
Faulkner County, Arkansas
HDA-AR

Dr. Ian Thompson.
Tribal Historic Preservation Officer &
NAGPRA Program Coordinator
Choctaw Nation of Oklahoma
Post Office Box 1210
Durant, OK 74702-1210

Dear Dr. Thompson:

This letter is written in order to initiate consultation between the Federal Highway Administration, Arkansas Division Office and the Choctaw Nation of Oklahoma regarding a federal-aid highway project that may potentially affect ancestral lands or properties that may be of religious or cultural significance to your Tribe.

The Arkansas Highway and Transportation Department (AHTD) plans to realign the UPRR overpass on Highway 89 in the city of Mayflower in Faulkner County (see project location map). To date, a survey of existing records regarding previously recorded archeological sites has been conducted and no previously recorded archeological sites are located near the project area. In an effort to determine the existence of archeological sites within the proposed project area, the AHTD is planning to conduct a cultural resources survey of the project area.

Please review this information and notify us of any constraints or concerns that you may have regarding this undertaking. We would greatly appreciate your input regarding not only this project but also sites or properties in the immediate area that might be of cultural or religious significance to your Tribe. If you have any questions or need additional information, please contact me at (501) 324-6430.

Sincerely,

A handwritten signature in blue ink, appearing to read 'R. Looney'.

Randal Looney
Environmental Coordinator

Enclosure



U.S. Department
of Transportation
**Federal Highway
Administration**

Arkansas Division

October 6, 2014

700 West Capitol Ave
Suite 3130
Little Rock AR 72201
(501) 324-6423

In Reply Refer To:
AHTD Job No. 080457
UPRR Overpass & Realign.
(Mayflower) (S)
Faulkner County, Arkansas
HDA-AR

Ms. Lisa Larue-Baker
Historic Preservation Coordinator
United Keetoowah Band of Cherokee Indians
Post Office Box 746
Tahlequah, Oklahoma 74465

Dear Ms. Larue-Baker:

This letter is written in order to initiate consultation between the Federal Highway Administration, Arkansas Division Office and the United Keetoowah Band of Cherokee Indians regarding a federal-aid highway project that may potentially affect ancestral lands or properties that may be of religious or cultural significance to your Tribe.

The Arkansas Highway and Transportation Department (AHTD) plans to realign the UPRR overpass on Highway 89 in the city of Mayflower in Faulkner County (see project location map). To date, a survey of existing records regarding previously recorded archeological sites has been conducted and no previously recorded archeological sites are located near the project area. In an effort to determine the existence of archeological sites within the proposed project area, the AHTD is planning to conduct a cultural resources survey of the project area.

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Sincerely,

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Randal Looney
Environmental Coordinator

Enclosure



U.S. Department
of Transportation
**Federal Highway
Administration**

Arkansas Division

October 6, 2014

700 West Capitol Ave
Suite 3130
Little Rock AR 72201
(501) 324-6423

In Reply Refer To:
AHTD Job No. 080457
UPRR Overpass & Realign.
(Mayflower) (S)
Faulkner County, Arkansas
HDA-AR

Dr. Richard Allen
Policy Analyst and NAGPRA/
Section 106 Review Contact
Cherokee Nation of Oklahoma
Post Office Box 948
Tahlequah, OK 74465

Dear Dr. Allen:

This letter is written in order to initiate consultation between the Federal Highway Administration, Arkansas Division Office and the Cherokee Nation of Oklahoma regarding a federal-aid highway project that may potentially affect ancestral lands or properties that may be of religious or cultural significance to your Tribe.

The Arkansas Highway and Transportation Department (AHTD) plans to realign the UPRR overpass on Highway 89 in the city of Mayflower in Faulkner County (see project location map). To date, a survey of existing records regarding previously recorded archeological sites has been conducted and no previously recorded archeological sites are located near the project area. In an effort to determine the existence of archeological sites within the proposed project area, the AHTD is planning to conduct a cultural resources survey of the project area.

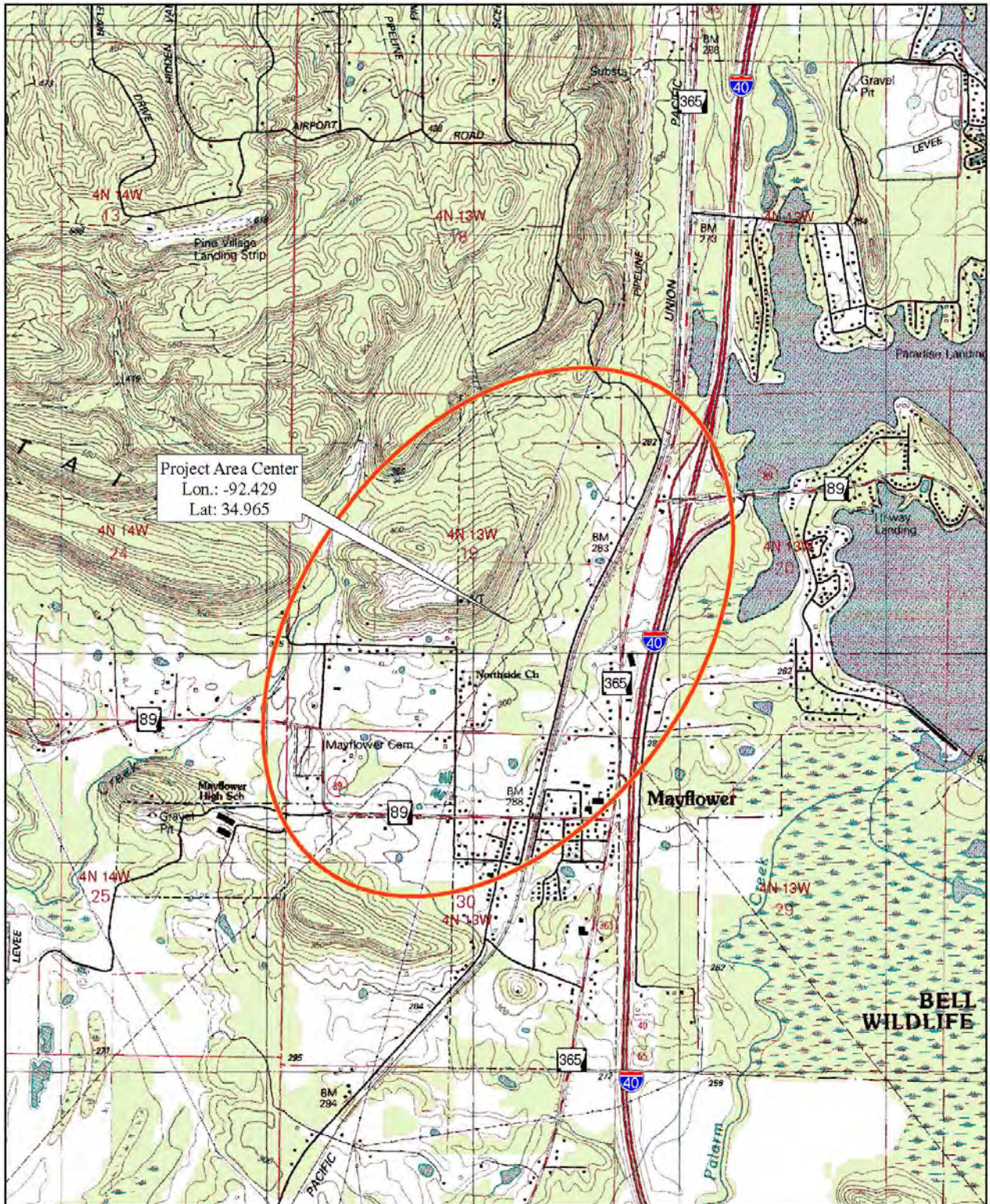
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Sincerely,

A handwritten signature in blue ink, appearing to read "R. Looney".

Randal Looney
Environmental Coordinator

Enclosure



1:24,000
AHTD Environmental GIS - Dudley
September 23, 2014

Job 080457
UPRR Overpass & Realign.
(Mayflower) (Hwy. 89)
Faulkner County



USGS Topographic Map: Mayflower 1987

Huber, Joanna

From: EBandy@quapawtribe.com
Sent: Thursday, October 23, 2014 5:24 PM
To: Looney, Randal
Subject: AHTD 080457 UPRR Overpass & Realign

The Quapaw Tribe Historic Preservation Office has received and reviewed the notification for project notification AHTD 080457 UPRR Overpass & Realign.

The Quapaw Tribe concurs with the AHTD findings that a CRS of the project area is necessary.

The Quapaw Tribe Historic Preservation Office looks forwards to receiving and reviewing the results of this report.

Thank you for your efforts to consult thus far,

-Everett Bandy

THPO, Quapaw Tribe

Tribal Historic Preservation Office

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From: Lindsey Bilyeu [<mailto:lbilyeu@choctawnation.com>]

Sent: Monday, November 10, 2014 12:24 PM

To: Looney, Randal (FHWA)

Subject: RE: AHTD Job No. 080457 UPRR Overpass & Realign. (Mayflower) (S), Faulkner Co., AR

Dear Randal,

The Choctaw Nation of Oklahoma thanks the FHWA Arkansas Division for the correspondence regarding the above referenced project. This project lies in the Choctaw Nation of Oklahoma's Trail of Tears Removal Corridor in Faulkner Co., AR. The Choctaw Nation Historic Preservation Department requests to be a consulting party on this project. Please forward our office the cultural resources survey once it is completed. If you have any questions, please contact our office at 580-924-8280 ext. 2631.

Thank You,

Lindsey D. Bilyeu
NHPA Senior Section 106 Reviewer
Historic Preservation Department
Choctaw Nation of Oklahoma
P.O. Box 1210
Durant, OK 74701
580-924-8280 ext. 2631

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From: Randal.Looney@dot.gov
To: Wilks.Diana
Subject: FW: 080457, UPRR Overpass and Realign, Mayflower, Faulkner County, AR
Date: Wednesday, October 15, 2014 10:55:15 AM

Randal J. Looney

FHWA – Arkansas Division Office
700 West Capitol Ave., Rm 3130
Little Rock, AR 72201-3298
501-324-6430
fax: 501-324-6423

From: Lisa LaRue-Baker - UKB THPO [mailto:ukbthpo-larue@yahoo.com]
Sent: Wednesday, October 15, 2014 10:53 AM
To: Looney, Randal (FHWA)
Cc: verna; eberry@unitedkeetoowahband.org
Subject: 080457, UPRR Overpass and Realign, Mayflower, Faulkner County, AR

The United Keetoowah Band of Cherokee Indians in Oklahoma has reviewed your project under Section 106 of the NHPA, and at this time, have no comments or objections. However, if any human remains are inadvertently discovered, please cease all work and contact us immediately.

Thank you,

Lisa C. Baker

Acting THPO
United Keetoowah Band of Cherokee Indians in Oklahoma
PO Box 746
Tahlequah, OK 74465

c 918.822.1952
ukbthpo-larue@yahoo.com

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[Please FOLLOW our historic preservation page and LIKE us on FACEBOOK](#)

Huber, Joanna

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Thank you for your efforts to consult thus far,

-Everett Bandy

THPO, Quapaw Tribe

Tribal Historic Preservation Office

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Sent: Monday, November 10, 2014 12:24 PM

To: Looney, Randal (FHWA)

Subject: RE: AHTD Job No. 080457 UPRR Overpass & Realign. (Mayflower) (S), Faulkner Co., AR

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Thank You,

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NHPA Senior Section 106 Reviewer
Historic Preservation Department
Choctaw Nation of Oklahoma
P.O. Box 1210
Durant, OK 74701
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TRIBAL HISTORIC PRESERVATION OFFICE

Date: December 4, 2014

File: 1415-848AR-12

RE: AHTD Faulkner County Job No. 080457 Realignment of UPRR overpass on Highway 89 in the City of Mayflower

Arkansas State Highway and Transportation Department
Randal Looney
700 West Capitol Ave., Suite 3130
Little Rock, AR 72201


Dear Mr. Looney,

The Osage Nation Historic Preservation Office has received notification and accompanying information for the proposed project listed as AHTD Faulkner County Job No. 080457 Realignment of UPRR overpass on Highway 89 in the City of Mayflower. The Osage Nation requests that a cultural resources survey be conducted for this project.

In accordance with the National Historic Preservation Act, (NHPA) [16 U.S.C. 470 §§ 470-470w-6] 1966, undertakings subject to the review process are referred to in S101 (d)(6)(A), which clarifies that historic properties may have religious and cultural significance to Indian tribes. Additionally, Section 106 of NHPA requires Federal agencies to consider the effects of their actions on historic properties (36 CFR Part 800) as does the National Environmental Policy Act (43 U.S.C. 4321 and 4331-35 and 40 CFR 1501.7(a) of 1969).

The Osage Nation has a vital interest in protecting its historic and ancestral cultural resources. The Osage Nation anticipates reviewing and commenting on the planned Phase I cultural resources survey report for the proposed AHTD Faulkner County Job No. 080457 Realignment of UPRR overpass on Highway 89 in the City of Mayflower.

Should you have any questions or need any additional information please feel free to contact me at the number listed below. Thank you for consulting with the Osage Nation on this matter.


Zuzana Chovanec, Ph.D.
Archaeologist

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Appendix C – Land Use



Implement the Imagine Central Arkansas' Regional 2040 Long Range Plan

Focus on building local capacity to create positive and sustainable growth

Build development patterns that promote local and sustainable market factors

Harness and grow local funding capacity to continue sustainable growth

Generate a framework and business model describing how new development and redesigned infrastructure can generate long-term economic growth

Produce a replicable process that can be utilized in similar contexts and grow the pie for neighboring communities

WHY MAYFLOWER?

Ten miles south of Conway and twenty miles north of Downtown Little Rock, Mayflower is surrounded by unincorporated Faulkner County. Recent trends for living outside Conway and Little Rock city centers have led young families to Mayflower, also known for its strong school system. Mayflower has some commercial and retail areas along Interstate 40 and Highway 365, but otherwise is predominantly residential. Most of the new single-family residential has been built west of the rail road, closer to the school buildings.

With the tornado in April 2014 and an oil pipe break prior to that event, a desire to guide development in Mayflower in a sustainable and resilient format became the center of discussion. With consistent support from other design and recovery groups, Jump Start was presented to the City as a means to establish the regulatory and implementation plans to more quickly move a vision focused on long-term resiliency forward.

The design and conceptual work is currently being performed by the University of Arkansas Community Design Center and students from the University of Arkansas, in collaboration with residents and stakeholders of Mayflower. A focus on the heart of the City will be realized further through this process. Since that visioning and design process is still being developed, the Jump Start Initiative

Goals for the Mayflower City Center

- Improve pedestrian and bicycle safety with a particular focus on creating opportunities to safely cross the railroad tracks, as well as including stormwater management enhancements.
- Propose zoning solutions that help to support infill for greater housing diversity on current vacant or underutilized lots to help catalyze private redevelopment more effectively.
- Create a Heart of the City to build a central gathering place and activate the City Center in Mayflower.

is using a rough concept to outline the strategies for sustainable development and the strategies will be adaptable to the final vision and design created by the community along with the UACDC.



POLICY: REGULATIONS

ZONING STRATEGY

Zoning is a key tool to guide sustainable development, but there are some challenges that always need to be considered. Too often zoning regulations are either too extreme in that not enough regulations and quality control over the built environment are established, or the zoning over regulates and requires more than the market can handle. For Jump Start and Mayflower, the zoning must fall between these options to create a window of flexibility that appeals to developers and does not stifle creativity. This ensures predictability is intact for the benefit of the municipality, residents and neighbors to the development, by having stronger requirements where they are needed (materials, building placement, heights, etc).

The greatest aspect of this tool is that it costs little to establish relative to the positive outcome and value generation it supports. Through the Jump Start Initiative, a zoning regulation package based on the form and orientation of buildings, the quality and relationship of the private and public realms, and the vision from the community, has been developed. This zoning is the first step towards establishing the appropriate policy within Mayflower.

The zoning process outlines regulations that focus on the public realm as a meaningful place. By creating a window of regulations, the goals of development patterns, mixing-uses and creating public spaces are easier to obtain, without needing to consistently request variances. Many of the development patterns that we appreciate and visit abroad, are deregulated in this code and allowed to exist by right, whereas in the existing code, it was near to impossible to create a walkable, mixed-use place.

A key aspect to this zoning is how it is administered. A concerted effort to have a trained planning administrator in-house at the City will be essential to the successful implementation of the zoning. The qualifications of the staff member must include the familiarity with form-based codes and have a keen eye towards economic development and a history of administering mixed-use development.

DISASTER RESILIENCE

Focus on disaster resilience will be essential for Mayflower in its recovery effort from the past tornadoes. As the City continues to grow an effort to protect all residents and visitors during a future storm event will be more difficult if a resilience plan is not established. Through a series of small to large safe room development and planning within neighborhoods, a consistent method for protecting current and future residents will be secured.

COMPLETE + CONTEXT SENSITIVE STREETS

Smart Growth America defines complete streets:

They are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists, and transit riders of all ages and abilities. Complete Streets make it easy to cross the street, walk to shops, and bicycle to work. Complete Streets projects are particularly prudent when more communities are tightening their budgets and looking to ensure long-term benefits from investments.

The City adopted Walkable Mayflower, a federally funded pedestrian plan prepared by Metroplan, in 2008. Walkable Mayflower is clearly a tremendous step towards a City-wide commitment to walkability, partly addressing Complete Streets principles. Strengthening of this commitment to walkability to implement the following Walkable Mayflower recommendations is a recommended priority:

- The City should develop and adopt an ordinance for the provision of sidewalks in all residential and commercial properties.
- Minimum five-foot wide sidewalks should be constructed on both sides of any municipal or state roadway to CARTS design standards.
- Pedestrian walkway construction and maintenance should be made a regular item on Mayflower's Public Works annual program.

Complete Streets are not necessarily context sensitive. To guide effective design and operation of safe streets for all users, including bicyclists, a one-size-fits-all minimum sidewalk requirement is not enough. Inclusion of specific thoroughfare standards within the form-based zoning code to encourage preferred design of Complete Streets elements calibrated to community context is the next step. For example, as noted in Walkable Mayflower, five-foot wide sidewalks at the back of curb satisfies minimum Complete Streets walkability standards but does not include bicycle infrastructure and does not provide for the safest and most comfortable public realm for pedestrians, especially within a town center environment. Calibration of public realm elements, including sidewalk width, landscaped buffer, lighting, furniture and amenities, bicycle infrastructure, and street trees, will provide for the safest Complete Streets as well as a vibrant, livable, and valuable public realm over the long-term – in line with the community’s future vision.

“Context sensitive solutions (CSS) is a collaborative, interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility. CSS is an approach that considers the total context within which a transportation improvement project will exist.”

– Federal Highway Administration (FHWA)

SECTION __. HEART OF MAYFLOWER ZONING DISTRICT

Sec. 1 - Applicability.

- (a) *Generally.* The standards, guidelines and other regulations of the Heart of Mayflower Zoning District (the District) applies to the parcels/lots within the District as delineated on the Heart of Mayflower Regulating Plan (Regulating Plan), attached as *Exhibit A* to the Ordinance adopting the District, which is hereby established and incorporated herein by reference.
- (b) *Heart of Mayflower Regulating Plan.* The Regulating Plan establishes the character zones, build-to lines, build-to zones, parking setbacks, height maximums, and upper floor recess requirements for the District. The Regulating Plan also establishes lot and block standards for subdivision within the District. Accordingly, to the extent standards established herein are in conflict with provisions of Chapter 9 of the Code of Ordinances, as amended, the standards herein shall control.
 - (1) *Character Zones Established.* The Regulating Plan establishes four character zones:
 - (A) *Mixed Use Center Zone* ó The Mixed Use Center Zone is intended to extend the civic activity around City Hall and incorporate mixed-use development along the central core of the area.
 - (B) *Creekside Zone* ó The Creekside Zone between the rail line and the Mixed Use Center Zone and along the creek in town is intended to encourage a dense residential neighborhood to support the revitalization of the Heart of Mayflower and provide for appropriate transitions between the creek and commercial uses within the Mixed Use Center.
 - (C) *Highway Zone* ó The Highway Zone is intended to provide appropriate development opportunities to take advantage of the Highway 365 and 89 road access while providing appropriate transitions to pedestrian-oriented development within the Mixed Use Center.
 - (D) *Interstate Drive* ó The Interstate Drive Zone is intended to address the connection to Lake Conway from the mixed use and highway frontages in the Heart of Mayflower. Development in the Interstate Drive Zone should focus on opportunities to enhance the lakefront and wilderness areas utilizing Low Impact Development techniques.
 - (2) Note about measuring build-to lines, zones, and parking setbacks: Due to the public improvements planned for different streets within the Heart of Mayflower Zoning District including the realignment of travel lanes, addition of on-street parking, the future right-of-way lines and corresponding property lines are subject to change based on the approved streetscape plan. The future property lines along

the framework of streets as shown in the Regulating Plan shall be the basis for establishing the build-to lines, zones and parking setback lines along any street in the Heart of Mayflower Zoning District that requires public street improvements. If the existing street does not require any public improvements, the build-to zone, line and parking setback lines shall all be measured from the property/R-O-W line along that street frontage. The Planning Administrator or designee may revise the build-to lines, zones, and parking setbacks to accommodate required streetscape improvements based upon a Council approved Streetscape Plan and survey.

- (c) *Non-conforming Uses and Substantial Modification/Destruction.*
- (1) Non-conforming uses shall be governed by Mayflower City Ordinance 14.04.08.
 - (2) Regardless of transfer of ownership existing buildings that do not conform to the provisions of this District may continue in use as they are until the building is reconstructed or substantially modified, such as an addition or expansion of the building. Additions or expansions shall follow the guides for Non-Conforming Buildings in *Exhibit B*.
- (d) *Applicability of Other City Ordinances.* The development and subdivision standards in the Mayflower City Ordinances, as amended, shall not apply to the Heart of Mayflower Zoning District except as specifically referenced herein. Development standards not addressed in this section shall be governed by the Mayflower City Ordinances including any Special Development Controls and Site Plan Requirements to the extent they are not in conflict with the intent or text of the Heart of Mayflower Zoning District.

Sec. 2. Community Intent and Public Improvements. The Heart of Mayflower Zoning District is a downtown Civic area and will be emphasized as a center of commerce, activities, events and residence with their roots in the enduring qualities of Mayflower's small town ambience and heritage. In order to grow and sustain the Heart of Mayflower, the following is hereby established:

- (1) *Walkability.* In order to facilitate walkability and livability, streets within the District shall provide accessible sidewalks with street trees; cross-sections as delineated in *Exhibit C*, incorporated herein by reference, are established to facilitate an integrated set of transportation choices—driving, walking and cycling, as well as to form public places bounded by building facades creating a sense of “outdoor rooms” or enclosure along the street or within building courtyards opening to the street.
- (2) *Public Improvements.* The public improvements within city right-of-way necessary to facilitate walkability, as delineated on the Regulating Plan, shall be designed and constructed by the City or other public entities when funding becomes available; accordingly, new design and construction of private buildings and improvements within the district shall conform to and be complementary with those public improvements.

(3) *Architecture.* Architectural standards herein (e.g., windows generally shall be oriented vertically) are functional in nature, not stylistic. Similarly, the building types depicted herein are to establish functional architectural results (e.g, definition between building stories), not a particular taste. Accordingly, architectural style and elements (e.g., Victorian, Arts & Crafts, color palettes, etc.), except for building materials, shall be determined through privately enforced covenants, conditions & restrictions (CC&Rs).

Sec. 3. Schedule of Uses.

Due to the emphasis on urban form over land uses in the Heart of Mayflower District, general use categories have been identified by areas. Uses not listed in the following schedule, but are substantially similar, may be permitted upon the approval of the City Manager or his or her designee, subject to appeal to the City Council.

Table 1 . Schedule of Uses

<i>Land Use</i>	<i>Mixed Use Center Zone</i>	<i>Creekside Zone</i>	<i>Highway Zone</i>	<i>Interstate Drive Zone</i>
Commercial Uses (Office & Retail Uses)				
<ul style="list-style-type: none"> ▪ Retail Sales or Service with <u>no drive through facility</u> (includes alcohol sales). Excluded from this category are retail sales and services establishments geared towards the automobile, including gasoline service stations. 	P	P/C (permitted only at corner sites on the ground floor)	P	P
<ul style="list-style-type: none"> ▪ Finance, Insurance, and Real Estate establishments including banks, credit unions, real estate, and property management services, <u>with no drive through facility</u> 	P	P/C (permitted only at corner sites on the ground floor)	P	P
<ul style="list-style-type: none"> ▪ Offices for business, professional, and technical uses such as accountants, architects, lawyers, doctors, etc. 	P	P	P	P
<ul style="list-style-type: none"> ▪ Food Service uses such as full-service restaurants, cafeterias, and snack bars <u>with no drive through facilities</u> including café seating within a public or private sidewalk area with no obstruction of pedestrian circulation 	P	P/C (permitted only at corner sites on the ground floor)	P	P
<ul style="list-style-type: none"> ▪ Finance and Food Service uses such as banks, credit unions, and fast casual dining <u>with drive through facilities</u>. 	NP	NP	P (permitted at the rear of the structure opposite the primary street frontage)	P (permitted at the rear of the structure opposite the primary street frontage)
Arts, Entertainment, and Recreation Uses				
<ul style="list-style-type: none"> ▪ Art galleries 	P	P/C (permitted only at corner sites on the ground floor)	P	P
<ul style="list-style-type: none"> ▪ Art, antique, furniture or electronics studio (retail, repair or fabrication; excludes auto electronics sales or service) 	P	P/C (permitted only at corner sites on the ground floor)	P	P
<ul style="list-style-type: none"> ▪ Theater, cinema, dance, or music establishment 	P	NP	P	P
<ul style="list-style-type: none"> ▪ Museums and other special purpose recreational institutions 	P	NP	P	P
<ul style="list-style-type: none"> ▪ Fitness, recreational sports, gym, or athletic club 	P	P/C (permitted only at corner sites on the ground floor)	P	P
<ul style="list-style-type: none"> ▪ Parks, greens, plazas, squares, and playgrounds 	P	P	P	P

Land Use	Mixed Use Center Zone	Creekside Zone	Highway Zone	Interstate Drive Zone
Educational, Public Administration, Health Care and Other Institutional Uses				
▪ Business associations and professional membership organizations	P	P/C (permitted only at corner sites on the ground floor)	P	P
▪ Schools, libraries, and community halls	P	NP	P	P
▪ Civic uses (City Hall, Courthouse, and other public offices and functions)	P	NP	P	P
▪ Social and fraternal organizations	P	P	P	P
▪ Social services and philanthropic organizations	P	NP	P	P
▪ Religious Institutions	P	NP	P	P
Residential Uses				
▪ Home Occupations	NA	P	NA	P
▪ Live/Work units	NA	P	NA	P
▪ Residential Apartments and/or condominiums	P	P	NP	P
▪ Upper floor residential uses ¹	P	P	P	P
▪ Single-family residential attached dwelling unit (Townhomes)	NP	P	NP	P
▪ Single-family residential detached dwelling unit	NP	P/C (lots shall be 40 feet wide or less)	NP	P/C (lots shall be 40 feet wide or less)
Other Uses				
▪ Model homes for sales and promotion**	NA	P	NP	P
▪ Full-service hotels	P	NP	P	P
▪ Bed and breakfast establishments	P	P	NP	P
▪ Outdoor Storage	NP	NP	NP	NP
▪ Outdoor Display (within 10 feet of front façade of building only; merchandise must be brought indoors after closing)	P	P	P	P
▪ Parking, surface	P	A	P	P
▪ Parking, structured	P	P	P	P
▪ Sales from kiosks	P	NP	P	P
▪ Food Truck (on-street)	P	NP	P	P
▪ Food Truck Park (off-street)	P/C (temporary use only)	NP	P	P
▪ Any permitted use with a drive through facility	NP	NP	P/C	P/C
▪ Farmers Market	P	NP	P	P
▪ Veterinary clinic (no outdoor facilities for overnight storage of animals)	P	NP	P	P

P= Permitted by right

NP= Not Permitted

P/C= Permitted with conditions

A= Permitted Accessory Use

NA= Not applicable

SUP = Permitted with a Specific Use Permit

Residential density and non-residential floor-to-area ratios are governed by height of buildings, setback lines and parking requirements. All allowed uses are permitted on any floor of a building unless specifically prohibited herein.

- (a) *Accessory Building Uses.* The massing and use of accessory buildings shall comply with those standards in the SF-7, article III, division 6 of this chapter or SFA, article III, division 7 of this chapter.

¹ Residential uses shall be permitted by right in the upper floors of all buildings

** Model homes are limited to a time period until all the homes are sold in the neighborhood.

Sec. 4. Development Standards.

The following table shall establish the development standards for the three (3) different zones in the Heart of Mayflower Zoning district.

Table 2 . Development Standards

Zone	<i>Mixed Use Center Zone</i>	<i>Creekside Zone</i>	<i>Highway Zone</i>	<i>Interstate Drive Zone</i>
Standard				
1. Build to zones and setbacks	<ul style="list-style-type: none"> • 0 feet minimum • 15 feet maximum • Corner lots shall be built to the build-to-zone for a minimum of 35q from the corner along each street front. 	<ul style="list-style-type: none"> • 0 feet minimum • 20 feet maximum • Corner lots shall be built to the build-to-zone for a minimum of 25q from the corner along each street front. 	<ul style="list-style-type: none"> • 10 feet minimum • 75 feet maximum 	<ul style="list-style-type: none"> • 10 feet minimum • 75 feet maximum
2. Building Height	4 Stories or 55 feet maximum	3 stories or 40 feet maximum	5 stories or 65 feet maximum	3 stories or 40 feet maximum
a. First floor height	Min. 12 feet clear	Min. 12 feet clear for non-residential or live/work units only; 10 feet min. for residential uses	Min. 12 feet clear	Min. 12 feet clear for non-residential or live/work units only; 10 feet min. for residential uses
b. Upper floor height	10 feet clear (min.)	10 feet clear (min.)	10 feet clear (min.)	10 feet clear (min.)
3. Buildable Area	A maximum of 90% of the lot area may be covered by building footprint.	A maximum of 75% of the lot area may be covered by building footprint.	A maximum of 80% of the lot area may be covered by building footprint.	All development focused on Low Impact Techniques. Maximum of 75% of the lot area may be covered by building footprint.
4. Building Frontage required	<ul style="list-style-type: none"> • Min. of 70% of the building façade along mixed use streets shall be built within the build-to-zone. • Min. of 30% of the building facades along all other streets shall be built to the build-to-zone. 	<ul style="list-style-type: none"> • Min. of 50% of the building façade along Creekside Street shall be built within the build-to-zone • Min. of 25% of the building facades on all other streets shall be built to the build-to-zone 	<ul style="list-style-type: none"> • A minimum of 50% of the building shall be built to the build-to zone along Highway 365 or Highway 89. • There shall be no minimum building frontage requirement along all other streets. 	<ul style="list-style-type: none"> • Min. of 50% of the building façade along Interstate Drive shall be built within the build-to-zone • Min. of 25% of the building facades on all other streets shall be built to the build-to-zone
5. Encroachments over sidewalks or public R-O-W	No more than 6 feet horizontal encroachment over the sidewalk/R.O.W with min. vertical clearance over the sidewalk of 8 feet	Not permitted	<ul style="list-style-type: none"> • Permitted within the setback and subject to AHTD standards. • Where arcades or colonnades are used, align with first floor height. • For signs, canopies or awnings minimum 8 feet clear. 	• Not permitted
6. Encroachments into setback area or yards	No more than 50% of the required yard or setback	No more than 50% of the required yard or setback	No more than 50% of the required yard or setback	No more than 50% of the required yard or setback
	<ul style="list-style-type: none"> • Min. 10q wide 			

Zone	<i>Mixed Use Center Zone</i>	<i>Creekside Zone</i>	<i>Highway Zone</i>	<i>Interstate Drive Zone</i>
7. Streetscape Standards a. Sidewalks b. Parkway/Planting Zone # c. Street trees###	<ul style="list-style-type: none"> Min. 5qwide <p>Required at average of 50 feet on center along all public street frontages (excluding alleys) (min. 3+ caliper tree measured at 6q above ground level)</p>	<ul style="list-style-type: none"> Min. 5qwide Min. 5qwide Required at average of 50 feet on center along all public street frontages (excluding alleys) (min. 3+ caliper tree measured at 6q above ground level) 	<ul style="list-style-type: none"> Min. 5qwide Min. 5qwide NA 	<ul style="list-style-type: none"> Min. 5qwide Min. 5qwide NA
8. Lot and Block Standards a. Block perimeter b. Lot width c. Lot depth	<p>Min. 1,200q max. 1,600q Min. 20q max. 400q NA</p>	<p>Min. 1,200q max. 1,600q Min. 20q max. 400q NA</p>	<p>Min. 1,200q max. 1,600q Min. 20q max. 400q NA</p>	<p>NA Min. 20q max. 400q NA</p>

Where no sidewalks abutting the subject property exist, the applicant has the option of paying a fee in lieu of constructing the required width of sidewalk. The fee shall be based upon the average per square foot cost of a standard concrete sidewalk at the time of development application and shall be established by the Planning Administrator or designee subject to City Council approval on an annual basis.

#Street trees shall be planted in the Parkway at least 3ø from the curb. All utilities and street furniture will be located in the parkway.

The applicant has the option of paying a fee in lieu of the Street Tree requirement. The fee shall be based on the average cost per caliper of a native canopy tree and shall be established by the Planning Administrator or designee subject to City Council approval. In addition, the Planning Administrator or designee may create a recommended tree palette for Street trees, subject to City Council approval.

Sec. 5. Parking.

(a) *Mixed Use Center and Creekside Zones.* Parking shall only be located behind or to the side of buildings within the Mixed Use Center and Creekside Zones. Shared parking and access is preferred in these character zones.

(b) *Highway and Interstate Drive Zones.* Parking should be located behind and to the side of buildings if possible. Parking shall not be located between the building and Lake Conway or other open space. If parking is placed in front of the building along a public right of way, it shall only be constructed within the 10ø minimum to 75ø maximum build to zone.

(c) The number of off-street parking spaces required shall be established in this section:

(1) *Off-Street Parking.*

(A) For any parking lot permitted along the side of buildings on lots within Mixed Use Center, it shall be no wider than seventy-five feet (75ø), and a street-screen shall be provided such that the side of the parking bays closest to the street shall be screened by a wall or landscaped wrought iron fence three feet (3ø) in height.

Building Arkansas' Best Street: A New Town Center for Mayflower, Arkansas

Mayflower's recovery plan from the April 2014 tornado is focused on the development of a new walkable town center with mixed residential, recreational, and commercial functions. Anchored by the existing city park and scattered municipal facilities, the area selected for redevelopment poses two primary challenges. First, the area is hemmed in by limited access transportation corridors—the Union Pacific railroad, Arkansas Highway 365, and Interstate 40—all unamenable to a pedestrian-oriented urbanism. The second challenge involves the area's thin long triangular form, a geometry unresponsive of the gridiron street plan shaping most downtowns. Since the 4,500-foot long area measures only 800 feet at its widest part and comes to a point, the design is structured around a super-street that we have designated "Slow Street". The town square as a signature civic space might be a useful analogy for understanding the concept of the Slow Street. Slow Street essentially stretches the civic landscapes and pedestrian spaces common to a town square along its 4,500-foot length as the town center's primary armature. No building is more than a block away from Slow Street or without visual connection to the street. Slow Street combines the qualities of the iconic American Main Street with those of a town square.

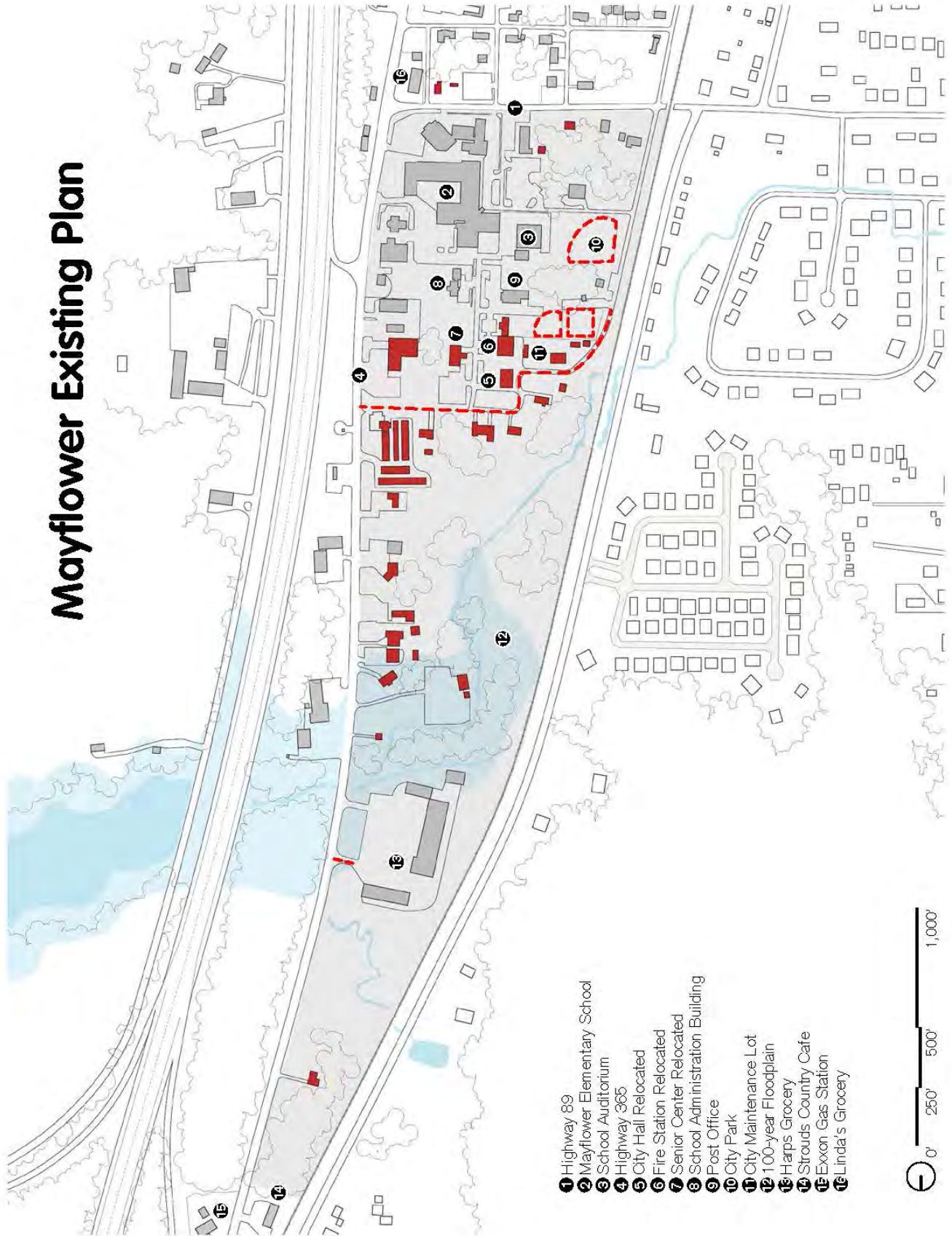
Slow Street vs Fast Street

Slow Street is designed as a shared space privileging walkability and pedestrian life, though mixed with vehicular traffic similar to the town square. Shared spaces, known in other contexts as "living streets", "home zones", "shared streets" or the Dutch woonerfs, are ideal small-town street types for mixing residential and commercial uses. In Mayflower's case, Slow Street is sited parallel to Highway 365, a "fast street"

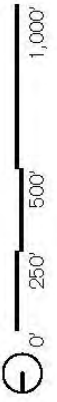
planned singularly for the automobile, quick access, and shopping convenience. Rather than attempt a futile retrofit of fast street—pretending as if it could possibly function as a pedestrian-oriented environment—the lamination of a slow street and a fast street combines radically different levels of urban and ecological services in the same space. Slow Street provides high standards of livability connected to the pace of neighborhood life. Each downtown neighborhood is organized around a city park, a new trail system, and the micro-park spaces in Arkansas' best new street proposed here. On the other hand, the fast street continues to facilitate regional mobility with land uses oriented to the automobile, and will also provide greater automobile parking capacity for the densest neighborhoods of the proposed town center.

The walkable town center reflects a resilient and self-sufficient urbanism in its mix of land uses, contrary to the single-use zoning governing most town development. Downtown neighborhoods will accommodate all income groups through diverse housing types, providing lifestyle options previously unavailable. The housing mix, coupled with distributed park spaces, supports aging in place and the return of families to town centers. While downtown neighborhoods will have easy access to the conveniences on a fast street, they are safe spaces where children can walk to school and play among watchful neighbors. Slow Street provides a vital townscape where all can walk from their homes to churches, shops, offices, and a greenway trail system. Mayflower's rebuilding effort offers a model resilient townscape that turns the street—an infrastructure space in which we already make outsized investments—into a social, economic, and ecological asset.

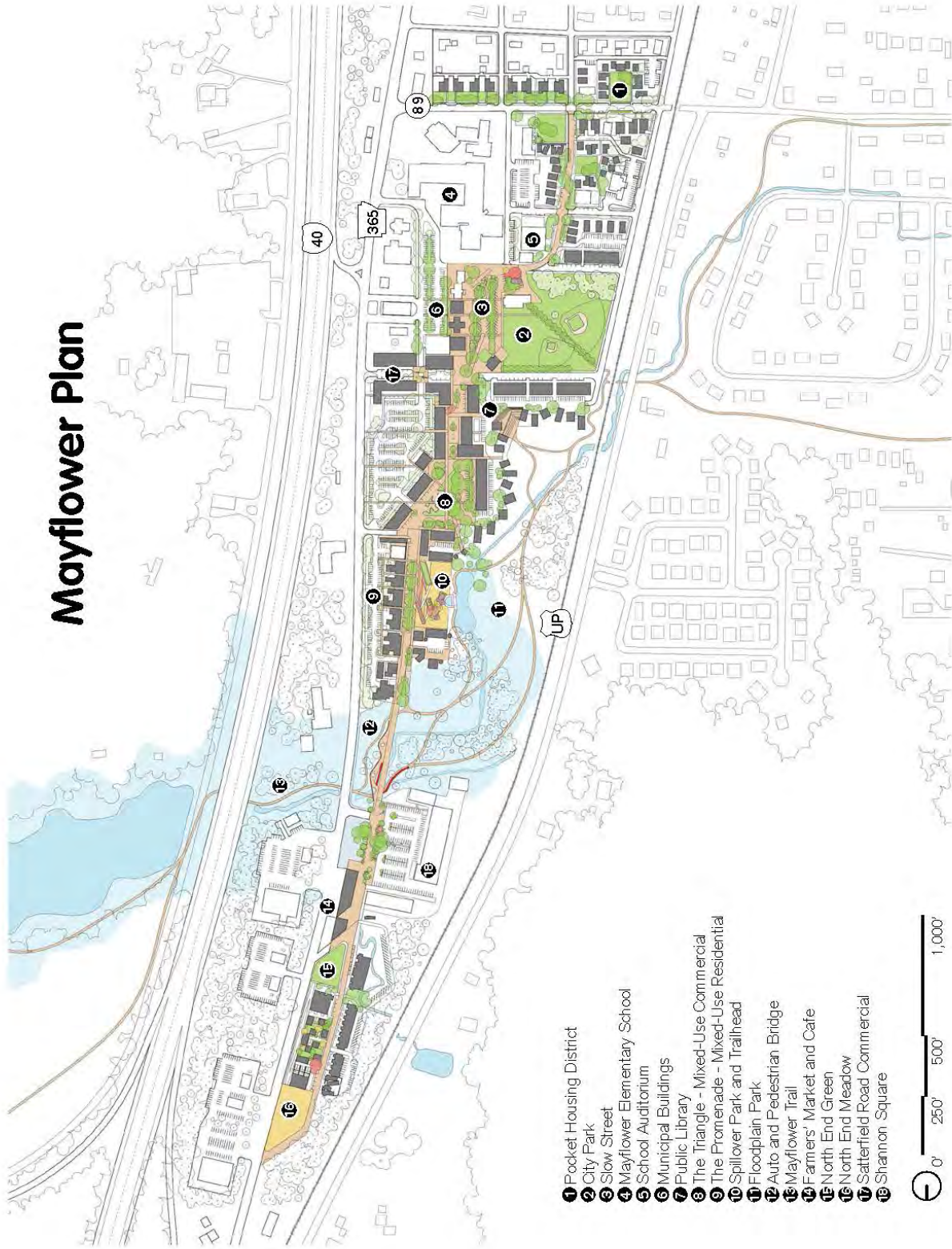
Mayflower Existing Plan



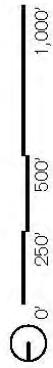
- 1 Highway 89
- 2 Mayflower Elementary School
- 3 School Auditorium
- 4 Highway 365
- 5 City Hall Relocated
- 6 Fire Station Relocated
- 7 Senior Center Relocated
- 8 School Administration Building
- 9 Post Office
- 10 City Park
- 11 City Maintenance Lot
- 12 100-year Floodplain
- 13 Harps Grocery
- 14 Strouds Country Cafe
- 15 Exxon Gas Station
- 16 Linda's Grocery



Mayflower Plan



- 1 Pocket Housing District
- 2 City Park
- 3 Slow Street
- 4 Mayflower Elementary School
- 5 School Auditorium
- 6 Municipal Buildings
- 7 Public Library
- 8 The Triangle - Mixed-Use Commercial
- 9 The Promenade - Mixed-Use Residential
- 10 Spillover Park and Trailhead
- 11 Floodplain Park
- 12 Auto and Pedestrian Bridge
- 13 Mayflower Trail
- 14 Farmers' Market and Cafe
- 15 North End Green
- 16 North End Meadow
- 17 Satterfield Road Commercial
- 18 Shannon Square



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Appendix D – Conceptual Stage Relocation Study

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

INTEROFFICE MEMORANDUM

June 21, 2016

**RECEIVED
AHTD**

JUN 21 2016

TO: John Fleming, Division Head, Environmental Division

**ENVIRONMENTAL
DIVISION**

FROM:  Perry M. Johnston, Division Head, Right of Way Division

SUBJECT: Job 080457
UPRR Overpass & Realign. (Mayflower) (S)
Faulkner County
Alternative Alignments Study – ROW Information

The alternatives for the subject project have been reviewed by the Right of Way Division. The estimated right of way acquisition and utility relocation costs are premised on the following:

- No right of way plans were provided.
- Total area of acquisition is estimated.
- cursory visual inspection of the proposed project area was performed.
- No property owner contact has been made.
- No right of way staking was in place.
- Only a limited market study has been completed.

The preliminary acquisition, relocation, and utility costs for each alternative are shown below:

Alternative 1:

Reimbursable Utility Costs	\$2,258,000	Non-Reimbursable Utility Costs	\$850,000
Acquisition Costs	\$6,950,000		
Relocation Costs	\$1,910,500		
Total	\$11,118,500		

Alternative 2:

Reimbursable Utility Costs	\$1,636,000	Non-Reimbursable Utility Costs	\$309,500
Acquisition Costs	\$2,300,000		
Relocation Costs	\$ 392,000		
Total	\$4,328,000		

Alternative 3:

Reimbursable Utility Costs	\$1,821,000	Non-Reimbursable Utility Costs	\$379,500
Acquisition Costs	\$2,200,000		
Relocation Costs	\$ 392,000		
Total	\$4,413,000		

The Conceptual Stage Relocation Statement with an available inventory record and additional cost estimate information are also attached for your use.

Attachments

c: Administrative Section

PMJ:JRW/jrw

INTEROFFICE MEMORANDUM

Right of Way Division - Appraisal Section

TO: Jennifer Williams, Assistant Division Head
Right of Way Division

FROM: Steven A. Means, Appraisal Section Head
Right of Way Division *Sam*

DATE: June 9, 2016

SUBJECT: Alternative Alignment Study - ROW Cost Estimates
AHTD Job Number 080457
UPRR Overpass & Realign. (Mayflower) (S)
FAP Number STP-RHE-0023(44)
Faulkner County

Based on information provided by preliminary conceptual location map and cursory preliminary market research, a total estimate of right of way cost is provided for the three alternative alignments: Alternative 1 (red), Alternative 2 (Green), and Alternative 3 (Blue). This estimate is made subject to the following premises and conditions:

1. No owner contact has been made.
2. No right of way staking was in place.
3. Only a limited market study has been completed.
4. No Right of Way Plans were provided.
5. Total area of acquisition is estimated.
6. This Is Not An Appraisal.

NOTE: The parameters of the maps have changed from the October 19, 2015 estimate to the June 9, 2016 estimate. This includes dramatic changes to the Alternative 1 (red) route, which is the reason for the dramatic change in the estimate value.

Considering the above factors, the estimated right of way cost for Alternative 1 (red) is:

TOTAL:

\$6,950,000.00

Six Million Nine Hundred Fifty Thousand Dollars

Considering the above factors, the estimated right of way cost for Alternative 2 (Green) is:

TOTAL:

\$2,300,000.00

Two Million Three Hundred Thousand Dollars

Considering the above factors, the estimated right of way cost for Alternative 3 (Blue) is:

TOTAL:


\$2,200,000.00

Two Million Two Hundred Thousand Dollars

INTEROFFICE MEMORANDUM

June 2, 2016

TO: Jennifer R. Williams, Assistant Division Head, Right of Way

FROM: Gene Kuettel, Utilities Section Head, Right of Way 

SUBJECT: Cost Estimate for Utilities
UPRR Overpass & Realign. (Mayflower) (S) Conceptual Stage Analysis

As requested, a revised conceptual stage utility cost estimate for UPRR Overpass & Realign. (Mayflower) (S) Relocation on the above referenced project is as follows:

	Alternative One		
	Reimbursable	Non-reimbursable	Total Relocation Cost
Telephone	\$300,000.00	\$200,000.00	\$500,000.00
Gas Distribution	\$417,000.00	\$278,000.00	\$695,000.00
Gas Transmission	\$100,000.00	\$75,000.00	\$175,000.00
Sewer	\$275,000.00	\$50,000.00	\$325,000.00
Water	\$420,000.00	\$100,000.00	\$520,000.00
Cable TV	\$175,000.00	\$20,000.00	\$195,000.00
Electric Distribution	\$496,000.00	\$64,000.00	\$560,000.00
Crude Oil	\$25,000.00	\$63,000.00	\$88,000.00
Electric Transmission	\$50,000.00	\$0.00	\$50,000.00
Total Est. Cost	\$2,258,000.00	\$850,000.00	\$3,108,000.00

	Alternative Two		
	Reimbursable	Non-reimbursable	Total Relocation Cost
Telephone	\$62,500.00	\$65,000.00	\$127,500.00
Gas Distribution	\$121,500.00	\$52,000.00	\$173,500.00
Gas Transmission	\$720,000.00	\$0.00	\$720,000.00
Sewer	\$75,000.00	\$50,000.00	\$125,000.00
Water	\$119,500.00	\$30,000.00	\$149,500.00
Cable TV	\$12,500.00	\$72,500.00	\$85,000.00
Electric Distribution	\$160,000.00	\$40,000.00	\$200,000.00
Crude Oil	\$315,000.00	\$0.00	\$315,000.00
Electric Transmission	\$50,000.00	\$0.00	\$50,000.00
Total Est. Cost	\$1,636,000.00	\$309,500.00	\$1,945,500.00

	Alternative Three		
	Reimbursable	Non-reimbursable	Total Relocation Cost
Telephone	\$62,500.00	\$195,000.00	\$257,500.00
Gas Distribution	\$121,500.00	\$52,000.00	\$173,500.00
Gas Transmission	\$720,000.00	\$0.00	\$720,000.00
Sewer	\$75,000.00	\$0.00	\$75,000.00
Water	\$119,500.00	\$30,000.00	\$149,500.00
Cable TV	\$12,500.00	\$62,500.00	\$75,000.00
Electric Distribution	\$160,000.00	\$40,000.00	\$200,000.00
Crude Oil	\$475,000.00	\$0.00	\$475,000.00
Electric Transmission	\$75,000.00	\$0.00	\$75,000.00
Total Est. Cost	\$1,821,000.00	\$379,500.00	\$2,200,500.00

This estimate was prepared with a partial field inspection by personnel of the Utilities Section, from an aerial photo, therefore, this estimate should be considered preliminary and subject to change.

**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
RIGHT OF WAY DIVISION RELOCATION SECTION**

INTEROFFICE MEMORANDUM

TO: John Fleming, Environmental Division Head
FROM: Perry M. Johnston, Right of Way Division Head
DATE: June 14, 2016
SUBJECT: Job 080457
UPRR Overpass & Realign. (Mayflower) (S)
Faulkner County
**CONCEPTUAL STAGE RELOCATION STATEMENT
ALTERNATIVES 1, 2, and 3**

GENERAL STATEMENT OF RELOCATION PROCEDURE

Persons displaced as a direct result of acquisition for Alternative 1, 2 or 3 of the proposed project will be eligible for relocation assistance in accordance with Public Law 91-646, Uniform Relocation Assistance Act of 1970. The Relocation Program provides advisory assistance and payments to minimize the adverse impact and hardship of displacement upon such persons. Construction of the project will not begin until decent, safe and sanitary replacement housing is in place and offered to all affected persons. It is the Department's Policy that adequate replacement housing will be made available, built if necessary, before any person is required to move from their dwelling. All replacement housing must be fair housing and offered to all affected persons regardless of race, color, religion, sex or national origin. No lawful occupant shall be required to move without receiving a minimum of 90 days advance written notice.

Payments to both residential and business occupants will be based on the increases enacted under MAP-21. All displaced persons; residential, business, farm, nonprofit organization, and personal property relocatees are eligible for reimbursement for actual reasonable moving costs.

There are two basic types of residential relocation payments: (1) Replacement Housing payments and (2) Moving Expense payments. Replacement Housing payments are made to qualified owners and tenants. An owner may receive a payment of up to \$31,000.00 for the increased cost of a comparable replacement dwelling. The amount of this payment is determined by a study of the housing market. Owners may also be eligible for payments to compensate them for the increased interest cost for a new mortgage and the incidental expenses incurred in connection with the purchase of a replacement dwelling. A tenant may receive a rental subsidy payment of up to \$7,200.00. Tenants may elect to receive a down payment rather than a rental subsidy to enable them to purchase a replacement dwelling. Replacement housing payments are made in addition to moving expense payments.

Businesses, farms and nonprofit organizations are eligible for reestablishment payments, not to exceed \$25,000.00. Reestablishment expense payments are made in addition to moving expense payments. A business, farm or nonprofit organization may be eligible for a fixed payment in lieu of the moving costs and reestablishment costs if relocation cannot be

accomplished without a substantial loss of existing patronage. The fixed payment will be computed in accordance with the Code of Federal Regulations and cannot exceed \$40,000.00.

If the displacee is not satisfied with the amounts offered as relocation payments, they will be provided a form to assist in filing a formal appeal. A hearing will be arranged at a time and place convenient for the displacee, and the facts of the case will be promptly and carefully reviewed.

Relocation services will be provided until all persons are relocated or their relocation eligibility expires. The Relocation Office will have listings of available replacement housing and commercial properties. Information is also maintained concerning other Federal and State Programs offering assistance to displaced persons.

Based on preliminary right of way plans, aerial photographs, and an on-site project review, it is estimated that the subject project could cause the following displacements and costs:

Alternative 1:

17 Residential Owners	\$ 595,000.00
9 Residential Tenants	\$ 108,000.00
17 Businesses	\$ 680,000.00
7 Landlord Businesses	\$ 175,000.00
1 Nonprofit Organizations	\$ 55,000.00
2 Personal Properties	\$ 7,500.00
Services	<u>\$ 290,000.00</u>
Total	\$1,910,500.00

Alternative 2:

6 Residential Owners	\$ 210,000.00
1 Residential Tenants	\$ 12,000.00
2 Businesses	\$ 80,000.00
1 Landlord Businesses	\$ 25,000.00
0 Nonprofit Organizations	\$ 0.00
1 Personal Properties	\$ 5,000.00
Services	<u>\$ 60,000.00</u>
Total	\$ 392,000.00

Alternative 3:

6 Residential Owners	\$ 210,000.00
1 Residential Tenants	\$ 12,000.00
2 Businesses	\$ 80,000.00
1 Landlord Businesses	\$ 25,000.00
0 Nonprofit Organizations	\$ 0.00
1 Personal Properties	\$ 5,000.00
Services	<u>\$ 60,000.00</u>
Total	\$ 392,000.00

The general characteristics of the displaced to be relocated are listed on the Conceptual Stage Inventory Record forms in the back of this report. The general characteristics have been determined by a visual inspection of the potential displacement locations by Relocation Coordinators. The Relocation Coordinators utilize area demographic data, visual inspections, past experiences and knowledge in making this determination.

An available housing inventory has been compiled and it indicates there are at least thirty-four comparable replacement dwellings available for sale and thirty-one comparable replacement dwellings available for rent within twelve miles of the project. At least twenty-two commercial properties are currently for sale, and thirty-four for lease within twelve miles of the project area. A breakdown of the available properties is as follows:

Residential (For Sale)	<u>Number Of Units</u>
\$30,000 - 50,000	1
50,001 - 75,000	3
75,001 - 100,000	1
100,001 - 125,000	1
125,001 - 150,000	9
150,001 - 175,000	7
175,001 - 225,000	8
225,001 and up	4
Total	<hr/> 34
Residential (Monthly Rent)	<u>Number Of Units</u>
\$ 0.00 - 500.00	1
501.00 - 750.00	3
751.00 - 1,000.00	10
1,001.00 - 1,250.00	8
1,251.00 - 1,500.00	7
1,500.00 and up	2
Total	<hr/> 31
Commercial Properties (For Sale)	<u>Number of Units</u>
\$ 0 - 50,000	1
50,001 - 100,000	0
100,001 - 150,000	1
150,001 - 200,000	0
200,001 - 300,000	0
300,001 - 500,000	7
500,001 and up	13
Total	<hr/> 22

Commercial Properties (For lease) (Terms are per Annum)	<u>Number of Units</u>
Negotiable Rate	1
\$ 0 – 25,000	12
25,001 – 50,000	8
50,001 – 75,000	7
75,001 – 100,000	1
100,001 – 125,000	4
125,001 – 150,000	0
150,001.00 and up	1
Total	34

This is a highway realignment and railroad overpass project. The units contained in the housing inventory are in the Mayflower/Conway area. The dwellings and number of dwellings are comparable and adequate to provide replacement housing for the families displaced from Alternatives 1, 2 or 3. The housing market should not be detrimentally affected. In the event housing cannot be found or can be found but not within the displacees' economic means at the time of displacement, Section 206 of Public Law 91-646 (Housing of Last Resort) will be utilized to its fullest and practical extent.

The housing inventory was compiled from data obtained from real estate companies, web sites, and local newspapers for the subject area. The dwellings contained in the inventory have been determined to be comparable and decent, safe and sanitary. The locations of the comparable dwellings are not less desirable in regard to public utilities and public and commercial facilities, reasonably accessible to the displacees' places of employment, adequate to accommodate the displacees, and in a neighborhood which is not subject to unreasonable adverse environmental factors. It has also been determined that the available housing is within the financial means of the displacees and is fair housing open to all persons regardless of race, color, sex, religion or national origin consistent with the requirements of 49 CFR, Subpart A, Section 24.2 and Title VIII of the Civil Rights Act of 1968.

A commercial property inventory indicates there are at least twenty-two properties for sale and thirty-four properties for lease available in the subject area at this time. The businesses and nonprofit organizations displaced from Alternatives 1, 2 or 3 may not be able to relocate in the immediate area of their displacement resulting in termination of the operation. However, in order to assist the displaced businesses and nonprofit organizations in relocating, the State will explore all possible sources of funding or other resources that may be available to businesses and nonprofit organizations. Sources that will be considered include: State and Local entities, the Department of Housing and Urban Development, the Economic Development Administration, the Small Business Administration and other Federal Agencies. Emphasis will be given in providing relocation advisory services to the businesses and nonprofit organizations. Appropriate measures will be taken to ensure that each entity displaced is fully aware of their benefits, entitlements, courses of action that are open to it, and any special provisions designed to encourage businesses and nonprofit organizations to relocate within the same community.

All displacees will be offered relocation assistance under provisions in the applicable FHWA regulations. At the time of displacement another inventory of available housing in the subject area will be obtained and an analysis of the market made to ensure that there are dwellings adequate to meet the needs of all displacees. Also, special relocation advisory services and assistance will be administered commensurate with displacees' needs, when necessary. Examples of these include, but are not limited to, Housing of Last Resort as previously mentioned and consultation with local officials, social and federal agencies and community groups.

There are no other identified unusual conditions involved with this project.

Alternative One ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
 CONCEPTUAL STAGE RELOCATION INVENTORY
 Job No. 080457 Job Name UPRR Overpass Realignment (Mayflower) Date of Inventory 06-13-2016

Type Relocation	Number	Residential Property Values or Rental Rates	Large Family Households	Disabled Person Households	Minority Households	Elderly Households	Low Income Households	Employees Affected (Range)
Residential Owners	17	\$25,000 - \$285,000	2	1	1	4	3	
Residential Tenants	9	\$450 - \$900	1	1	1	1	3	
Businesses	17							100 - 120
Landlord Businesses	7							
Nonprofit Organizations	1							
Personal Properties	2							
Totals	53	N/A	3	2	2	5	6	

Alternative Two ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
 CONCEPTUAL STAGE RELOCATION INVENTORY

Job No. 080457 Job Name UPRR Overpass Realignment (Mayflower) Date of Inventory 06-13-2016

Type Relocation	Number	Residential Property Values or Rental Rates	Large Family Households	Disabled Person Households	Minority Households	Elderly Households	Low Income Households	Employees Affected (Range)
Residential Owners	6	\$25,000 - \$285,000	0	1	0	1	3	
Residential Tenants	1	\$400 - \$600	0	0	0	0	0	
Businesses	2							15 - 25
Landlord Businesses	1							
Nonprofit Organizations	0							
Personal Properties	1							
Totals	11	N/A	0	1	0	1	3	

Alternative Three

**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONCEPTUAL STAGE RELOCATION INVENTORY**

Job No. 080457 Job Name UPRR Overpass Realignment (Mayflower) Date of Inventory 06-13-2016

Type Relocation	Number	Residential Property Values or Rental Rates	Large Family Households	Disabled Person Households	Minority Households	Elderly Households	Low Income Households	Employees Affected (Range)
Residential Owners	6	\$25,000 - \$285,000	0	1	0	1	3	
Residential Tenants	1	\$400 - \$600	0	0	0	0	0	
Businesses	2							8 - 12
Landlord Businesses	1							
Nonprofit Organizations	0							
Personal Properties	1							
Totals	11	N/A	0	1	0	1	3	

Appendix E – Prime Farmland Conversion Rating Form

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

**FARMLAND CONVERSION IMPACT RATING
FOR CORRIDOR TYPE PROJECTS**

PART I (To be completed by Federal Agency) Job 080457		3. Date of Land Evaluation Request	10/20/16	4. Sheet 1 of _____
1. Name of Project UPRR Overpass & Realignment (Mayflower) Hwy. (89)		5. Federal Agency Involved FHWA		
2. Type of Project R.R. Overpass		6. County and State Faulkner AR.		
PART II (To be completed by NRCS)		1. Date Request Received by NRCS	2. Person Completing Form	
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form)		YES	NO	4. Acres Irrigated Average Farm Size
5. Major Crop(s)	6. Farmable Land in Government Jurisdiction Acres: %		7. Amount of Farmland As Defined in FPPA Acres: %	
8. Name Of Land Evaluation System Used	9. Name of Local Site Assessment System		10. Date Land Evaluation Returned by NRCS	

PART III (To be completed by Federal Agency)	Alternative Corridor For Segment			
	Alternative 1	Alternative 2	Alternative 3	Alternative 4
A. Total Acres To Be Converted Directly				
B. Total Acres To Be Converted Indirectly, Or To Receive Services				
C. Total Acres In Corridor				

PART IV (To be completed by NRCS) Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	9.0	14.0	13.0	
B. Total Acres Statewide And Local Important Farmland				
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value				

PART V (To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)

PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))	Maximum Points	Alternative 1	Alternative 2	Alternative 3	Alternative 4
1. Area in Nonurban Use	15	5	5	5	
2. Perimeter in Nonurban Use	10	5	5	5	
3. Percent Of Corridor Being Farmed	20	5	5	5	
4. Protection Provided By State And Local Government	20	0	0	0	
5. Size of Present Farm Unit Compared To Average	10	0	0	0	
6. Creation Of Nonfarmable Farmland	25	0	0	0	
7. Availability Of Farm Support Services	5	5	5	5	
8. On-Farm Investments	20	0	0	0	
9. Effects Of Conversion On Farm Support Services	25	0	0	0	
10. Compatibility With Existing Agricultural Use	10	0	0	0	
TOTAL CORRIDOR ASSESSMENT POINTS	160	20	20	20	

PART VII (To be completed by Federal Agency)				
Relative Value Of Farmland (From Part V)	100	100	100	100
Total Corridor Assessment (From Part VI above or a local site assessment)	160	20	20	20
TOTAL POINTS (Total of above 2 lines)	260	145	120	120

1. Corridor Selected: Location Existing <input type="checkbox"/> New <input type="checkbox"/>	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input type="checkbox"/>
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5. Reason For Selection:

Signature of Person Completing this Part: *[Signature]* DATE: 1/3/17

NOTE: Complete a form for each segment with more than one Alternate Corridor

NRCS-CPA-106 (Reverse)

CORRIDOR - TYPE SITE ASSESSMENT CRITERIA

The following criteria are to be used for projects that have a linear or corridor-type site configuration connecting two distant points, and crossing several different tracts of land. These include utility lines, highways, railroads, stream improvements, and flood control systems. Federal agencies are to assess the suitability of each corridor-type site or design alternative for protection as farmland along with the land evaluation information.

- (1) How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?
 - More than 90 percent - 15 points
 - 90 to 20 percent - 14 to 1 point(s)
 - Less than 20 percent - 0 points
 - (2) How much of the perimeter of the site borders on land in nonurban use?
 - More than 90 percent - 10 points
 - 90 to 20 percent - 9 to 1 point(s)
 - Less than 20 percent - 0 points
 - (3) How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than five of the last 10 years?
 - More than 90 percent - 20 points
 - 90 to 20 percent - 19 to 1 point(s)
 - Less than 20 percent - 0 points
 - (4) Is the site subject to state or unit of local government policies or programs to protect farmland or covered by private programs to protect farmland?
 - Site is protected - 20 points
 - Site is not protected - 0 points
 - (5) Is the farm unit(s) containing the site (before the project) as large as the average-size farming unit in the County? (Average farm sizes in each county are available from the NRCS field offices in each state. Data are from the latest available Census of Agriculture, Acreage or Farm Units in Operation with \$1,000 or more in sales.)
 - As large or larger - 10 points
 - Below average - deduct 1 point for each 5 percent below the average, down to 0 points if 50 percent or more below average - 9 to 0 points
 - (6) If the site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?
 - Acreage equal to more than 25 percent of acres directly converted by the project - 25 points
 - Acreage equal to between 25 and 5 percent of the acres directly converted by the project - 1 to 24 point(s)
 - Acreage equal to less than 5 percent of the acres directly converted by the project - 0 points
 - (7) Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?
 - All required services are available - 5 points
 - Some required services are available - 4 to 1 point(s)
 - No required services are available - 0 points
 - (8) Does the site have substantial and well-maintained on-farm investments such as barns, other storage building, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?
 - High amount of on-farm investment - 20 points
 - Moderate amount of on-farm investment - 19 to 1 point(s)
 - No on-farm investment - 0 points
 - (9) Would the project at this site, by converting farmland to nonagricultural use, reduce the demand for farm support services so as to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?
 - Substantial reduction in demand for support services if the site is converted - 25 points
 - Some reduction in demand for support services if the site is converted - 1 to 24 point(s)
 - No significant reduction in demand for support services if the site is converted - 0 points
 - (10) Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural use?
 - Proposed project is incompatible to existing agricultural use of surrounding farmland - 10 points
 - Proposed project is tolerable to existing agricultural use of surrounding farmland - 9 to 1 point(s)
 - Proposed project is fully compatible with existing agricultural use of surrounding farmland - 0 points
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Appendix F – Socio-Economic Studies

ECONOMIC ANALYSIS
JOB 080457 – August 2016
UPRR Overpass & Realignment (Mayflower)
Faulkner County

As requested, an economic analysis was conducted for Job 080457 in Faulkner County. The analysis includes a review of the following demographic data that was compiled for the City of Mayflower, Faulkner County and the State.

	City of Mayflower	Faulkner County	State
Population, 2010	2,234	114,745	2,915,918
Population, 2000	1,631	86,014	2,673,400
Population 1990	1,414	60,006	2,350,725
Percent Change 1990/2000	15%	43%	14%
Percent Change 2000/2010	37%	33%	9%
Median Resident Age	39.8	31.5	37.4
Median Household Income	\$42,435	\$51,095	\$41,264
Median House Value	\$131,000	\$141,700	\$108,700
White-Non Hispanic	91.7%	83.2%	77.0%
Black	5.0%	10.0%	15.4%
Other Races	3.3%	6.8%	7.6%
<u>Education Attained by Age 25+</u>			
High School Graduates	72.8%	72.7%	80.3%
Bachelors Degree or higher	10.5%	22.0%	18.7%
<u>Employment by Industry Type</u>			
Educational and Social Services	26.9%	24.8%	24.0%
Manufacturing	7.7%	8.6%	13.5%
Retail Trade	13.1%	12.5%	13.4%
Other	44.9%	46.7%	39.8%
Unemployment Rate	7.4%	7.3%	9.2%

Source:
U.S. Census Bureau, August 2016

Mayflower and Faulkner County Economic Analysis

An economic analysis was conducted for Faulkner County and the Mayflower area. The population of Faulkner County has increased from 86,014 to 114,745 (33%) between 2000 and 2010. Faulkner County has a younger population that has achieved higher levels of education. Table 1 shows the demographic data.

The economic vitality of the Faulkner County is driven mostly by the abundant educational and employment opportunities. Conway is home to the University of Central Arkansas, Hendrix College, and Central Baptist College. Faulkner County also contains several well-known business entities, including Acxiom Corporation and a Hewlett-Packard center that specializes in technical support and sales. Approximately half of the work force in Faulkner County is in the educational, manufacturing, and retail/food service industries. Employers rely heavily on the efficiency of the transportation network for the area.

Improving the Highway 89 connection through Mayflower would improve the economic vitality of the region. Residences, farms, and Conway's new airport are located along Highway 89 to the west of Mayflower. These destinations are segmented from the greater transportation network by the Union Pacific Railroad (UPRR) and are subject to slow travel through Mayflower. Direct access to the Interstate 40 interchange and improved reliability through a railroad grade separation would improve the accessibility of these establishments, placing residents closer to jobs and farms closer to markets. However, improvements, particularly if conducted on the existing facility, carry the risk of negatively impacting current residents and landowners through required relocations.

Social, Environmental Justice, Community Impacts and Economics Study

A socioeconomic, environmental justice and community impacts discipline describes the existing conditions in the project study area and evaluates potential impacts with or without the proposed project.

Social

The geographic area considered for analysis of existing social conditions and impacts consists of Faulkner County in the City of Mayflower. Mayflower's estimated population is 2,431. With the rapidly growing City of Conway to its north and the bustling Cities of Little Rock and North Little Rock to its south, this area is often referred to as having a "Small Town Atmosphere with Big City Access".

One purpose of the project is to improve community cohesion. The City of Mayflower takes pride in its community's sense of unity and cohesion and the ability to rebound after disasters. Therefore, it is appropriate to consider changes to community character and cohesion in assessing the significance of the proposed project's effects.

- **What is Environmental Justice and how do we address it?**

Environmental Justice refers to social equity in bearing the burden of adverse environmental impacts. In the past, minorities and low-income populations have experienced disproportionate impacts caused by construction of transportation projects. In response to this concern, an Executive Order was issued by President Bill Clinton in 1994. Among other things, it directed that:

"Each Federal agency shall 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."

-Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, 1994.

Projects involving a federal action (funding, permit, or land) must comply with Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. The environmental justice evaluation determines whether low-income or minority populations would suffer disproportionately high and adverse effects of an action. Low income is defined based on the Department of Health and Human Services (DHHS) 2016 poverty guidelines, which is \$24,300 for a family of Four (4). The 2010-

2014 American Community Survey data on poverty shows the highest percentage of the population below the poverty level in the City of Mayflower as being 9.9%. In Faulkner County, the median household income stands at \$51,095, which is higher than the Poverty guidelines published by the DHHS.

The Federal Highway Administration defines 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 Alaskan Native (having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition).

- **How would Social, Environmental Justice and Business/Economic Conditions be affected during construction of each Alternative?**

The study area encompasses mostly residential and commercial areas, with high residential housing and various community service retail establishments.

- The No-Action Alternative consists of no improvements being made to the existing Highway 89 with sustaining routine maintenance. Without constructing a railroad overpass on Hwy. 89, continued traffic delays and congestion would remain. There would be no impacts to residents, tenants and business owners.
- Alternative 1 follows along the existing Highway 89 and Highway 365, passing through areas that are primarily business, commercial, and residential properties. This alternative will not sever any subdivisions; however it will relocate several homes located in established, interdependent neighborhoods, numerous businesses and personal properties. Upgrading the existing highway will disrupt community services and facilities located along Highway 365 while defeating the purpose of the project. Local businesses located at the Highway 89 bridge and interchange would also be relocated.
- Alternative 2 and 3 would not negatively impact the community services and facilities located along Highway 89 (west) and Highway 365; however the new location alternative passes through areas that are primarily residential with few businesses. Denoting that this alternative will not sever any subdivisions or

urban neighborhoods but will require the relocation of few homes and businesses in the project area. Alternative 2 and 3 would temporarily disrupt traffic and relocate local businesses at the location of the new Highway 89 Bridge and interchange.

- Alternatives 1, 2, and 3 would not result in any permanent disconnection or division of any community or neighborhood area, and would not eliminate the community service facilities currently existing within the neighboring area. The alternatives would have a beneficial impact related to community cohesion because an improved path would be constructed and the widened highway would enhance bicycle and pedestrian linkages to adjoining communities.

The nearest residential properties to the proposed project are on the west side of Highway 365. The closest businesses are located on the northern, southern, eastern and western side of the proposed project.

- **Would the project have unavoidable adverse effects on Environmental Justice/Title VI populations that could not be mitigated?**

The 2014 U.S. Census data covers the project area and provides population demographic characteristics. The total population of this census tract is approximately 2,431 residents.

Approximately 15.7% of residents are over age 65, which is slightly higher than in the surrounding Faulkner County. Table 1 provides a Demographic comparison of population demographics for the study area, neighboring city, county and the state as a whole. The population is 8.1 percent minority, or not of the white race category in the city of Mayflower. The percentage of minority residents in the county as a whole is substantially higher than the percentage of minority residents in the city of Mayflower. Approximately 1.2% of residents in the study area identify themselves as Hispanic or Latino, compared with 4.0 percent for the entire County, respectively.

The data gathered from the U.S. Census and field observations indicate the minimal presence of EJ/Title VI populations in the project area. While some impacts will be borne by those populations, the level of impacts would not be disproportionately high. Based on this information, the study area is not considered a minority-predominant community. Further steps to minimize the impacts will be considered during the final design phase.

- **Community character and how community service facilities will be affected during construction?**

One purpose of the project is to improve community cohesion. The City of Mayflower takes pride in its “small town atmosphere with big city access”. The community’s sense of unity

and cohesion and the ability to rebound after numerous disasters is propelling it forward with rebuilding initiatives for long range economic development. Mayflower's unification extends far beyond the thoughts and ideas of local politicians and longtime citizens. The City held meetings with High School students to gather ideas and feedback on what they would hope to see designed for their future. Therefore, it is appropriate to consider changes to community character and cohesion in assessing the significance of the proposed project's effects.

The study area encompasses mostly industrial, commercial and residential areas. The project will create benefits such as improved local accessibility for businesses, commercial and residential usage, increased movement, convenience, and improved safety for motorists. Recreational users and emergency service providers would also benefit from the enhanced circulation and accessibility throughout the project area.

Numerous community service facilities are located within the proposed project area, such as, Conway Regional Medical Clinic of Mayflower, The Laundry Room, banks, Harp's Grocery and the First Baptist Church. Community service facilities that would be indirectly impacted during construction consist of the City Hall, Fire and Police Departments, the Public Library and Senior Citizens Center.

Construction delays, dust, noise and exhaust fumes from equipment would temporarily affect residences and businesses along each Alternative. Access to homes and businesses would be maintained during construction.

- **What measures are proposed to minimize or avoid effects to social and economic resources?**

The right of way acquisition necessary for the proposed overpass and roadway realignment (widening) project will be minimized as much as possible. The opportunity for businesses to relocate within the vicinity of the project area is an option. The Department's design engineers will work closely with residents and business owners regarding driveway configurations and other specific property concerns. Property acquisition will be completed in accordance with the federal Uniform Relocation and Real Property Acquisition Policies Act of 1970.

Public Involvement

Public interaction is essential to involve all populations in the study area to assist in making transportation decisions. Allowing the public early and on-going interaction allows them to feel as though their input is important in the transportation decision making process.

A Public involvement meeting was conducted in June 2013 but was poorly attended due to a disaster that happened in the City of Mayflower (oil spill). Moving forward now that the clean-up process is complete the citizens have resolved to revitalize their city and focus on community cohesion.

To date, the proposed project has generated a great deal of excitement within the community and attracted a wide range comments and ideas. The focus has expanded to not only improve traffic flow on Highway 89 by way of constructing an overpass but to also improve regional connectivity across cities and to include bike lanes.

A Public Involvement Synopsis is located in Appendix B of the Highway 89 Improvements Environmental Assessment.

Relocation

Relocations occur when residential, business, or non-profit properties fall within the established right of way limits for a proposed project. Until the final design has been established, relocation quantities are estimates.

Estimated right of way widths were used in determining potential structures to be relocated. An Alternative Alignments Study and a Conceptual Stage Relocation Inventory were completed in June 2016. It describes the existing residential and commercial locations in the project study area and estimates the ROW acquisition and Utility relocation costs, as well as, evaluates potential relocation impacts within the proposed project. This study is provided in Appendix D of the Highway 89 Improvements Environmental Assessment.

Table 1
Demographic Data

	City of Mayflower	City of Conway	Faulkner County	State of Arkansas
Population 2015	2,431	64,980	121,552	2,978,204
Population 2010	2,234	58,908	113,237	2,915,918
Percent Change 2000/2015	8.8%	10.3%	7.3%	2.1%
Median Resident Age	39.8	27.6	31.5	37.6
Median Household Income	\$42,135	\$47,126	\$51,095	\$41,264
Median House Value	\$131,000	\$158,500	\$141,700	\$108,700
White-Non Hispanic	91.7%	77.4%	84.3%	77.0%
Hispanic	2.4%	5.1%	3.9%	6.4%
Black	5.0%	15.6%	10.2%	15.4%
Other Races	0.9%	1.9%	1.6%	1.2%
<i>Education Attained by Age 25+</i>				
High School Graduates	95.2%	91.9%	89.7%	84.3%
Bachelors Degree or higher	21.7%	36.6%	26.4%	20.6%
<i>Employment by Industry Type</i>				
Educational, Health Care & Social Services	26.9%	27.8%	24.8%	24.0%
Manufacturing, Construction, Warehousing & Transportation	25.7%	15.4%	20.5%	25.5%
Retail, Food Services & Accommodations	5.1%	10.6%	9.0%	8.0%
Other Services	5.7%	3.5%	4.3%	4.8%
Unemployment Rate	6.9%	7.0%	6.8%	8.4%

Studies, Coordination, and Methods

A current site inspection of the entire project study area was conducted to verify existing land use on a parcel by parcel basis. Each parcel was examined through visual inspection to determine if the current alternative would prevent or limit the ability to use the property for an existing or allowed land use.

The research revealed what replacement residences and commercial buildings are available in the project area.

- **What regulations do we follow when dealing with relocations of residential and commercial property?**

Where right of way acquisition is needed, the acquisition and relocation program would be conducted in accordance with the federal Uniform Relocation and Real Property Acquisition Policies Act of 1970, as amended. Relocation resources are available to all relocated residents and businesses without discrimination.

Inspections of the potential displacement locations are conducted by Relocation Coordinators. The Coordinators utilize area demographic data, visual inspections, past experiences and knowledge in making this determination.

The Right of Way Procedures for the Acquisition Manual and the Right of Way Policies and Procedures Manual, Section 6 will govern right of way acquisition proceedings. These laws ensure fair and equitable treatment of those displaced. They also encourage and expedite acquisition of property by negotiation.

- **What effects to relocations would result under the No Action Alternative?**

The No-Action Alternative would not require the relocation of any residences, businesses, or personal properties. No new right of way would be acquired.

- **What effects to relocations would result under Alternatives?**

Alternative 1

Alternative 1 would relocate 17 residential owners, 9 residential tenants, 17 businesses, 7 landlord businesses, 1 Non-profit organization and 2 personal properties. There are a total of 6 low-income households, 2 minority families, 5 elderly households and 2 households with individuals that have disabilities that would be relocated as a result of this project. Alternative 1 has the potential to impact 100-120 employees.

Alternative 2

Alternative 2 would relocate 6 residential owners, 1 residential tenant, 2 businesses, 1 landlord business and 1 personal property. There are a total of 3 low-income households, 1 elderly household and 1 household with individuals that have disabilities that would be relocated as a result of this project.

Alternative 3

Alternative 3 would relocate 6 residential owners, 1 residential tenant, 2 businesses, 1 landlord business and 1 personal property. There are a total of 3 low-income households, 1 elderly household and 1 household with individuals that have disabilities that would be relocated as a result of this project.

Appendix D provides further details.

- **Are replacement housing and commercial business sites available in the study area?**

Consistent with the Uniform Relocation Assistance & Real Property Acquisition Policies Act of 1970, relocation of displaced residents/businesses considers the availability of residences similar in cost and access to services as the displaced residences/businesses.

Appendix D provides further details.

Replacement Housing/Commercial Business

An available housing inventory has been compiled and it indicates there are at least thirty-four (34) comparable replacement dwellings available for sale, thirty one (31) comparable replacement dwellings available for rent and at least twenty two (22) commercial properties are currently for sale and thirty four (34) for lease within twelve (12) miles of the project area.

Appendix D provides further details.

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Appendix G – Visual Impact Assessment Memorandum

January 3, 2017

TO: Project File

FROM: Mary Pearson, Environmental Analyst III, Environmental Division

SUBJECT: AHTD Job Number 080457
UPRR Overpass & Realign. (Mayflower) (S)
Visual Impact Assessment for Highway 89 Improvements EA

Purpose of this Memorandum

The purpose of this Visual Impact Assessment (VIA) Memorandum (memo) is to evaluate potential visual impacts associated with the Hwy. 89 Improvements project. The VIA was prepared using guidance outlined in the *Guidelines for the Visual Impact Assessment of Highway Projects* published by the Federal Highway Administration (FHWA) in January 2015.

Visual Impact Assessment

The VIA Scoping Questionnaire was completed. As shown in Attachment 1, the response to each question has a corresponding value of either 1 or 2, resulting in an overall score of 12. Consistent with FHWA guidelines, a score of 10 to 14 recommends the preparation of a brief visual assessment in memo format. This memo serves as the recommended visual assessment documentation.

Visual resource and VIA definitions for the concepts and terms used in the remainder of this memo are provided in Attachment 2. It is important to note that the AHTD would be responsible only for designing and constructing a railroad overpass and roadway widening (under Alternative 1) or a railroad overpass and an I-40 interchange (under Alternatives 2 and 3). Metroplan, Faulkner County, and the cities of Mayflower and Conway would be responsible for all other proposed improvements – including new location routes. The new location routes are therefore conceptual and necessarily restrict the scope of this VIA.

Proposed project viewers are categorized as either neighbors or travelers. Neighbors include residents, school and business occupants, and public space users. Travelers include users of Hwy. 89, adjacent roadways, and I-40.

Existing Visual Character

The project study area is relatively flat. Elevations range from approximately 270 to 290 feet above mean sea level (msl) along the north-south portion of Hwy. 89 and west of the I-40 interchange. Elevations west of the railroad track and along the proposed new location routes range from 310 to 340 feet above msl. Long distance views are uncommon due to a combination of elevation uniformity and the screening effect of wooded areas. Wooded areas – consisting

primarily of hardwoods and pine - are dense at many locations. Most of the residences feature trees, grassy lawns and other landscaping elements.

In addition to the school zones, Alternative 1's project corridor includes residential and commercial areas. Many of the residences feature grassy lawns and trees. The commercial area is concentrated along the 1-mile north-south portion of Hwy. 89 through the heart of Mayflower. Bordered by I-40 to the west, the commercial area lacks landscaping and is not architecturally uniform in appearance. The area also lacks sidewalks, curbs, and gutters. Most of the neighboring structures afford partial or complete views of Hwy. 89 and are in turn visible to travelers along the route. Residences, a few businesses, Mayflower Elementary School, a church, and the city park are located near the proposed overpass location.

The new location route for Alternatives 2 and 3 includes residential, pasture, and undeveloped areas. Residences and businesses – including two gas station/convenience stores – are located within and adjacent to the proposed overpass/interchange area. The I-40 corridor also passes through the proposed overpass/interchange area.

Permanent Impacts

The construction of an overpass at any of the proposed locations would introduce a structure that is relatively higher than the surrounding area. The upper portion of an overpass would be approximately 25 feet in elevation and include fencing over the railroad track. This would represent a moderate change from the project area's existing visual character.

In conjunction with the expansion of highway right of way, the increase in roadway width and profile would modify the appearance of the roadway. The removal of residences and businesses and tree/vegetation clearing would alter the current appearance of the project corridor under any of the build alternatives. Some of the remaining residences and commercial structures would be in closer proximity to the highway. However, the proximity of the remaining residences and commercial structures would not exceed zoning codes. Depending on viewer exposure and sensitivity, these changes could be experienced as either beneficial, neutral, or adverse.

The proposed roadway cross section and materials are typical of transportation improvements in the central Arkansas region. Visual resources uncommon in the area would not be introduced, and landforms would not be noticeably altered. Local planning and development guidelines would be taken into consideration during final design to ensure visual compatibility of the proposed project. The proposed pedestrian/bicycle facilities meet community development goals of integrating a network of sidewalks and bicycle paths into the roadway network. The visual resources of these facilities are therefore predicted to be beneficial to the existing overall visual character of the existing roadways.

For the reasons described above, adverse permanent impacts adverse would be minor and localized for sensitive project neighbors (e.g., residents) for whom exposure will increase. Based on predicted viewer exposure and sensitivity, Alternative 1 is likely to present a greater number of visual impacts than Alternatives 2 and 3.

Overall visual quality under Alternatives 2 and 3 is predicted to be enhanced for the majority of commercial neighbors and travelers by conforming with Mayflower and Faulkner County land development principles.

Temporary Impacts

Project construction would result in the short-term presence of construction vehicles and equipment, grading and excavation, and vegetation clearing throughout the project area. The areas where construction and grading would remove existing natural vegetation would be viewable by travelers and site-specific neighbors. Grading and excavation activities and the presence of construction vehicles and equipment would result in a temporary change in the visual character of the project site. These activities would be short-term. Impacts in roadside cleared areas would be short/medium-term until new vegetation becomes established. These temporary visual impacts would be minor and not expected to result in an adverse response by typical viewers.

Avoidance, Minimization and/or Mitigation Measures

The *Heart of Mayflower Regulating Plan* details the project area's form-based land development regulations to foster predictable built results and a high quality public realm. The proposed project's visual resources (e.g, cross section and construction materials) would complement the visual character desired by the community as expressed in Mayflower's development regulations. Impacts to existing vegetation within the project area would be minimized through revegetation efforts as part of the process to ensure that biological resources are not adversely affected.

Attachments:

1. VIA Scoping Questionnaire
2. VIA Definitions

Visual Impact Assessment Scoping Questionnaire

(Attach. 1)

Project Name: Highway 89 Improvements (Mayflower) (S)

Location: Mayflower, Faulkner County

Special Conditions/Notes:

Conducted By: M. Pearson

Environmental Compatibility

1. *Will the project result in a noticeable change in the physical characteristics of the existing environment? (Consider all project components and construction impacts - both permanent and temporary, including landform changes, structures, noise barriers, vegetation removal, railing, signage, and contractor activities.)*

- High level of permanent change (3) Moderate level of permanent change (2)
 Low level of permanent or temporary change (1) No Noticeable Change (0)

2. *Will the project complement or contrast with the visual character desired by the community? (Evaluate the scale and extent of the project features compared to the surrounding scale of the community. Is the project likely to give an urban appearance to an existing rural or suburban community? Do you anticipate that the change will be viewed by the public as positive or negative? Research planning documents, or talk with local planners and community representatives to understand the type of visual environment local residents envision for their community.)*

- Low Compatibility (3) Moderate Compatibility (2)
 High compatibility (1)

3. *What level of local concern is there for the types of project features (e.g., bridge structures, large excavations, sound barriers, or median planting removal) and construction impacts that are proposed? (Certain project improvements can be of special interest to local citizens, causing a heightened level of public concern, and requiring a more focused visual analysis.)*

- High concern (3) Moderate concern (2)
 Low concern (1) Negligible Project Features (0)

4. *Is it anticipated that to mitigate visual impacts, it may be necessary to develop extensive or novel mitigation strategies to avoid, minimize, or compensate for adverse impacts or will using conventional mitigation strategies, such as landscape or architectural treatment adequately mitigate adverse visual impacts?*

- Extensive Non-Conventional Mitigation Likely (3) Some non-conventional Mitigation Likely (2)
- Only Conventional Mitigation Likely (1) No Mitigation Likely (0)

5. Will this project, when seen collectively with other projects, result in an aggregate adverse change (cumulative impacts) in overall visual quality or character? (Identify any projects [both state and local] in the area that have been constructed in recent years and those currently planned for future construction. The window of time and the extent of area applicable to possible cumulative impacts should be based on a reasonable anticipation of the viewing public's perception.)

- Cumulative Impacts likely: 0-5 years (3) Cumulative Impacts likely: 6-10 years (2)
- Cumulative Impacts unlikely (1)

Viewer Sensitivity

1. *What is the potential that the project proposal may be controversial within the community, or opposed by any organized group? (This can be researched initially by talking with the state DOT and local agency management and staff familiar with the affected community's sentiments as evidenced by past projects and/or current information.)*

- High Potential (3) Moderate Potential (2)
- Low Potential (1) No Potential (0)

2. *How sensitive are potential viewer-groups likely to be regarding visible changes proposed by the project? (Consider among other factors the number of viewers within the group, probable viewer expectations, activities, viewing duration, and orientation. The expected viewer sensitivity level may be scoped by applying professional judgment, and by soliciting information from other DOT staff, local agencies and community representatives familiar with the affected community's sentiments and demonstrated concerns.)*

- High Sensitivity (3) Moderate Sensitivity (2)
- Low Sensitivity (1)

3. *To what degree does the project's aesthetic approach appear to be consistent with applicable laws, ordinances, regulations, policies or standards?*

Low Compatibility (3)

Moderate Compatibility (2)

High compatibility (1)

4. *Are permits going to be required by outside regulatory agencies (i.e., Federal, State, or local)?*

(Permit requirements can have an unintended consequence on the visual environment. Anticipated permits, as well as specific permit requirements - which are defined by the permitter, may be determined by talking with the project environmental planner and project engineer. Note: coordinate with the state DOT representative responsible for obtaining the permit prior to communicating directly with any permitting agency. Permits that may benefit from additional analysis include permits that may result in visible built features, such as infiltration basins or devices under a storm water permit or a retaining wall for wetland avoidance or permits for work in sensitive areas such as coastal development permits or on Federal lands, such as impacts to Wild and Scenic Rivers.)

Yes (3)

Maybe (2)

No (1)

5. *Will the project sponsor or public benefit from a more detailed visual analysis in order to help reach consensus on a course of action to address potential visual impacts? (Consider the proposed project features, possible visual impacts, and probable mitigation recommendations.)*

Yes (3)

Maybe (2)

No (1)

Total Project Score: 12

Determining the Level of Visual Impact Assessment

Total the scores of the answers to all ten questions on the Visual Impact Assessment Scoping Questionnaire. Use the total score from the questionnaire as an indicator of the appropriate level of VIA to perform for the project. Confirm that the level suggested by the checklist is consistent with the project teams' professional judgments. If there remains doubt about whether a VIA needs to be completed, it may be prudent to conduct an Abbreviated VIA. If there remains doubt about the level of the VIA, begin with the simpler VIA process. If visual impacts emerge as a more substantial concern than anticipated, the level of VIA documentation can always be increased.

The level of the VIA can initially be based on the following ranges of total scores:

Score 25-30

An *Expanded VIA* is probably necessary. It is recommended that it should be preceded by a formal visual scoping study prior to beginning the VIA to alert the project team to potential highly adverse impacts and to develop new project alternatives to avoid those impacts. These technical studies will likely receive state-wide, even national, public review. Extensive use of visual simulations and a comprehensive public involvement program would be typical.

Score 20-24

A *Standard VIA* is recommended. This technical study will likely receive extensive local, perhaps state-wide, public review. It would typically include several visual simulations. It would also include a thorough examination of public planning and policy documents supplemented with a direct public engagement processes to determine visual preferences.

Score 15-19

An *Abbreviated VIA* would briefly describe project features, impacts and mitigation requirements. Visual simulations would be optional. An Abbreviated VIA would receive little direct public interest beyond a summary of its findings in the project's environmental documents. Visual preferences would be based on observation and review of planning and policy documents by local jurisdictions.

Score 10-14

A *VIA Memorandum* addressing minor visual issues that indicates the nature of the limited impacts and any necessary mitigation strategies that should be implemented would likely be sufficient along with an explanation of why no formal analysis is required.

Score 6-9

No noticeable physical changes to the environment are proposed and no further analysis is required. Print out a copy of this completed questionnaire for your project file to document that there is no effect. A *VIA Memorandum* may be used to document that there is no effect and to explain the approach used for the determination.

(Attach. 2) **Visual Impact Assessment Definitions**

The FHWA guidelines recognize three types of visual resources:

- **Natural visual resources** include landforms and land cover such as trees, vegetation, and water.
- **Cultural visual resources** include manmade elements such as roadways, embankments, bridges, and buildings
- **Project visual resources** include the existing highway's geometrics, structures, and fixtures and those that will be placed in the environment as part of the proposed project.

The overall composition of visual resources helps determine the **visual character** of a scene or landscape. For highway project assessment purposes, visual resources and character are considered from two perspectives:

1. The view of the project to the surrounding community (neighbors).
2. The view from the project to motorists (travelers).

Neighbors who can see a highway project and travelers who use it are defined as **viewers**. Visual resource changes are assessed by considering the compatibility and/or contrast of the proposed projects with the visual character of existing environments. Viewer responses to these changes are predicted by considering both exposure and sensitivity.

Viewer exposure considers the physical limits of the views and the number and type of viewers. **Viewer sensitivity** considers the expectations of viewers based on existing environments and the extent to which various visual resources may be important to them.

The predicted viewer response to changes in the existing landscape are used to determine **visual quality** impacts. Potential impacts may be identified as neutral, adverse, or beneficial and described in the following terms:

- Extent – Are the effects site-specific, local, or even regional?
- Duration – Are the effects temporary or permanent, or short-term or long-term?
- Scale – Are the effects negligible, minor, moderate, or major?

Potential impact durations are defined below.

- Short-term – during construction.
- Short/medium-term – 1 to 5 years while new vegetation becomes established after construction.
- Medium/long-term – 5 to 15 years after construction when new vegetation would be effective mitigation.
- Long-term – Over 15 years.

Potential impact scales are defined below.

Negligible: Changes would be non-detectable or, if detected, effects would be slight and local. Impacts would not require mitigation.

Minor: Changes would be noticeable, although the changes would be small and localized. Conventional mitigation measures may be necessary to reduce potential effects.

Moderate: Changes would be noticeable and have localized and potentially regional scale impacts; historical conditions would be altered. Conventional mitigation measures may be necessary to reduce potential effects.

Major: Changes would be noticeable and would have substantial consequences on a local and/or regional level. Mitigation measures to offset the effects would be required to reduce impacts, although long-term changes to the resource would be possible.

Appendix H – Wetlands Assessment Memorandum

WETLANDS ASSESSMENT MEMORANDUM

Description of Wetlands

Wetlands and streams were delineated using the 1987 U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual and the Regional Supplement to the USACE Wetland Delineation Manual: Eastern Mountains and Piedmont Region. The delineation will be sent to the USACE for their concurrence of jurisdictional Waters of the U.S. including wetlands. The proposed project area contains three unnamed intermittent streams (Streams 1, 3, 4)*, one ephemeral stream (Stream 2) and three (3) wetland areas. The streams are all unnamed tributaries that flow east into Lake Conway. Lake Conway is an impoundment of Palarm Creek, which flows into the Arkansas River south of the city of Mayflower (see figure at the end of this memorandum).

Wetland 1 is a depression forested area that is located inside the southeast quadrant of the Interstate 40/Hwy. 89 interchange. The forested wetland is dominated by sweetgum (*Liquidambar styraciflua*), willow oak (*Quercus phellos*), persimmon (*Diospyros virginiana*), water oak (*Quercus nigra*), and green ash (*Fraxinus pennsylvanica*). The Natural Resource Conservation Service (NRCS) has mapped the soils located in Wetland 1, Wetland 2 and part of Wetland 3 as Leadvale Silt Loam. Leadvale silt loam is a deep, moderately well drained soil with a fragipan. The soil identified in the wetland areas primarily exhibited a hue of 10YR, value of 4, and chroma of 2. The redoximorphic features primarily exhibited a hue of 10YR, value of 5, and a chroma of 6.

Wetland 2 is a forested, scrub/shrub area that is located between Interstate 40 and Hwy. 365. The wetland is located along the floodplain of an intermittent stream. The forested/scrub shrub wetland is dominated by green ash, red maple (*Acer rubrum*), buttonbush (*Cephalanthus occidentalis*), greenbrier (*Smilax bona-nox* and *Smilax hispida*), and various *Juncus* and *Carex* species.

Wetland 3 is an herbaceous wetland that is located in a depression drainage area spanning multiple pastures. The herbaceous wetland is dominated by field brome (*Bromus japonica*), tall false rye grass (*Schedonorus arundinaceus*), little brown jug (*Rhexia mariana*), bermuda (*Cynodon dactylon*), and various *Juncus* and *Carex* species. The NRCS has mapped the second soil type in Wetland 3 as Linker Fine Sandy Loam. The second soil type identified in the Wetland 3 primarily exhibited a hue of 10YR, value of 5, and a chroma of 2. The redoximorphic features primarily exhibited a hue of 5YR, value of 5, and a chroma of 8.

* The EA designates Streams 1-4 and Wetland 1-3 as Streams A-D and Wetland A-C, respectively

Anticipated Impacts of the Proposed Alternatives to Wetlands and Streams

Impacts to wetlands and streams must be addressed under Section 404 of the Clean Water Act. Waters of the U.S., including wetlands, are administered under the U.S. Army Corps of Engineers (USACE). Wetlands provide flood control, aid in water quality, and provide wildlife habitat. Impacts to wetlands and streams must be minimized and mitigated.

The No Action Alternative would have minimal to no impacts to streams or wetlands.

Alternative 1 would impact Wetland 1 and Wetland 2. Wetland 1 would be impacted by the widening of the Hwy. 89 overpass at Interstate 40. Wetland 2 would be impacted by the widening of Hwy. 365 on existing location. Construction of this alternative would impact Streams 1, 3 & 4 along Hwy. 365 with culvert retention or replacement. Stream impacts should be minimal with little to no stream realignment. Construction will also impact Stream 4 along Hwy. 89 with culvert retention or replacement. The proposed railroad overpass adjacent to Hwy. 89 could potentially impact Stream 4 and cause stream realignment. All impact assessments are preliminary and will vary based on roadway design.

Alternative 2 would impact Wetland 1 and Wetland 3. Wetland 1 would be impacted by the widening of the Hwy. 89 overpass at Interstate 40. Wetland 3 would be impacted by construction of the proposed roadway on new location. Construction of this alternative would impact Streams 1, 2 & 3 by constructing drainage structures in the streams. Stream impacts should be minimal with little to no stream realignment. All impact assessments are preliminary and will vary based on roadway design.

Alternative 3 would impact Wetland 3. Wetland 3 would be impacted by construction of the proposed roadway on new location. Construction of this alternative would impact Streams 1, 2 & 3 by constructing drainage structures in the streams. Stream impacts should be minimal with little to no stream realignment. All impact assessments are preliminary and will vary based on roadway design.

Secondary and cumulative impacts should be similar between the three proposed alternatives. Water quality will be impacted primarily during the construction phase of the project. Increased soil disturbance due to land clearing, culvert construction, construction equipment and vehicles may temporarily impact water runoff during the construction phase of the proposed project. Upon project completion and vegetation regrowth, water quality should return to pre-construction levels.

	Wetland 1 Impact Acres	Wetland 2 Impact Acres	Wetland 3 Impact Acres	Stream 1 L/F Impacts	Stream 2 L/F Impacts	Stream 3 L/F Impacts	Stream 4 L/F Impacts
Alternative 1	0.3	0.1		114	93		205
Alternative 2	0.7		0.6	286	177	170	
Alternative 3			0.6	285	177	170	

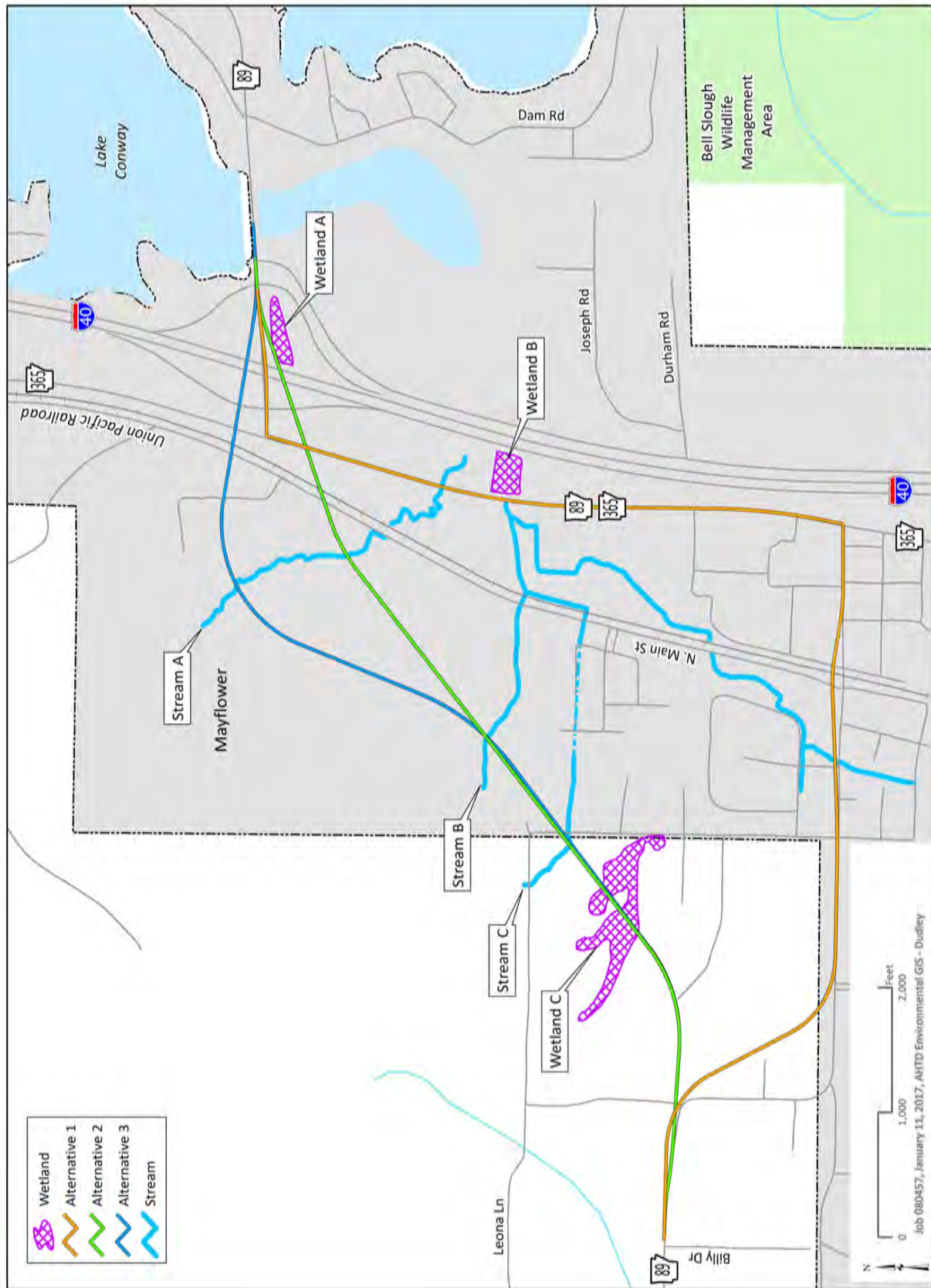
*Streams 1, 3 & 4 are Intermittent; Stream 2 is Ephemeral; L/F = Linear Feet

TOTAL IMPACTS	Alternative 1	Alternative 2	Alternative 3
Wetland (Acres)	0.4	1.3	0.6
Stream (L/F)	412	633	632

Mitigation

The unavoidable impacts caused by activities in Waters of the U.S. including wetlands would be covered under a USACE Section 404 Permit. After the preferred alternative is selected, impacts will be minimized through design considerations and the permit type will be determined based on anticipated impacts. The Charleston Method and the Little Rock Stream Method will be used to determine the appropriate credits required to mitigate for the adverse impacts imposed by the proposed project. Wetland credits will be debited from the Hartman Bottoms Mitigation Bank. Stream credits will be purchased from a USACE approved stream mitigation bank.

H-4 Highway 89 Improvements EA



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Appendix I – Vegetation, Geological Resources, Soils, and Protected Species

VEGETATION, GEOLOGICAL RESOURCES, SOILS, AND THREATENED AND ENDANGERED SPECIES

Natural Environment

The project is located in the Fourche Mountains Ecoregion (EPA 36d Level IV Ecoregion) of the Ouachita Mountains (Level III) Ecoregion (Woods et al. 2004). The Fourche Mountains Ecoregion is characterized by rugged, east to west trending, narrow-crested mountain ridges that are separated by narrow and a few wider valleys. Elevations range from 290-2700 feet, and uplands are the lowest in the eastern portion of the Fourche Mountains (Woods et al. 2004). The landform is comprised of mostly forested areas in the steeper areas, and pastureland and some forests in the broad, gently sloping valleys.

Surface geology in the project area is largely mapped as the Upper Atoka Formation, which is middle Pennsylvanian-aged, Atokan Series, and described as interbedded sandstone, shale and siltstone. A small portion of the project area lies within the Quaternary Terrace of unconsolidated clay, sand and gravel complex from the Late Pleistocene.

Soils are mapped as Enders, Leadvale, Linker, Mountainburg and Taft in the immediate project area. The Enders gravelly fine sandy loam consists of deep, well-drained soils derived from interbedded shale and sandstone and is frequently found on moderately steep upland mountaintops and ridges and gently sloping mountain sideslopes in forested regions; slopes range from 1 to 65 percent (NRCS 2016). The Leadvale fine, silty soils are deep to very deep, moderately well drained soils found on slightly concave toe slopes, benches and terraces; slopes range from 0 to 15 percent (NRCS 2016). The Linker fine sandy loam is derived from sandstone is often found in pastures that have been cultivated on 3 to 8 percent slopes (NRCS 2016). The Mountainburg cobbly fine sandy loam is shallow, derived from sandstone and is usually found on higher forested ridgetops and benches on 20 percent slopes (NRCS 2016). Taft soils are very deep poorly drained soils with a fragipan in the subsoil. The soils formed in silty alluvium on nearly level—slopes range from 0 to 2 percent—upland flats and stream terraces and in depressions, mostly of forested areas (NRCS 2016). Wetlands in the project area would be mapped as Taft soils.

Water resources include Palarm Creek and Beaverdam Creek that lie to the east and west of the proposed project area, respectively, and eventually flow into the Arkansas River, which is south of the project area. Palarm Creek is dam controlled to create Lake Conway just to the east of the proposed project. There are several small headwater streams that contribute to Palarm Creek and Beaverdam Creek as well. The project area lies completely within the Lake Conway-Point Remove Watershed, which has the Hydrologic Unit Code (HUC) of 11110203.

Natural vegetation historically was oak-hickory-pine forest. In the upland forests, shortleaf pine is present, while loblolly pine is native only to wet lowland sites such as riparian areas. Current vegetation is a combination of oak-hickory-pine forest, oak-pine forest, oak forest, loblolly-shortleaf pine forest or pine-oak forest (Woods et al. 2004). In wetlands, sweetgum (*Liquidambar styraciflua*), willow oak (*Quercus phellos*) and water oak (*Quercus nigra*) are the common tree species.

A few non-native species were noted in the project area, but Japanese honeysuckle (*Lonicera japonica*) and Japanese stiltgrass (*Microstegium vimineum*) have become established in the forest understory, while Bermuda grass (*Cynodon dactylon*) and tall fescue (*Schedonorus arundinaceus*) were the most prominent in pastures.

The No Build Alternative would not affect the existing vegetation adjacent to Highways 89 and 365. Alternative 1 proposes to construct an overpass at the existing Highway 89 railroad crossing as well as widen Highway 89, west of Highway 365, and Highway 365, between the Highway 89 north and south intersections, and the I-40 overpass to four travel lanes with a continuous, two-way left-turn lane on existing location. This alternative would include bike lanes and pedestrian facilities. Alternative 1 would affect approximately 30 acres of existing vegetation, of which 3.7 acres are forested.

Alternative 2 proposes to connect Highway 89 South and Highway 89 North with a route on new location. The connection route would initially be built as a 2-lane highway; however, AHTD would acquire enough right-of-way for future expansion to a 4-lane highway with a raised median. The I-40 overpass would be widened to four lanes with a dedicated left-turn lane. For Alternative 2, the I-40 eastbound entrance ramp would be modified and would require a longer bridge. Alternative 2 would affect approximately 37.2 acres of existing vegetation, of which 21 acres is upland oak-hickory-pine forest.

Alternative 3 proposes to connect the westbound ramps of the I-40 interchange to Highway 89 with a route on new location. A connection from the eastbound exist ramp to Highway 365 and a connection to Main Street from the new location route would also be built. The connection routes would initially be built as a 2-lane highway; however, AHTD would acquire enough right-of-way for future expansion to a 4-lane highway with a raised median. The I-40 overpass would be widened to four lanes with a dedicated left-turn lane. This alternative has two interchange configuration options. Alternative 3 would affect approximately 42 acres of existing vegetation, of which 28.4 acres is upland oak-hickory-pine forest.

Secondary and cumulative impacts should be similar among alternatives. These types of projects often result in increased urban development in the project vicinity.

Urban development is associated with decreases in water quality both temporarily and permanently. Temporary impacts most commonly result in increased rates of sedimentation from stormwater runoff from disturbed soils during construction. Permanent impacts include increased rates of pollutants such as fertilizer, herbicides, insecticides, and petroleum products in stormwater runoff.

Threatened and Endangered Species

According to the United States Fish and Wildlife Service Information Planning and Conservation System (IPaC), the threatened Piping Plover (*Charadrius melodus*) and the endangered Least Tern (*Sterna antillarum*) are known to utilize the proposed project area. These birds typically inhabit gravel/sand bars along large rivers, but are known to utilize Lake Conway for foraging habitat. Water quality impacts due to construction should be considered and monitored throughout the construction process. Water quality will be impacted primarily during the construction phase of the project. Increased soil disturbance due to land clearing, culvert construction, construction equipment and vehicles may temporarily impact water quality in Stormwater runoff during the construction phase of the proposed project. Upon project completion the area will be revegetated and water quality should return to pre-construction conditions. These secondary impacts could impact the foraging habits of the listed species, although impacts are expected to be temporary and minimal. United States Fish and Wildlife Service concurrence will be obtained once a Preferred Alternative is identified.

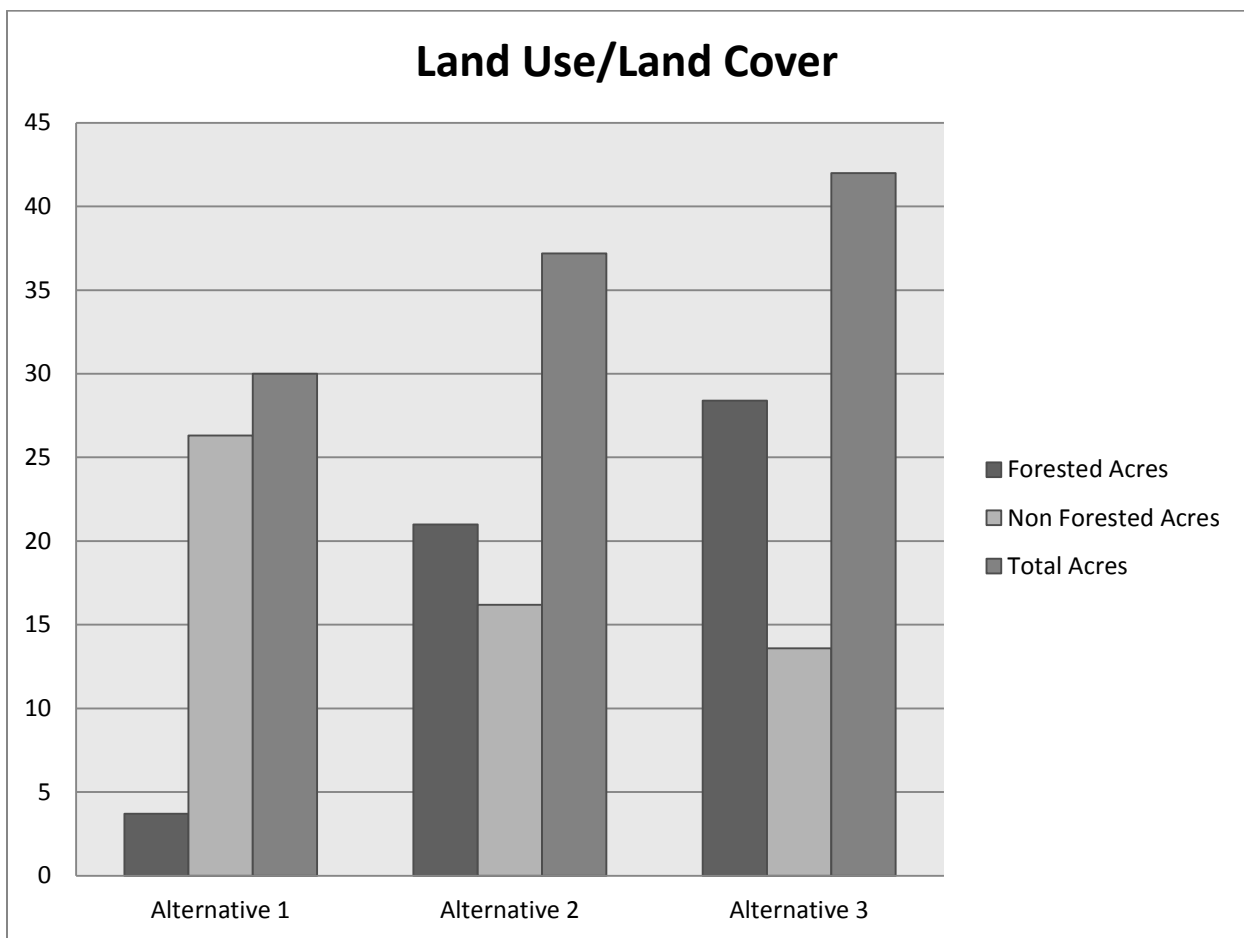
Impact Analysis

Land cover in the immediate project area was historically oak-hickory and oak-hickory-pine upland hardwood forest. Current land use is similar as it is mostly forested besides scattered residential homes, businesses and pastureland. Direct impacts to land use/land cover includes the conversion of property to transportation rights-of-way. Land use/land cover categories were discerned through field work and digitized as features by aerial imagery interpretation using Google Earth Pro and ESRI ArcMap. Estimated land use/land cover impacts were calculated based on right-of-way plans.

The No Build Alternative would convert 0 acres of upland oak-hickory-pine forest to transportation use, while Alternative 1 would convert approximately 30 acres to a transportation use. Of those 30 acres, 3.7 acres are forested with upland hardwood tree species. The additional 26.3 acres of non-forested pasture land, residential and commercial use and utility corridors would be converted to a transportation use.

Alternative 2 would convert approximately 37.2 acres to a transportation use. Of those 37.2 acres, 21 acres are forested with upland hardwood tree species. The additional 16.2 acres of non-forested pasture land, residential and commercial use and utility corridors would be converted to a transportation use.

Alternative 3 would convert approximately 42 acres to a transportation use. Of those 42 acres, 28.4 acres are forested with upland hardwood tree species. The additional 13.6 acres of non-forested pasture land, residential and commercial use and utility corridors would be converted to a transportation use. No secondary or cumulative impacts to land use/land cover are anticipated.



References

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- Woods, A.J., Foti, T.L., Chapman, S.S., Omernik, J.M., Wise, J.A., Murray, E.O., Prior, W.L., Pagan, J.B., Jr., Comstock, J.A., and Radford, M., 2004, Ecoregions of Arkansas (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,000,000).

Appendix J – Hazardous Materials and Hazardous Waste Memorandum

HAZARDOUS MATERIALS AND HAZARDOUS WASTE MEMORANDUM

A visual assessment and a one-mile query of available databases of the Arkansas Department of Environmental Quality (ADEQ) revealed seven underground storage tanks (UST's), two above ground storage tanks (AST's), and an oil spill site within the project area alternatives. Ground reconnaissance confirmed these sites. Figure 1 shows the locations of the hazardous material sites and their relation to the proposed alternatives are discussed below.

No Action

The No Action Alternative would not result in any hazardous materials impacted in or around the project area because no additional excavations, acquisitions or planned expansions would be performed in the area. No indirect or cumulative impacts would be expected with the No Action Alternative.

Alternative 1

Two gas stations are located on opposite sides of Highway 89 east of the Interstate 40 interchange. The proposed centerline of Alternative 1 located between these two stations should not affect two USTs to the north and five USTs to the south of the alternative.

An oil spill site was identified within Alternative 1 along Highway 365. On March 29, 2013, the subsurface Pegasus Pipeline owned by ExxonMobil Pipeline Company experienced a crude oil release in Mayflower, Arkansas. The released crude oil was controlled shortly after the release was discovered. Prior to being controlled, the spill released 210,000 gallons of Wabasca heavy crude oil just north of Starlight Road in the City of Mayflower flowing northeasterly to Lake Conway. The oil and its contaminated debris, soils and water have been removed by Arcadis US, Inc. of Raleigh, North Carolina, and the area is presently being monitored for oil sheen and air impacts. However, it is possible that oil pockets could still be discovered during future excavation activities.

Figure 1

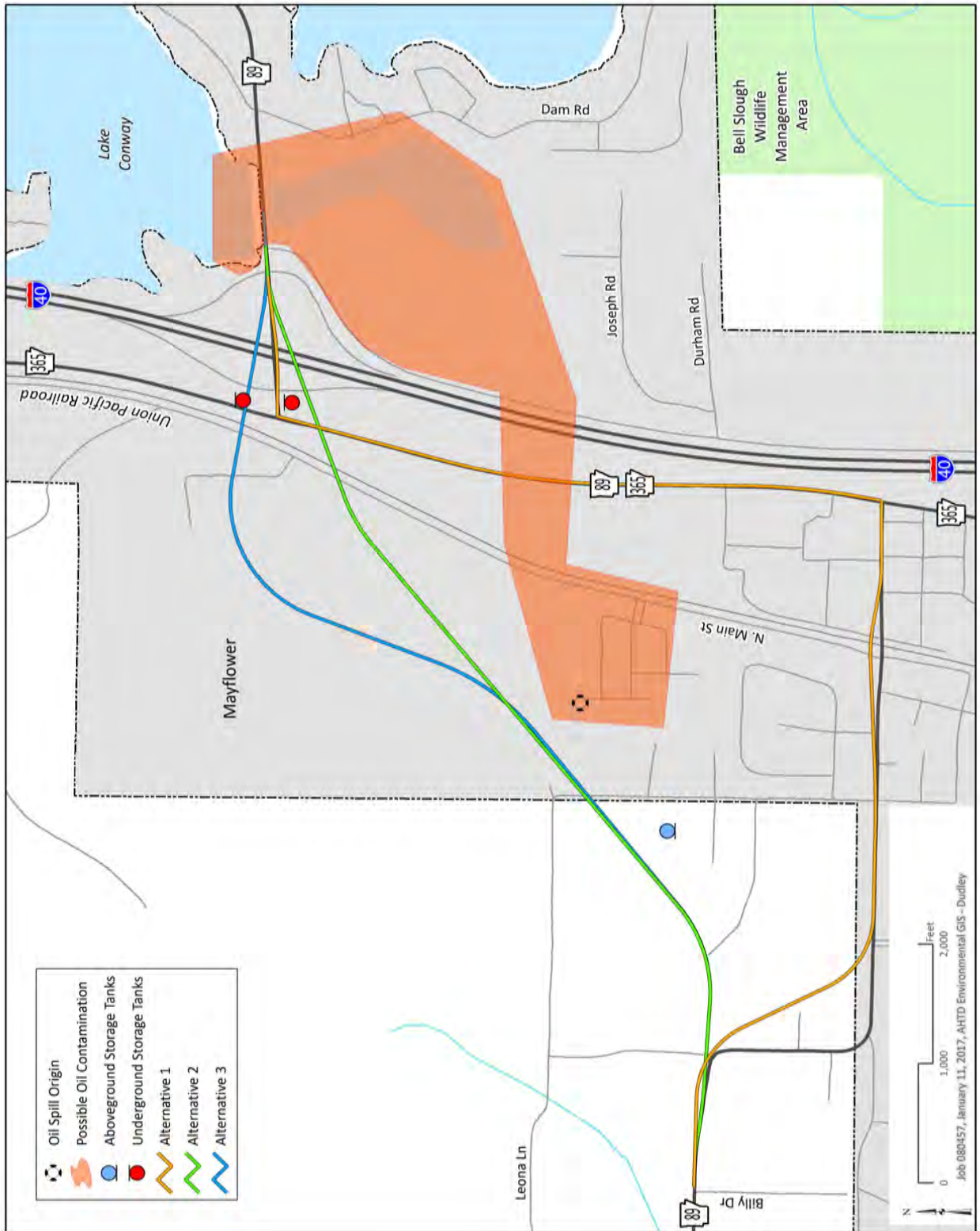




Photo 1. Emergency crews work to cleanup an oil spill near Interstate 40 in Mayflower, Arkansas in this March 31, 2013 file photo. Reuters/Jacob Slaton/Files.

Alternative 2

This alternative will impact five USTs and two ASTs. Five 8,000 gallon USTs are located at the Mayflower Quick Mart [ADEQ Facility Identification Number (AFIN) 2300673].

Two ASTs (one 500 gallon and one 1,000 gallon), are located at Faulkner Plumbing & Mechanical at 33 Snuggs Circle, outside the city limits of Mayflower. The ASTs can be moved easily once empty. No soil staining, dead vegetation or petroleum smells were evident around these two ASTs.

Alternative 3

Alternative 3 will impact seven USTs and two ASTs. Two USTs, (one 8,000 and one 10,000 gallon tank) are located at the Valero Corner

Store (AFIN Number 2300815) and the other five USTs are located at the Mayflower Quick Mart, as described under Alternative 2. The two ASTs located at Faulkner Plumbing & Mechanical will be impacted by this alternative. Table 1 below summarizes the hazardous material impacts for each alternative.

<i>Table 1</i>			
Hazardous Materials - Alternative Impact Comparisons			
Alternative	Underground Storage Tanks	Above Ground Storage Tanks	Oil Spill Site
No Action	0	0	0
Alternative 1	0	0	1
Alternative 2	5	2	0
Alternative 3	7	2	0

Commitments

If hazardous materials are identified, observed or accidentally uncovered by any AHTD personnel, contracting company(s), or state regulating agency, it would be the AHTD’s responsibility to determine the type, size and extent of contamination. The AHTD would identify the type of contaminant, develop a remediation plan and coordinate disposal methods employed for the particular type of contamination. All remediation work would be conducted in conformance with the ADEQ, Environmental Protection Agency (EPA), and Occupational Safety and Health Administration (OSHA) regulations.

An asbestos survey by a certified asbestos inspector will be conducted on each building identified for demolition. If the survey detects the presence of any asbestos-containing materials, plans will be developed for the safe removal of these materials prior to demolition.

All asbestos abatement work will be conducted in accordance with ADEQ, EPA, and OSHA asbestos abatement regulations.

A Special Provision addressing the oil spill, its impacts, and its present condition will provide notification procedures to AHTD staff and will assign additional Arcadis US Inc., and ADEQ contacts in case any oil contamination is encountered during construction. This SP will provide the contractor an additional contact person to report to, if oil spill contamination is discovered and will identify the area of concern.

References:

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Arkansas Department of Environmental Quality. Regulated Storage Tanks (RST) Data Files, http://www.adeq.state.ar.us/rst/tankstats/quick_stat.asp. (August 17, 2016).

Arkansas Department of Environmental Quality. Solid Waste–Illegal Dumps Data Files, http://www.adeq.state.ar.us/solwaste/branch_enforcement/illegal_dumps.asp (August 17, 2016).

Arkansas Department of Environmental Quality. Solid Waste-Permitted Facilities Data Files, http://www.adeq.state.ar.us/solwaste/branch_technical/permitted_facils/permit_list.asp (August 17, 2016).

Appendix K – Cultural Resources

CULTURAL RESOURCES

Cultural resources include elements of the built environment (buildings, structures, or objects) or evidence of past human activity (archeological sites). Those that are listed, or eligible for inclusion, in the National Register of Historic Places (NRHP) are defined as historic properties (36 CFR Part 800.16(1)). Impacts to historic properties are avoided, minimized, or mitigated through a variety of methods that vary depending on the nature of the property. Those that are not eligible for inclusion in the NRHP do not require protection.

A variety of records were checked to determine if previously documented cultural resources were known in the project area. These include the archeological site files kept by the Arkansas Archeological Survey (AAS) in Fayetteville and the historic structure database kept by the Arkansas Historic Preservation Program (AHPP) in Little Rock. Several early maps were also reviewed to gather information regarding early historic settlement in the project area. The windshield survey consisted of driving to as many public access points as possible along each alternative to determine if any unrecorded historic structures were present.

A review of the AAS site files revealed no previously recorded sites within or near the proposed alternatives.

A review of the AHPP historic structure file shows one recorded historic structure near the proposed alternatives. Structure FA1285 has been destroyed..

A Request for Technical Assistance (RTA) was submitted to the State Historic Preservation Office (SHPO) on existing structures that appeared to be fifty years old or older. Of the twenty-seven structures submitted, SHPO found five were determined

eligible for inclusion in the NRHP. These structures will not be directly impacted by any of the alternatives.

The cultural resources survey consisted of a visual survey of the proposed alternatives by an AHTD staff archeologist in March 2012. The survey was conducted in order to identify any obvious archeological sites or historic properties that might be affected by the project and to see if any of the alternatives were located within areas having a high probability for the occurrence of undiscovered cultural resources.

No new cultural resources were identified during the windshield survey. Several early maps were reviewed to gather information regarding early historic settlement in the project area. These included copies of the 1819 and 1855 General Land Office (GLO) maps for Township 4 North of Ranges 13 and 14 West, and the 1936 Faulkner County Highway Map. The 1819 Government Land Office map showed no cultural indicators such as fields, houses, or roads. The 1855 GLO map showed a field and house in the SW1/4 of Section 19, Township 4 North, Range 13 West. The area is located just north of the green alternative line and newer houses are present in that area. The 1936 Faulkner County road map showed Highway 65, Main Street, and Highway 89 in the same location. Mayflower Cemetery is present on this road map as well as the quadrangle map. A few structures are shown along Main Street in Section 19. A structural survey did not show any houses along Main Street that would be eligible for the NRHP.

The alternatives were also plotted on the most recent Mayflower topographic quadrangle map in order to preview existing landforms for areas considered to have a high probability for Native American and historic settlements. An analysis of the Mayflower topographic quadrangle map shows that the alternatives cross ridge and valley terrain, and terraces and depressions. The alternatives are near several creeks, lakes, and the Arkansas River which increases the chances of finding unknown Native American sites around these water sources or on terraces above it.

There are no archeological constraints apparent for any alternative.

Once a Preferred Alternative has been identified, an intensive cultural resources survey will be conducted. If no cultural resources would be impacted, the project will be documented on an AHTD Project Identification Form and submitted to the SHPO with a recommendation of no further work. If cultural resources would be impacted, a full report documenting the results of the survey and stating the AHTD's recommendations will be prepared and submitted to the SHPO for review. If prehistoric sites would be impacted, continuing consultation with the appropriate Native American Tribe would occur and the site or sites would be evaluated to determine if Phase II testing is necessary. Should any of the sites be found to be eligible or potentially eligible for nomination to the NRHP and avoidance is not possible, site-specific data recovery plans will be prepared and data recovery will be carried out at the earliest practicable time.

Appendix L – Noise Analysis

NOISE ANALYSIS

Fundamentals of Sound and Noise

“Noise” is defined as an unwanted sound. Sounds are described as noise if they interfere with an activity or disturb the person hearing them. Sound is measured in a logarithmic unit called a decibel (dB). The human ear is more sensitive to middle and high frequency sounds than it is to low frequency sounds, so sound levels are weighted to more closely reflect human perceptions. These “A-weighted” sounds are measured using the decibel unit dB(A). Because the dB(A) is based on a logarithmic scale, a 10 dB(A) increase in sound level is generally perceived as twice as loud while a 3 dB(A) increase is just barely perceptible to the human ear.

Sound levels fluctuate with time depending on the sources of the sound audible at a specific location. In addition, the degree of annoyance associated with certain sounds varies by time of day, depending on other ambient sounds affecting the listener and the activities of the listener. The time-varying fluctuations in sound levels at a fixed location can be quite complex, so they are typically reported using statistical or mathematical descriptors that are a function of sound intensity and time. A commonly used descriptor of the equivalent sound level is Leq , which represents the equivalent of a steady, unvarying level over a defined period of time containing the same level of sound energy as the time varying noise environment. $Leq(h)$ is a sound level averaged over one hour. For highway projects, the $Leq(h)$ is commonly used to describe traffic-generated sound levels at locations of outdoor human use and activity (such as residences).

Noise Impact Criteria

Traffic noise impacts take place when the predicted traffic noise levels approach or exceed the noise abatement standard, or when the predicted traffic noise levels exceed the existing noise level by ten dB(A) (decibels on the A-scale). The noise abatement standard of 67 dB(A) is used for sensitive noise receptors such as residences, schools, churches, and parks. The term “approach” is considered to be one dB(A) less than the noise abatement standard.

The number of noise receptors was estimated for this project utilizing the Federal Highway Administration’s Traffic Noise Model 2.5, existing and proposed roadway information, existing traffic information, and projected traffic levels for 2040.

Traffic noise analyses

Traffic noise analyses were performed for the project utilizing a roadway cross-section for the No-Action Alternative consisting of two 11-foot paved travel lanes and 3-foot

paved shoulders. Alternatives 1, 2, 3 and the Bypass Alternative were modeled utilizing a roadway cross-section consisting of four 11-foot paved travel lanes, a 12-foot paved turn lane, and two 4-foot paved bike lanes.

Effects of Project

The traffic noise estimates for the project resulted in a noise abatement distance between 64 feet to 83 feet of the centerline of the alternatives shown in the following table. No sensitive receptors are expected to be impacted in any of the alternatives shown. This is due to the reduced speeds and low truck volumes associated with the project. Future noise levels will increase from 1 and 3 dBA between 2016 and 2040 due to increased traffic volumes. This increase would be barely noticeable.

Alternative	66 dBA Noise Abatement Distance (feet from Centerline) 2016	66 dBA Noise Abatement Distance (feet from Centerline) 2040	Noise Increase at 25' (EOP) (dBA)
	No Action	62	69
1	61	67	<1
2	65	68	< 1
3	65	68	< 1
Bypass	65	83	3

EOP – Edge of pavement

Traffic Noise Abatement

Since noise impacts are predicted within 500 feet of the proposed project, the feasibility and reasonableness of potential noise abatement measures must be evaluated. Based upon AHTD's "Policy on Highway Traffic Noise Abatement", any noise abatement effort using barrier walls or berms is not warranted for this project. In order to provide direct access to the highway from adjacent properties, breaks in the barrier walls or berms would be required. These necessary breaks for highway access would render any noise barrier ineffective.

To avoid noise levels in excess of design levels, any future receptors should be located a minimum of 10 feet beyond the distance that the noise abatement standard is projected to

occur. This distance should be used as a general guide and not a specific rule since the noise will vary depending upon the roadway grades and other noise contributions.

Any excessive project noise, due to construction operations, should be of short duration and have a minimum adverse effect on land uses or activities associated with this project area.

In compliance with Federal guidelines, a copy of this analysis will be transmitted to the Central Arkansas Planning and Development District for possible use in present and future land use planning.