Taylor loop rd. – Pleasant Ridge Rd. (S)

ArDOT Job 061382

Environmental Assessment



U.S. Department of Transportation
Federal Highway Administration

Arkansas Department
Of Transportation

June 2022

TAYLOR LOOP RD. – PLEASANT RIDGE RD. (S)

F.A.P. NHPP-9253(86)

Environmental Assessment

Submitted pursuant to:

The National Environmental Policy Act (NEPA)

42 U.S.C. §4322(2)(c) and 23 C.F.R. §771

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In compliance with the *National Environmental Policy Act*, this Environmental Assessment (EA) describes the plan to widen Highway 10 in Little Rock, Arkansas from Taylor Loop Road to Pleasant Ridge Road. The analysis did not identify any significant adverse environmental impacts and identifies the Build Alternative as the Preferred Alternative.

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Chapter 1 – Purpose & Need

What's in Chapter 1?

Chapter 1 explains the purpose of the project, why improvements to Highway 10 are needed, and who is leading the project.

1.1 What is the Highway 10 widening project?

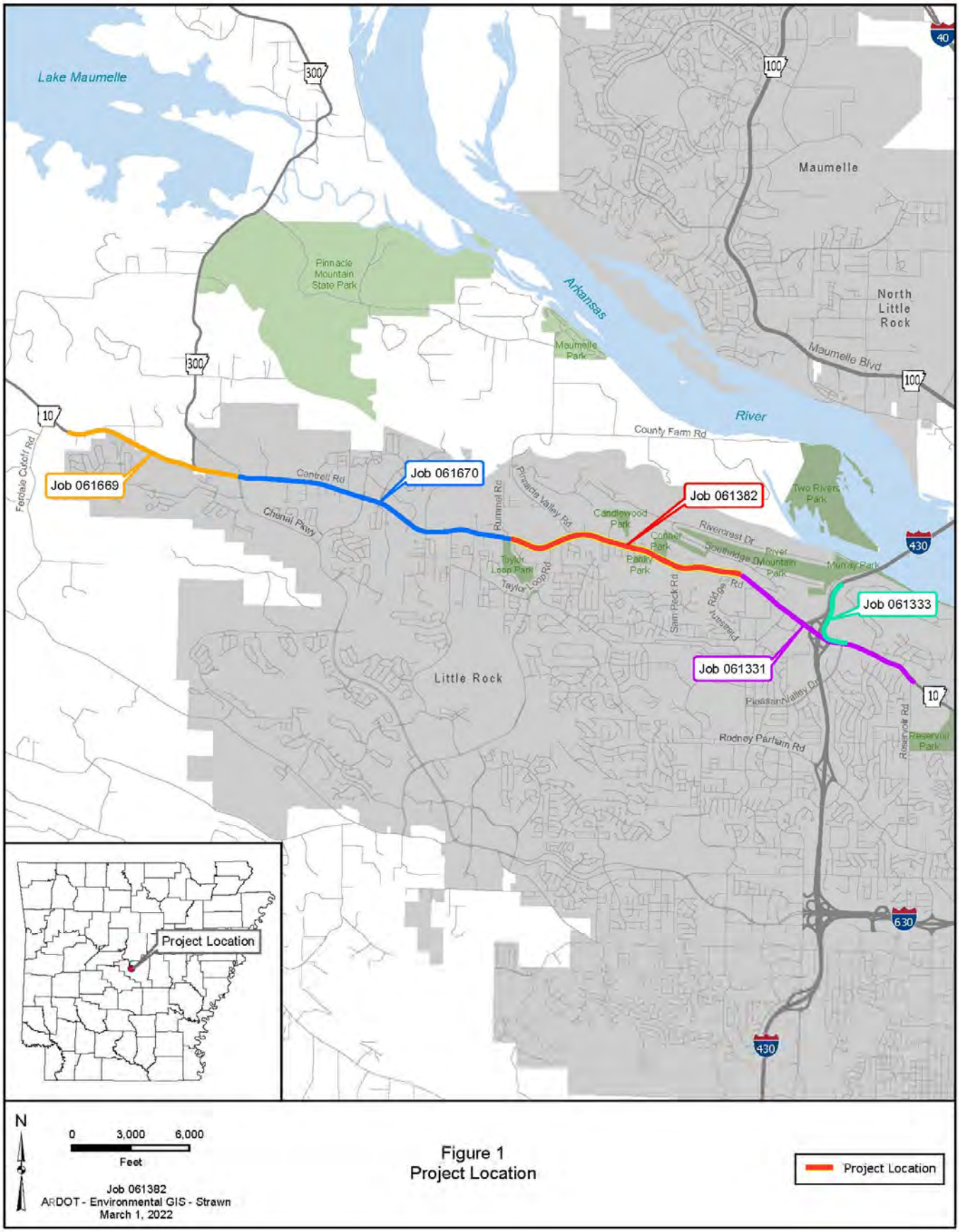
The Highway 10 Improvement Study (2013) in Appendix A, evaluated the need for improvements to approximately 8.5 miles of Highway 10 between Ferndale Cutoff Road and Pleasant Valley Drive. Between Taylor Loop Road and Pleasant Ridge Road, the study recommended widening to six lanes with a raised median and intersection improvements as needed. These improvements were programmed under ARDOT Job 061382 (Figure 1) and are evaluated in this Environmental Assessment (EA).

1.2 What are the existing conditions on Highway 10?

Highway 10 is an east-west state highway beginning in Little Rock and extending west 139 miles to the Oklahoma State Line. Within Pulaski County, Highway 10, also known as Cantrell Road, is a heavily traveled principal arterial that provides access to the northwestern portion of Little Rock and western Pulaski County. The posted speed limit from Taylor Loop Road to Pleasant Ridge Road is 45 miles per hour. ln 2019, the average daily traffic (ADT) for this segment ranged from 41,000 to 51,000 vehicles per day, making it one of the busiest arterial roadways in Arkansas. Truck percentages are low and do not meaningfully impact congestion levels. Highway 10 is in a fast-growing part of the city, and right of way constraints are increasing.

What is a principal arterial?

Principal arterial means the functional classification for a major highway intended to serve through traffic where access is carefully controlled. They are generally highways of regional importance with moderate to high volumes of traffic traveling relatively long distances and at higher speeds


Lake Maumelle
Pinnacle Mountain State Park
Arkansas River
Maumelle
North Little Rock
Maumelle Park
Maumelle Blvd
County Farm Rd
Ferndale Cutoff Rd
Centrell Rd
Chenal Pkwy
Rummel Rd
Pinnacle Valley Rd
Candlewood Park
Corner Park
Rivercrest Dr
Southridge Dr
River Mountain Park
Two Rivers Park
Murray Park
Taylor Loop Park
Taylor Loop Rd
Family Park
Sam Peck Rd
Pleasant Ridge Rd
Pleasant Valley Dr
Rodney Parham Rd
Reservoir Rd
Reservoir Park
Little Rock
Job 061669
Job 061670
Job 061382
Job 061333
Job 061331
Project Location
N
0 3,000 6,000
Feet
Job 061382
ARDOT - Environmental GIS - Strawn
March 1, 2022
Figure 1
Project Location
Project Location

1.3 How is the project area changing?

Western Little Rock is one of the fastest-growing regions of Pulaski County. Numerous residential subdivisions, apartment complexes, office buildings, and retail outlets have come to the area. Comparing volumes from 20 years ago, the ADT along Highway 10 has grown to around 51,000 vehicles per day, nearly doubling the previous volumes. Numerous undeveloped land parcels remain in the area; thus traffic growth would likely continue to go up as future development would make right-of-way acquisition more difficult.

1.4 Why does Highway 10 need to be widened?

Traffic Flow

The Highway 10 Improvement Study predicts continuing traffic growth and high congestion levels on Highway 10 in western Pulaski County. Improvements are needed to accommodate future strategic growth in the region, ensuring the economic competitiveness and positive quality of life in Little Rock and Pulaski County for years to come.

Safety

Updated information for crash data from 2017-2021 from Taylor Loop to Sam Peck showed crash rates of 2.95 crashes per million vehicle miles traveled (MVM) which were well below the Statewide Average Crash Rate of 4.45 crashes per MVM per year for an Urban 4-lane, undivided, no control of access highway. The KA crash (fatal and serious injury crashes) rates for the five-year average were 3.00, versus a five-year average KA Statewide Crash Rate of 9.67 crashes per 100 MVM for the years of 2017 through 2021 respectively.

What are crash rates?

Crash rates are based on the number of crashes per million vehicle miles traveled. For example, over the 5-year period (2017 to 2021), Highway 10 (Taylor Loop to Sam Peck) had an average of 98 crashes per year, an average traffic volume of 39,500 vehicles per day, and is 2.31 miles long. This translated to a crash rate, per million vehicle miles, of 2.95. These rates are compared to a statewide average crash rate, also per million vehicle miles, for similar highways. In this case, the statewide average crash rate for a four-lane undivided urban highways, per million vehicle miles, was 4.45.

Bicyclists & Pedestrians

In the project area, Highway 10 currently has poor, if any, accommodations for bicyclists and pedestrians. Some sections of the highway have shoulders less than 3' wide, and there are large sections of the highway where no shoulder exists. The highway section varies between sidewalks with a grass berm, sidewalks that abut the curb and gutter, and sections without any sidewalks. Bicyclists are forced to use the narrow shoulders, while pedestrians are forced to walk on grass shoulders or scattered segments of sidewalks along the highway.

This corridor is in the City of Little Rock's adopted Master Bike Plan and the region's Long-Range Metropolitan Transportation Plan. The corridor was noted as essential for regional bicycle connectivity. FHWA recommends either a separate bike lane or a shared use-path when traffic volumes are greater than 7,000 vehicles per day and speeds are greater than 35 mph. With traffic volumes currently around 51,000 per

day, and expected to increase to 70,000 vehicles per day with speeds at or equal to 45 mph, neither of these two facilities are appropriate. Construction of alternative transportation facilities would require the construction of additional connections to existing facilities. Currently the plans show 5' sidewalks with a 3' grass berm on both sides of the highway.

1.5 What is the purpose of this project?

The purpose of this project is to relieve traffic congestion and enhance safety for all roadway users. This project would complete the needed improvements outlined in Highway 10 lmprovement Study between Taylor Loop Road and Pleasant Ridge Road.

1.6 What is the purpose of this Environmental Assessment?

This EA is being prepared to:

- Evaluate the environmental effects of widening Highway 10.
- Inform and receive feedback from the public and decision makers about the environmental effects of the project.

Determine whether effects are significant and require an Environmental Impact Statement or if the project effects can be sufficiently documented through an EA and Finding of No Significant Impacts (FONSI).

What are significant impacts?

NEPA regulations do not provide specific thresholds to determine if project impacts are considered significant, but they do discuss the process that should be used to evaluate impacts.

Consideration is given both to context, where the significance of impacts varies with the setting of the proposed action, and intensity, the severity of the impacts.

1.7 Who is leading this project?

This project is being led by a partnership between FHWA and ARDOT. The FHWA is involved because it is funding a portion of the project and has the primary responsibility for the content and accuracy of this NEPA document.

The project is also being funded through state funds allocated to ARDOT. ARDOT is responsible for administering and maintaining the state highway system, which includes Highway 10. For these reasons, ARDOT is a co-lead agency with FHWA.

Chapter 2 – ALTERNATIVE DEVELOPMENT

What's in Chapter 2?

Chapter 2 identifies the project limits and briefly describes the alternatives evaluated in this EA.

2.1 What are the project limits and how were they chosen?

The Highway 10 lmprovement Study provided recommendations on how to phase improvements along Highway 10. The highest priority improvements were in the vicinity of the Interstate 430 interchange. These improvements were constructed under Job 061333, the westbound Highway 10 to northbound Interstate 430 ramp, and the current construction Job 061331 to widen Highway 10 from Pleasant Valley Road to Pleasant Ridge Road (Figure 1). West of Taylor Loop Road, traffic volumes are substantially lower and improvements have a lower priority. This project includes the next phase of improvements between Taylor Loop Road and Pleasant Ridge Road.

2.2 What alternatives were evaluated in this EA?

Two alternatives were considered for this project: The No Action Alternative and the Build Alternative.

Why would you consider an alternative that does nothing?

The National Environmental Policy Act (NEPA) requires decision makers to consider a "no action" alternative in all NEPA studies. This alternative usually does not meet the project's purpose and need, but is used to compare the beneficial and adverse impacts of "action" alternatives and determine their significance.

No Action Alternative

The No Action Alternative would provide only routine maintenance for Highway 10 in the project area. By taking no action other than routine maintenance, the No Action Alternative would not address the current and forecasted traffic flow and safety concerns, which would increase as traffic volumes and commercial and residential development in the corridor increase.

Build Alternative

The Build Alternative would widen Highway 10 for 2.3 miles on its existing alignment. The project would widen the existing four 11' wide travel lanes with a 12' wide continuous center left turn lane into six 12' wide travel lanes, with a raised 16' curb and gutter median. Five U-turn bays would be provided along the route. Improved intersection design, including new turn lanes and traffic signals would be constructed at the

following intersections: Taylor Loop Road, Pinnacle Valley Road, The Kroger Marketplace, and Sam Peck Road.

The typical section would include concrete curb and gutter drainage along the travel lanes, 3' grass berms and 5' sidewalks along both sides of the highway.

The Build Alternative would improve Highway 10 to an acceptable traffic flow design. The proposed improvements and U-turn bays would correct the "stop-and-go" traffic movements, which are typically associated with increased traffic volumes.

2.3 How has the public been involved?

A public meeting was held on April 18, 2013 for the *Highway 10 Improvement Study* to solicit comments concerning the proposed improvements to the Highway 10 corridor. Of the comments received, an average of 79 percent agreed that the proposed widening and intersection improvements are needed.

In regard to the median treatments, 55 percent of participants preferred a raised median design and 45 percent preferred a two-way left-turn design. The City of Little Rock and Metroplan staff expressed a strong preference for a raised median along this route.

In regards to bicycle accommodations, 52 percent of participants preferred shared use paths; 28 percent preferred bicycle lanes; and 20 percent preferred no bicycle accommodations. Cyclists commented on the need for bicycle accommodations on Highway 10. Some non-cyclists expressed concern that bicycle usage is not appropriate along Highway 10 and that accommodations would simply encourage cycling activities.

A public involvement meeting was held on October 24, 2019 in the project area. Preliminary designs were shown to the public. The meeting was attended by 132 people, including ARDOT staff, with 80 comment forms and eight letters received. Of the comments received, 39 were for the widening project, and 33 opposed the project. A majority (63) of the commenters believed that Highway 10 should include accommodations for bicycles with either a protected lane or a side path. Five commenters preferred that the highway remain five lanes with adaptive traffic signals.

A neighborhood meeting was held on November 17, 2019 to provide for additional communication with the Pankey Community. The meeting was attended by 59 people (including ARDOT staff). Twenty-nine comments were received at the meeting. Of these comments: three commenters believed there was a need for the project, 22 commenters did not believe there was a need for the project and one individual selected both a need and no need for the project. Three individuals did

not select an opinion. Most respondents (18 out of 29) felt the project would have adverse impacts upon the community by increasing the traffic through the community, increasing noise pollution, and decreasing safety.

As a result of the neighborhood meeting, design changes were developed to examine the impacts and functionality of different project designs and footprints impacting the Pankey Community. At the request of the Pankey Community, an additional neighborhood meeting/virtual meeting was conducted on October 8, 2020 at the Josephine Pankey Community Center in Little Rock and via a Cisco Webex platform. The meeting was attended by 33 people (including ARDOT staff), 11 in-person attendees and 22 virtual attendees. Four comments were received. Of these comments: 3 commenters preferred the Build Alternative, and all 4 commenters believed that the proposed design changes were not sufficient.

In an effort to provide a better visual illustration to the community of Pankey, ARDOT returned with a third Neighborhood Meeting/Virtual Meeting on April 13, 2021 at the Josephine Pankey Community Center in Little Rock. ARDOT provided illustrations of three selected impacted residential properties utilizing a 3D Model and a photographic example of the signalized pedestrian crosswalk on Highway 10. The meeting was attended by 48 people (including ARDOT staff), 19 in-person attendees and 29 virtually. One comment form was received, in which the main concern was the need to have full access to their property at all times during construction. Summaries of all four public meetings and the *Social Impact Summary* addressing the concerns of the community and how concerns were resolved can be found in Appendix B.

2.4 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 the tribes with an active cultural interest in the area during the scoping process for this project which were the Quapaw Tribe of Oklahoma and the Caddo Nation. The Tribal Historic Preservation Officers were given the opportunity to comment on the proposed project. No objections to the proposed project were received.

2.5 Which of these alternatives will be considered?

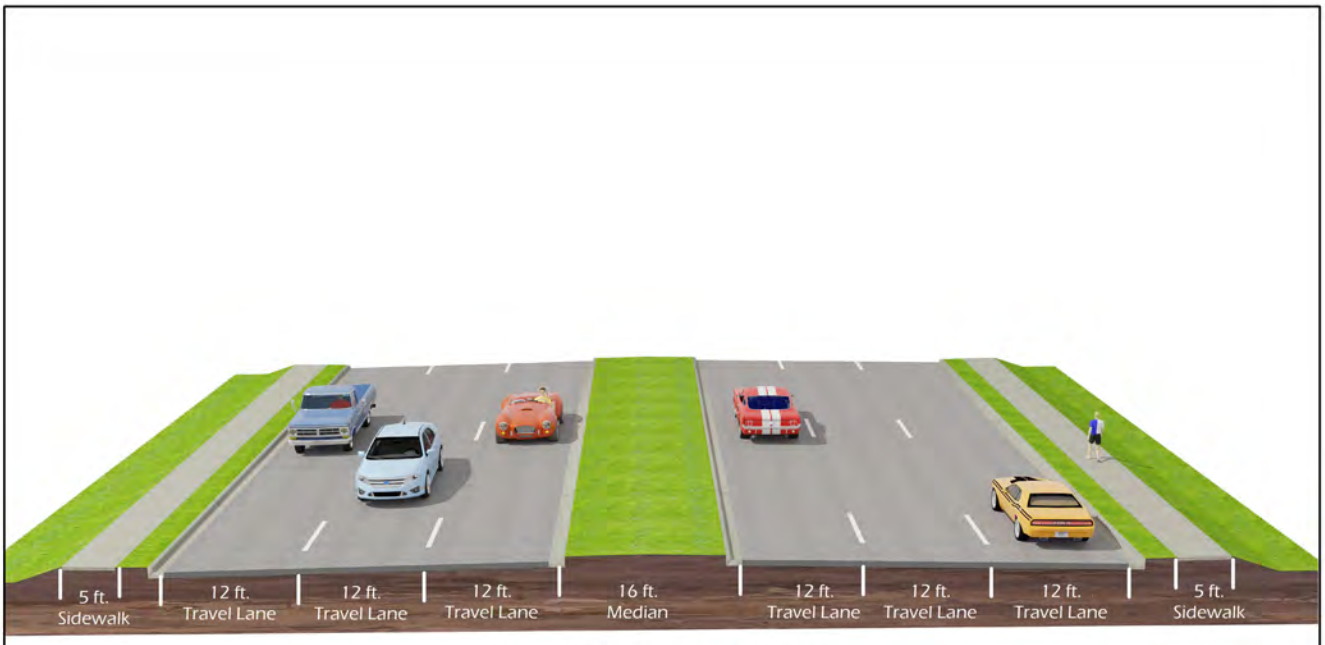
The No Action Alternative does not meet the project's purpose and need of improving current and forecasted traffic flow and enhancing safety for all roadway users. However, the No Action Alternative will be

considered in this EA as a baseline for comparison of impacts against the Build Alternative.

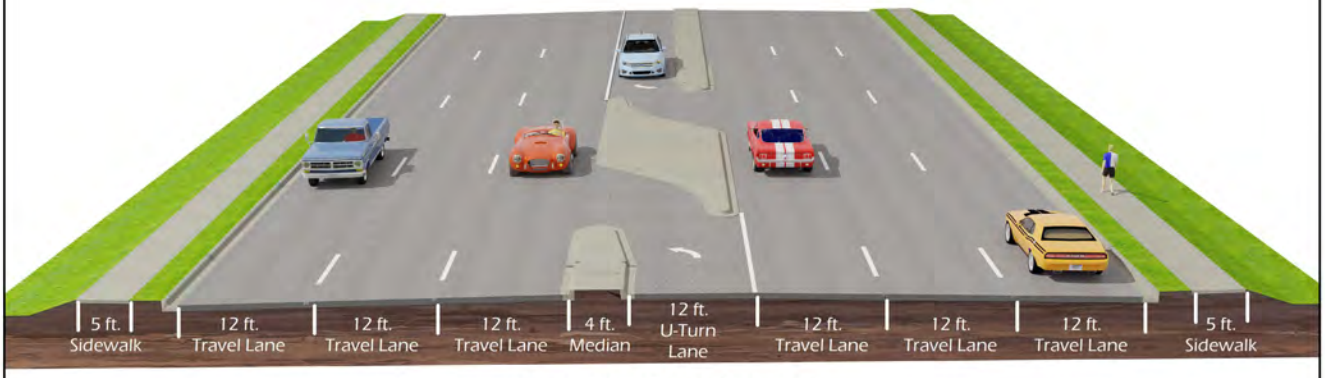
The Build Alternative improves safety with the addition of 12' travel lanes in both directions, U-turn bays, a 6" raised median, signalized intersections and sidewalks. The minimization alignment and design developed for the Build Alternative meets the project's purpose and need while minimizing impacts to adjacent property owners; therefore, the Build Alternative will be the only alternative considered in the remainder of this EA. Figure 2 shows the project details, whereas Figure 3 shows the typical cross-sections found along the Build Alternative.



Figure 2
Project Details



Typical Roadway Section



Typical U-Turn Section

Figure 3
Job 061382

ARDOT - Environmental GIS - Dudley - July 13, 2022

Chapter 3 – PROJECT EFFECTS

What's in Chapter 3?

Chapter 3 identifies permanent and temporary impacts that are expected as a result of the proposed project. Only elements that would be affected by the project are discussed. The impact areas discussed in Chapter 3 are summarized in Table 2, found at the end of the Chapter 4.

3.1 How would the project affect traffic and safety?

How would traffic patterns and volumes on Highway 10 and intersecting roads change with the project?

Normal traffic patterns would be enhanced due to the installation of an additional travel lane and the addition of a raised median along Highway 10. The travel lane additions would allow larger traffic volumes on Highway 10. The raised median would provide a safety barrier for motorists, preventing motorists from entering into oncoming traffic and causing a head-on collision. The raised median would allow motorists who want to turn around, to use either the four improved signalized intersections or five median provided U-turn bays. Crash rates and traffic congestion levels are anticipated to decrease with the Build Alternative. Traffic congestion levels would remain at acceptable levels throughout the 20-year period, even as traffic volumes increase.

The No Action Alternative would result in increasing traffic congestion and crash rates as traffic volumes increase over the 20-year study period, with traffic congestion remaining at unacceptable levels.

How would the project affect safety?

The Build Alternative would result in improved roadway safety with the additional travel lanes and the addition of raised medians. Bicyclist and pedestrian safety will also be greatly improved with the addition of curb and gutter, 3' grass berms and 5' sidewalks on both sides of Highway 10. There are no bicycle laws in Arkansas that prohibit riding on the sidewalk. However, the City of Little Rock can issue special permission for a sidewalk to be used by bicyclists where appropriately signed. Signalized intersections will greatly increase bicyclist and pedestrian safety at Taylor Loop Road, Pinnacle Valley Road, the Kroger Marketplace, and Sam Peck Road.

The No Action Alternative would not address any of the safety hazards or reduce the crash rates. Bicyclists and pedestrians would have no

improvements in safety, and conditions would become increasingly dangerous as traffic volumes increase on Highway 10.

How much traffic congestion would be caused by construction?

While Highway 10 traffic would likely experience minor delays during the construction of the Build Alternative, traffic would be maintained in both directions during construction. Because the Build Alternative involves constructing additional lanes on Highway 10, traffic can be shifted easily to either side of the highway throughout construction. The No Action Alternative would not involve any highway construction.

3.2 How much would the proposed project cost?

Using 2021 dollars, the Build Alternative is estimated to have $22.1 million in construction costs, $8.9 million in right of way acquisition costs, and $17.0 million in utility relocation costs. The total project cost is estimated to be $48.0 million. The No Action Alternative would not result in any construction and would only involve routine maintenance costs.

What is a relocation?

Relocations occur when a residence, business, or non-profit is impacted severely enough by a proposed project that they cannot continue to live or do business at their current location. This is usually due to the proposed right of way limits requiring acquisition of a structure (house or business), taking most of a business's parking, or severing access to the property.

3.3 How would economic conditions along Highway 10 and surrounding areas be affected?

Development along Highway 10 through the project area is primarily large and small businesses, with a mix of residential and commercial properties. The Build Alternative would benefit the local economy by making the area more attractive to commercial development with safer, less congested travel and improved access for motorists, bicyclists, and pedestrians.

The No Action Alternative would not have any direct impacts on local businesses or economic conditions, but would also not alleviate the existing and forecasted traffic flow and safety concerns, hindering the potential for development in the project area and further west on Highway 10.

Table 1
Build Alternative Land Use Impacts

Land Use Type	Acres
Commercial	3.4
Wooded	2.9
Pasture/Field	1.7
Residential	1.1
Vacant	0.5
Total	9.6

3.4 How would the project affect properties in the area?

Land cover in the immediate project area was historically mixed oak-pine forest, but old-growth vegetation was removed through logging, then clearing for pasture, and finally for development. Highway 10 and its proximity to the city and Lake Maumelle has encouraged commercial and residential development along the Highway 10 corridor. The land uses affected by the Build Alternative can be found in Table 1.

The No Action Alternative would not result in any right of way acquisition or relocations, and would not encourage any additional

development in or around the project area. No indirect or cumulative impacts would be expected with the No Action Alternative.

The Build Alternative would require the relocation of two residential tenants and two landlord businesses. The relocation of these residential tenants would slightly affect the local economy in the project area. The impacts from the two landlord businesses would minimally affect the economic conditions of the local community and the City of Little Rock.

A Conceptual Stage Relocation Study, found in Appendix C, determined that suitable locations could be found to relocate the property owners in the immediate area. Cost estimates, a Conceptual Stage Relocation Study, and an available housing inventory are provided in Appendix C. The right of way acreage can be found in Table 2. Relocation assistance would be provided to all property and business owners relocated as a result of this project. Right of way acreages and relocation counts are based on the latest design plans, but are subject to change as a result of comments received at the Location and Design Public Hearing.

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

The Build Alternative follows along the existing Highway 10, passing through areas that are primarily business and residential properties. The proposed project passes an isolated predominantly minority area, known as the Pankey Community. Based on the EJ/Title VI analysis, the original proposed design disproportionately impacted the Pankey community. These concerns were addressed through design changes coordinated through extensive public involvement opportunities offered to the Pankey Community, as mentioned previously in Section 2.3. Roadway design modifications added to the design of the project include: the addition of retaining walls with handrails, the addition of a signalized pedestrian crossing located in front of the Pankey Community Center, and the placement of two U-turn bays along this section of the highway for community access and safety.

What is Environmental Justice and Title VI?

An Environmental Justice evaluation determines whether low-income or minority populations would suffer disproportionately high and adverse effects from an action. Title VI of the Civil Rights Act of 1964 (Title VI) prohibits discrimination on the basis of race, color, sex, national origin, religion or disability under any program or activity receiving Federal financial assistance

The Build Alternative would not sever the Pankey Community, since community property already exists on both sides of the highway, and provisions to allow access are planned. The project will not disrupt community services; however, the project would involve one residential relocation and acquisition of 3.9 acres of land. A *Social Impact Summary*, addressing these impacts and the designed mitigation solutions can be found in Appendix B. In accordance with the provisions of *Executive Order 12898* and FHWA Order 6640.23, the proposed project would not cause disproportionately high and adverse effects on the minority, low-

income, elderly or disabled populations residing in the Pankey community.

3.6 How would the project affect 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, ARDOT cultural resource specialists consulted with the State Historic Preservation Officer (SHPO) and Native American tribes.

What is a historic property?

Cultural resources include elements of the built environment (buildings, structures, or objects) or evidence of past human activity (archeological sites). Those that are listed on or eligible for inclusion in the National Register of Historic Places (NRHP) are defined as historic properties.

Preliminary checks with the Arkansas Archeological Survey and Arkansas Historic Preservation Program, as well as early maps of the project area, were checked for records of known archeological sites or historic structures. A cultural resources specialist performed a visual survey of the project area to check for structures and areas that have a high probability for the occurrence of cultural resources.

An intensive cultural resources survey was conducted for the project area. The project was documented and submitted to the SHPO with a recommendation of no further work on September 9, 2021. On September 13, 2021 SHPO responded and concurred that there are no historic properties affected pursuant to 36 CFR § 800.4(d)(1) for the proposed undertaking and that no further archeological work is needed.

From these records checks and field observations, it has been determined that the project will not impact known historic properties and has a very low likelihood of impacting undiscovered cultural resources. Additional information about the cultural resources survey can be found in Appendix D.

3.7 Would noise levels change?

What is noise?

Sound is anything we hear, while noise is unwanted or undesirable sound. Traffic noise is a combination of the noises produced by vehicle engines, exhaust, and tires.

What are sensitive noise receptors?

Noise sensitive receptors include residences and areas with uses such as outdoor restaurant dining areas and public places that have a special sensitivity to noise, such as schools, churches, and parks.

A screening level noise analysis indicated that projected traffic volume increases during the planning period would cause minor noise impacts under the No Build Alternative. Because the screening level analysis predicted noise impacts associated with the Build Alternative; a detailed noise study was conducted for areas where noise barriers were determined to be feasible. Seventeen noise receptors would be impacted by the Build Alternative. Based on the Noise Analysis, a noise barrier for the residential area between Wells Street and Josephine Street was preliminarily determined to be feasible and would meet ARDOT noise policy cost criteria. The Noise Study is attached in Appendix E.

ARDOT will make final determinations regarding the construction of the noise barrier after soliciting the viewpoints of the benefited residents and property owners. Noise barriers for other impacted noise sensitive

receptors were either not feasible or did not meet cost criteria and are therefore not likely to be constructed.

Highway construction involves increased noise levels. These increases in noise associated with the Build Alternative would be temporary and minor in nature. This construction related noise increase would not constitute a noise impact as defined by the FHWA noise regulation and ARDOT'S noise policy. Temporary construction noise reduction measures such as nighttime and weekend work restrictions, may be considered.

3.8 Would utilities be affected?

Impacts to utilities in the project area associated with the Build Alternative would be minimized as much as possible. Several utilities, including electricity, gas, sewer, telecom, and water, would need to be relocated to accommodate widening Highway 10. The Build Alternative is estimated to have $17.0 million in utility relocation costs, which are included in the right of way cost estimates in Table 2. The No Action Alternative would not affect any utilities.

3.9 How would the project area's visual quality be affected?

Increased roadway widths and the addition of the raised median and sidewalks where there are none currently would affect the view shed of the existing roadway for travelers along the road and for adjacent residents and businesses. The removal of two residences, and several acres of trees and other vegetation would alter visual resources along the project corridor. Existing residences and commercial buildings would be in closer proximity to the roadway.

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 F). Due to the existing commercial development in the project area, which would not change as a result of the proposed project, overall visual quality impacts are anticipated to be neutral for roadway users and adjacent businesses and residents. Impacts may be beneficial for some adjacent business, because of increased visibility to travelers. Impacts may be adverse for residential neighbors, however, for whom views of the roadway would become more prominent, or who may have new retaining walls on their property or relocated driveways.

Project construction would result in the clearing of vegetation and the short-term presence of construction vehicles and equipment, temporarily altering the visual character of the area. Visual impacts

What is a visual resource?

Visual resources include elements like roadway cross sections and construction materials; buildings and other manmade structures; and vegetation.

What is a view shed?

A view shed is simply the area that is visible from a specific location. The view shed could be from the point of view from a vehicle, pedestrian, or bicyclist.

What is a visual quality impact?

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

What are travelers and neighbors?

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

associated with cleared vegetation would decrease as the new vegetation planted following construction becomes established.

Significant impacts to overall visual quality are not expected as a result of the project. More information regarding the visual quality analysis and impacts can be found in Appendix F.

3.10 Would any hazardous materials be created or affected?

What are hazardous materials?

A hazardous material is any item or chemical that can cause harm to people, plants, or animals when released into the environment.

A database search and visual survey were performed to determine if any hazardous materials were located in the project area. Three underground storage tanks (USTs) were identified at the operating Murphy Express Station located in the southeastern corner of Highway 10 and Taylor Loop Road. Design plans indicate that the USTs and canopy will not be impacted under the Build Alternative.

The No Action Alternative would not impact any hazardous materials sites. Neither of the alternatives would involve the creation of hazardous materials.

If hazardous materials are identified, observed or accidentally uncovered by any ARDOT personnel, contracting company, or state regulating agency, ARDOT would identify the type of contaminant, develop a remediation plan and coordinate disposal methods to be employed for the particular type of contamination. All remediation work would be conducted in conformance with the DEQ, 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 DEQ, EPA, and OSHA asbestos abatement regulations.

3.11 How would water resources, such as streams, be affected?

The Build Alternative would require the existing Highway 10 bridge over Ison Creek to be widened an additional 60', impacting 60 linear feet of Ison Creek and 0.1 acre of Waters of the United States. In addition, approximately 853 linear feet and 0.1 acre of perennial stream would be relocated with the addition of a pipe culvert. Total impacts to Waters of the United States associated with the Build Alternative are estimated at 0.2 acre and 913 linear feet of stream impacts. The Build Alternative would be permitted under the terms of a Nationwide 14 for Linear Transportation Projects as defined in Federal Register 86(245): 73522-

7358. Mitigation for stream impacts would be in the form of 2,644 stream credits from an approved mitigation bank. A DEQ Short-term Activity Authorization for in-stream work, a National Pollutant Discharge Elimination System permit, and an associated Stormwater Pollution Prevention Plan will be required for soil disturbance. ARDOT will obtain all required waterway and stormwater permits before construction begins. The No Action Alternative would not affect any water resources.

What is the difference between threatened and endangered species?

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. Both threatened and endangered species receive federal protection under the *Endangered Species Act*. Sensitive species are not protected by the *Endangered Species Act* but have been identified by the USFWS as having population viability concerns.

3.12 Would any protected species be impacted by the project?

A record check of the Arkansas Natural Heritage Commission (ANHC) database of sensitive species indicated that no tracked species are known to occur within the project area. The ANHC tracks federally designated threatened or endangered species, as well as those that are considered sensitive species within Arkansas.

The official species list obtained from the US Fish and Wildlife Service's (USFWS) Information for Planning and Consultation website identified the Eastern Black Rail (*Laterallus jamaicensis ssp. jamaicensis*), Piping Plover (*Charadrius melodus*), Red Knot (*Calidris canutus*) and monarch butterfly (*Danaus plexippus*) as species potentially occurring within the project area. Due to a lack of habitat and distance to known occurrences of the listed species, it has been determined that the Build Alternative would have "no effect" on all federally listed species. USFWS correspondence can be found in Appendix G.

What is an ecoregion?

An ecoregion is an area where ecosystems are generally similar.

3.13 How would the project affect other natural resources?

What is an ecosystem?

A system that includes all living organisms (biotic factors) in an area as well as its physical environment (abiotic factors) functioning together as a unit.

The project is located within the Fourche Mountains Ecoregion of the Ouachita Mountains. The Fourche Mountains Ecoregion is composed of long, east-west trending, forested ridges composed of sandstone. Differences in moisture and temperature between north and south facing slopes significantly influence native plant communities. Forests on steep, north-facing slopes have more moisture than on southern aspects; grassy woodlands are found on steepest, south-facing slopes. Pastureland and hay land are restricted to a few broad valleys. Logging is not nearly as intensive as in the commercial pine plantations in other parts of the Ouachita Mountains. Nutrient, mineral, and biochemical water quality parameter concentrations are low in the surface waters of the Fourche Mountain Ecoregion, but turbidity can be higher than in other mountain parts of the Ouachita's.

Neither the No Action Alternative nor the Build Alternative will disturb any landforms of geological features, as the project area has been previously disturbed for commercial and residential development.

3.14 Would any parks or Section 4(f)/6(f) properties be impacted?

There are five parks in the vicinity of the proposed project (see Figure 1). These parks are (west to east): Taylor Loop Park, Candlewood Park, Pankey Park, Conner Park and River Mountain Park: Connor Park and Pankey Park are the only parks that would be directly impacted by the Build Alternative.

Pankey Park which was established in 2002 as a community park owned by the City of Little Rock. The area was incorporated into the Little Rock city limits in 1979. To reduce relocations in the community, four side streets are being proposed to better access the Pankey Community. Construction of these city streets will provide better access to the residents of the community. These streets were requested by the residents and implemented due to impacts caused by the widening of Highway 10. ARDOT will construct these streets in four areas of the Pankey Community. (See Figure 2). Approximately 0.41 acre of the 5.1 acre (8.0%) Pankey Park property will be needed to construct the city streets needed for community access.

Approximately 0.02 acre of the 10 total acres of Connor Park (0.2% of its entire area) would be acquired as permanent highway right of way with the Build Alternative to tie in the park access road to the widened highway. In addition, approximately 0.01 acre would be temporarily required during construction for the park access road work.

FHWA determined that a 4(f) evaluation would be needed for Pankey Park as a result of the project impacts and a *De Minimis 4(f) Evaluation* is attached in Appendix H.

Correspondence with the Arkansas Department of Parks, Heritage and Tourism established that no *Land and Conservation Fund Act (LWCF) of 1965* funds were used to improve or construct the park. The No Action Alternative would not affect any 4(f) or 6(f) resources.

The contractor will be instructed to coordinate construction activities within and adjacent to Conner Park and Pankey Park with the City of Little Rock Parks and Recreation Department. The parks would remain open and accessible at all times during construction other than very minor disruptions when the access road is being reconstructed.

What is the difference between 4(f) and 6(f) resources?

Section 4(f) only applies to projects which have US DOT funding or approval. Section 4(f) specifies that FHWA cannot approve the use of land from publicly owned parks, recreational areas, wildlife and waterfowl refuges, or public and private historical sites unless there are no existing feasible and prudent alternatives to the use of the land and the proposed action includes all possible planning to minimize harm to the property.

Section 6(f) applies to any project that affects a property that received LWCF funding regardless of the project funding source (federal, state, or local).

Mitigation opportunities are more flexible under Section 4(f) and may or may not include replacement lands. Section 6(f) directs the National Park Service (NPS) to assure that replacement lands are of equal value, location and usefulness as the lands impacted by the project.

3.15 What are indirect and cumulative effects, and does the project have any?

Indirect Effects

An indirect effect is a reasonably foreseeable effect that may be caused by a project but would occur in the future or outside of the project area.

What is induced growth?

Induced growth/indirect land use effects of transportation projects occur as a result of a change in accessibility. This change can occur due to transportation access, local land use controls, economic conditions, school locations, growth trends, environmental constraints and many other factors.

Development is anticipated to occur through the proposed project corridor and surrounding areas, regardless of the implementation of this project, and would result in cumulative land use impacts outside of the direct land use conversions outlined above. Indirect impacts as a result of the proposed project include the additional utility right of way required for existing utilities that have to be relocated. Widening Highway 10 could induce additional development west of the City of Little Rock, but this area is currently experiencing growth which is likely to continue under either the Build Alternative or the No Action Alternative. The No Action Alternative involves no work other than regular maintenance and would not result in any indirect effects other than worsening traffic flow and safety concerns as traffic volumes increase over the 20-year planning period.

Neither the Build Alternative nor the No Action Alternative are expected to result in adverse indirect impacts on any water resources, cultural, social, or economic resources.

Cumulative Effects

Cumulative effects result from the total effects of a proposed project, when added to other past, present, and reasonably foreseeable future projects or actions. Cumulative effects are studied so that the public, decision-makers, and project proponents take time to consider the "big picture" effects a project could have on the community and environment.

ARDOT has two programmed projects and two under construction near the proposed project that could impact businesses or result in additional impacts to the local economy. ARDOT Job 061670 immediately west of the proposed project, proposes to mill and overlay Highway 10 from Chenal Parkway to Taylor Loop Road and add rumble stripes. This Job is scheduled to begin construction in 2023. ARDOT Job 061669 also scheduled to begin construction in 2023 would level up Highway 10 with the addition of 1" of new asphalt, and an ultra-thin bonding wearing course from Goodson Road to Chenal Parkway adding rumble strips and new stripping. The projects currently under construction are Job 061331 and Job 061333. Job 061331 is immediately east of the proposed project, and is improving the Highway 10 and Interstate-430 interchange, the Rodney Parham Road intersection, and widening Highway 10 between Pleasant Valley Road and Pleasant Ridge Road. Job 061333 is improving access to I-430 north from Highway 10. See Figure 1 for these project locations.

No other reasonably foreseeable public or private projects are known to be in development in the project area. Neither the Build Alternative nor

the No Action Alternative are expected to cumulatively contribute to any adverse impacts on any natural, cultural, social, or economic resources.

3.16 What other resource areas were examined but not impacted?

Air Quality

This project is located in an area that is designated as in attainment for all transportation pollutants. The Build Alternative has been determined to generate minimal air quality impacts for Clean Air Act criteria pollutants and has not been link with any special mobile source air toxics (MSAT) concerns. The Build Alternative would 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 Action Alternative.

What is air quality attainment?

Areas are considered in attainment for air pollutants when measured levels are below the National Ambient Air Quality Standards set by the EPA.

Prime Farmland

The project is located within the City of Little Rock. No Prime and Unique Farmland of Statewide Importance would be impacted by either alternative.

Public Water Supplies

The Arkansas Department of Health database of public water supplies was examined to determine if any surface water intakes, wellheads, or associated protection areas of either type were present in the project area. No known public water supplies are located in or near the project. There are no impacts to public water supplies anticipated with either alternative.

Flood Hazard Areas

The project was reviewed to identify any encroachments into special flood hazard areas, also known as the 100-year floodplain, as shown on the Flood Insurance Rate Maps issued by the Federal Emergency Management Agency. No areas of special flood hazard were identified within the project area.

Wetlands

There were no jurisdictional wetlands identified within the project area.

What is a wetland?

Wetlands are areas typically inundated or saturated by surface or groundwater to the extent that they can support vegetation adapted for life in wet soil conditions.

Chapter 4 – Recommendations

What's in Chapter 4?

Chapter 4 contains the results and conclusions of this EA.

4.1 What are the results of this EA?

The environmental analysis of the proposed project did not identify any significant impacts to the natural and social environment as a result of the No Action Alternative or the Build Alternative. A summary of the impacts of these alternatives can be found in Table 2.

The Build Alternative has been identified as the Preferred Alternative, because it meets the project's purpose and need and minimizes impacts.

Table 2: Alternative Impacts Comparison

Alternative	**Total Project Cost** (2021 dollars)	**Construction Cost** (2021 dollars)	**Right of Way Cost*** (2021 dollars)	**Right of Way** (acres)	**Relocations**	**Noise Receptors Impacted**	**Stream Impacts** (acres/ linear feet)
No Action	0	0	0	0	0	0	0
Build	48.0 Million	22.1 Million	25.9 Million	9.6	2 Residential Tenants 2 Landlord Businesses	17	0.2/913

**Right of way cost includes right of way acquisition costs, business, non-profit, and landlord relocation costs, and utility relocation costs.*

4.2 Is the NEPA process finished?

After the EA is signed by the FHWA and approved for public dissemination, a Location and Design Public Hearing will be held.

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

Reference Page

Acronyms

ARDOT	Arkansas Department of Transportation
ANHC	Arkansas Natural Heritage Commission
DEQ	Department of Environmental Quality
EA	Environmental Assessment
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impacts
LOS	Level of Service
MPO	Metropolitan Planning Organization
NEPA	National Environmental Policy Act
OSHA	Occupational Safety and Health Administration
SHPO	State Historic Preservation Officer

Appendix A – HIGHWAY 10 IMPROVEMENT STUDY

Highway 10 Improvement Study

Pulaski County



Executive Summary

July 2013

Highway 10 Improvement Study

Pulaski County
Executive Summary

July 2013



Prepared by the Planning and Research Division
Arkansas State Highway and Transportation Department
In Cooperation with the Federal Highway Administration

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ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

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AHTD:P&R:SP:AJW 7/3/2013

Introduction

Highway 10 is an east-west highway between Little Rock and western Arkansas and is a principal arterial within most of the Central Arkansas Regional Transportation Study Area (CARTS). This highway provides access to the northwestern portion of Little Rock and western Pulaski County. Because of increasing congestion along Highway 10 west of Interstate 430, the Arkansas State Highway Commission adopted Minute Order 2009-178, which authorized this study. This study identifies the scope of future improvements needed to relieve congestion along the Highway 10 corridor. It should be noted that a project has been scheduled to provide a new ramp from westbound Highway 10 to northbound Interstate 430. This study assumes the completion of this project.

Purpose and Need

Existing Conditions

Between Ferndale Cutoff Road and Highway 300, Highway 10 has two through lanes. Within this segment, there is also a two-way left-turn lane from west of Highway 300 to Chalamont Drive. Other than the three Robinson Schools located along Highway 10 within this segment, very little residential or commercial development currently exists to the west of Highway 300.

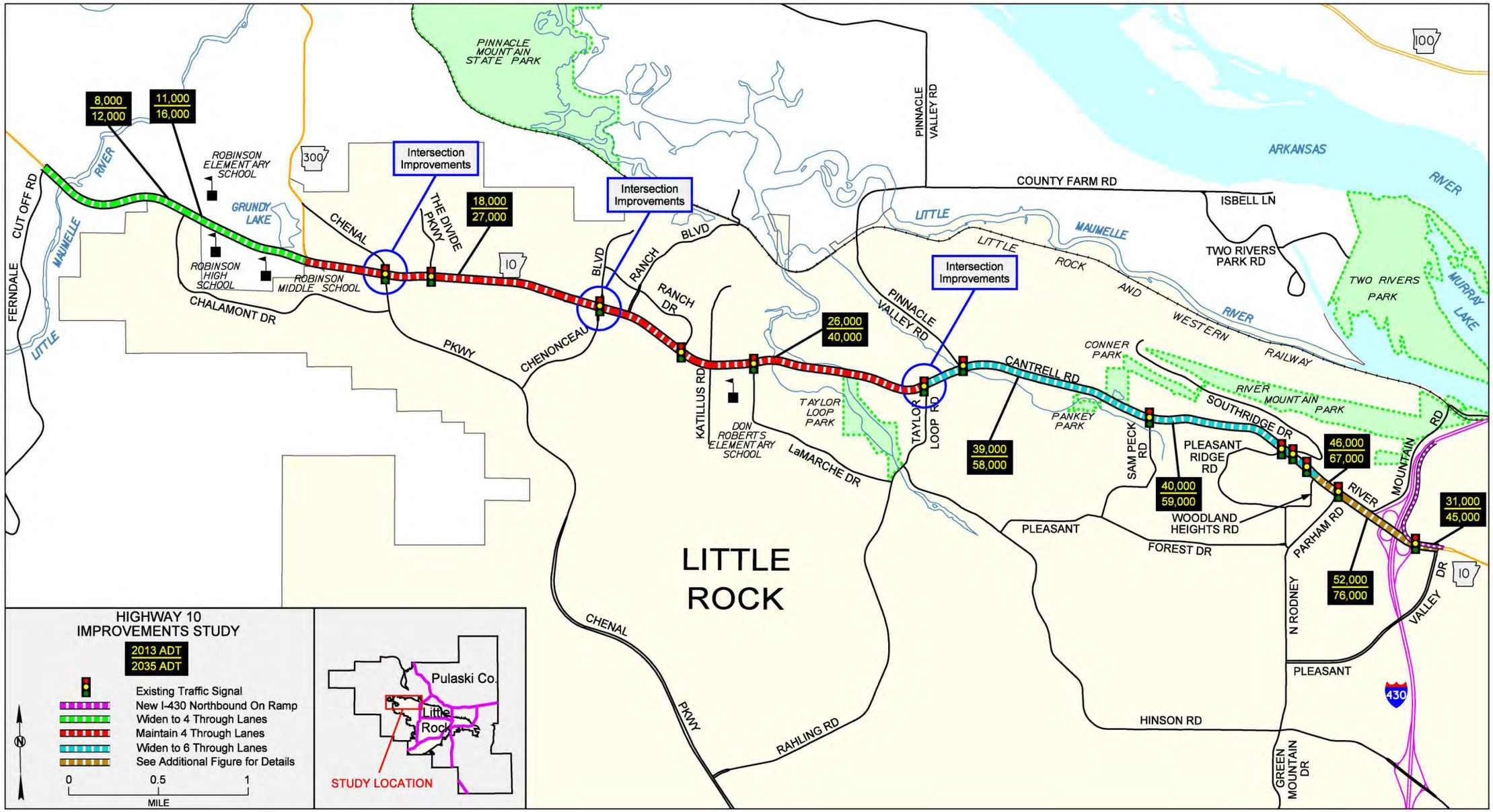
Between Highway 300 and Interstate 430, Highway 10 has four through lanes and a two-way left-turn lane. While some commercial and residential development has occurred between Highway 300 and Taylor Loop Road, a considerable amount of land exists for additional development. Highway 10 between Taylor Loop Road and Pleasant Valley Drive has a significant amount of development.

Traffic Analysis

Historical traffic data as well as the CARTS travel demand model were used to estimate future traffic volumes on Highway 10. Projected average daily traffic (ADT) ranges from 8,000 vehicles per day (vpd) to 52,000 vpd for 2013 and 12,000 vpd to 76,000 vpd for 2035 (Figure ES-1).

From Ferndale Cutoff Road to Highway 300, Highway 10 currently operates at an unacceptable level of service during the morning peak period. It is anticipated the afternoon peak period will also be at an unacceptable level of service by 2035. Between Highway 300 and Taylor Loop Road, forecasted traffic volumes are considered normal for an urban four-lane highway. East of Taylor Loop Road, Highway 10 has the highest traffic volumes of any arterial roadway in the State. Presently, peak hour traffic cannot be handled adequately at the Rodney Parham Road intersection, resulting in unacceptably long queues along Highway 10. The congestion at the Rodney Parham Road intersection also degrades the traffic operations at the adjacent intersections to the west. Motorists frequently have to wait through multiple traffic signal cycles during the peak periods. In addition, several Highway 10 signalized intersections between Taylor Loop Road and Pleasant Valley Drive are expected to operate at an unacceptable level by 2035, resulting in further congestion.

Figure ES-1 – Traffic Volumes and Proposed Improvements



Safety Analysis

A crash analysis was conducted for 2009, 2010 and 2011, the most recent three years for which crash data is available. A summary of the crash analysis is shown in Table ES-1. Of the total 14 fatal and serious injury (KA) crashes during the three-year period, two were fatal crashes. One of the two fatal crashes involved a bicyclist. Nine KA crashes were attributed to failure to yield or disregard of a traffic signal, four were due to careless or reckless driving and one was alcohol related. Eleven of the 14 KA crashes occurred at intersections.

Table ES-1 – Crash Rates

Segment	Route/Section/ Log Mile	Type of Roadway (Length)	Year	Weighted ADT	Number of Crashes	Crash Rate*	Statewide Average Crash Rate*	Number of KA Crashes
Ferndale Cutoff to West of Hwy. 300	Hwy. 10, Sec. 7, LM 16.13-16.26 Hwy. 10, Sec. 8, LM 0.00-1.35	Suburban Two-Lane Undivided[1] (1.48 Miles)	2009	8,100	3	0.69	1.08/2.99[1]	0
			2010	7,900	4	0.94	1.01/2.60[1]	1
			2011	7,400	5	1.25	0.99/2.81[1]	1
West of Hwy. 300 to Taylor Loop	Hwy. 10, Sec. 8, LM 1.35-5.08	Urban Four-Lane Undivided (3.73 Miles)	2009	19,100	33	1.27	4.80	1
			2010	19,800	40	1.48	4.63	2
			2011	18,800	59	2.31	4.43	0
Taylor Loop to Sam Peck	Hwy. 10, Sec. 8, LM 5.08-6.42	Urban Four-Lane Undivided (1.34 Miles)	2009	34,400	29	1.72	4.80	0
			2010	36,000	34	1.93	4.63	0
			2011	35,900	47	2.68	4.43	2
Sam Peck to Pleasant Valley	Hwy. 10, Sec. 8, LM 6.42-8.26	Urban Four-Lane Undivided[2] (1.84 Miles)	2009	42,800	101	3.51	4.80	2
			2010	45,900	124	4.02	4.63	2
			2011	42,900	102	3.54	4.43	3

* Crash rates are expressed in per million vehicle miles traveled (MVM).

1. Analysis segment contains both urban and rural areas. Statewide Average Crash Rates are reported for both area types.
2. Short portion east of Rodney Parham includes a raised median.

Discussion of Alternatives

Based on evaluation of the existing conditions, traffic and safety analysis, a no-action alternative (Alternative 1) and an improvement alternative (Alternative 2) were developed. Although routine maintenance would continue, Alternative 1 would not improve traffic flow or address expected congestion along Highway 10 within the study period. Alternative 2, as shown in Figure ES-1, identifies improvements that specifically address current and future congestion along the Highway 10 corridor, which includes the traffic flow challenges at the Rodney Parham Road intersection and the Interstate 430 interchange.

ALTERNATIVE 2

Ferndale Cutoff Road to Highway 300

Improvement to this segment of Highway 10 consists of widening the roadway from two through lanes to four through lanes and an appropriate median treatment. With the additional capacity, traffic on this segment of Highway 10 would operate at an acceptable level of service within the study period. The estimated construction cost is $7.4 million.

Highway 300 to Taylor Loop Road

This four-lane segment is expected to operate at an acceptable level of service throughout the study period. To improve traffic flow, minor intersection improvements were identified at an estimated construction cost of $300,000. Land use developments over the next 20 years could necessitate additional improvements. Therefore, this segment of Highway 10 should be monitored.

Taylor Loop Road to Woodland Heights Road

For this segment to operate at an acceptable level of service during the study period, widening from four through lanes to six through lanes and an appropriate

median treatment is recommended. Widening would extend to the west of Taylor Loop Road a short distance to ensure equal lane utilization through this intersection. The estimated construction cost is $17.3 million.

Woodland Heights Road to Pleasant Valley Drive

Three improvement options were identified to address the recurring congestion within this segment of Highway 10. These options are discussed below and illustrated in Figures ES-2, ES-3 and ES-4.

- **Option A** would construct six through lanes on Highway 10 to Pleasant Valley Drive. It also includes a dedicated left-turn lane on River Mountain Road and dual right-turn lanes on northbound Rodney Parham Road. No additional intersection improvements or interchange modifications are proposed. Traffic operations would improve over the short term, but congested conditions would be expected to return well before 2035. The estimated construction cost is $2.3 million.
- **Option B** would construct six through lanes on Highway 10 to Pleasant Valley Drive and provide a continuous flow intersection (CFI) at the Rodney Parham Road intersection. A dedicated left-turn lane would be provided on River Mountain Road. A separate ramp from the Interstate 430 southbound to Highway 10 westbound exit ramp would be provided for traffic accessing Rodney Parham Road. The CFI would allow the heavy westbound left-turn traffic at Rodney Parham Road to flow simultaneously with the eastbound through traffic. Therefore traffic operations would be improved to an acceptable level of service during much of the study period, but congested conditions would be expected to return before 2035. The estimated construction cost is $6.4 million.

- **Option C** would provide eight through lanes on Highway 10 to Pleasant Valley Drive and a CFI at the Rodney Parham Road intersection. A dedicated left-turn lane would be provided on River Mountain Road. Several proposed modifications to the Interstate 430 interchange include:
    - Removal of the existing Interstate 430 southbound to Highway 10 eastbound loop ramp,
    - Addition of an Interstate 430 southbound to Highway 10 eastbound off ramp with a signalized intersection at Highway 10, and
    - Addition of a separate roadway for eastbound Highway 10 traffic accessing Interstate 430.

  Option C is expected to alleviate congestion through the end of the study period. The estimated construction cost is $14.6 million.

Figure ES-2 – Option A

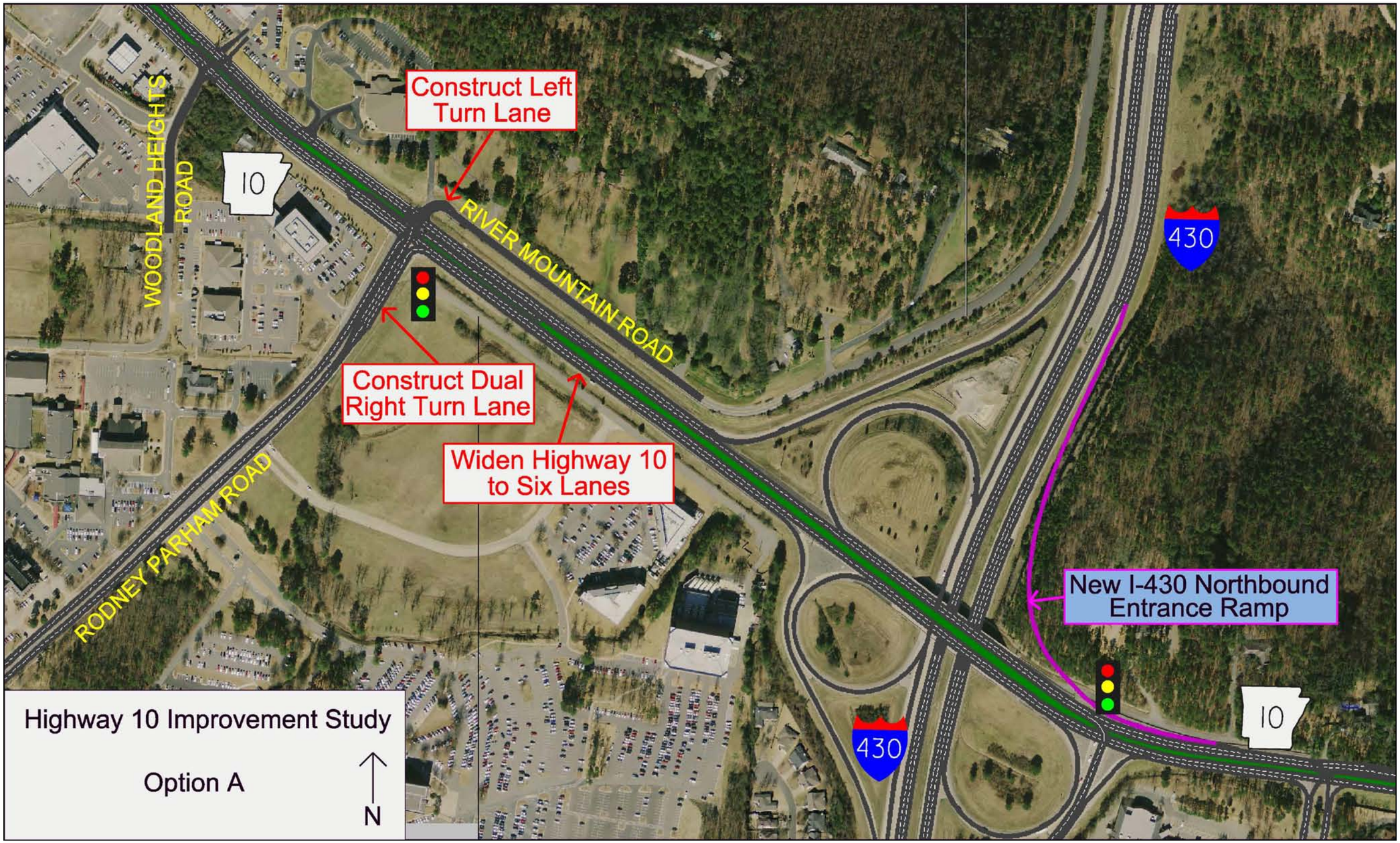


Figure ES-3 – Option B

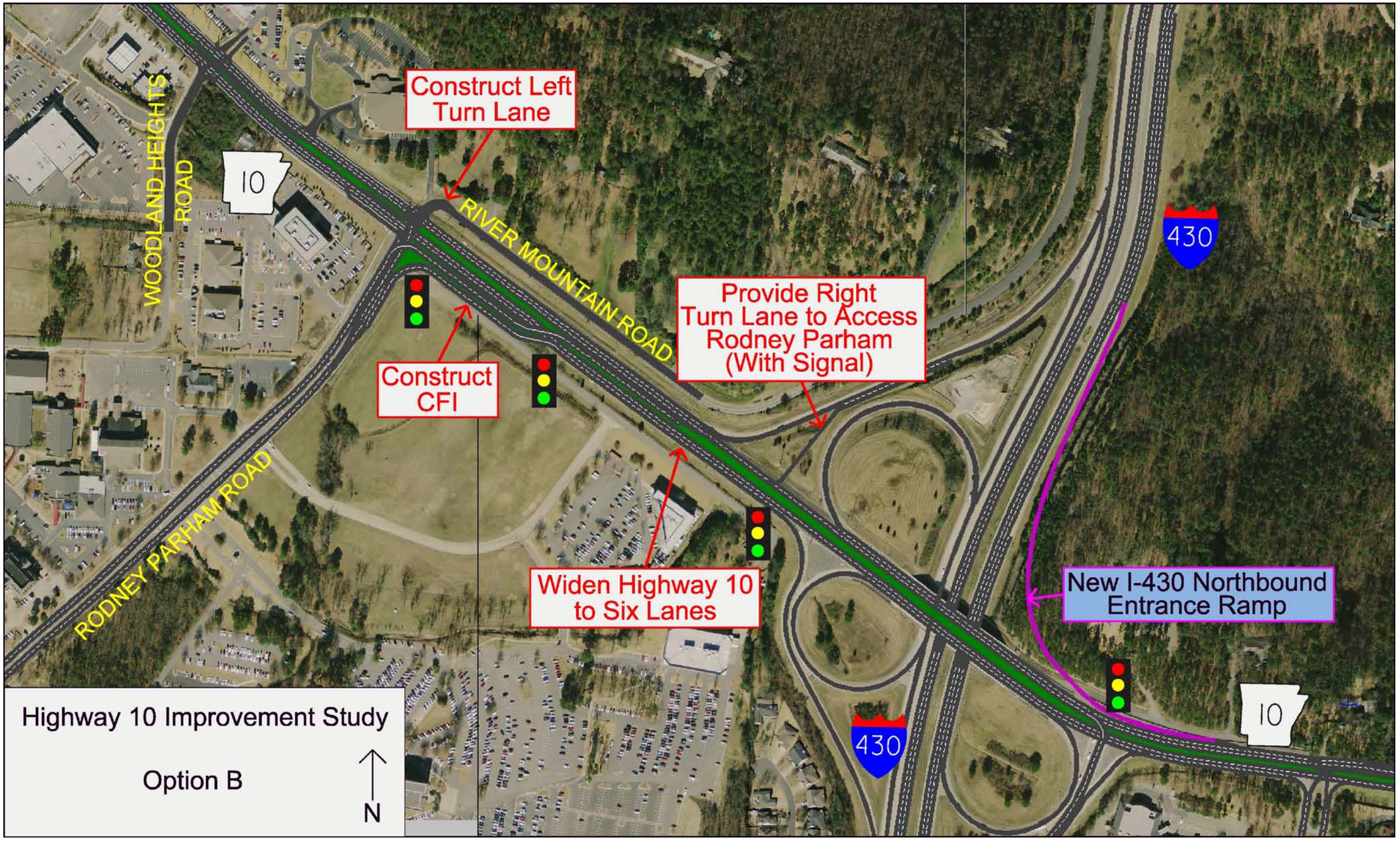
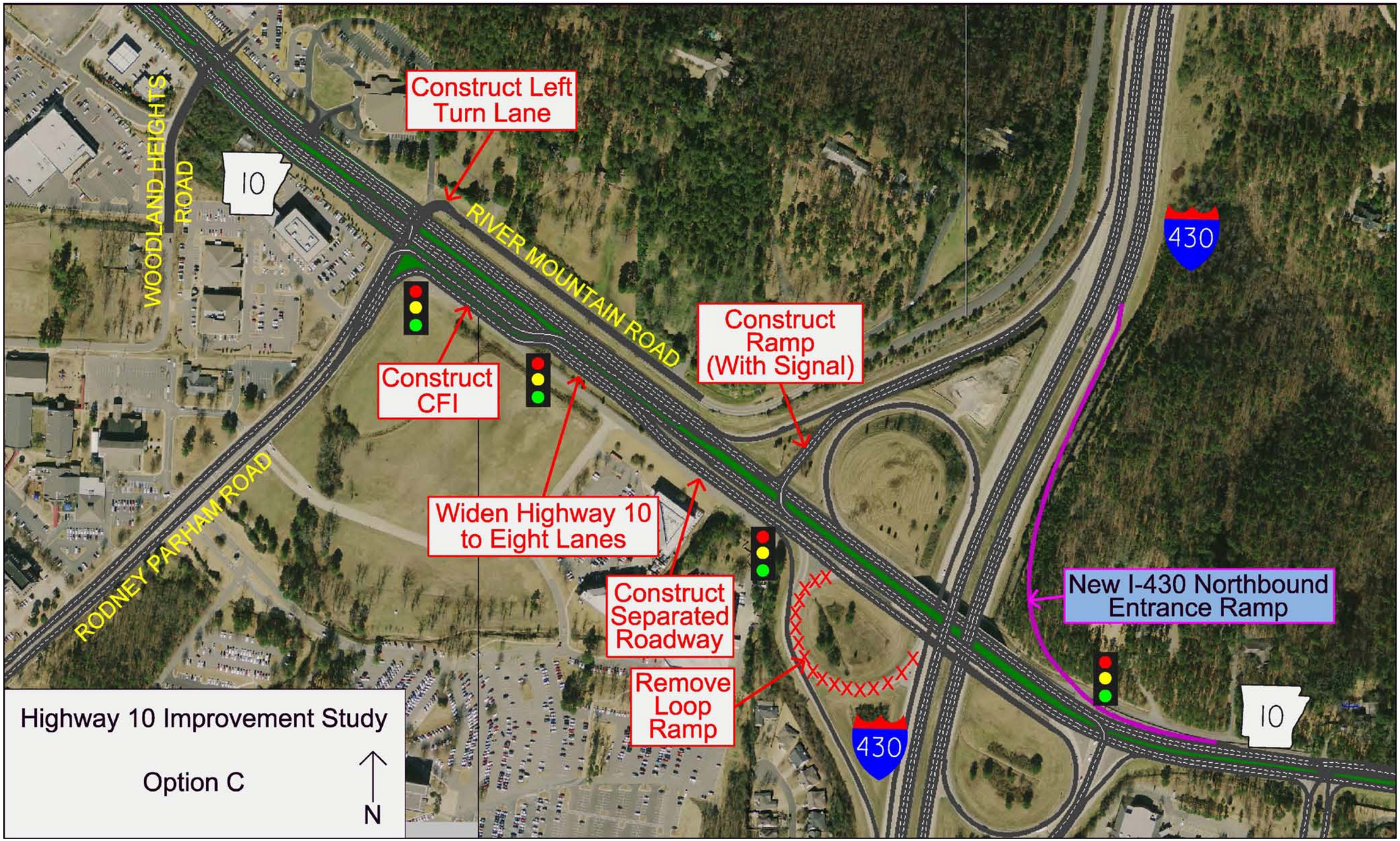


Figure ES-4 – Option C



Other Considerations

Median Treatment

The median treatments considered for Alternative 2 were a 16-foot raised median and a two-way left-turn lane.

1. The raised median would enhance the capacity of the corridor by reducing unpredictable turning conflicts, encouraging more orderly land use development, and providing a safe refuge for pedestrians crossing the highway. A median would also serve as an integral component of a comprehensive access management plan. The primary disadvantage of a raised median is that direct left-turn access into driveways would be limited.
2. A two-way left-turn lane would allow motorists to turn left into most driveways, but would increase unpredictable turning conflicts, slightly reduce the roadway capacity and require pedestrians crossing Highway 10 to walk up to 84 feet without a safe refuge.

Bicycle Accommodations

The adopted *AHTD Bicycle Facility Accommodation Policy* (Bicycle Policy) and *AHTD Sidewalk Policy* (Sidewalk Policy) are used to guide decisions on bicycle and pedestrian accommodations in the design of highway facilities. The City of Little Rock Master Street Plan identifies a shared-use path for bicycles and pedestrians along the Highway 10 corridor. According to the Department's Bicycle Policy, a 10-foot wide shared-use path may be constructed in lieu of separate bicycle lanes and sidewalks. If a shared-use path wider than 10-feet is desired, the additional costs for right-of-way and construction would be the responsibility of the local jurisdiction requesting the higher design standard.

Land Use and Transportation

Other steps could be taken locally to enhance the transportation system, such as the development of a coordinated land use and transportation policy. An efficient local roadway network that provides an adequate system of minor arterial and connector streets between new developments would relieve traffic demands on the Highway 10 corridor. This would benefit the local population with options to avoid traffic congestion. An improved local roadway network would also provide options for bicyclists and pedestrians.

Metropolitan Transportation Plan

The adopted *METRO 2030.2 Metropolitan Transportation Plan (amended in August 2012)* by the Central Arkansas Metropolitan Planning Organization (Metroplan) identified capacity improvements for Highway 10 from Taylor Loop Road to Pleasant Valley Drive in the financially constrained plan and from Ferndale Cutoff Road to Highway 300 in the financially unconstrained plan.

Public Involvement

A public meeting was held on April 18, 2013 to solicit comments concerning the proposed improvements to the Highway 10 corridor. Of the comments received, an average of 79 percent agreed that the proposed widening, intersection and interchange improvements are needed. Eighty-eight percent of participants responded that the proposed improvements to the Highway 10 and Rodney Parham Road intersection and the Interstate 430 and Highway 10 interchange are appropriate.

In regard to the median treatments, 55 percent of participants preferred a raised median design and 45 percent preferred a two-way left-turn design. The City of Little Rock and Metroplan staff expressed a strong preference for a raised median along this route.

In regards to bicycle accommodations, 52 percent of participants preferred shared use paths; 28 percent preferred bicycle lanes; and 20 percent preferred no bicycle accommodations. Cyclists almost uniformly commented on the need for bicycle accommodations on Highway 10. Some non-cyclists expressed concern that bicycle usage is not appropriate along Highway 10 and that accommodations would simply encourage cycling activities. At the public officials meeting, some concern was raised about how pedestrians and bicyclists would be accommodated at the Rodney Parham Road intersection. Many cyclists in the area cross Highway 10 at the Rodney Parham Road intersection and then follow River Mountain Road to the Arkansas River Trail.

One option discussed by local officials was the construction of a grade separation for bicyclists and pedestrians over Highway 10 between Rodney Parham Road and Interstate 430. The additional right-of-way and construction costs for this option would be the responsibility of the local jurisdiction requesting the higher design standard.

Conclusion

This study was conducted to determine the need for and the feasibility of improvements to address traffic congestion along the Highway 10 corridor between Ferndale Cutoff Road and Pleasant Valley Drive. Based on the traffic and safety analysis and land use characteristics, four distinct segments were identified for improvements. The identified improvement options are summarized in Table ES-2.

Table ES-2 – Summary of Alternative 2

Segment		Improvements	Construction Cost (in 2013 dollars)	Total Cost[1] (in 2013 dollars)
Ferndale Cutoff Road to Highway 300		Widen to Four Through Lanes	$7,400,000	$9,800,000
Highway 300 to Taylor Loop Road		Intersection Improvements	$300,000	$400,000
Taylor Loop Road to Woodland Heights Road		Widen to Six Through Lanes	$17,300,000[2]	$23,300,000
Woodland Heights Road to Pleasant Valley Drive	Option A	Widen to Six Through Lanes	$2,300,000	$3,200,000
	Option B	Widen to Six Through Lanes and CFI	$6,400,000	$8,700,000
	Option C	Widen to Eight Through Lanes, CFI and Interchange Improvements	$14,600,000	$18,900,000
All Segments with Option A			$26,900,000	$36,000,000
All Segments with Option B			$31,400,000	$42,200,000
All Segments with Option C			$39,600,000	$52,400,000

Note: [1]Total Cost includes construction, right-of-way acquisition, utility relocation, and preliminary and construction engineering.
[2]Includes interim Taylor Loop intersection improvements at a construction cost of $1,000,000

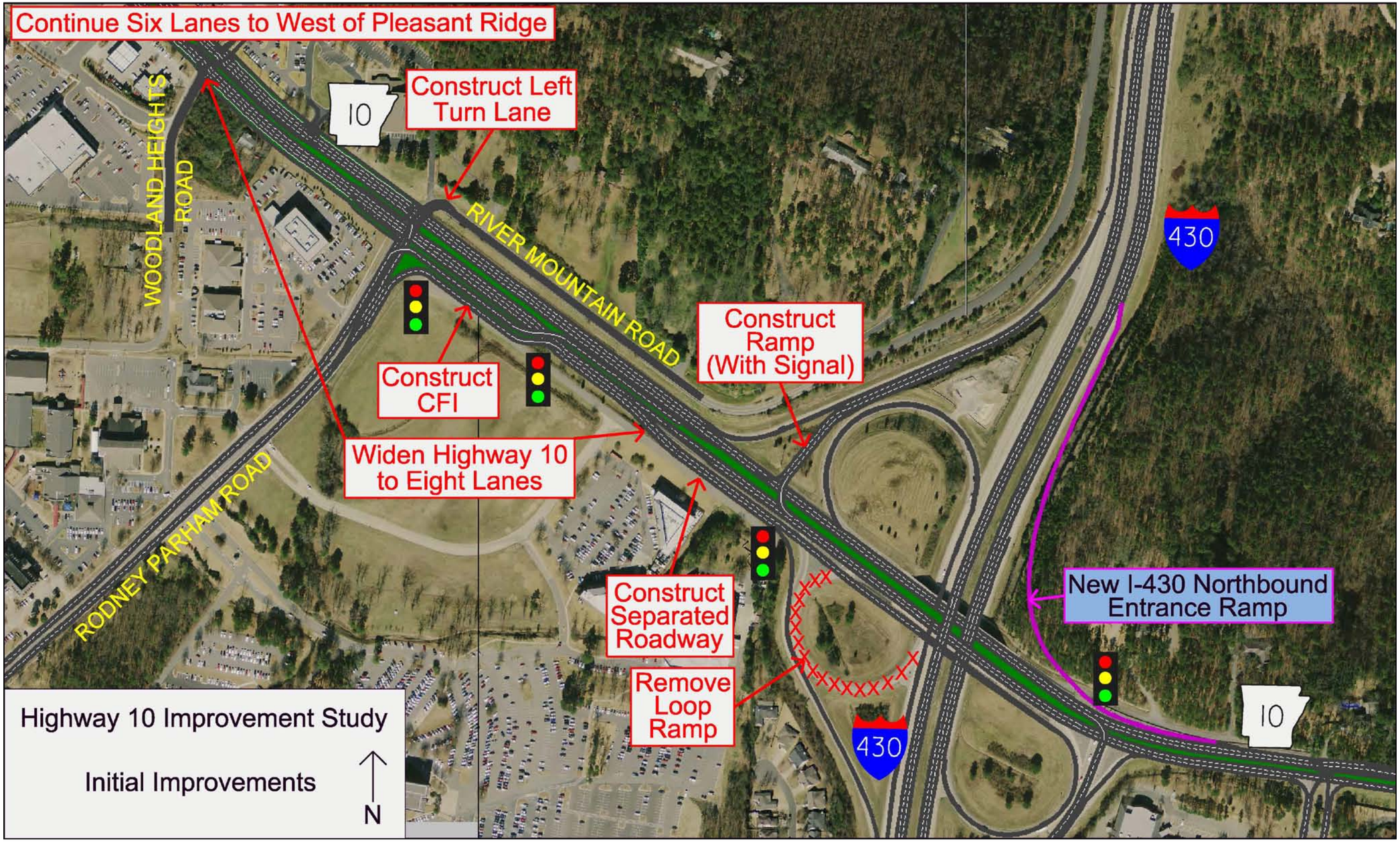
From Ferndale Cutoff Road to Woodland Heights Road, capacity and intersection improvements would provide acceptable traffic operating conditions through 2035. From Woodland Heights Road to Pleasant Valley Drive, Options A and B would provide some congestion relief. However, only Option C would address congestion and provide capacity needs through 2035. Special issues such as median treatment options and bicycle and pedestrian accommodations will be addressed during the environmental phase of project development.

Recommended Phasing of Projects

The first priority, which would utilize the available funding to date, is shown in Figure ES-5 and would include widening Highway 10 to six through lanes from just west of Pleasant Ridge Road to Woodland Heights Road and widening to eight through lanes from Woodland Heights Road to Pleasant Valley Drive, constructing a CFI at the Highway 10 and Rodney Parham Road intersection, and providing additional modifications to the Interstate 430 and Highway 10 interchange. The next priority is interim improvements to the intersection of Highway 10 and Taylor Loop Road. These interim improvements include the addition of a second westbound left-turn lane and a second northbound right-turn lane and are estimated to cost $1 million (in 2013 dollars). The third priority is the widening of Highway 10 to six through lanes from just west of Taylor Loop Road to just west of Pleasant Ridge Road.

Improvements west of Highway 300 should be considered as the final priority for this corridor.

Figure ES-5 – Initial Improvements








Appendix B – PUBLIC INVOLVEMENT SYNOPSES

PUBLIC INVOLVEMENT SYNOPSIS

Job Number 061382
Taylor Loop Rd. – Pleasant Ridge Rd. (S) (Hwy. 10)
Pulaski County
October 24, 2019

An open forum public involvement meeting for the proposed Highway 10 widening from Taylor Loop Rd. to Pleasant Ridge Rd. was held at Christ the King Catholic Church (Christian Family Life Center) in Little Rock from 4:00 – 7:00 p.m. on Thursday, October 24, 2019. Efforts to involve minorities and the public of the meeting included:

- Display advertisement placed in the *Arkansas Democrat-Gazette* on October 13 & 20, 2019
- Public service announcements on La Zeta 106.3 FM from October 21-24, 2019
- Public service announcements on Cumulus Media 92.3 FM from October 21-24, 2019
- Letters sent to local public officials
- Flyers distributed in the project area

The following information was available for inspection and comment:

- Layouts of the preliminary project design
- Displays of the project location

Handouts for the public included a comment sheet and a small-scale map illustrating the project locations. Copies of these are attached.

Table 1 describes the results of the public participation at the meeting.

TABLE 1

Public Participation	Totals
Attendance at meeting (including ARDOT staff)	132
Comment forms received	80
Letters received	8
Total comments received	

ARDOT 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

Alternative Preferred	Totals
Believes Hwy. 10 widening is needed	39
Does not believe Hwy. 10 widening is needed	33
No Response	6
Indicated both a need and no need	1
Believes project will have beneficial impacts	21
Believes project will have adverse impacts	34
Did not indicate beneficial or adverse impacts	19
Indicated both beneficial and adverse impacts	4
Has knowledge of cultural sites in project area	15*
Has knowledge of environmental sites in project area	23**

*Comments mentioned Conner Park, Pankey community, burial plots, Rocky Mountain Cemetery, Little Maumelle River

**Comments mentioned Conner Park, businesses, schools, bicycle trail, noise and air pollution, Little Maumelle River, Maumelle Park, Two Rivers Park, The River Trail, River Mountain Park, Pinnacle Mountain State Park, Pankey Community Center, restaurant grease traps

A listing of general comments concerning the proposed project follows (numbers in parentheses indicate the number of commenters that included that item in their response):

- Accommodations for bicycles (protected or as a side path) should be included in the proposed project (63)
- The proposed U-turns would create a safety hazard
- Large vehicle turning movements should be considered at the U-turns
- Left turn and U-turn lanes should be long enough to adequately handle queues
- Right turn lanes should be added at Kroger, Sam Peck, and Taylor Loop
- The proposed raised median would negatively affect access to area businesses (2)
- The highway should remain five lanes with adaptive signals (3)
- This project should be put off until construction of the first project on Highway 10 at I-430 is complete and has been in operation for a full year
- The proposed U-turns should line up with existing commercial drives
- The third travel lane should be dropped as a turning lane into the businesses after Taylor Loop instead of forced to merge

- Crosswalks should be added at Taylor Loop, Pinnacle Valley, and Sam Peck (2)
- Congestion is terrible on the existing highway, with no alternate routes
- Safety issues at the Sam Peck intersection should be corrected to reduce collisions
- The proposed project would reduce rush hour delays
- Taylor Loop and Pinnacle Valley should have been lined up during the last Highway 10 project
- The proposed project would only induce demand and further increase traffic volumes and congestion (4)
- A right turn lane should be added from westbound Highway 10 to Pinnacle Valley
- A new bridge over the Arkansas River should be constructed to take traffic off of Highway 10 (2)
- The properties on the north side of Highway 10 at Sam Peck should have direct access at the intersection (2)
- Highway lighting should be improved
- Extra lanes should be considered at bus stops so buses can more easily move in and out of traffic
- Scenic considerations should be included in the project, such as islands, trees, pedestrian refuges
- Highway 10 traffic should be rerouted to Chenal Parkway
- Additional U-turn breaks in the raised median should be added (2)
- Light rail along Highway 10 should be considered
- The proposed project would increase property values in west Little Rock
- The proposed widening should be extended to Chenal Parkway
- Do not include raised mounds in the middle of roundabouts that inhibit sight distance (2)
- There should be two left turn lanes from westbound Highway 10 onto Taylor Loop
- Grade-separated bicycle and pedestrian crossings of Highway 10 should be included in the project (8)
- Taking additional highway right of way will decrease property values
- Businesses at the Pleasant Ridge shopping center need to have better access
- The proposed design would increase risk to local wildlife
- The center median width should be reduced (2)
- The travel lane width should be reduced
- The proposed project would only increase already dangerously high vehicle speeds

Attachments: Public handouts, including blank comment form
Small-scale display copies

SS:am

CITIZEN COMMENT FORM

ARDOT JOB NUMBER 061382
TAYLOR LOOP RD. - PLEASANT RIDGE RD. (S)
(HWY. 10) PULASKI COUNTY

LOCATION:
CHRIST THE KING CATHOLIC CHURCH
(FAMILY LIFE CENTER)
4000 N. RODNEY PARHAM ROAD
LITTLE ROCK, AR 72212
4:00 – 7:00 P.M.
OCTOBER 24, 2019

Make your comments on this form and leave it with ARDOT personnel at the meeting or mail it by 4:30 p.m. on Friday, November 8, 2019 to: Arkansas Department of Transportation, Environmental Division, P.O. Box 2261, Little Rock, AR, 72203-2261. Email: **environmentalpimeetings@ardot.gov**.

Yes No

☐ ☐ Do you feel there is a need for the proposed widening of Highway 10 from Taylor Loop Road to Pleasant Ridge Road to include intersection improvements at Taylor Loop Road? Comment (optional)_____

_____

_____

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. _____

_____

_____

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

_____

_____

_____

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

_____

_____

_____

(Continue on Back)

Yes No

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

_____

_____

☐ ☐ 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 ARDOT staff. _____

_____

_____

It is often necessary for the ARDOT 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:_____

Do you have suggestions that would make this proposed project better serve the needs of the community? Please make additional comments here._____

_____

_____

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_____

_____

_____

For additional information, please visit our website at **www.ardot.gov**



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Feet

ArDOT - Environmental GIS - Strawn
Map Date: October 21, 2019
Meeting Date: October 24, 2019
Public Involvement Meeting Handout

Job 061382
Taylor Loop Road - Pleasant Ridge Road
(Hwy. 10)
Pulaski County

PRELIMINARY
SUBJECT TO REVISION

Project Location

Photography: Pulaski County 2019

Notes: Public Involvement Synopses B-6

061382 NEIGHBORHOOD MEETING SYNOPSIS

Job Number 061382
Taylor Loop Rd. – Pleasant Ridge Rd. (S)
Pulaski County
Sunday, November 17, 2019

A neighborhood meeting for the proposed Highway 10 widening from Taylor Loop Road to Pleasant Ridge Road was held at the Josephine Pankey Community Center from 3-5pm on Sunday, November 17, 2019.

Handouts for the public included a comment sheet and a map illustrating the project location. Copies of these are attached.

Table 1 describes the results of the public participation at the meeting.

TABLE 1

Public Participation	Totals
Attendance at meeting (including ARDOT staff)	59
Comments received	29

ARDOT 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	
Believes there is a need for the proposed project	3
Does not believe there is a need	22
Selected both need and no need	1
Did not select either option	3
Believes the project will have beneficial impacts	0
Believes the project will have adverse impacts	18
Believes both beneficial and adverse impacts	1
Did not select beneficial or adverse impacts	10
Has knowledge of cultural resources	16*
Has knowledge of environmental constraints	7**

*Comments mentioned cemeteries, a community center, parks, the Pankey community, and historic buildings
**Comments mentioned parks, a church, and cemeteries

A synopsis of additional comments concerning the proposed project follows:

- One or more ADA-accessible overpasses, signals to stop traffic, or crosswalks across Highway 10 should be added to the proposed project.
- Options other than widening the highway should be considered, such as traffic signal placement and timing.
- The project would negatively impact adjacent properties.
- Bike lanes on the highway would be dangerous.
- Turn lanes should be added to the proposed project.
- The proposed project would alleviate congestion.
- The Pankey community would be better off without the proposed project.
- The current speed limits should be improved.
- Safety should be considered.
- The surrounding areas have a high number of older residents whose safety and access should be considered.
- Maintenance of Highway 10 in Little Rock should be improved.
- The project should begin at Black Road and end at Sam Peck.
- Widening should only occur in commercial areas.
- The proposed project would result in worse traffic and noise pollution.
- More traffic signals should be installed.

- Alternative routes should be developed instead of constructing the proposed project.
- Previous widening projects on Highway 10 did not improve congestion.
- The project should begin at Sam Road and end at Pleasant Ridge Road.
- The project should be moved west of the Pankey community to begin at Pinnacle Valley Road.
- If the project is extended west, a traffic signal should be added on Highway 10 between Burger King and Regions Bank.
- Incentives should be offered to businesses with office hours that encourage off-peak vehicle use.
- The project should be delayed to identify better solutions.
- There should be a mass transit investment.
- Removing left turns would be beneficial.

Attachments: Blank comment form
Project location map handout

DN:SS:am

CITIZEN COMMENT FORM

ARDOT JOB NUMBER 061382
TAYLOR LOOP RD. - PLEASANT RIDGE RD. (S) (HWY. 10)
PULASKI COUNTY

LOCATION:

JOSEPHINE PANKEY COMMUNITY CENTER
13700 CANTRELL ROAD
LITTLE ROCK, AR
3:00 – 5:00 P.M.
NOVEMBER 17, 2019

Make your comments on this form and leave it with ARDOT personnel at the meeting or mail it by 4:30 p.m. on Monday, December 2, 2019 to: Arkansas Department of Transportation, Environmental Division, P.O. Box 2261, Little Rock, AR, 72203-2261. Email: **environmentalpimeetings@ardot.gov**.

Yes No

☐ ☐ Do you feel there is a need for the proposed widening of Highway 10 from Taylor Loop Road to Pleasant Ridge Road to include intersection improvements at Taylor Loop Road? Comment (optional)_____

_____

_____

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. _____

_____

_____

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

_____

_____

_____

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

_____

_____

_____

(Continue on Back)

Yes	No	
☐	☐	Do you know of any historical sites, family cemeteries, or archaeological sites in the project area? Please note and discuss with staff. _____
☐	☐	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 ARDOT staff. _____

It is often necessary for the ARDOT 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:_____

Do you have suggestions that would make this proposed project better serve the needs of the community? Please make additional comments here._____

For additional information, please visit our website at **www.ardot.gov**



N

0 750 1,500

Feet

ArDOT - Environmental GIS - Strawn
Map Date: November 7, 2019
Meeting Date: November 17, 2019
Neighborhood Meeting Handout

Job 061382
Taylor Loop Road - Pleasant Ridge Road
(Hwy. 10)
Pulaski County

PRELIMINARY
SUBJECT TO REVISION

Project Location

Photography: Pulaski County 2019

Notes: Public Involvement Synopses B-12

NEIGHBORHOOD MEETING SYNOPSIS

Job Number 061382
Taylor Loop Rd. – Pleasant Ridge Rd. (S)
Pulaski County
October 8, 2020

A neighborhood meeting for the proposed widening of Highway 10 from Taylor Loop Road to Pleasant Ridge Road was held from 5:30-6:30p.m. on October 8, 2020. ARDOT staff and the neighborhood residents had the option to attend the meeting either in person at the Josephine Pankey Community Center in Little Rock or live virtually using the Cisco Webex platform.

ARDOT engineers presented the original and proposed design layouts for the Highway 10 widening in the Pankey community and explained the changes. Attendees had the option to ask ARDOT staff questions either in person or virtually.

Table 1 describes the results of the public participation at the meeting.

TABLE 1

Public Participation (including ARDOT staff)	**Total**
Attended in person	11
Attended virtually	22
Total meeting attendance	33
Comment forms received	4

ARDOT 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.

Job Number 061382 – Neighborhood Meeting Synopsis
October 8, 2020

TABLE 2	
Comment Form Response	**Total**
Prefers Original Layout	0
Prefers Alternate Layout	3
Did Not Select Layout Preference	1
Believes Proposed Design Changes Are Sufficient	0
Believes Proposed Design Changes Are Not Sufficient	4

A listing of general comments concerning the proposed project follows:

- Residents may have air pollution impacts due to the highway moving closer to adjacent homes.
- The pedestrian crosswalk should be moved to Arvest Bank, Center St., or Josephine St.
- Raised medians take up more property and should not be used.
- Ives Rd. should be a turnaround point as it is central to the Pankey neighborhood.

SS:am

NEIGHBORHOOD MEETING SYNOPSIS

Job Number 061382
Taylor Loop Rd. – Pleasant Ridge Rd. (S)
Pulaski County
Tuesday, April 13, 2021

A neighborhood meeting for the proposed widening of Highway 10 from Taylor Loop Road to Pleasant Ridge Road was held from 6:00-7:00p.m. on April 13, 2021. ARDOT staff and the neighborhood residents had the option to attend the meeting either in person at the Josephine Pankey Community Center in Little Rock or live virtually using the Cisco Webex platform. Efforts to involve the public in the meeting included:

- Outreach letters mailed to public officials;
- Distribution of flyers in the project area.

ARDOT engineers illustrated examples of selected impacted residential properties utilizing a 3D Model and photographic example of the signalized pedestrian crosswalk on Highway 10. Attendees had the option to ask ARDOT staff questions either in person or virtually.

The following information was available for inspection and comment. Small-scale copies of the displays are attached.

- Display of an aerial-based project location map;
- Display of an aerial-based preliminary project design plans;
- 3D Models illustrating 13201, 13400, and 13640 Cantrell Rd;
- Before and after artistic renderings of 13201, 13400, and 13640 Cantrell Rd, and a pedestrian crosswalk.

Public handouts included a Citizen Comment Form. Copies of the displays and handouts are attached to this synopsis.

Table 1 describes the results of the public participation at the meeting.

TABLE 1

Public Participation (including ARDOT staff)	**Totals**
Attended in person	19
Attended virtually	29
Total meeting attendance	48
Comment forms received	1

Job Number 061382- Neighborhood Meeting Synopsis
April 13, 2021

ARDOT 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.

A general comment concerning the proposed project follows:

- I need to know that we will have full access to our property at all times. I need to see this plan. I do believe that someone can come and show us the location where the yards will end.

Attachments:
Blank comment form
Small-scale 3D Models copy
Project design plans
Project location map
Before and after artistic renderings

KS:sw

Josephine Pankey Community and Social Impact Summary

Taylor Loop Rd. – Pleasant Ridge Rd. (Hwy. 10)
Pulaski County, Arkansas

FAP Number NHPP-9253(86)
ARDOT Project Number 061382
June 2021



ARDOT ARKANSAS DEPARTMENT OF TRANSPORTATION

I DRIVE ARKANSAS



Notice of Nondiscrimination

The Arkansas Department of Transportation (ARDOT) complies with all civil rights provisions of federal statutes and related authorities that prohibit discrimination in programs and activities receiving federal financial assistance. Therefore, the Department does not discriminate on the basis of race, sex, color, age, national origin, religion (not applicable as a protected group under the Federal Motor Carrier Safety Administration Title VI Program), disability, Limited English Proficiency (LEP), or low-income status in the admission, access to and treatment in the Department's programs and activities, as well as the Department's hiring or employment practices. Complaints of alleged discrimination and inquiries regarding the Department's nondiscrimination policies may be directed to Joanna P. McFadden EEO/DBE Officer (ADA/504/Title VI Coordinator), P. 0. Box 2261, Little Rock, AR 72203, (501) 569-2298, (Voice/TTY 711), or the following email address: joanna.mcfadden@ardot.gov

Americans with Disabilities Act (ADA) Information

Materials can be provided in alternative formats: large, print, Braille, or audiotape for people with disabilities by contacting ARDOT's EEO/DBE Officer (ADA/504/Title VI Coordinator), Joanna P. McFadden, at (501) 569-2298 (Voice/TTY 711), or at the following email address: joanna.mcfadden@ardot.gov. Persons who are deaf or hard of hearing may contact ARDOT through the Arkansas Relay Service at 7-1-1. Free language assistance for Limited English Proficient individuals is available upon request.

Purpose & Need

The purpose of this project is to reduce congestion along the Highway 10 West of Interstate 430. The Highway 10 Improvement Study, completed in 2013, identified the scope of future improvements needed to relieve congestion along the Highway 10 corridor. The proposed project will widen the existing Highway 10 from four travel lanes with a painted median to six 12ft wide travel lanes with a raised concrete median and 5ft sidewalks on both sides of the highway. Total length of the project is 2.3 miles. It extends from Pleasant Ridge Road to Taylor Loop in the City of Little Rock, Pulaski County. Along the project corridor resides the Josephine Pankey Community, which is a historical Environmental Justice and Title VI community.

Existing Conditions

Project Area

The project is located in the Central Arkansas/Pulaski County which is part of the Little Rock-North Little Rock Metropolitan Statistical Area (MSA). Little Rock is the state capital and largest city (population of 197,312 according to the 2019 Census Population Estimates) in Arkansas, also serving as the county seat of Pulaski County. Little Rock is a regional employment center, with some of the major employers being the State of Arkansas, City of Little Rock, the Federal government, and the University of Arkansas for Medical Sciences. The project passes through an area that is primarily residential and commercial (**Figure 1**). One of the prominent features of the area is the historical Josephine Pankey Community.

The racial makeup of the entire project area is mixed consisting of White, Black, American Indian, Hispanic, Pacific Islander, and Asian households. However, the racial makeup of the Pankey community are predominately Black/African American. The origin of the Pankey community dates back to the early 1900's. Samuel and Josephine Pankey purchased 80 acres of land outside of the city of Little Rock. This area became a deep rooted and thriving community of black families. Due to annexation and continued urban sprawl westward, the community and its members have diminished in size.

Project Limits

The proposed project limits for the Pankey Community begin at Crockett Street and extend west to Black Street.

Public Involvement

The Arkansas Department of Transportation (ARDOT) places high value on public involvement throughout project development. ARDOT has developed procedures to carry out a public involvement meeting/public hearing program pursuant to 23 U.S.C. 128, 40 CFR parts 1500-1506; Executive Order 12898; Americans with Disabilities Act (ADA) of 1990/Section 504 of the Rehabilitation Act of 1973 and Title VI of the Civil Rights Act of 1964.

Environmental Justice and Title VI

Environmental Justice [Executive Order 12898] requires all federal agencies to identify and address disproportionately high and adverse human health or environmental effects of its programs, polices, and activities on minority and low-income populations. In addition to Executive Order 12898, Title VI of the Civil Rights Act of 1964 prohibits discrimination in programs and activities receiving Federal funds on the basis of race, sex, color, age, national origin, religion, disability or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

MINORITY AS DEFINED BY FHWA, A PERSON WHO IS:
- BLACK
- HISPANIC
- ASIAN AMERICAN
- AMERICAN INDIAN AND ALASKAN NATIVE
- NATIVE HAWAIIAN AND OTHER PACIFIC ISLANDER

LOW-INCOME AS DEFINED BY FHWA, A PERSON WHOSE:
AT OR BELOW THE DEPARTMENT OF HEALTH & HUMAN SERVICES POVERTY GUIDELINES $26,500 FOR A FAMILY OF 4.

As per FHWA Order 6640.23A, a disproportionately high and adverse effect on a minority or low-income population means the adverse effect is predominantly borne by such population or is appreciably more severe or greater in magnitude on the minority or low-income population than the adverse effect suffered by the non-minority or non-low-income population. The proposed project is located in a predominantly minority area (Figures 2-4). Based on the EJ/Title VI analysis the original proposed design disproportionately impacted minorities, low-income, elderly, and disabled residents in the Pankey community.

Mitigation Efforts

Under the National Environmental Policy Act, consideration must be given to mitigation (as

defined in 40 CFR 1508.20) for all adverse effects regardless of the type of population affected. To avoid or mitigate the adverse effects to the community, the Department developed an alternate design and ensured that the community was involved in the decision making process. With the alternate design plans, the Department took the opportunity to enhance and increase the sustainability of the Pankey community by removing the need for relocating residences and reducing the negative impacts on property.

Design Mitigation Efforts

This ordered approach to mitigation is known as "sequencing" and involves understanding the affected environment and assessing transportation effects throughout project development. With effective mitigation starting at the beginning of the NEPA process, not at the end, the Department was aware that many of the residents wanted mitigation measures to allow them to safely stay in their childhood, and often generations owned homes. Efforts to avoid or minimize the environmental impacts resulting from the highway design are located in Table I.

Table I

Impacts	Roadway Design Mitigation
Neighborhood Effects	
Displaced Residential Property	13401 Cantrell Road
Impacted Residential Properties	Retaining walls with handrails will be used to minimize ROW impacts Driveway Relocations: 13221 Cantrell Rd, 13821 Cantrell Rd, 13831 Cantrell Rd, 13717 Cantrell Rd, 13725 Cantrell Rd, 13721 Cantrell Rd, 13251 Cantrell Rd, 2 additional vacant homes on Cantrell Rd. 13421 Cantrell Rd, 13241 Cantrell Rd Driveway Redesign: 13400 Cantrell Road
Neighborhood Safety	Addition of a Crosswalk to be located in front of the Pankey Community Center
Access to Hwy. 10 and Community	Addition of U-Turn bays between Crockett Street and Russ Street and between Harris Road and Ives Road. Creation of roads (alleys) connecting Josephine Street to Wells Street and Harris Road, Russ Street to Rightsell Road, and Crocket Street to properties west of Crocket Street.

***** To provide visual representation, homes located at 13201, 13400, and 13640 Cantrell Rd. were reconstructed with an artistic rendering.

Community Outreach and Engagement Efforts

To avoid disruption to the Pankey community and mitigate environmental justice/Title VI impacts,

the community was actively involved throughout the decision making process. The engagement allowed residents the opportunity to work with ARDOT's staff to find solutions to their concerns. Community outreach and engagement efforts consisted of:

- Neighborhood Liaison: Community leaders and members of the Pankey Improvement Association served as a link between the Department and the affected residents.
- Communications: Information about the project was spread through news releases to local media, mailings, neighborhood flyer distribution, and a project website.
- Community Meetings: Several small meetings were held in the Pankey community to discuss the project and invite residents to talk to ARDOT staff.
- Surveys/Comment Forms: Survey and Comment Form efforts were undertaken to reach residents throughout the project area and gather public input.
- Positive Result: The collaborative process to understand the detailed context of the impacted community, and many public engagement opportunities prevented the relocation of residents and minimized property impacts. Also, a positive relationship between the Department and the community was cultivated.

In accordance with the provisions of E.O. 12898 and FHWA Order 6640.23A this project will not cause disproportionately high and adverse effects on the minority, low-income, elderly or disabled populations residing in the Pankey community. Due to the extent to which the community was included in the decision-making process and the alternate design development. No further EJ analysis is required.

Coordination and Participation

There was an extensive public outreach effort for the members of the Pankey Community. These efforts are summarized in the Neighborhood meeting synopsis located in the Appendix.

Relocations

Relocation of residential, business, or non-profit structures is necessary when they are within the new right of way required for a proposed project. A Conceptual Stage Relocation Inventory has not been performed to analyze the relocation impacts, however, a detailed design map was provided for examination. Field observations determined that there are elderly, low-income and households with disabled persons residing in the project area. Under the original design plans,

a total of seven relocatees were identified. Of the estimated residential relocatees six are considered to be EJ and Title VI households. The alternate design plan minimized the relocation impacts, resulting in one relocatee in the Pankey Community.

Appendix C – CONCEPTUAL STAGE RELOCATION STUDY

Conceptual Stage Relocation Study, Inventory and Cost Estimate

The Arkansas Department of Transportation

Job Number 061382
Taylor Loop Rd. – Pleasant Ridge Rd. (S)
Pulaski County

Prepared for the Environmental Division
By the Relocation Section, Right of Way Division

Finalized on November 23, 2021

November 23, 2021

TO: John Fleming, Division Head, Environmental

FROM: Kevin White, P.E., Division Head, Right of Way

SUBJECT: Job 061382
Taylor Loop Rd. – Pleasant Ridge Rd. (S)
Route 10, Section 8
Pulaski County
CONCEPTIUAL STAGE RELOCATION STATEMENT

GENERAL STATEMENT OF RELOCATION PROCEDURE

Persons displaced as a direct result of acquisition for 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. No lawful occupant shall be required to move without receiving a minimum of 90 days advance written notice. All displaced persons; residential, business, farm, nonprofit organization, and personal property relocatees are eligible for reimbursement for actual reasonable moving costs.

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.

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 Uniform Relocation Act 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 construction plans, aerial photographs, and an on-site project review, it is estimated that the subject project could cause the following displacements and costs:

Proposed Project:	
0 Residential Owners	$ 00.00
2 Residential Tenants	$ 30,000.00
0 Businesses	$ 00.00
2 Landlord Businesses	$ 50,000.00
2 Personal Properties	$ 10,500.00
Services	$ 16,290.00
Total	$106,790.00

The general characteristics of the displacees 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 nineteen comparable replacement dwellings available for sale and eight comparable replacement dwellings available for rent within a reasonable proximity of the project area. At least nine commercial properties are currently for sale in the project area. A breakdown of the available properties is as follows:

Residential	*Number Of Units*
(For Sale)	
$100,000 - $199,999	3
$200,000 - $299,999	5
$300,000 - $399,999	3
$400,000 and up	8
Total	**19**

Residential	
(Monthly Rent)	
$0.00 – $ 1,099	3
$1,100 - $1,999	3
$2,000 and up	2
Total	**8**

Commercial Properties	
(For Sale)	
$ 0.00 - $3999,999	1
$ 400,000 - $599,999	0
$ 600,000 - $799,999	1
$ 800,000 - $999,999	1
$1,000,000- $1,999,999	4
$2,000,000 and up	4
Total	**11**

Commercial Properties	
(For Lease)	
$5.00 - $19.99 per sq. ft.	2
$20.00-$29.99 per sq. ft.	4
$30.00 and up	1
Total	**7**

This a major highway widening to six lanes with a raised median and intersection improvements at Taylor Loop Road. The units contained in the housing inventory are in Little Rock. The dwellings and number of dwellings are comparable and adequate to provide replacement housing for the families displaced on the project. The housing market should not be detrimentally affected and there should be no problems with insufficient housing at this time. 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 replacement property 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, are reasonably accessible to the displacees' places of employment, adequate to accommodate the displacees, and in neighborhoods which are 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 eleven properties available in the subject area at this time to purchase and at least seven properties available for lease. The businesses and nonprofit organizations displaced on the project 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.

ARDOT Job 061382: Taylor Loop Rd. - Pleasant Ridge Rd. (S) EA

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONCEPTUAL STAGE RELOCATION INVENTORY
Job No.: 061382 Job Name: Taylor Loop - Pleaseant Ridge Rd. (S) Date of Inventory: 11/23/2021

Type Relocation	Number	Residential Property Values or Rental Rates	Number in Household (Range)	Employees Affected (Range)	Length of Occupancy (Range)	Minority Households	Elderly Households	Low Income Households
Residential Owners	0							
Residential Tenants	2	$300 - $700	2-4		1-10 years	1		
Businesses	0							
Land Lord Businesses	2			0-2				
Nonprofit Organizations	0							
Personal Properties	2							
Totals	6							

Appendix D – CULTURAL RESOURCES CLEARANCE

Asa Hutchinson
Governor
Stacy Hurst
Secretary

September 13, 2021

Mr. John Fleming
Division Head
Environmental Division
Arkansas Department of Transportation
P.O. Box 2261
Little Rock, AR 72203-2261

RE: Pulaski: Little Rock
Section 106 Review: FHwA
Proposed Undertaking: Taylor Loop Rd. – Pleasant Ridge Rd. (S)
Route 10, Section 8
ARDOT Job Number: 061382
AHPP Tracking Number: 107313.01

Dear Mr. Fleming:

The staff of the Arkansas Historic Preservation Program (AHPP) reviewed the Project Identification Form (PIF) for the above referenced undertaking in Pulaski County, Arkansas in Sections 19, 20 and 21, Township 2 North, Range 13 West. The proposed undertaking entails widening 2.33 miles of Highway 10 from four to six lanes beginning at Taylor Loop Road and ending west of Pleasant Ridge Road in Little Rock. A 0.6-mile section of the project by Sam Peck Road was previously surveyed (AHPP Tracking Number 79291.01). The area of potential effect (APE) for this undertaking is 1.73 miles long with a total of 15.1 acres surveyed that includes a proposed right-of-way and temporary construction easement.

Four previously recorded sites are within 100 meters of the APE (3PU0262, 3PU0269, 3PU0270 and 3PU0279), all of which were standing historic structures when recorded in 1979. Two of the structures (3PU0269 and 3PU0270) have been completely destroyed. 3PU0262 is currently being used as a restaurant and 3PU0279 no longer has standing structures and is outside of the APE. A total of forty-nine shovel tests were excavated in the APE, all of which were negative for cultural materials.

Based on the provided information, the AHPP concurs that **no historic properties affected pursuant to 36 CFR § 800.4(d)(1)** for the proposed undertaking and that no further archeological work is needed.

Tribes that have expressed an interest in the area include the Caddo Nation, the Cherokee Nation, the Choctaw Nation of Oklahoma, the Jena Band of Choctaw Indians, the Muscogee (Creek) Nation, the Osage Nation, the Quapaw Nation, and the Shawnee Tribe. We recommend consultation 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, call Jessica Cogburn at 501-324-9357 or email jessica.cogburn@arkansas.gov.

Sincerely,

Jessica H. Cogburn
for
Scott Kaufman
Director, AHPP

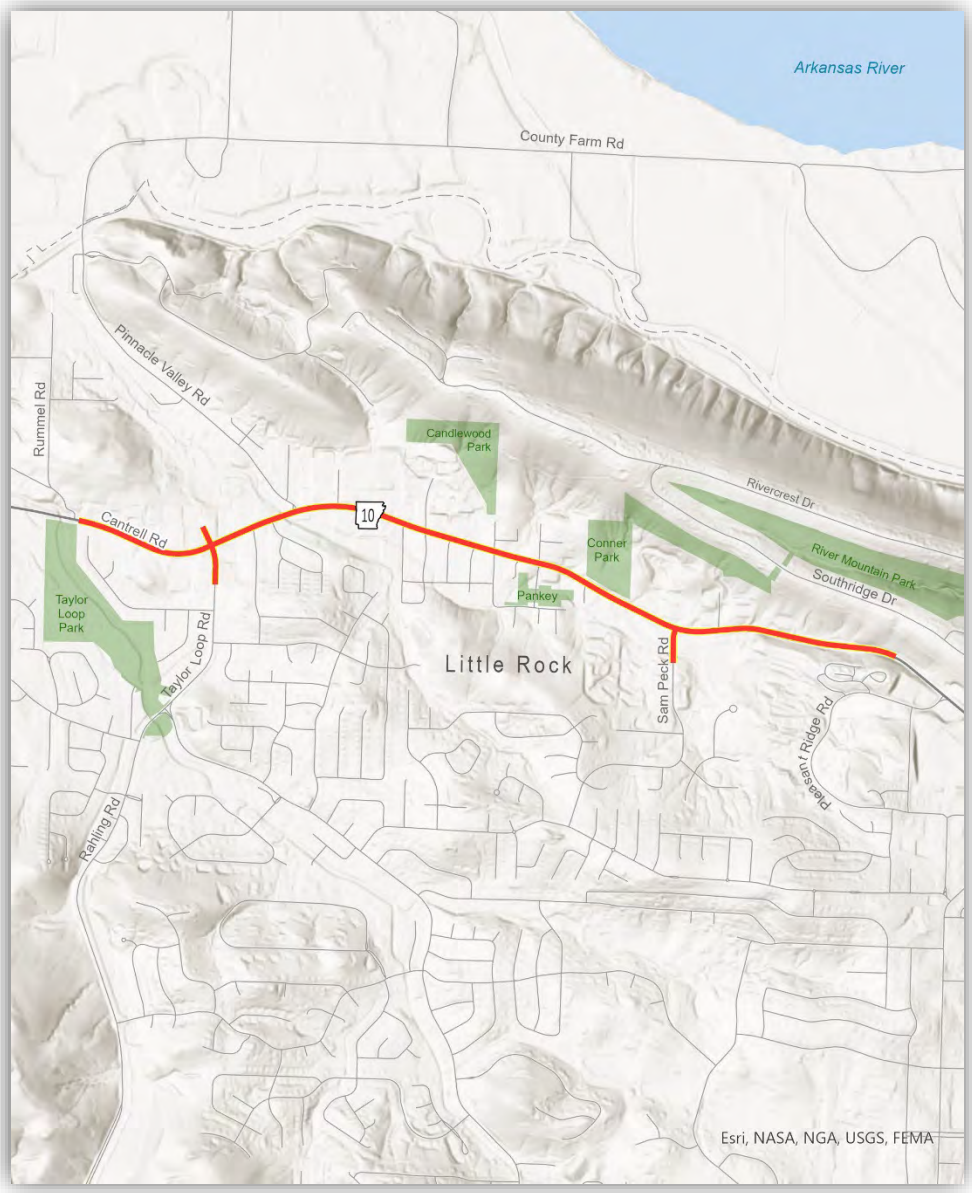
Digitally signed by Jessica H. Cogburn
Date: 2021.09.13 11:00:56 -05'00'

cc: Mr. Randal Looney, Federal Highway Administration
Dr. Melissa Zabecki, Arkansas Archeological Survey

Appendix E – NOISE STUDY

Draft Noise Study Report

Taylor Loop Rd. – Pleasant Ridge Rd. (S)
ARDOT Job 061382
FAP No. NHPP-9253(86)
Pulaski County



U.S. Department of Transportation
Federal Highway Administration

1. INTRODUCTION

The Federal Highway Administration (FHWA) established a standard for assessing highway traffic-generated noise in compliance with 23 USC Section 109(h) and (i). The standard, published as Part 772 of Title 23 of the Code of Federal Regulations (23 CFR Part 772), provides procedures for assessing noise impacts. A noise impact assessment (assessment) was completed for a proposed Highway 10 improvement project in accordance with the FHWA standard and the Arkansas Department of Transportation (ARDOT) *Policy on Highway Traffic Noise Abatement*.

This Noise Study Report provides the assessment results and serves to:

- Provide baseline noise levels used to determine noise impacts.
- Predict the effects the project would have on the noise environment.
- Identify noise impact locations and evaluate potential noise abatement measures.

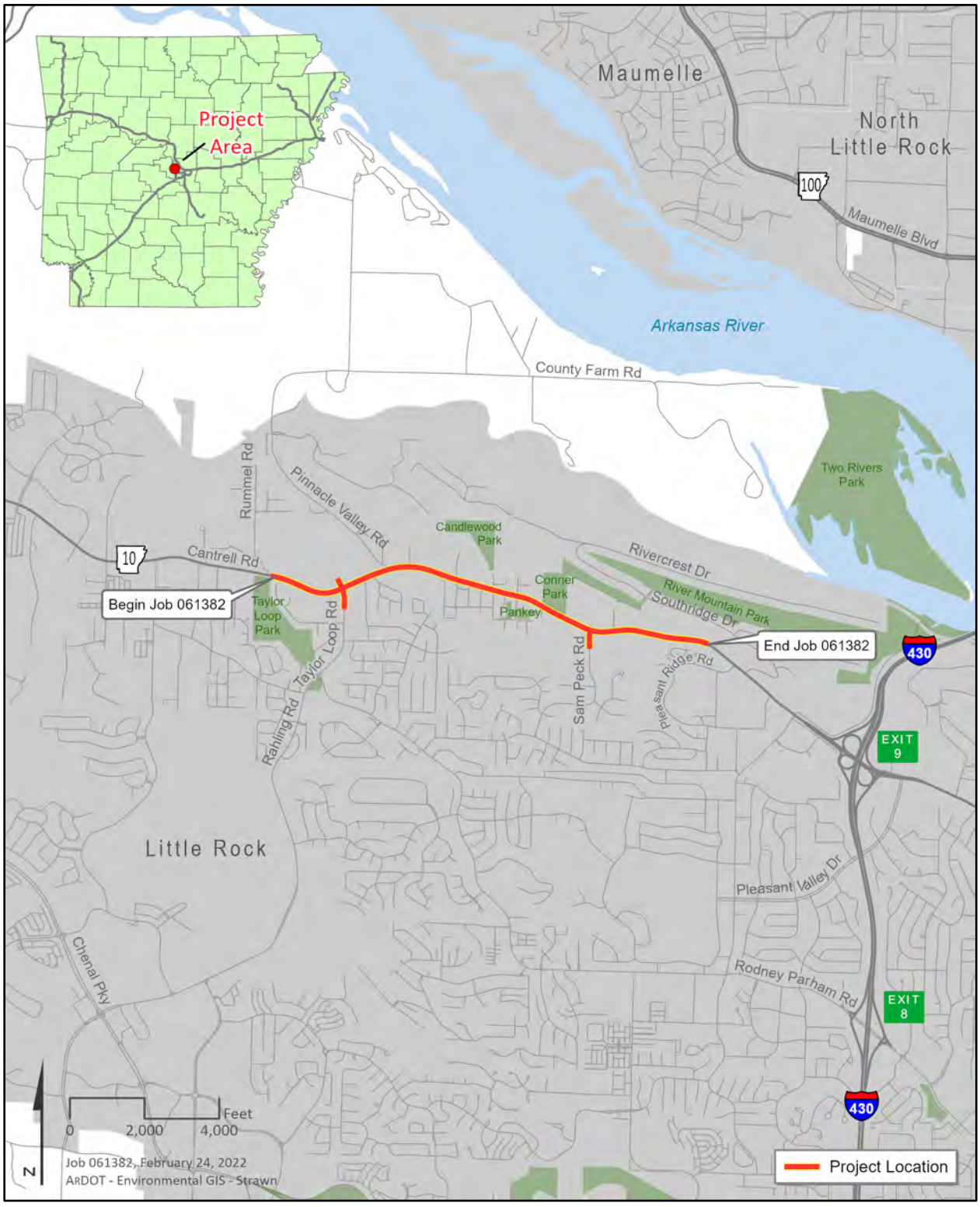
1.1 What is the Proposed Project?

The *Highway 10 Improvement Study* (2013) evaluated the need for improvements to approximately 8.5 miles of Highway 10 between Ferndale Cutoff Road and Pleasant Valley Drive. The study recommended various capacity improvements throughout the study area. The recommendations included widening to six lanes with a raised median and intersection improvements as needed between Taylor Loop Road and Pleasant Ridge Road. Figure 1 shows the project location.

1.2 Why were Noise Impacts Assessed for this Project?

ARDOT evaluates whether predicted sound levels could result in highway traffic noise impacts during the environmental review process for all federal Type I projects. If noise impacts are identified, reasonable and feasible noise abatement measures must be considered. The project meets FHWA Type I criteria because it includes adding travel lanes and substantially altering existing horizontal and vertical alignments and topography.

Figure 1. Project Location



2. WHAT IS THE EXISTING NOISE ENVIRONMENT?

This section presents background information on sound and noise levels, criteria used to measure noise impacts, and determining noise levels for noise sensitive areas. Vehicular traffic is the principal source of noise in the project area.

2.1 How is Noise Defined?

Noise is defined as unwanted or undesirable sound. The three basic parameters of noise affecting humans are summarized below.

Intensity is determined by the level of sound expressed in units of decibels (dB). A 3 dB change in sound level is barely perceptible to most people in a common outdoor setting. However, a 5 dB increase presents a noticeable change. A 10 dB sound level increase is typically perceived to be twice as loud. Outdoor conversation at normal levels at a distance of 3 feet (ft) becomes difficult when the sound level exceeds the mid-60 dBA range.

Frequency is related to the tone or pitch of the sound; the sensitivity of human hearing varies with frequency. The amplification or attenuation of different frequencies of sound to correspond to the way the human ear "hears" these frequencies is referred to as "A-weighting". The A-weighted sound level in decibels is expressed as dBA.

Variation with time occurs because most environmental noise fluctuates from moment to moment. A single level called the equivalent sound level (L_{eq}) is used to compensate for this fluctuation. The L_{eq} is a steady sound level that would contain the same amount of sound energy as the actual time-varying sound evaluated over the same time period. The L_{eq} averages the louder and quieter moments, but gives more weight to the louder moments. For traffic noise assessment purposes, L_{eq} is typically evaluated over the worst 1-hour period and written as $L_{eq(h)}$.

2.2 What Factors Affect Traffic Noise Levels?

Traffic noise levels depend on many factors, including the geometry (distance, land cover, topography, etc.) and traffic characteristics (volume, vehicle type, speed, etc.) of proposed roadways. For example, L_{eq} noise levels along a straight, at-grade roadway decrease with distance. Land cover such as lawn, vegetation, or other sound absorptive materials generally decrease the noise level at a rate of 4.5 dBA per a doubling of distance. Conversely, in urban areas with concrete and

other hard surfaces, the noise level drops off at a much slower rate - typically around 3 dBA per a doubling of distance.

Noise levels from trucks are much greater than from automobiles. Consequently, noise level changes are more sensitive to truck volumes than changes in overall traffic flow. Travel speeds are also an important factor. On a roadway carrying a given volume of traffic, traffic noise levels increase by 5 to 6 dBA as the speed increases from 30 to 45 mph, and by another 3 dBA as the speed increases to 55 mph.

2.3 How are Noise Levels Predicted?

The FHWA Traffic Noise Model Version 2.5 (TNM) software program predicts $L_{eq(h)}$ traffic noise levels and is used to obtain reasonable estimates of traffic noise at discrete locations. The TNM program allows for existing and future roadway conditions to be modeled. Modeling inputs include traffic characteristics such as those described in Section 2.2, and the interactions between different noise sources and the effects of topographical features on predicted noise levels are considered.

A ***receiver*** is a discrete point modeled in the TNM program at areas of frequent human use of a property. A ***receptor*** is defined as a representative location of a noise sensitive area for various land uses. For single-family residences, that could be the front or back yard. In areas with common noise environments, one modeled TNM receiver can be considered representative of many receptors. This occurs in places like apartment buildings where noise level estimates at one modeled TNM receiver on a given floor may represent noise conditions for all the receptors on that floor.

2.4 What is a Noise Impact?

Noise impacts are determined by comparing future “design year” project worst hour $L_{eq(h)}$ values to: (1) a set of Noise Abatement Criteria (NAC) for different land use categories; and (2) existing $L_{eq(h)}$ values. Year 2022 is the existing year and Year 2042 is the design year for the proposed project. Table 1 shows the land uses classified as Activity Categories A through G and the corresponding NAC.

A noise impact occurs when design year build levels approach or exceed the NAC thresholds. ARDOT considers approach levels as 1 dBA less than the NAC thresholds. For example, the approach noise level for Category B - Residential is

Table 1. Noise Abatement Criteria (NAC) Hourly A-Weighted Sound Level - Decibels (dBA)

Activity Category	$L_{eq(h)}$	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose
B	67 (Exterior)	Residential
C	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings
D	52 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios
E	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A-D or F
F	-	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing
G	-	Undeveloped lands that are not permitted

Source: FHWA, 23 CFR Part 772

66 dBA. As detailed in Sections 3.1.2 through 3.1.4, noise impacts approaching this NAC threshold were identified.

A noise impact also occurs when a substantial increase occurs, defined as design year build levels 10 dBA or greater than existing noise levels.

2.5 What if Noise Impacts are Identified?

The FHWA noise standards (23 CFR 772) and ARDOT's noise policy state that noise abatement should be considered when traffic noise impacts have been identified. The abatement consideration process includes evaluating the feasibility and reasonableness of abatement measures.

Feasible means that a noise barrier will provide at least a 5 dBA reduction in the $L_{eq(h)}$ for at least one impacted receptor. Additionally, the noise barrier should not pose any major problems related to design, construction, safety, drainage, maintenance, or other factors. However, feasibility alone does not dictate whether a noise barrier will be built. Each noise barrier must also pass a "reasonableness" test.

Reasonableness determinations are based on multiple individual circumstances of a particular project, including the cost of the noise barrier averaged over the number of receptors shown by modeling to benefit from the barrier. To "benefit" means that the barrier would reduce sound levels by 5 or more dBA. ARDOT's noise policy specifies a noise reduction design goal of 8 dBA must be achieved for at least one impacted receptor in order for a noise abatement measure to be considered reasonable. The preferences of property owners and residents identified as benefited are also considered.

2.6 How were the Noise Study Areas (NSA) Defined?

Noise Study Areas (NSA) were delineated by reviewing available electronic mapping and identifying noise sensitive land uses within the project area. Existing and potential noise exposures indicated by traffic data and screening level noise modeling results were also considered. The NSAs include all land uses/receptors within 500 ft of the edge of the outside travel lanes of Highway 10. As shown on Figure 2, four NSAs were identified and are briefly described below.

NSA 1 – Located between Rummel Road and Taylor Loop Road, this NSA includes single-family residences (Activity Category B) in the Westchester subdivision and a restaurant with an outdoor dining area (Activity Category E).

NSA 2 – Located between Taylor Loop Road and Black Street, this NSA includes single-family residences in the Westbury subdivision and restaurants with outdoor dining areas.

NSA 3 – Located between Black Street and Sam Peck Road, this NSA includes single-family residences in the Pankey subdivision, a restaurant with an outdoor dining area, and recreational land uses at Conner Park (Activity Category C).

NSA 4 – Located between Sam Peck Rd and the end of the project near Pleasant Ridge Rd, a noise impact assessment for this NSA was completed under Job 061331 and is therefore not included in this report.

Figure 2. Noise Study Areas (NSAs)



3. HOW WAS THE PROJECT MODELED AND WHAT WERE THE RESULTS?

This section summarizes the project modeling results. The TNM input and output files used for noise modeling are provided in the following appendices: Appendix A – Noise Measurement Results; Appendix B – Traffic Data for Noise Modeling; Appendix C – TNM Plan Views; and Appendix D – Noise Modeling and Barrier Evaluation Results.

A detailed noise analysis was performed for NSAs 1-3 using the TNM program. The analysis was then used to model noise barriers. As described in Section 2.3, TNM inputs included traffic characteristics and considered topography and potential receptor shielding effects provided by existing structures. Elevations were obtained from a Digital Terrain Model created by ARDOT's Surveys Division. Supplemental elevation data was obtained from a high resolution Digital Elevation Model derived from LiDAR data. The detailed noise analysis results include noise levels for current conditions, predicted conditions if the project is constructed (Build Alternative), and predicted conditions if the project is not constructed (No-Build Alternative).

3.1 How was the Model Validated?

In accordance with the ARDOT noise policy for verifying modeling accuracy, existing noise levels were measured in the field and compared to TNM predictions using traffic data collected at the same time as the noise measurements. This process is called model validation. The field measurements are sequentially obtained at three 15-minute intervals for each validation point. If two of the three predicted and field measurement levels at each location are within ±3 dBA of each other, the model is within the accepted level of accuracy and considered to have been validated.

3.1.1 What were the Field Measurement Results?

The model validation field measurements obtained on March 30, 2021 for each NSA are summarized below. Copies of the field measurement notes are provided in Appendix F. The field measurements and TNM comparison results are summarized in Tables 2, 3, and 4. With one exception, all field measurements were within 3 dBA of the TNM calculations; the model was therefore validated.

Table 2. NSA 1 Existing Field Measurements and TNM Results (dBA $L_{eq(h)}$)

Time Range	Field Measurement	TNM Calculation	Difference
8:15 – 8:30 AM	72.9	71.1	1.8
8:30 – 8:45 AM	72.5	70.2	2.3
8:45 – 9:00 AM	72.3	69.8	2.5

Table 3. NSA 2 Existing Field Measurements and TNM Results (dBA $L_{eq(h)}$)

Time Range	Field Measurement	TNM Calculation	Difference
9:15 – 9:30 AM	72.7	70.3	2.4
9:30 – 9:45 AM	72.4	69.7	2.7
9:45 – 10:00 AM	73.6	70.2	3.4

Table 4. NSA 3 Existing Field Measurements and TNM Results (dBA $L_{eq(h)}$)

Time Range	Field Measurement	TNM Calculation	Difference
12:45 – 1:00 PM	70.0	67.9	2.1
1:00 – 1:15 PM	68.6	67.6	1.0
1:15 – 1:30 PM	68.4	67.7	0.7

3.1.2 NSA 1 Modeling Results

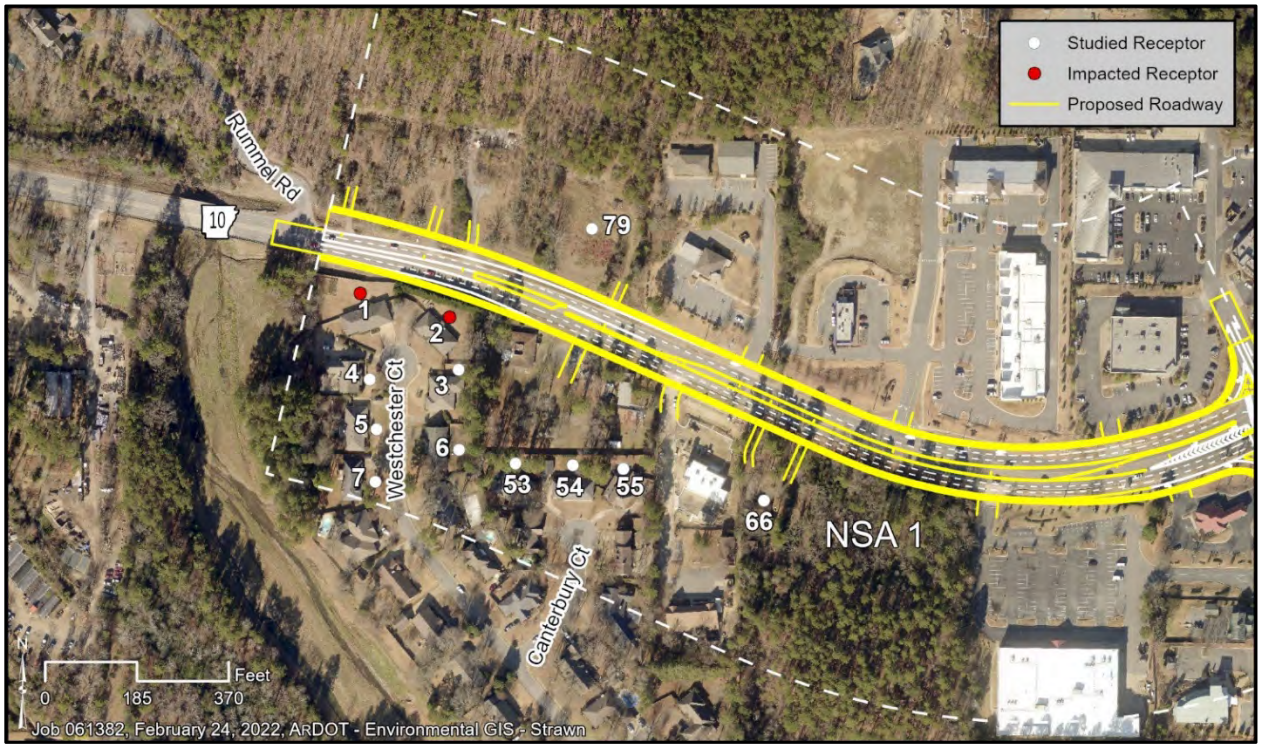
As shown on Figure 2, a total of 12 receivers/receptors were modeled for NSA 1 (11 residences and one restaurant with an outdoor dining area). Existing noise levels range between 52.0 dBA and 69.1 dBA, with two receptors exposed to noise levels exceeding the residential NAC.

The predicted Build Alternative noise levels would range from 54.2 dBA to 70.2 dBA, with two impacted receptors exposed to noise levels exceeding the residential NAC. The predicted No-Build Alternative noise levels would range from 52.9 to 70.0 dBA, with two impacted receptors exposed to noise levels exceeding the residential NAC.

As indicated by the noise level comparisons presented above, future increases would range ≤ 2 dBA above existing levels. Such increases are considered minor according to ARDOT noise policy.

Noise impacts attributable to a substantial increase - defined as design year build levels 10 dBA or greater than existing noise levels - were not predicted for any of the NSAs.

Figure 2. NSA 1 Noise Receptors for Build Alternative



3.1.3 NSA 2 Modeling Results

As shown on Figure 3, a total of 14 receivers/receptors were modeled for this NSA (10 single-family homes and four restaurants with outdoor dining areas). Existing noise levels range between 55.5 dBA and 68.3 dBA, with two receptors exposed to noise levels equal to or exceeding the residential NAC.

The predicted Build Alternative noise levels would range from 57.7 dBA to 70.4 dBA, with two impacted receptors exposed to noise levels equal to or exceeding the residential NAC. The predicted No-Build Alternative noise levels would range from 56.2 to 69.0 dBA, with two impacted receptors exposed to noise levels approaching or exceeding the residential NAC.

As indicated by the noise level comparisons presented above, future increases would range ≤ 2 dBA above existing levels. Such increases are considered minor according to ARDOT noise policy.

Figure 3. NSA 2 Noise Receptors for Build Alternative



3.1.4 NSA 3 Modeling Results

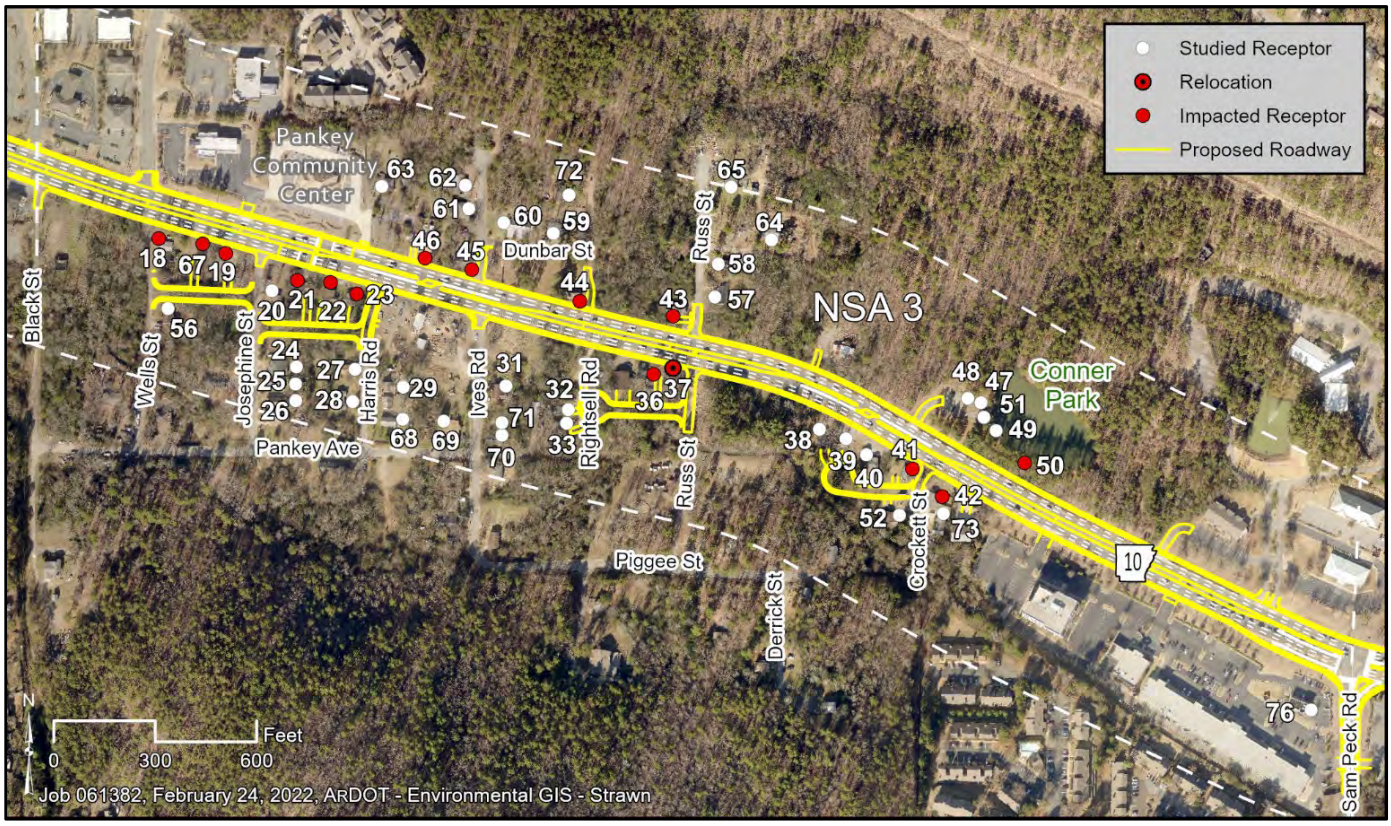
As shown on Figure 4, a total of 51 receivers/receptors were modeled for NSA 3 (44 single-family homes, five park land uses, and a restaurant with an outdoor dining area). Existing noise levels range between 52.6 dBA and 71.7 dBA, with 14 receptors exposed to noise levels equal to or exceeding the residential and park NAC.

The predicted Build Alternative noise levels would range from 53.7 dBA to 73.6 dBA, with 14 impacted receptors exposed to noise levels exceeding the residential and/or recreational NAC (note: one of the total of 15 impacted receptors shown on Figure 4 would be relocated). The predicted No-Build Alternative noise levels

would range from 53.2 to 72.3 dBA, with 15 impacted receptors exposed to noise levels approaching or exceeding the residential and park NAC.

As indicated by the noise level comparisons presented above, future increases would range ≤ 3 dBA above existing levels. Such increases are considered minor according to ARDOT noise policy.

Figure 4. NSA 3 Noise Receptors for Build Alternative



4. HOW WERE FEASIBILITY AND REASONABLENESS EVALUATED?

Noise barriers are considered feasible when:

- *Constructability* - a noise barrier must be able to be physically constructed using reliable and common engineering practices.
- *Noise reduction* - a calculated noise reduction of at least 5 dBA must be achievable for a minimum of one impacted receptor. Each noise receptor

receiving a 5 dbA reduction (whether classified as impacted or not) is considered to be a benefited receptor.

- *Safety and maintenance considerations* – a noise barrier must be accessible to maintenance personnel and not prevent access to other highway components. Severe drainage problems or flood-prone areas may dictate whether or not a noise barrier is feasible.
- *Access and utility requirements* - a noise barrier must allow sufficient access to adjacent properties and utility corridors. It must also meet sight distance requirements, as applicable. It is typically not feasible to construct effective noise barriers where access points and/or driveways exist along the roadway.

In accordance with ARDOT noise policy, noise barriers are considered reasonable when:

- *Noise reduction* – at least one benefited receptor must receive a minimum noise level reduction of 8 dBA – i.e., the noise reduction design goal.
- *Public input* – The viewpoints of benefited property owners and residents are solicited to determine if a consensus (greater than 50%) of support for or against a noise barrier exists.
- *Cost effectiveness* – The total cost for the proposed noise barrier does not exceed a $36,000 average allowance per benefited receptor.

ARDOT uses a $35 per square ft cost for a reflective barrier, a $40 per square ft cost for a free-standing absorptive barrier, and a $50 per square ft cost for an on-structure absorptive barrier to calculate cost effectiveness (also referred to as “cost criteria”). The square ft costs are based on previous ARDOT experience and the average barrier costs used by other state highway agencies.

Absorptive and reflective barriers were considered for this project. ARDOT typically utilizes absorptive panels when noise sensitive receptors located opposite the modeled barriers did not warrant a noise barrier. This consideration ensures that noise levels are not increased for any receptors for which the increases cannot be abated. However, some low height barriers may need to be constructed as reflective due to maintenance and safety requirements.

Highway 10 is not a controlled access roadway. It should be noted that property access requirements, the high concentration of driveways and intersections along the project corridor, and required sight distances limited the locations where noise barriers could be feasible (e.g., constructible). However, a preliminary determination was made that at least one noise barrier would be feasible within each NSA. Reasonable determinations (e.g., cost effectiveness) are summarized in the remainder of this section.

4.1 NSA 1

One noise barrier was modeled on top of the proposed retaining wall between the residences and Highway 10. The barrier was comprised of three sections with the following heights and lengths: 4 ft x 50 ft; 6 ft x 100 ft; and 8 ft x 300 ft. The estimated cost of the barrier is $160,000.

As described in Section 3.1.2, two receptors are predicted to be impacted under the Build Alternative. As shown in Figure 5, a noise barrier would result in a total of three benefited receptors.

The total cost of the noise barrier divided by the total number of benefited receptors is above the cost criteria of $36,000. The noise barrier therefore does not meet reasonableness criteria for cost effectiveness. Table 5 summarizes the modeled noise barrier.

Figure 5. Noise Barrier for NSA 1

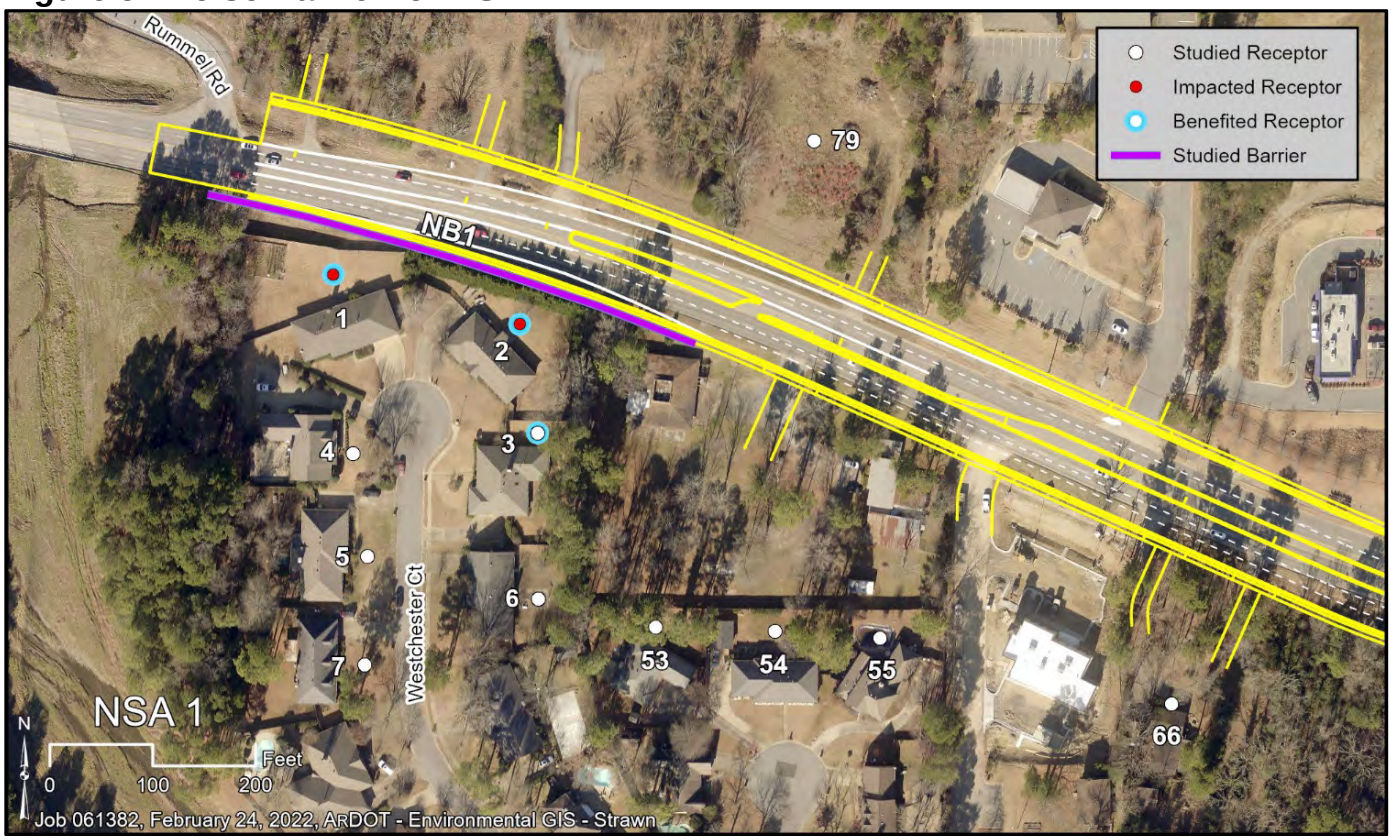


Table 5. NSA 1 Noise Barrier

Heights (ft)*	Total Length (ft)*	Total Area (sq/ft)	Total Cost (FY22 $)**	# Benefited Receptors***	Cost per Benefited Receptor (FY22 $)
4, 6, 8	450	3,200	160,000*	3/1	53,333

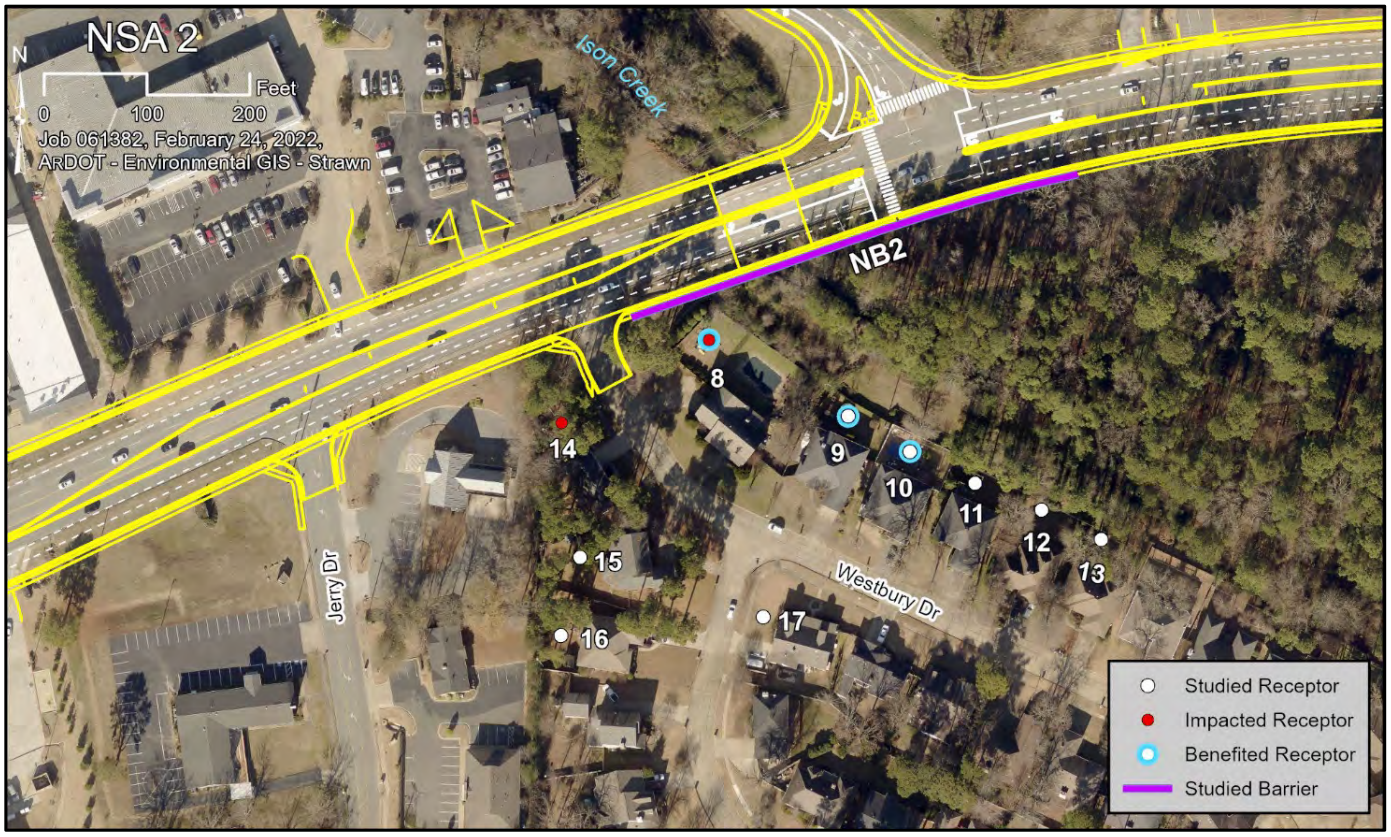
* Barrier comprised of three segments with individual heights and lengths
** Cost was calculated for a varying height absorptive wall on structure ($50/ft^2)
*** Total number of benefited receptors / number of receptors meeting or exceeding ARDOT's 8 dBA noise reduction goal

4.2 NSA 2

One free standing noise barrier was modeled between the residences and Highway 10. A section of this barrier would be on structure due to the bridge that crosses Ison Creek. The estimated cost of the barrier is $375,000.

As described in Section 3.1.3, two receptors are predicted to be impacted under the Build Alternative. As shown in Figure 6, a noise barrier would result in a total of three benefited receptors.

Figure 6. Noise Barrier for NSA 2



The total cost of the noise barrier divided by the total number of benefited receptors is above the cost criteria of $36,000. The noise barrier therefore does not meet reasonableness criteria for cost effectiveness. The noise barrier also does not meet the 8 dBA noise reduction design goal. Table 6 summarizes the modeled noise barrier.

Table 6. NSA 2 Noise Barrier

Average Height (ft)	Total Length (ft)	Total Area (sq/ft)	Total Cost (FY22 $)*	# Benefited Receptors**	Cost per Benefited Receptor (FY22 $)
20	450	9,000	375,000	3/0	125,000

* Cost was calculated for a combination of a free-standing (375 ft at $40/ft^2) and an on-structure (75 ft at $50/ft^2) barrier

** Total number of benefited receptors / number of receptors meeting or exceeding ARDOT's 8 dBA noise reduction goal

4.3 NSA 3

A total of seven noise barriers were modeled on top of proposed retaining walls between the residences and Highway 10. However, only barrier numbers 3 and 4 meet both feasible and reasonable criteria when modeled together as one barrier. The estimated cost of the barrier ranges from $39,500 to $121,750.

As described in Section 3.1.4, 14 receptors are predicted to be impacted under the Build Alternative. As shown in Figure 7, a noise barrier would result in a total of four benefited receptors.

The total cost of the noise barrier divided by the total number of benefited receptors is below the cost criteria of $36,000. The noise barrier therefore meets reasonableness criteria for cost effectiveness and noise reduction design goals.

Figure 7. Noise Barrier for NSA 3

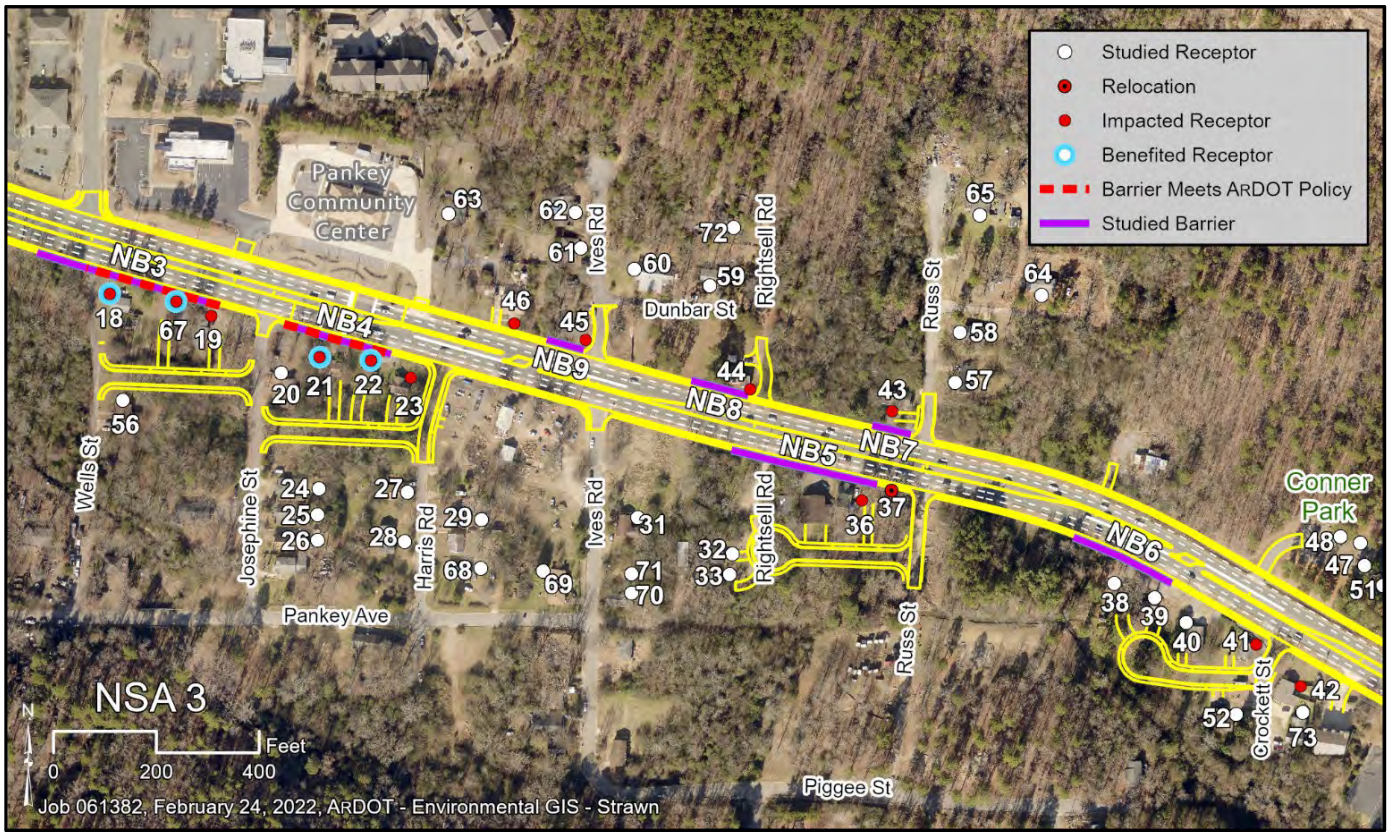


Table 7. NSA 3 Noise Barrier

Studied Barrier	Average Height (ft)	Total Length (ft)	Total Area (sq/ft)	Total Cost (FY22 $)*	# Benefited Receptors**	Cost per Benefited Receptor (FY22 $)
NB 3 & 4	5	487	2,435	121,750	4/1	30,438
NB 5	10	242	2,420	121,000	0/0	N/A
NB 6	10	212	2,120	106,000	1/0**	106,000
NB 7	10	79	790	39,500	0/0**	N/A
NB 8	10	115	1,150	57,500	0/0**	N/A
NB 9	10	75	750	37,500	0/0**	N/A

* Cost was calculated for on structure barrier ($50/ft^2)

** Total number of benefited receptors / number of receptors meeting or exceeding ARDOT's 8 dBA noise reduction goal

5. HOW IS CONSTRUCTION NOISE HANDLED?

General construction noise increases for people living or working near the project can be expected from land clearing, earth moving, and paving operations. However, the noise increases will be temporary and will not constitute a noise impact as defined by the FHWA noise regulation and ARDOT's noise policy. Construction procedures will be governed by ARDOT's *Standard Specifications for Highway Construction*. All construction equipment will be operated and maintained in good condition.

6. WHAT ARE THE CONCLUSIONS OF THIS NOISE STUDY REPORT?

Traffic noise for the Build Alternative in the design year 2042 will result in noise impacts by approaching and/or exceeding the 67 dBA residential and recreational park NACs as summarized below.

NSA 1 - The proposed project would result in minor increases in traffic generated noise. Existing noise levels indicate that two receptors currently experience noise levels exceeding the residential NAC. Although future noise levels would increase by ≤ 2 dBA, the predicted Build Alternative noise levels would not result in any additional receptors experiencing noise levels equal to or exceeding the residential NAC. The noise barrier modeled for this NSA did not meet cost reasonableness criteria.

NSA 2 - The proposed project would result in minor increases in traffic generated noise. Existing noise levels indicate that two receptors currently experience noise levels equal to or exceeding the residential NAC. Although future noise levels would increase by ≤ 2 dBA, the predicted Build Alternative noise levels would not result in any additional receptors experiencing noise levels equal to or exceeding the residential NAC. The noise barrier modeled for this NSA did not meet cost reasonableness criteria.

NSA 3 - The proposed project would result in minor increases in traffic generated noise. Existing noise levels indicate that 14 receptors currently experience noise levels equal to or exceeding the residential NAC. Future noise levels would increase by ≤ 3 dBA, and the predicted Build Alternative noise levels would result in one additional receptor experiencing noise levels exceeding the residential and park NAC. The noise barrier modeled for this NSA would result in a total of four benefited receptors at a cost meeting reasonableness criteria.

Table 8 summarizes the Noise Study Report conclusions.

Table 8. Noise Study Report Conclusions

Impact Area	Property Type	# of Benefited Receptors	Approximate Cost Per Receptor ($)	Noise Barrier Feasible & Reasonable?
NSA 1	Single-family residences and restaurant outdoor dining area	3	53,333	No
NSA 2	Single-family residences and restaurant outdoor dining areas	3	125,000	No
NSA 3	Single-family residences, park uses, and restaurant outdoor dining areas outdoor dining areas	4	30,438	Yes

7. COORDINATION WITH LOCAL OFFICIALS OR FUTURE NOISE LEVELS ON UNDEVELOPED LANDS

ARDOT encourages local communities and developers to practice noise compatibility planning in order to avoid future noise impacts. Guidance documents on noise compatible land use planning are available from the FHWA at the following links:

https://www.fhwa.dot.gov/ENVIRonment/noise/noise_compatible_planning/federal_approach/audible_landscape/al01.cfm

https://www.fhwa.dot.gov/ENVIRonment/noise/noise_compatible_planning/federal_approach/land_use/qz08.cfm

Table 9 presents future predicted noise levels based on an assumed at-grade situation for areas along Highway 10 where vacant and potentially developable lands exist. Noise predictions were made at distances of 50, 100, 150, 200, 250 and 300 ft from Highway 10 for the design year 2042. The results showed exterior residential activities would generally be impacted with noise levels of 66 dBA or higher within distances ranging from approximately 50 to 150 ft of the nearest Highway 10 travel lane. These values do not represent predicted levels at every location at a particular distance back from the roadway. Noise levels will vary with changes in terrain and other site conditions.

This information is being included to make local officials and planners aware of anticipated highway noise levels so that future development will be compatible with these levels.

Table 9. Design Year (2042) Predicted Distances for Undeveloped Areas

Distance from Highway 10 (ft)*	(L_{eq} (1h) dBA)
50	70.6
100	67.6
150	65.3
200	63.6
250	62.2
300	61.1

* Perpendicular distance to the edge of the nearest travel lane of Highway 10

8. WHAT IS THE LIKELIHOOD NOISE BARRIERS WILL BE CONSTRUCTED?

A noise barrier was found to be both feasible and reasonable for NSA 3. The next step in determining the reasonableness of a noise barrier is the solicitation of the viewpoints of the benefited property owner and residents. If the cost-effectiveness and noise reduction design reasonableness criteria are still met after additional design investigations, then the viewpoints of the benefited residents will be considered before final decisions are made.

APPENDIX A

NOISE MEASUREMENT DATA AND RESULTS

Noise Measurement Data

Date 3/30/2021

Site NSA 1

Period #	Time Start	Leq	Lmax	Note	Keep?	Energy	Count
1	8:15:28	73.7	76.3		Y	23469617	1
2	8:16:28	73.0	76.8		Y	19988122	1
3	8:17:28	72.5	76.4		Y	17890851	1
4	8:18:28	73.2	76.3		Y	21001146	1
5	8:19:28	72.7	76.1		Y	18757372	1
6	8:20:28	72.5	76.8		Y	17810126	1
7	8:21:28	73.1	78.4		Y	20638161	1
8	8:22:28	73.5	79.4		Y	22418523	1
9	8:23:28	71.4	75.5		Y	13779390	1
10	8:24:28	72.5	76.6		Y	17705818	1
11	8:25:28	72.7	75.6		Y	18523839	1
12	8:26:28	73.2	77.5		Y	20805540	1
13	8:27:28	73.5	76.6		Y	22205625	1
14	8:28:28	71.1	75.6		Y	12966507	1
15	8:29:28	73.6	76.8		Y	23002975	1
Total				**Energy Sum**		**290963614**	**15**
				Leq of good periods		72.9	
				Modeled Result		71.1	
				Difference		(1.8)	

Period #	Time Start	Leq	Lmax	Note	Keep?	Energy	Count
1	8:30:28	72.1	76.0		Y	16199888	1
2	8:31:28	73.7	78.1		Y	23481076	1
3	8:32:28	73.2	77.7		Y	20862819	1
4	8:33:28	70.5	75.4		Y	11180700	1
5	8:34:28	73.7	77.1		Y	23218705	1
6	8:35:28	72.3	76.9		Y	16943222	1
7	8:36:28	73.2	78.2		Y	20844381	1
8	8:37:28	72.8	77.0		Y	19114591	1
9	8:38:28	71.7	74.9		Y	14840003	1
10	8:39:28	72.5	75.7		Y	17639164	1
11	8:40:28	71.9	77.7		Y	15446070	1
12	8:41:28	72.5	75.7		Y	17776694	1
13	8:42:28	73.7	78.8		Y	23630668	1
14	8:43:28	71.6	75.0		Y	14380500	1
15	8:44:28	71.2	75.8		Y	13330118	1
Total				**Energy Sum**		**268888601**	**15**
				Leq of good periods		72.5	
				Modeled Result		70.2	
				Difference		(2.3)	

Period #	Time Start	Leq	Lmax	Note	Keep?	Energy	Count
1	8:45:28	72.3	75.6		Y	16940452	1
2	8:46:28	73.0	77.6		Y	20118936	1
3	8:47:28	71.5	76.5		Y	14268522	1
4	8:48:28	71.9	76.7		Y	15495015	1
5	8:49:28	71.4	75.4		Y	13834262	1
6	8:50:28	73.4	78.0		Y	22112406	1
7	8:51:28	72.4	76.8		Y	17562972	1
8	8:52:28	73.6	77.6		Y	22813767	1
9	8:53:28	69.6	74.6		Y	9210856	1
10	8:54:28	72.3	77.6		Y	16926922	1
11	8:55:28	73.3	79.5		Y	21504186	1
12	8:56:28	71.4	76.4		Y	13810773	1
13	8:57:28	72.1	78.7		Y	16319280	1
14	8:58:28	73.2	79.2		Y	20844189	1
15	8:59:28	70.5	74.9		Y	11211094	1
Total				**Energy Sum**		**252973633**	**15**
				Leq of good periods		72.3	
				Modeled Result		69.8	
				Difference		(2.5)	

Noise Measurement Data

Date 3/30/2021

Site NSA 2

Period #	Time Start	Leq	Lmax	Note	Keep?	Energy	Count
1	9:15:05	70.2	76.0		Y	10552005	1
2	9:16:05	74.0	77.7		Y	25287331	1
3	9:17:05	69.9	76.1		Y	9852921	1
4	9:18:05	73.8	77.3		Y	24003800	1
5	9:19:05	68.5	73.3		Y	7003433	1
6	9:20:05	74.5	78.8		Y	28494563	1
7	9:21:05	71.5	76.7		Y	14180123	1
8	9:22:05	73.4	78.3		Y	21742176	1
9	9:23:05	74.1	78.2		Y	25570369	1
10	9:24:05	70.5	76.2		Y	11117548	1
11	9:25:05	74.7	78.4		Y	29454591	1
12	9:26:05	72.1	77.3		Y	16108570	1
13	9:27:05	74.0	76.8		Y	24925450	1
14	9:28:05	71.1	75.4		Y	12916267	1
15	9:29:05	73.0	77.5		Y	19967514	1
Total				**Energy Sum**		**281176662**	**15**
				Leq of good periods		72.7	
				Modeled Result		70.3	
				Difference		(2.4)	

Period #	Time Start	Leq	Lmax	Note	Keep?	Energy	Count
1	9:30:05	71.6	78.0		Y	14485117	1
2	9:31:05	71.0	76.3		Y	12561717	1
3	9:32:05	72.7	77.6		Y	18459460	1
4	9:33:05	71.0	77.2		Y	12569876	1
5	9:34:05	72.8	78.0		Y	18910412	1
6	9:35:05	71.7	83.3		Y	14720345	1
7	9:36:05	73.8	77.8		Y	24116484	1
8	9:37:05	73.1	77.2		Y	20450597	1
9	9:38:05	72.2	78.6		Y	16743259	1
10	9:39:05	72.1	77.6		Y	16334205	1
11	9:40:05	70.3	76.1		Y	10772587	1
12	9:41:05	72.8	78.3		Y	19210028	1
13	9:42:05	71.0	76.9		Y	12727028	1
14	9:43:05	73.7	77.8		Y	23454490	1
15	9:44:05	73.9	79.3		Y	24727944	1
Total				**Energy Sum**		**260243551**	**15**
				Leq of good periods		72.4	
				Modeled Result		69.7	
				Difference		(2.7)	

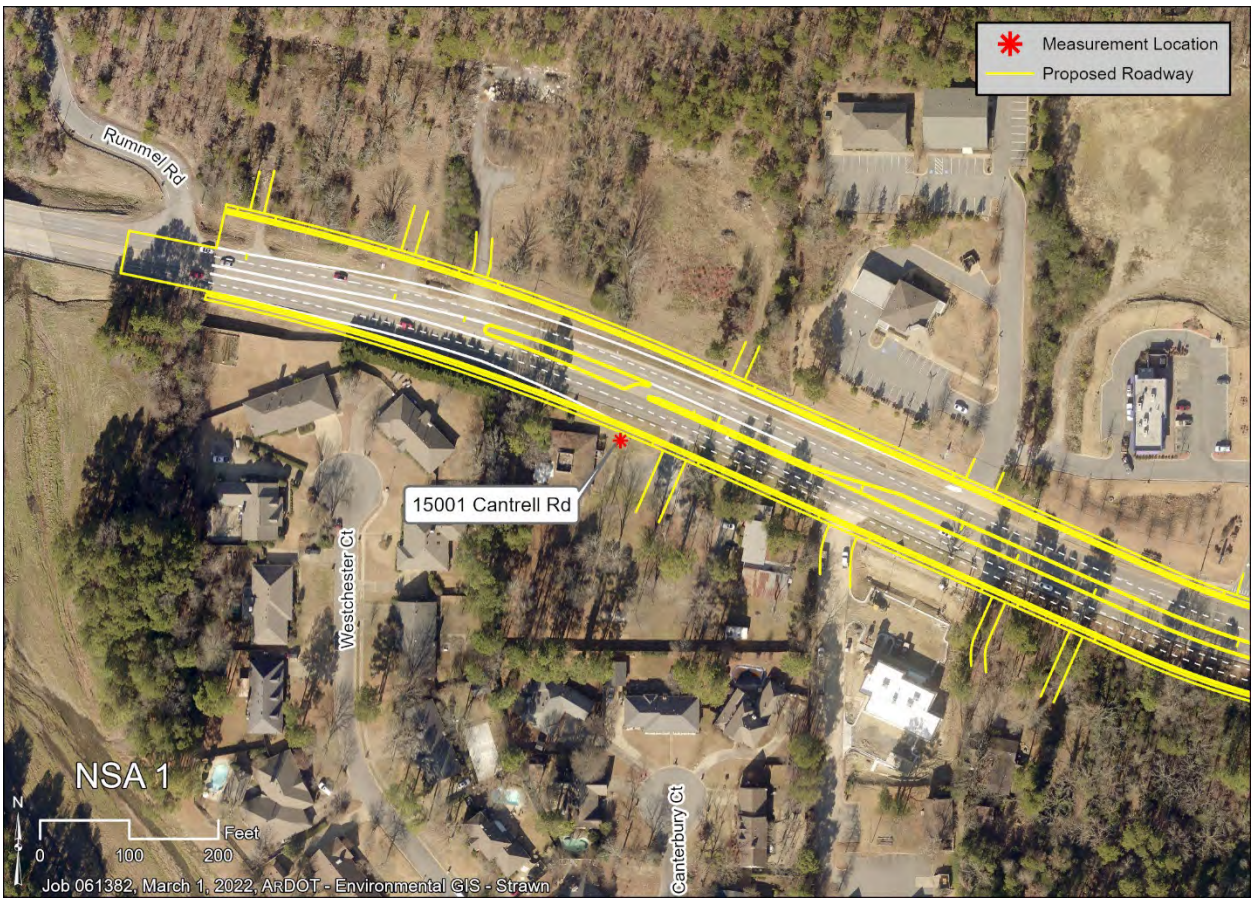
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1	9:45:05	74.7	77.3		Y	29643536	1
2	9:46:05	73.0	76.3		Y	19769696	1
3	9:47:05	71.4	77.7		Y	13676910	1
4	9:48:05	75.3	79.5		Y	33788818	1
5	9:49:05	73.1	76.8		Y	20456532	1
6	9:50:05	74.6	79.1		Y	29097187	1
7	9:51:05	72.5	77.4		Y	17785087	1
8	9:52:05	75.2	78.2		Y	33021972	1
9	9:53:05	71.9	78.4		Y	15567755	1
10	9:54:05	72.8	77.5		Y	19011002	1
11	9:55:05	72.5	77.3		Y	17653710	1
12	9:56:05	73.6	77.4		Y	22647747	1
13	9:57:05	74.2	79.1		Y	26212594	1
14	9:58:05	73.1	77.7		Y	20558196	1
15	9:59:05	73.6	79.4		Y	22664388	1
Total				**Energy Sum**		**341555130**	**15**
				Leq of good periods		73.6	
				Modeled Result		70.2	
				Difference		(3.4)	

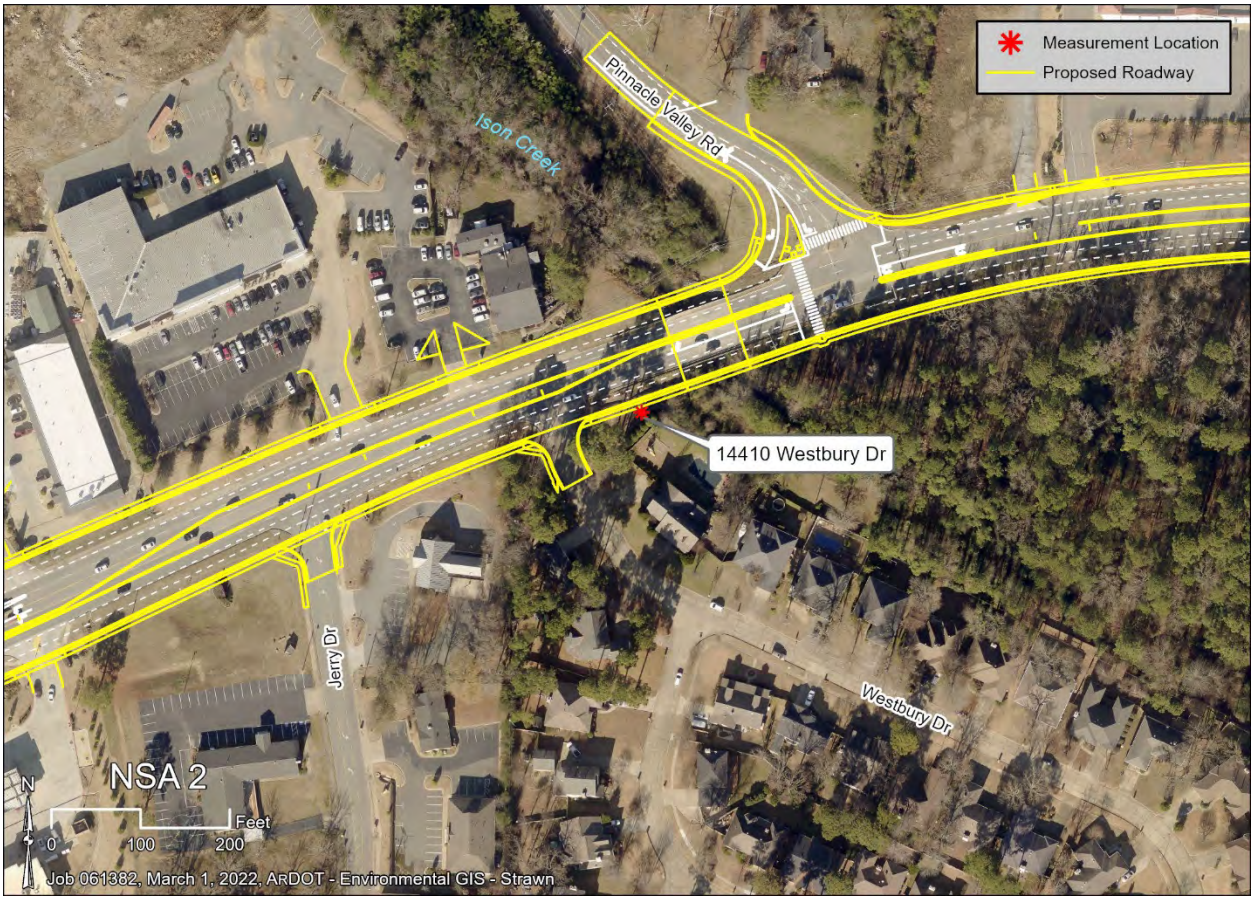
Date 3/30/2021
Site NSA 3

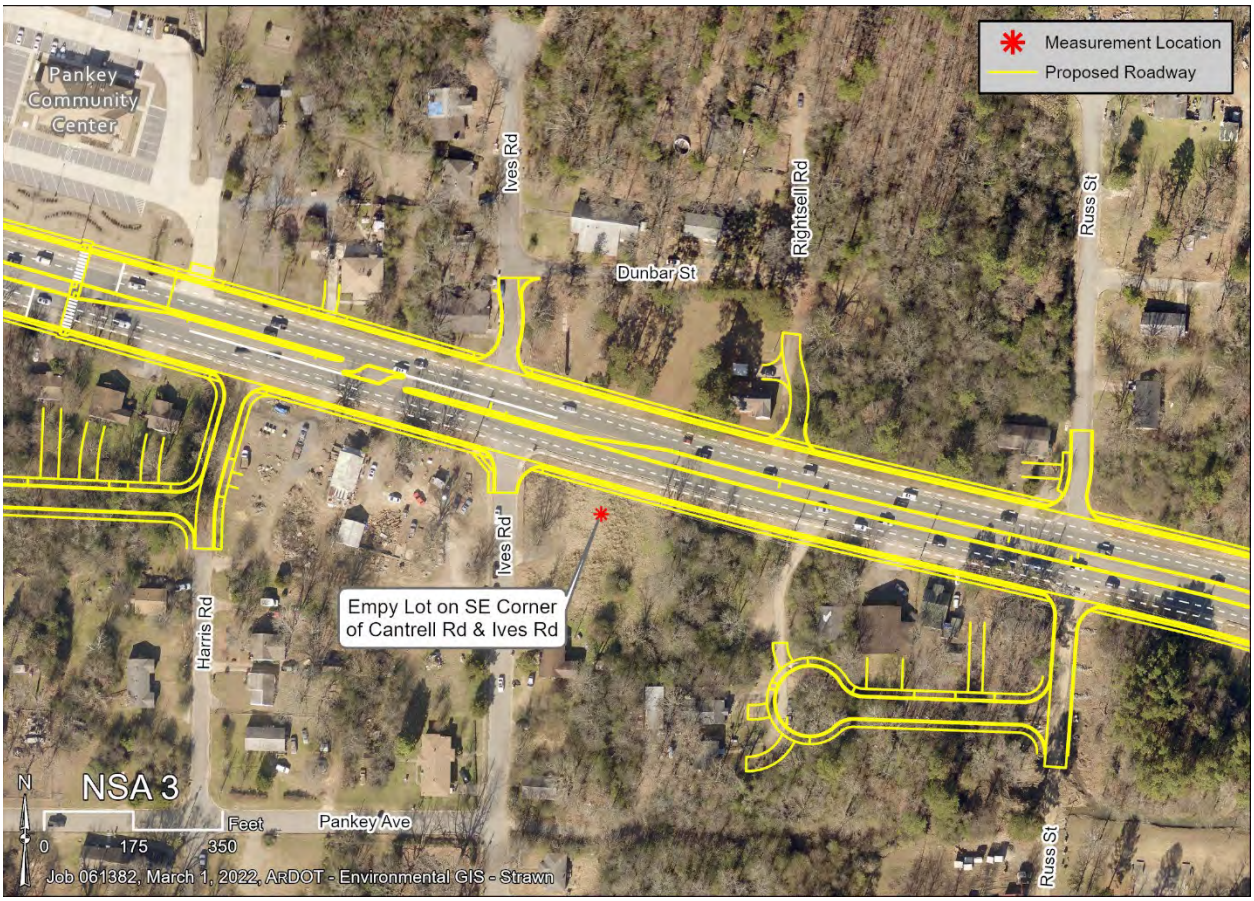
Period #	Time Start	Leq	Lmax	Note	Keep?	Energy	Count
1	12:45:42	68.6	73.9		Y	7324753	1
2	12:46:42	70.5	74.4		Y	11208668	1
3	12:47:42	66.9	70.3		Y	4919523	1
4	12:48:42	67.1	71.2		Y	5099505	1
5	12:49:42	69.8	75.8		Y	9570398	1
6	12:50:42	66.5	71.5		Y	4476360	1
7	12:51:42	69.5	72.5		Y	8928654	1
8	12:52:42	71.2	80.9		Y	13303104	1
9	12:53:42	67.4	69.8		Y	5469051	1
10	12:54:42	67.5	70.0		Y	5595463	1
11	12:55:42	69.6	72.6		Y	9161129	1
12	12:56:42	77.0	88.7		Y	49612145	1
13	12:57:42	66.3	69.6		Y	4267259	1
14	12:58:42	69.5	76.3		Y	8852073	1
15	12:59:42	64.8	68.9		Y	2987948	1
Total				**Energy Sum**		**150776033**	**15**
				Leq of good periods		70.0	
				Modeled Result		67.9	
				Difference		(2.1)	

Period #	Time Start	Leq	Lmax	Note	Keep?	Energy	Count
1	13:00:42	68.9	73.2		Y	7831447	1
2	13:01:42	68.2	72.1		Y	6630190	1
3	13:02:42	68.1	70.8		Y	6412790	1
4	13:03:42	66.7	69.6		Y	4667013	1
5	13:04:42	69.1	71.6		Y	8053451	1
6	13:05:42	66.4	71.9		Y	4373338	1
7	13:06:42	66.7	71.3		Y	4730979	1
8	13:07:42	68.6	71.7		Y	7257366	1
9	13:08:42	67.6	73.3		Y	5807029	1
10	13:09:42	70.0	74.7		Y	10114746	1
11	13:10:42	68.9	78.5		Y	7809496	1
12	13:11:42	71.2	83.3		Y	13309201	1
13	13:12:42	68.3	70.8		Y	6687950	1
14	13:13:42	66.8	70.4		Y	4743370	1
15	13:14:42	70.6	78.1		Y	11393286	1
Total				**Energy Sum**		**109821651**	**15**
				Leq of good periods		68.6	
				Modeled Result		67.6	
				Difference		(1.0)	

Period #	Time Start	Leq	Lmax	Note	Keep?	Energy	Count
1	13:15:42	68.1	71.1		Y	6460840	1
2	13:16:42	69.3	73.1		Y	8533634	1
3	13:17:42	67.3	69.8		Y	5384718	1
4	13:18:42	69.4	75.4		Y	8707811	1
5	13:19:42	68.1	71.2		Y	6487928	1
6	13:20:42	68.9	73.7		Y	7701583	1
7	13:21:42	68.5	72.0		Y	7063338	1
8	13:22:42	67.1	72.6		Y	5112037	1
9	13:23:42	65.0	70.7		Y	3167510	1
10	13:24:42	69.2	73.0		Y	8256538	1
11	13:25:42	66.7	70.4		Y	4704636	1
12	13:26:42	69.0	73.7		Y	7953696	1
13	13:27:42	67.0	71.2		Y	5007916	1
14	13:28:42	70.5	79.3		Y	11296971	1
15	13:29:42	69.2	78.3		Y	8363017	1
Total				**Energy Sum**		**104202173**	**15**
				Leq of good periods		68.4	
				Modeled Result		67.7	
				Difference		(0.7)	




Measurement Location
Proposed Roadway
Pinnacle Valley Rd
Ison Creek
14410 Westbury Dr
Jerry Dr
Westbury Dr
NSA 2
N
0
100
200
Feet
Job 061382, March 1, 2022, ARDOT - Environmental GIS - Strawn


Measurement Location
Proposed Roadway
Pankey Community Center
Ives Rd
Rightsell Rd
Russ St
Dunbar St
Ives Rd
Empy Lot on SE Corner of Cantrell Rd & Ives Rd
Harris Rd
NSA 3
N
0
175
350
Feet
Pankey Ave
Russ St
Job 061382, March 1, 2022, ARDOT - Environmental GIS - Strawn

Traffic counts provided by Traffic Group

NSA 1

8:15 AM	Lane 1 EB	Lane 2 EB	Lane 3 WB	Lane 4 WB
Auto	164	195	141	156
MT	1	2	1	1
HT	3	0	1	0
Buses	6	2	2	1
Motorcycles	0	0	0	0
Total	**174**	**199**	**145**	**158**

8:30 AM	Lane 1 EB	Lane 2 EB	Lane 3 WB	Lane 4 WB
Auto	149	158	117	134
MT	2	0	5	5
HT	1	0	1	0
Buses	1	2	1	0
Motorcycles	0	0	0	1
Total	**153**	**160**	**124**	**140**

8:45 AM	Lane 1 EB	Lane 2 EB	Lane 3 WB	Lane 4 WB
Auto	131	137	107	116
MT	2	1	4	6
HT	1	1	1	1
Buses	1	1	0	0
Motorcycles	0	0	0	0
Total	**135**	**140**	**112**	**123**

NSA 2

9:15 AM	Lane 1 EB	Lane 2 EB	Lane 3 WB	Lane 4 WB
Auto	120	135	106	141
MT	5	2	5	6
HT	2	0	1	0
Buses	0	0	0	0
Motorcycles	0	1	0	0
Total	**127**	**138**	**112**	**147**

9:30 AM	Lane 1 EB	Lane 2 EB	Lane 3 WB	Lane 4 WB
Auto	106	127	102	112
MT	4	2	2	6
HT	1	0	1	0
Buses	0	0	0	0
Motorcycles	1	0	0	0
Total	**112**	**129**	**105**	**118**

9:45 AM	Lane 1 EB	Lane 2 EB	Lane 3 WB	Lane 4 WB
Auto	114	124	100	146
MT	5	3	1	8
HT	1	0	1	2
Buses	0	0	0	0
Motorcycles	0	0	0	0
Total	**120**	**127**	**102**	**156**

NSA 3

12:45 AM	Lane 1 EB	Lane 2 EB	Lane 3 WB	Lane 4 WB
Auto	162	159	145	168
MT	4	2	4	1
HT	2	1	1	0
Buses	0	0	0	0
Motorcycles	0	0	0	0
Total	**168**	**162**	**150**	**169**

1:00 PM	Lane 1 EB	Lane 2 EB	Lane 3 WB	Lane 4 WB
Auto	163	160	133	161
MT	5	3	3	4
HT	1	0	2	0
Buses	1	1	0	0
Motorcycles	0	0	0	0
Total	**170**	**164**	**138**	**165**

1:15 PM	Lane 1 EB	Lane 2 EB	Lane 3 WB	Lane 4 WB
Auto	158	170	124	157
MT	5	2	2	1
HT	1	0	0	1
Buses	2	0	2	1
Motorcycles	0	1	0	0
Total	**166**	**173**	**128**	**160**

Speed Readings

Job Number 061382 Date 3-30-21 Site 1

Time	AVERAGE SPEED - _____ BOUND All Cars	Med Truck	Heavy Truck	Motorcycle	Bus	AVERAGE SPEED - _____ BOUND All Cars	Med Truck	Heavy Truck	Motorcycle	Bus
0815	41					0853 34				
	40									
	40									
0816			37							
	52									
	43									
0817	45									
0818			46							
0819	33									
0819	49									
0820	42									
	42									
0820	48									
0821	52									
0822			37							
0823		43								
0824		39								
0825	41									
	39									
0826	36									
0827					46					
0827					34					
0829					47					
0830	43									
0831		39								
0832	42									
0833	47									
0834		37								
0835	49									
	44									
0836		45								
0838	44									
0838	40									
0839	39									
0840	49									
0841	47									
0842	37									
0843	42									
0844		37								
0844	45									
0845					32					
0846	32									
0847	36									
0849	41									
0849	49									

Speed Readings

Job Number 061382 Date 3-30-21 Site 2

Time	AVERAGE SPEED - _____ BOUND All Cars	Med Truck	Heavy Truck	Motorcycle	Bus	AVERAGE SPEED - _____ BOUND All Cars	Med Truck	Heavy Truck	Motorcycle	Bus
0924	33									
0925	23									
0926	39									
0927	26									
0928	33									
0929		11								
0931	40									
0931	24									
0932	34									
0933	40									
0934	27									
0935		34								
0936	22									
0938	23									
0939		35								
0941				39						
0942	38									
0944	41									
0946	31									
0948	40									
0949	35									
0950	39									
0951			27							
0953	32									
0954		32								
0955		33								
0956	20									
0958		27								
0959	32									

Speed Readings

Job Number 061382 Date 3-31-21 Site 3

Time	AVERAGE SPEED - _____ BOUND All Cars	Med Truck	Heavy Truck	Motorcycle	Bus	AVERAGE SPEED - _____ BOUND All Cars	Med Truck	Heavy Truck	Motorcycle	Bus
12:45	45					50	47			
	40					1:19) 46			50	
	48							38		
12:47	50	42				49				
	48					41				
	35					51	35			
	45					1:24) 52	37			
12:48	42		35				40			
	47					50				
	45					42				
12:49	54		42			1:29) 48				
		40				48	43			
	53	44								
	38									
	50									
	50									
	45									
	48									
12:52	52			20						
		35								
	45				37					
	41									
	47									
	48									
	47									
12:56		45	47							
		40								
	33									
	41									
	37									
	27	47								
	55									
1:03	50	37								
	51									
1:05	34		32							
	46									
1:07	36									
	43									
1:09			34							
	33		45							
	45									
	60									
	45									
1:13		39			45					
					41					

APPENDIX B

TRAFFIC DATA FOR NOISE MODELING

Traffic Data for Noise Modeling

From	To	2022 PHV Existing Condition	2042 PHV Build	2042 LOS C No-Build
Begin Job	Taylor Loop Rd	3,400	4,650	3,900
Taylor Loop Rd	Pinnacle Valley Rd	3,340	4,570	3,900
Pinnacle Valley Rd	End Job	3,150	4,310	3,900

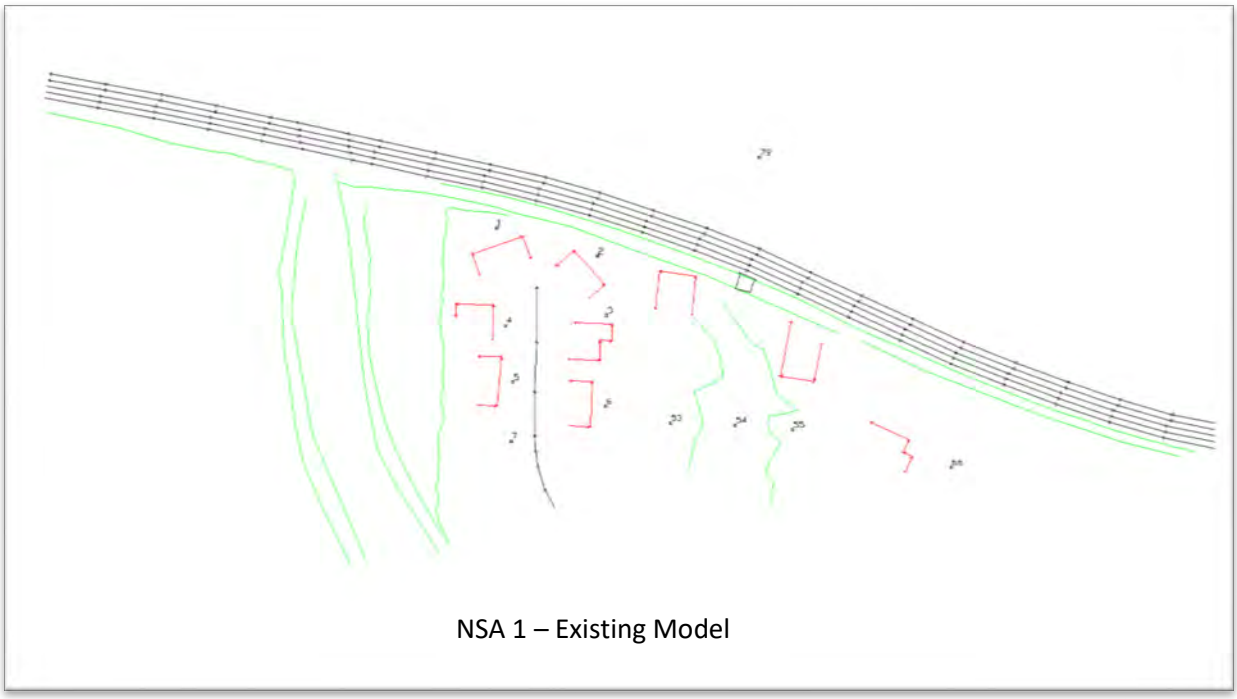
Truck % - 2%
Medium Truck % -1.50%
Heavy Truck % - 0.50%
Directional Distribution 50.25%

All Traffic Volumes provided by ARDOT Traffic Information Systems

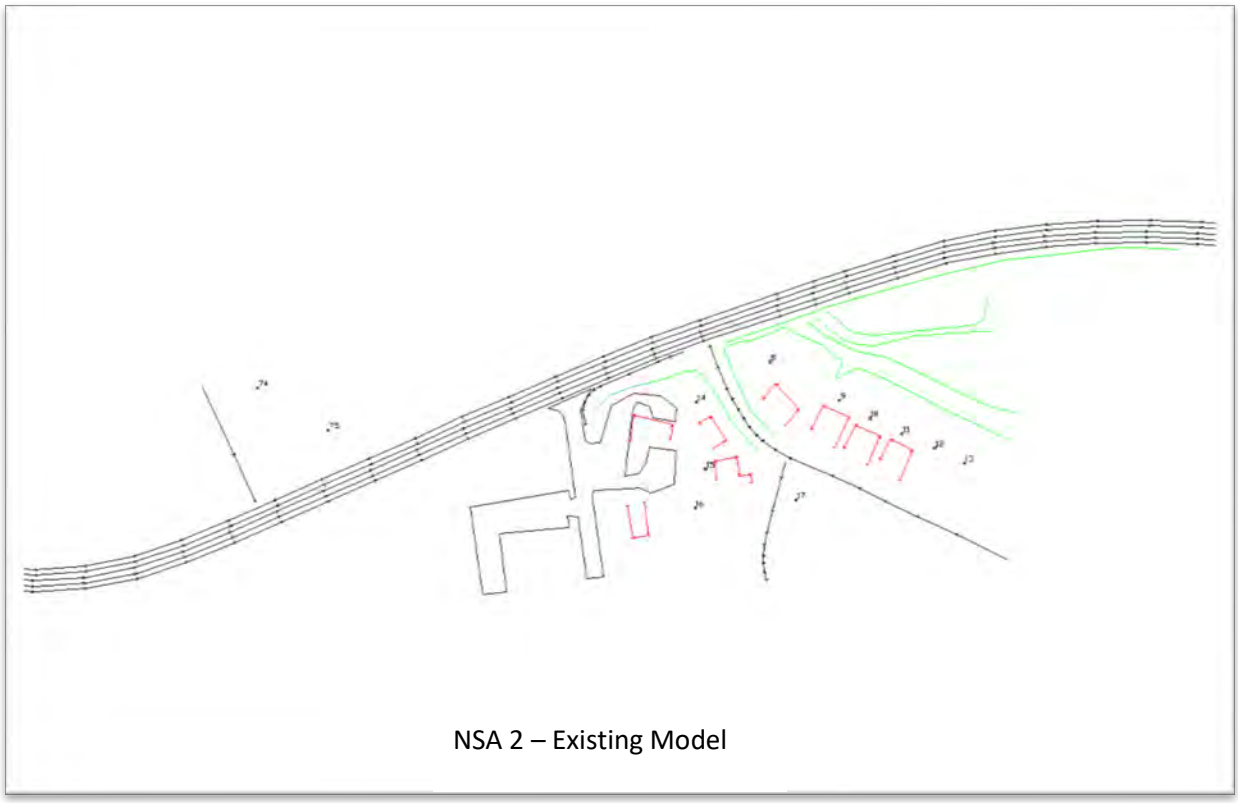
APPENDIX C

TRAFFIC NOISE MODEL 2.5 PLAN VIEWS

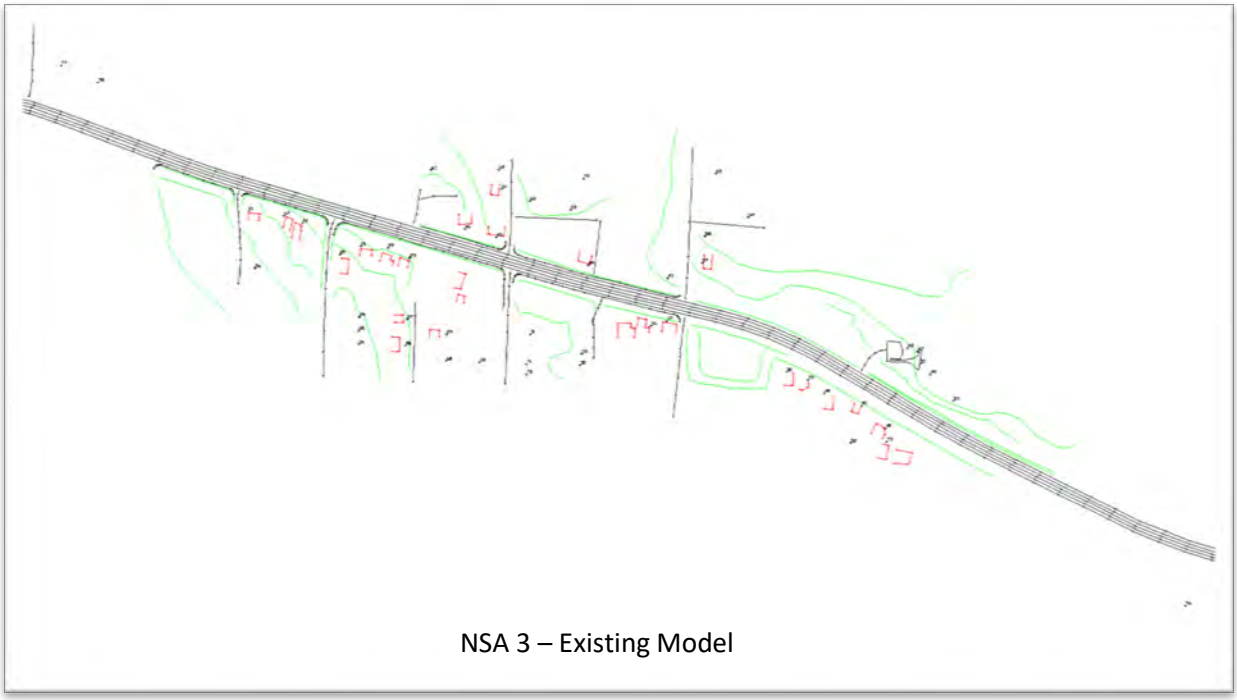
Traffic Noise Model 2.5 Plan Views



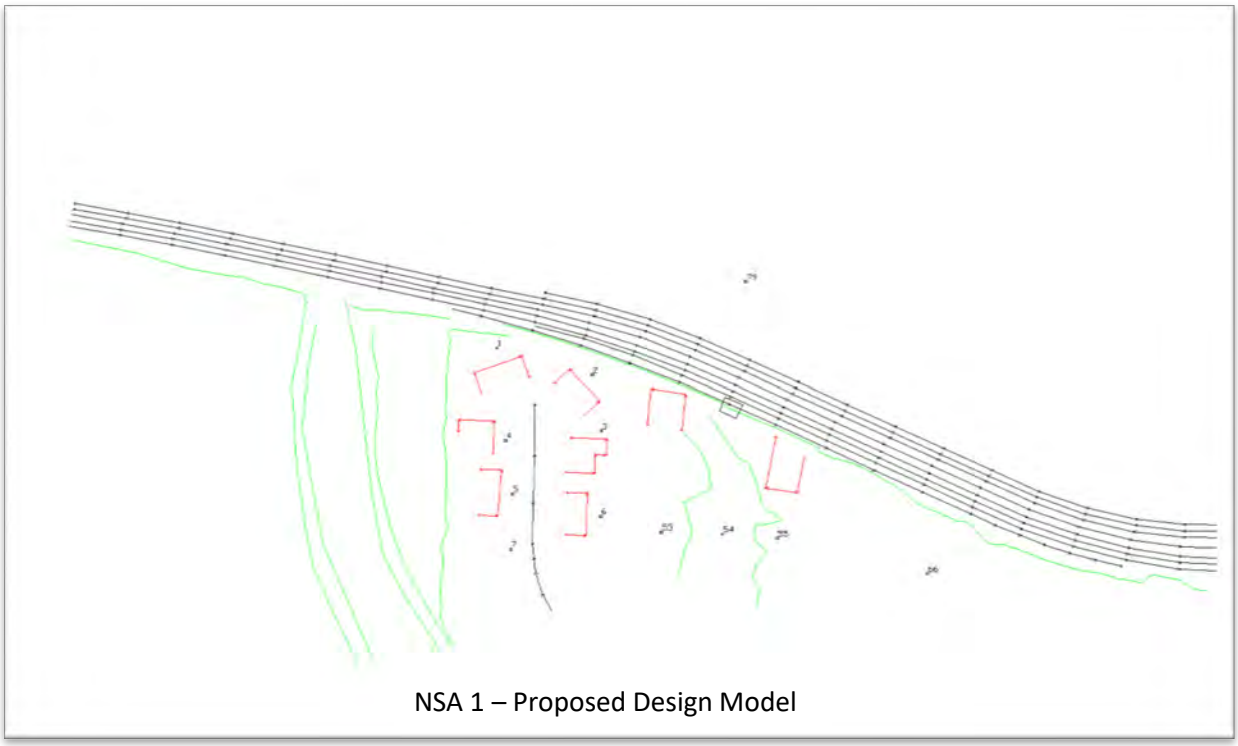
NSA 1 – Existing Model



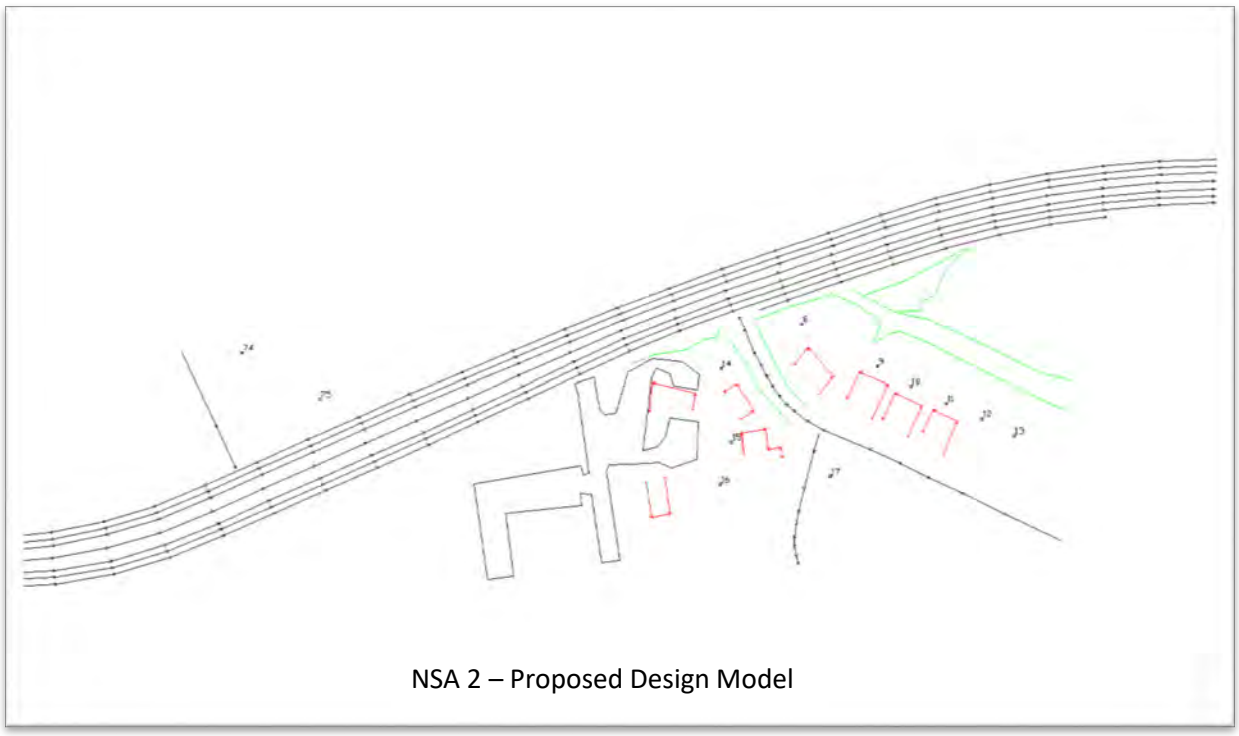
NSA 2 – Existing Model



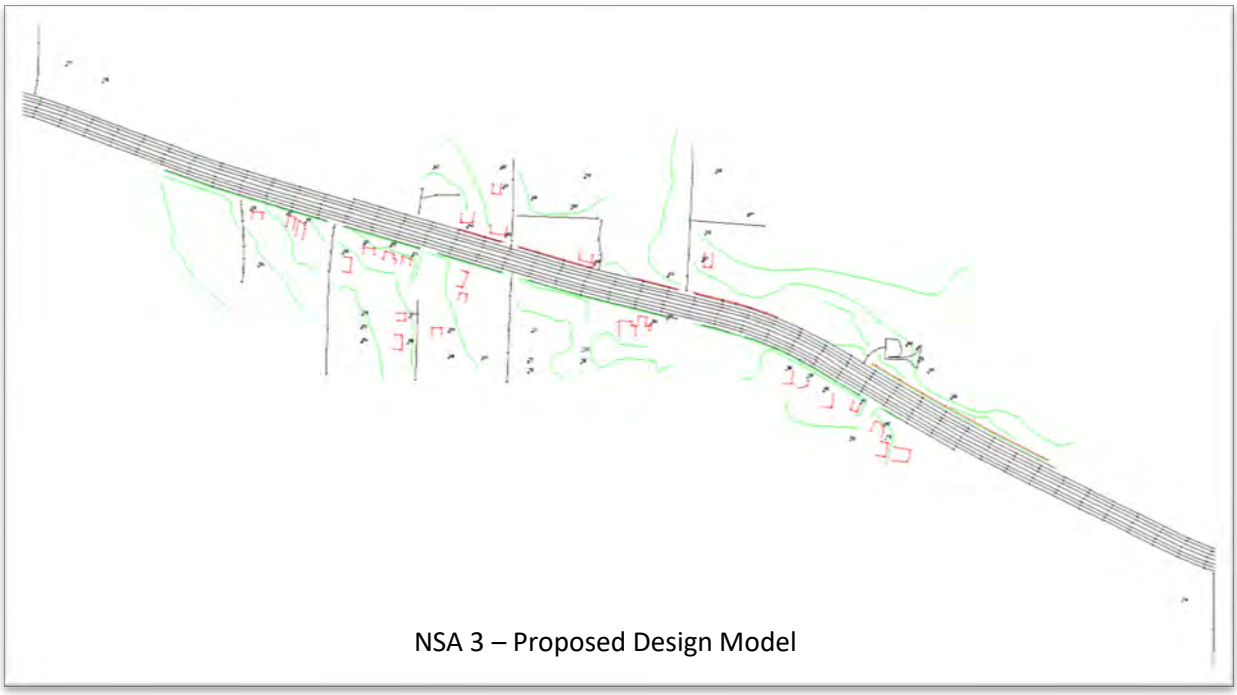
NSA 3 – Existing Model



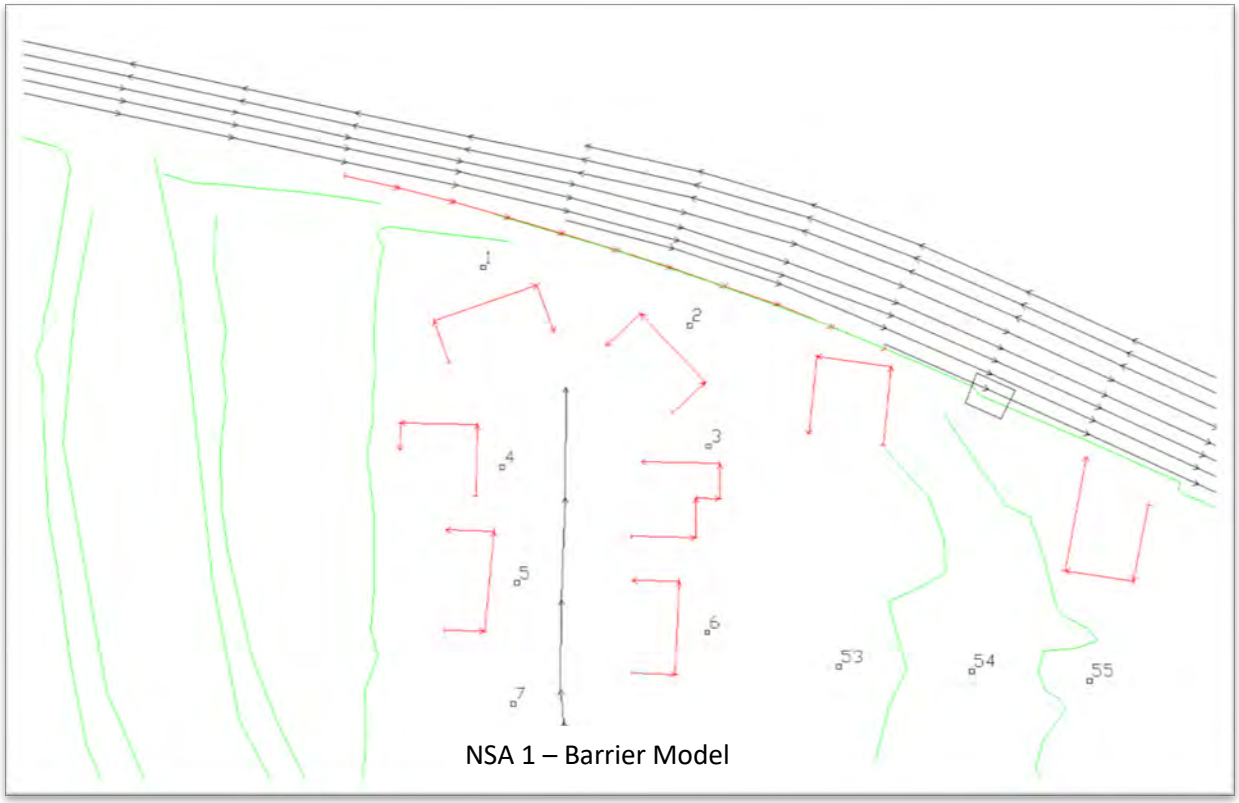
NSA 1 – Proposed Design Model



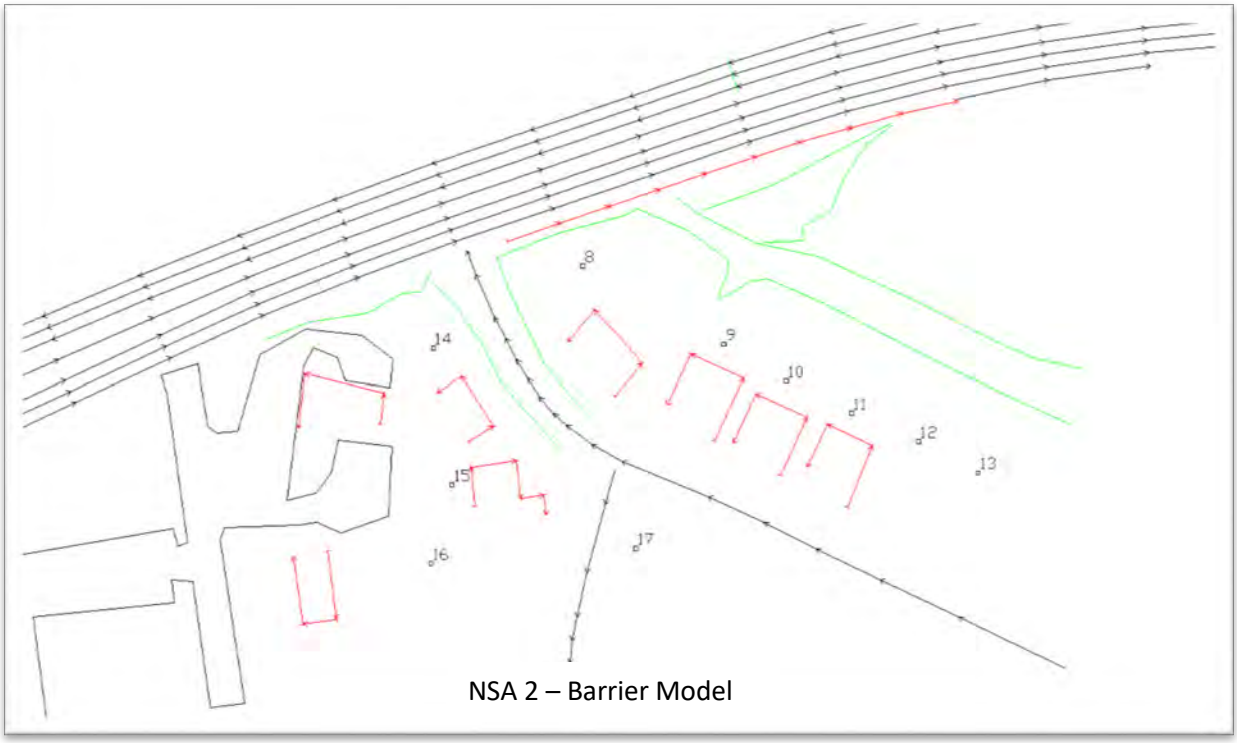
NSA 2 – Proposed Design Model



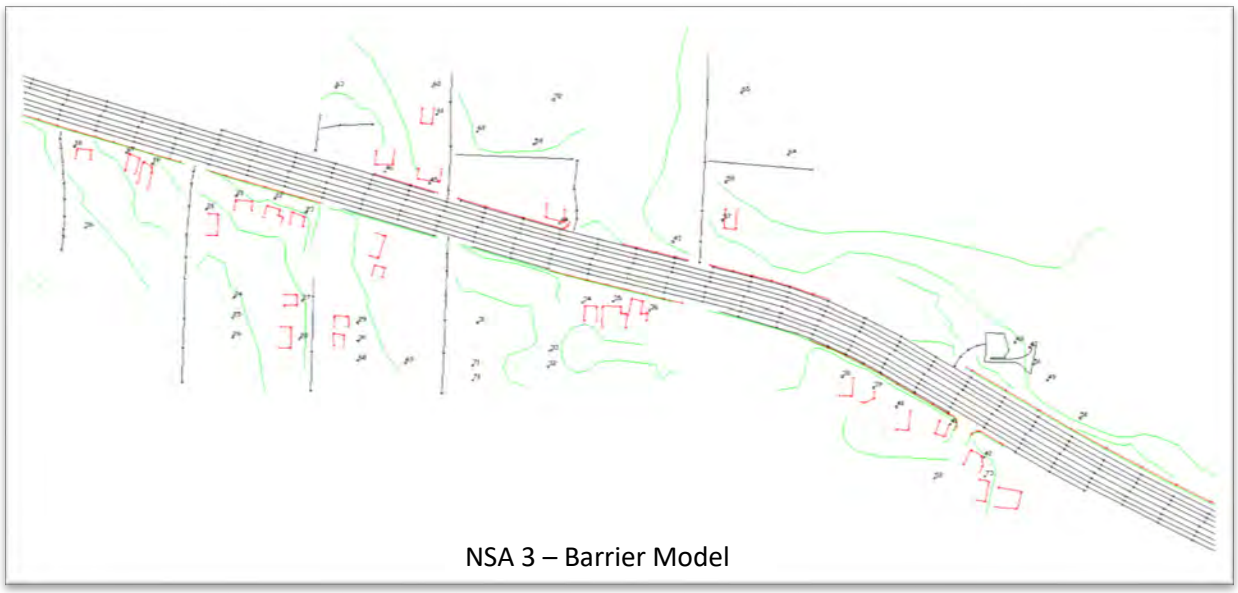
NSA 3 – Proposed Design Model



NSA 1 – Barrier Model



NSA 2 – Barrier Model



NSA 3 – Barrier Model

APPENDIX D

NOISE MODELING AND BARRIER EVALUATION RESULTS

RecNum	NSA	RecName	# DU	Activity Category	Activity LEQ	Existing	Future No-Build	Future Build	No-Build Increase	Build Increase	Existing Impact	No-Build Imact	Build Impact
1	1	49 WESTCHESTER CT	1	B	66	69.1	70.0	70.2	0.9	1.1	1	1	1
2	1	48 WESTCHESTER CT	1	B	66	68.7	69.6	69.9	0.9	1.2	1	1	1
3	1	46 WESTCHESTER CT	1	B	66	60.1	61.0	61.1	0.9	1.0	0	0	0
4	1	47 WESTCHESTER CT	1	B	66	56.6	57.5	58.4	0.9	1.8	0	0	0
5	1	45 WESTCHESTER CT	1	B	66	53.8	54.7	55.7	0.9	1.9	0	0	0
6	1	42 WESTCHESTER CT	1	B	66	55.4	56.4	56.8	1.0	1.4	0	0	0
7	1	43 WESTCHESTER CT	1	B	66	52.0	52.9	54.2	0.9	2.2	0	0	0
53	1	6 CANTERBURY CT	1	B	66	56.7	57.7	58.0	1.0	1.3	0	0	0
54	1	8 CANTERBURY CT	1	B	66	57.3	58.3	58.2	1.0	0.9	0	0	0
55	1	7 CANTERBURY CT	1	B	66	56.6	57.5	58.0	0.9	1.4	0	0	0
66	1	14919 CANTRELL RD	1	B	66	58.8	59.8	61.7	1.0	2.9	0	0	0
79	1	15000 CANTRELL RD (TAZIKIS)	1	E	71	63.5	64.4	65.5	0.9	2.0	0	0	0
8	2	14410 WESTBURY DR	1	B	66	68.3	69.0	70.4	0.7	2.1	1	1	1
9	2	14400 WESTBURY DR	1	B	66	62.7	63.4	64.9	0.7	2.2	0	0	0
10	2	14322 WESTBURY DR	1	B	66	61.7	62.4	64.0	0.7	2.3	0	0	0
11	2	14318 WESTBURY DR	1	B	66	60.6	61.3	63.0	0.7	2.4	0	0	0
12	2	14314 WESTBURY DR	1	B	66	59.8	60.5	62.1	0.7	2.3	0	0	0
13	2	14310 WESTBURY DR	1	B	66	59.1	59.8	61.4	0.7	2.3	0	0	0
14	2	14411 WESTBURY DR	1	B	66	66.0	66.7	68.3	0.7	2.3	1	1	1
15	2	2 WESTCHASE DR	1	B	66	58.2	58.9	60.0	0.7	1.8	0	0	0
16	2	4 WESTCHASE DR	1	B	66	56.9	57.6	58.2	0.7	1.3	0	0	0
17	2	14323 WESTBURY DR	1	B	66	55.5	56.2	57.7	0.7	2.2	0	0	0
74	2	14800 CANTRELL RD (BUFFALO WILD WINGS)	1	E	71	62.2	62.9	62.8	0.7	0.6	0	0	0
75	2	14710 CANTRELL RD (PIZZA CAFE)	1	E	71	67.1	67.8	69.3	0.7	2.2	0	0	0
77	2	14100 CANTRELL RD (SONIC)	1	E	71	64.4	65.0	66.6	0.6	2.2	0	0	0
78	2	13924 CANTRELL RD (TACOS 4 LIFE)	1	E	71	64.6	65.2	66.8	0.6	2.2	0	0	0
18	3	13851 CANTRELL RD	1	B	66	68.8	69.5	70.9	0.7	2.1	1	1	1
19	3	13821 CANTRELL RD	1	B	66	69.9	70.5	72.2	0.6	2.3	1	1	1
20	3	5023 JOSEPHINE ST	1	B	66	63.5	64.1	64.7	0.6	1.2	0	0	0
21	3	13715 CANTRELL RD	1	B	66	67.7	68.4	70.2	0.7	2.5	1	1	1
22	3	13721 CANTRELL RD	1	B	66	69.5	70.1	71.7	0.6	2.2	1	1	1
23	3	13717 CANTRELL RD	1	B	66	68.0	68.6	69.2	0.6	1.2	1	1	1
24	3	5015 JOSEPHINE ST	2	B	66	54.4	55.0	55.8	0.6	1.4	0	0	0
25	3	5013 JOSEPHINE ST	1	B	66	53.5	54.2	55.1	0.7	1.6	0	0	0
26	3	5009 JOSEPHINE ST	1	B	66	52.6	53.2	54.3	0.6	1.7	0	0	0
27	3	5010 HARRIS RD	1	B	66	56.0	56.6	56.4	0.6	0.4	0	0	0
28	3	5006 HARRIS RD	1	B	66	52.9	53.6	53.7	0.7	0.8	0	0	0
29	3	5007 HARRIS RD	1	B	66	56.0	56.7	57.4	0.7	1.4	0	0	0
31	3	5007 IVES RD	1	B	66	57.8	58.4	59.1	0.6	1.3	0	0	0
32	3	4916 RIGHTSELL RD	1	B	66	56.0	56.6	56.8	0.6	0.8	0	0	0
33	3	4919 RIGHTSELL RD	1	B	66	55.9	56.6	56.9	0.7	1.0	0	0	0
36	3	13421 CANTRELL RD	1	B	66	67.4	68.0	70.2	0.6	2.8	1	1	1
37	3	13401 CANTRELL RD	1	B	66	71.7	72.3	0.0	0.6	Relocation	1	1	Relocation
38	3	13251 CANTRELL RD	1	B	66	62.4	63.1	62.5	0.7	0.1	0	0	0
39	3	13241 CANTRELL RD	1	B	66	64.3	65.0	64.6	0.7	0.3	0	0	0
40	3	13221 CANTRELL RD	1	B	66	64.1	64.8	64.6	0.7	0.5	0	0	0
41	3	13201 CANTRELL RD	1	B	66	67.4	68.0	67.1	0.6	-0.3	1	1	1
42	3	13151 CANTRELL RD	1	B	66	65.6	66.2	66.1	0.6	0.5	0	1	1
43	3	13400 CANTRELL RD	1	B	66	69.0	69.6	70.8	0.6	1.8	1	1	1
44	3	13500 CANTRELL RD	1	B	66	70.6	71.2	73.3	0.6	2.7	1	1	1
45	3	13600 CANTRELL RD	1	B	66	70.3	70.9	72.7	0.6	2.4	1	1	1
46	3	13640 CANTRELL RD	1	B	66	70.9	71.6	73.3	0.7	2.4	1	1	1
47	3	CONNER PARK PICNIC TABLE	1	C	66	62.0	62.6	64.2	0.6	2.2	0	0	0
48	3	CONNER PARK PICNIC TABLE	1	C	66	62.8	63.4	65.0	0.6	2.2	0	0	0
49	3	CONNER PARK FISHING PIER	1	C	66	59.7	60.3	62.0	0.6	2.3	0	0	0

RecNum	NSA	RecName	# DU	Activity Category	Activity LEQ	Existing	Future No-Build	Future Build	No-Build Increase	Build Increase	Existing Impact	No-Build Imact	Build Impact
50	3	CONNER PARK TRAIL	1	C	66	68.0	68.6	70.9	0.6	2.9	1	1	1
51	3	CONNER PARK TRAIL MAP	1	C	66	62.9	63.6	65.2	0.7	2.3	0	0	0
52	3	4908 CROCKETT ST	1	B	66	59.1	59.7	60.0	0.6	0.9	0	0	0
56	3	5101 WELLS ST	1	B	66	57.1	57.7	58.2	0.6	1.1	0	0	0
57	3	5109 RUSS ST	1	B	66	63.1	63.7	64.9	0.6	1.8	0	0	0
58	3	13341 DUNBAR RD	1	B	66	60.5	61.1	62.6	0.6	2.1	0	0	0
59	3	5120 RIGHTSELL RD	1	B	66	62.9	63.5	64.6	0.6	1.7	0	0	0
60	3	5201 IVES RD (MARK'S CHAPEL)	1	C	66	63.0	63.6	64.8	0.6	1.8	0	0	0
61	3	5200 IVES RD	1	B	66	57.5	58.2	59.5	0.7	2.0	0	0	0
62	3	5204 IVES RD	1	B	66	58.8	59.4	61.0	0.6	2.2	0	0	0
63	3	5211 HARRIS RD	1	B	66	63.4	64.0	65.2	0.6	1.8	0	0	0
64	3	13300 DUNBAR RD	1	B	66	58.4	59.0	60.9	0.6	2.5	0	0	0
65	3	5209 RUSS ST	1	B	66	55.8	56.4	58.0	0.6	2.2	0	0	0
67	3	13831 CANTRELL RD	1	B	66	70.7	71.3	73.1	0.6	2.4	1	1	1
68	3	5003 HARRIS RD	1	B	66	53.3	54.0	54.4	0.7	1.1	0	0	0
69	3	5000 IVES RD	1	B	66	54.5	55.2	56.3	0.7	1.8	0	0	0
70	3	5001 IVES RD	1	B	66	53.7	54.3	55.1	0.6	1.4	0	0	0
71	3	5003 IVES RD	1	B	66	54.4	55.1	56.0	0.7	1.6	0	0	0
72	3	5200 RIGHTSELL RD	1	B	66	59.8	60.4	61.6	0.6	1.8	0	0	0
73	3	13221 CANTRELL RD	1	B	66	61.5	62.2	62.2	0.7	0.7	0	0	0
76	3	12901 CANTRELL RD (STARBUCKS)	1	E	71	62.2	62.9	64.7	0.7	2.5	0	0	0
Total			**77**			**71.7**	**72.3**	**73.3**			**18**	**19**	**18**

NSA 1 - NB 1

			No Barrier			With Barrier				
Receiver	Category	Number of Receptors	Existing	Future Build (dBA)	Increase	Future Build (dBA)2	Reduction	Design Goal Above/Below	Meet Design Goal of 8dB	Benefit of 5dB
1	B	1	69.1	70.2	1.1	64.3	5.9	-2.1	0	1
2	B	1	68.7	69.9	1.2	61.1	**8.8**	0.8	1	1
3	B	1	60.1	61.1	1.0	56.1	5.0	-3.0	0	1
4	B	1	56.6	58.4	1.8	55.2	3.2	-4.8	0	0
5	B	1	53.8	55.7	1.9	52.8	2.9	-5.1	0	0
6	B	1	55.4	56.8	1.4	55.9	0.9	-7.1	0	0
7	B	1	52.0	54.2	2.2	52.8	1.4	-6.6	0	0
53	B	1	56.7	58.0	1.3	57.0	1.0	-7.0	0	0
54	B	1	57.3	58.2	0.9	57.8	0.4	-7.6	0	0
55	B	1	56.6	58.0	1.4	57.9	0.1	-7.9	0	0
Total		**10**							**1**	**3**

Legend
Impacted
Benefitted
Meets Reduction Goal

NB 1 Design - Modeled Reflective Barrier on Structure

Segments	Approx. Segment Lengths	Height	Approx. Length	Approx. SqFt	Wall Price ($50/SqFt)	Crash Barrier (if required)	Total Price
1	50	4	50	200	$ 10,000		$ 10,000
2	50	6	100	600	$ 30,000		$ 30,000
6	50	8	300	2400	$ 120,000		$ 120,000
Total			**450**	**3200**			**$ 160,000**

Cost/Receptor	Cost Reasonable
$ 53,333.33	No

NSA 2 - NB 2

			No Barrier			With Barrier				
Receiver	Category	Number of Receptors	Existing	Future Build (dBA)	Increase	Future Build (dBA)2	Reduction	Design Goal Above/Below	Meet Design Goal of 8dB	Benefit of 5dB
8	B	1	68.3	70.4	2.1	63.0	7.4	-0.6	0	1
9	B	1	62.7	64.9	2.2	58.2	6.7	-1.3	0	1
10	B	1	61.7	64.0	2.3	58.3	5.7	-2.3	0	1
11	B	1	60.6	63.0	2.4	58.4	4.6	-3.4	0	0
12	B	1	59.8	62.1	2.3	58.5	3.6	-4.4	0	0
13	B	1	59.1	61.4	2.3	58.5	2.9	-5.1	0	0
14	B	1	66.0	68.3	2.3	67.6	0.7	-7.3	0	0
15	B	1	58.2	60.0	1.8	59.5	0.5	-7.5	0	0
16	B	1	56.9	58.2	1.3	58.1	0.1	-7.9	0	0
17	B	1	55.5	57.7	2.2	55.8	1.9	-6.1	0	0
Total		**10**							**0**	**3**

Legend
Impacted
Benefitted
Meets Reduction Goal

NB 2 Design - Modeled Free Standing Absorbtive Barrier

Segments	Approx. Segment Lengths	Height	Approx. Length	Approx. SqFt	*Wall Price ($40/SqFt)	Crash Barrier (if required)	Total Price
7	50	20	350	7000	$ 280,000		$ 280,000
1	25	20	25	500	$ 20,000		$ 20,000
1	75	20	75	1500	$ 75,000		$ 75,000
Total			**450**				**$ 375,000**

*75 feet of NB2 is on structure at a cost of $50/sqft

Cost/Receptor	Cost Reasonable
$ 125,000.00	No

NSA 3 - NB 3 & 4 Combo

			No Barrier			With Barrier				
Receiver	Category	Number of Receptors	Existing	Future Build (dBA)	Increase	Future Build (dBA)2	Reduction	Design Goal Above/Below	Meet Design Goal of 8dB	Benefit of 5dB
18	B	1	68.8	70.9	2.1	63.2	7.7	-0.3	0	1
19	B	1	69.9	72.2	2.3	68.3	3.9	-4.1	0	0
20	B	1	63.5	64.7	1.2	62.7	2.0	-6.0	0	0
21	B	1	67.7	70.2	2.5	64.1	6.1	-1.9	0	1
22	B	1	69.5	71.7	2.2	65.5	6.2	-1.8	0	1
23	B	1	68.0	69.2	1.2	68.7	0.5	-7.5	0	0
56	B	1	57.1	58.2	1.1	56.9	1.3	-6.7	0	0
67	B	1	70.7	73.1	2.4	63.4	**9.7**	1.7	1	1
Total		**8**							**1**	**4**

Legend
Impacted
Benefitted
Meets Reduction Goal

NB 3 & 4 Design - Modeled Reflective Barrier on Structure

Segments	Approx. Segment Lengths	Height	Approx. Length	Approx. SqFt	Wall Price ($50/SqFt)	Crash Barrier (if required)	Total Price
1	20	5	20	100	$ 5,000		$ 5,000
9	50	5	450	2250	$ 112,500		$ 112,500
1	17	5	17	85	$ 4,250		$ 4,250
Total			**487**	**2435**			**$ 121,750**

Cost/Receptor	Cost Reasonable
$ 30,437.50	Yes

NSA 3 - NB 5

			No Barrier			With Barrier				
Receiver	Category	Number of Receptors	Existing	Future Build (dBA)	Increase	Future Build (dBA)2	Reduction	Design Goal Above/Below	Meet Design Goal of 8dB	Benefit of 5dB
32	B	1	56.0	56.8	0.8	56.5	0.3	-7.7	0	0
33	B	1	55.9	56.9	1.0	56.6	0.3	-7.7	0	0
36	B	1	67.4	70.2	2.8	66.4	3.8	-4.2	0	0
Total		**3**							**0**	**0**

NB 5 Design - Modeled Reflective Barrier on Structure

Segments	Approx. Segment Lengths	Height	Approx. Length	Approx. SqFt	Wall Price ($50/SqFt)	Crash Barrier (if required)	Total Price
4	50	10	200	2000	$ 100,000		$ 100,000
1	42	10	42	420	$ 21,000		$ 21,000
Total			**242**	**2420**			**$ 121,000**

Cost/Receptor	Cost Reasonable
No Benefits	No

NSA 3 - NB 6

			No Barrier			With Barrier				
Receiver	Category	Number of Receptors	Existing	Future Build (dBA)	Increase	Future Build (dBA)2	Reduction	Design Goal Above/Below	Meet Design Goal of 8dB	Benefit of 5dB
38	B	1	62.4	62.5	0.1	56.5	6.0	-2.0	0	1
39	B	1	64.3	64.6	0.3	61.0	3.6	-4.4	0	0
Total		**2**							**0**	**1**

NB 6 Design - Modeled Reflective Barrier on Structure

Segments	Approx. Segment Lengths	Height	Approx. Length	Approx. SqFt	Wall Price ($50/SqFt)	Crash Barrier (if required)	Total Price
4	50	10	200	2000	$ 100,000		$ 100,000
1	12	10	12	120	$ 6,000		$ 6,000
Total			**212**	**2120**			**$ 106,000**

Cost/Receptor	Cost Reasonable
$ 106,000.00	No

NSA 3 - NB 7

			No Barrier			With Barrier				
Receiver	Category	Number of Receptors	Existing	Future Build (dBA)	Increase	Future Build (dBA)2	Reduction	Design Goal Above/Below	Meet Design Goal of 8dB	Benefit of 5dB
43	57	1	69.0	70.8	1.8	67.8	3.0	-5.0	0	0
Total		**1**							**0**	**0**

NB 7 Design - Modeled Reflective Barrier on Structure

Segments	Approx. Segment Lengths	Height	Approx. Length	Approx. SqFt	Wall Price ($50/SqFt)	Crash Barrier (if required)	Total Price
1	37	10	39	390	$ 19,500		$ 19,500
1	40	10	40	400	$ 20,000		$ 20,000
Total			**79**	**790**			**$ 39,500**

Cost/Receptor	Cost Reasonable
No Benefits	No

NSA 3 - NB 8

			No Barrier			With Barrier				
Receiver	Category	Number of Receptors	Existing	Future Build (dBA)	Increase	Future Build (dBA)2	Reduction	Design Goal Above/Below	Meet Design Goal of 8dB	Benefit of 5dB
44	B	1	70.6	73.3	2.7	71.6	1.7	-6.3	0	0
Total		**1**							**0**	**0**

Legend
Impacted
Benefitted
Meets Reduction Goal

NB 8 Design - Modeled Reflective Barrier on Structure

Segments	Approx. Segment Lengths	Height	Approx. Length	Approx. SqFt	Wall Price ($50/SqFt)	Crash Barrier (if required)	Total Price
1	114	10	115	1150	$ 57,500		$ 57,500
Total			**115**				**$ 57,500**

Cost/Receptor	Cost Reasonable
No Benefits	No

NSA 3 - NB 9

NB 9			No Barrier			With Barrier				
Receiver	Category	Number of Receptors	Existing	Future Build (dBA)	Increase	Future Build (dBA)2	Reduction	Design Goal Above/Below	Meet Design Goal of 8dB	Benefit of 5dB
45	B	1	70.3	72.7	2.4	70.4	2.3	-5.7	0	0
Total		**1**							**0**	**0**

NB 9 Design - Modeled Reflective Barrier on Structure

Segments	Approx. Segment Lengths	Height	Approx. Length	Approx. SqFt	Wall Price ($50/SqFt)	Crash Barrier (if required)	Total Price
1	75	10	75	750	$ 37,500		$ 37,500
Total			**75**				**$ 37,500**

Cost/Receptor	Cost Reasonable
No Benefits	No

Appendix F – VISUAL IMPACTS

October 18, 2021

TO: Project File

FROM: Katie Rose, Environmental Impact Analyst, Environmental Division

SUBJECT: Job 061382
FAP NHPP-9253(86)
Taylor Loop Rd. – Pleasant Ridge Rd. (S)
Pulaski County
Visual Impact Assessment Technical Memorandum

Purpose of this Memorandum

The purpose of this Visual Impact Assessment (VIA) Memorandum (memo) is to evaluate potential visual impacts associated with the Highway (Hwy.) 10 widening project between Taylor Loop Rd. and Pleasant Ridge Rd. 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 typically has a value between 0 and 3 resulting in an overall score of 14. Consistent with FHWA guidelines, a score of 10 to 14 recommends the preparation of a brief visual impact assessment in memo format. This memo documents the recommended level of assessment.

Visual resource and VIA definitions for the concepts and terms used in the remainder of this memo are provided in Attachment 2. The visual impacts described are associated with Alternative 1; no impacts are anticipated under the No Action Alternative.

Proposed project viewers are categorized as either neighbors or travelers. Neighbors include residents and business occupants. Travelers include users of the project corridor and adjacent roadways.

Existing Visual Character

Alternative 1's project corridor extends approximately 2.3 miles from Taylor Loop Rd. east to Pleasant Ridge Rd. It would involve widening existing Hwy. 10 from four lanes with a center turn lane to six lanes with a raised median and intersection improvements at Taylor Loop with curb and gutter, and 5' sidewalks. The road will widen mostly on existing alignment. There will be some intersection improvements and some driveways will be relocated.

The project study area is moderately hilly. Elevations range from approximately 252 to 453 feet above mean sea level. Long distance views are relatively uncommon due to a combination of hills and curves and the screening effect of wooded areas. These wooded areas consist primarily of pine and hardwood forest and are dense at some locations.

The existing segments of the corridor lack medians. There are also areas where there are no sidewalks present and the pavement is in need of repair. The corridor features many businesses, some residences, a city park, and a small unmarked cemetery. Additionally, several neighboring structures afford partial or complete views of the roadway and are in turn visible to travelers.

Permanent Impacts

The widening and realignment of the road and the addition of sidewalks will mean several residences and businesses will be in closer proximity to the highway. This could be seen as an adverse visual impact for the affected residences, while increased visual exposure for businesses could be seen as beneficial.

Some of the existing right of way will be lowered or raised to match the grade of the highway, which will result in the construction of some retaining walls. However, the proposed roadway cross section and materials are typical of transportation improvements in the Little Rock area. Visual resources uncommon in the area would not be introduced, and after revegetation landforms would not remain noticeably altered. Local planning and development guidelines would be taken into consideration during final design to ensure visual compatibility of the proposed

project. In addition to meeting the city's 2018 Master Transportation Plan, the proposed sidewalks may enhance the corridor's appearance. Based on the factors described above, the visual resources of these facilities are predicted to be neutral to beneficial for the existing overall visual character of the corridor. Overall visual quality is therefore predicted to be enhanced for the majority of business neighbors and for travelers.

Based on predicted viewer exposure and sensitivity, permanent adverse impacts would be minor and localized for residents and Conner Park, for whom exposure will increased. Impacts to Conner Park have been minimized, and construction of new sidewalks will allow better access to the park. While some tree removal may make the view of Hwy. 10 more prominent from Conner Park, these changes are expected to be minor. Some residences will now be closer to Hwy. 10 and will have a retaining wall constructed between their properties and the new road. Additionally, their driveways relocated to the opposite side of their houses, which will affect the current views. These residents are located towards the middle of the project area.

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 corridor. 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 proposed project's visual resources, like sidewalks and improved pavement, would complement the visual character desired by the community as expressed in the city's 2018 Master Transportation Plan. 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 (VIA) Scoping Questionnaire

Project Name: Taylor Loop Rd. – Pleasant Ridge Rd. (S)	
Location: Pulaski County	
Special Conditions/Notes:	Conducted By: Katie Rose

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: __14__

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 judgements. 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 proceeded 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 optimal. 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.

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 resource**s 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 G – USFWS CORRESPONDENCE

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Arkansas Ecological Services Field Office
110 South Amity Suite 300
Conway, AR 72032-8975
Phone: (501) 513-4470 Fax: (501) 513-4480
http://www.fws.gov/arkansas-es

In Reply Refer To: February 03, 2022
Project Code: 2022-0003203
Project Name: 061382 Taylor Loop Rd. - Pleasant Ridge Rd. (S)

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies endangered, threatened, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). **This letter only provides an official species list and technical assistance; if you determine that listed species and/or designated critical habitat may be affected in any way by the proposed project, even if the effect is wholly beneficial, consultation with the Service will be necessary.**

If you determine that this project will have no effect on listed species and their habitat in any way, then you have completed Section 7 consultation with the Service and may use this letter in your project file or application.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found on our website.

Please visit our website at http://www.fws.gov/arkansas-es/IPaC/home.html for species-specific guidance to avoid and minimize adverse effects to federally endangered, threatened, proposed, and candidate species. Our web site also contains additional information on species life history and habitat requirements that may be useful in project planning.

If your project involves in-stream construction activities, oil and natural gas infrastructure, road construction, transmission lines, or communication towers, please review our project specific guidance at http://www.fws.gov/arkansas-es/IPaC/ProjSpec.html.

The karst region of Arkansas is a unique region that covers the **northern third of Arkansas** and we have specific guidance to conserve sensitive cave-obligate and bat species. **Please visit http://www.fws.gov/arkansas-es/IPaC/Karst.html to determine if your project occurs in the karst region and to view karst specific-guidance.** Proper implementation and maintenance of best management practices specified in these guidance documents is necessary to avoid adverse effects to federally protected species and often avoids the more lengthy formal consultation process.

If your species list includes any mussels, Northern Long-eared Bat, Indiana Bat, Yellowcheek Darter, Red-cockaded Woodpecker, or American Burying Beetle, your project may require a presence/absence and/or habitat survey prior to commencing project activities. Please check the appropriate species-specific guidance on our website to determine if your project requires a survey. We strongly recommend that you contact the appropriate staff species lead biologist (see office directory or species page) prior to conducting presence/absence surveys to ensure the appropriate level of effort and methodology.

Under the ESA, it is the responsibility of the Federal action agency or its designated representative to determine if a proposed action "may affect" end

Attachment(s):

- **Official Species List**

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

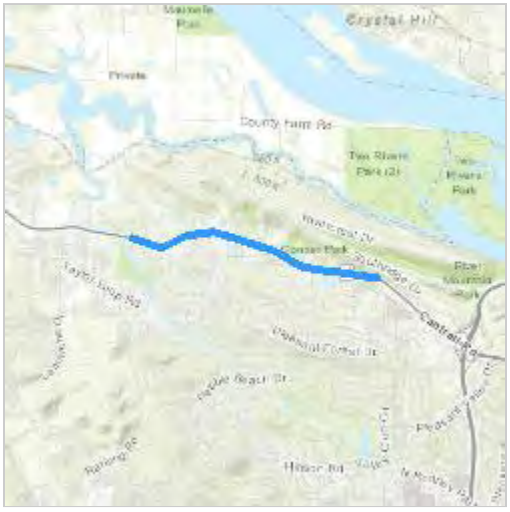
This species list is provided by:

Arkansas Ecological Services Field Office
110 South Amity Suite 300
Conway, AR 72032-8975
(501) 513-4470

Project Summary

Project Code: 2022-0003203
Event Code: None
Project Name: 061382 Taylor Loop Rd. - Pleasant Ridge Rd. (S)
Project Type: New Construction
Project Description: Widening of Hwy. 10 from four lanes to six lanes.
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@34.79929545,-92.4182429934246,14z



Counties: Pulaski County, Arkansas

Endangered Species Act Species

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. **NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.**

Birds

NAME	STATUS
Eastern Black Rail *Laterallus jamaicensis ssp. jamaicensis*	**Threatened**
No critical habitat has been designated for this species. **Species profile: https://ecos.fws.gov/ecp/species/10477**	
Piping Plover *Charadrius melodus*	**Threatened**
Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. **There is final critical habitat for this species. The location of the critical habitat is not available.** **Species profile: https://ecos.fws.gov/ecp/species/6039**	
Red Knot *Calidris canutus rufa*	**Threatened**
There is proposed critical habitat for this species. The location of the critical habitat is not available. **Species profile: https://ecos.fws.gov/ecp/species/1864**	

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	**Candidate**
No critical habitat has been designated for this species. **Species profile: https://ecos.fws.gov/ecp/species/9743**	

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Appendix H – *De Minimis 4(f) Evaluation*

EVALUATION AND DOCUMENTATION OF A DE MINIMIS FINDING TO SECTION 4(F) PROPERTY FOR PUBLIC PARKS, RECREATION LANDS, AND WILDLIFE AND WATERFOWL REFUGES

ARDOT Job Number 061382
FAP NHPP-9253(86)
Taylor Loop Rd. – Pleasant Ridge Rd. (S)
Pulaski County

Pankey Park
City of Little Rock

June 2022

Federal Highway Administration

Arkansas Department of Transportation

DRAFT

What is Section 4(f)?

Section 4(f) is part of a law that was passed to protect public parks, recreation areas, wildlife/waterfowl refuges, and important historic sites from being harmfully affected by transportation projects.

Does Section 4(f) Apply to Pankey Park?

Pankey Park in Little Rock, Arkansas is an important public park for the metropolitan area. Due to the project proximity, park impacts and park areas adjacent to Highway 10, a Section 4(f) would apply to the park. Figure 1 shows the Pankey Park sign.



Figure 1
Pankey Park

After we do an evaluation like this one, some Section 4(f) impacts can be recognized as "de minimis," which means relatively minor. We will present information to prove that there are only minor impacts to Pankey Park. We can have a de minimis finding on projects that meet the conditions shown in Table 1.

Table 1

When Can We Use A *De Minimis* Finding on Section 4(f) Properties?	**Does It Apply To This Project?**
Did we specially design the project to protect Pankey Park as much as possible? Did we use mitigation and enhancement where it was suitable?	Yes
Did the official(s) with authority over Pankey Park have a chance to consider this information and agree that the project will not greatly harm the things that make Pankey Park important?	Yes
Did the public have an opportunity to review and comment on the effects of the project on Pankey Park and the things that make it important to them?	Yes

What is the proposed roadway project?

The project would widen Highway 10 for 2.3 miles on its existing alignment. The project would widen the existing four 11' wide travel lanes with a 12' wide continuous center left turn lane into six 12' wide travel lanes, with a raised 15' curb and gutter median. Five U-turn bays would be provided along the route. Improved intersection design, including new turn lanes, and traffic signals would be constructed at the following intersections: Taylor Loop Road, Pinnacle Valley Road, The Kroger Marketplace, and Sam Peck Road. The typical section would include concrete curb and gutter drainage along the travel lanes, 3' grass berms and 5' sidewalks along both sides of the highway. An additional pedestrian crossing will be constructed connecting the larger part of the Pankey Community to the south of Highway 10 with the Pankey Community Center located along the northern side of Highway 10. Reconstruction of Russ St. and Crockett St with connected alleys will also be completed in order to provide access to homes along Highway 10 in the Pankey Community.

DRAFT



Figure 2
Project Details

Why is Pankey Park Important?

Pankey Park, located south of Cantrell Road (Highway 10), is currently owned and operated by the City of Little Rock. The park was established in 2002 and is presently 5.1 acres in size and is located just south of Highway 10. The main purpose of Pankey Park is to provide residents and visitors a place to enjoy outdoor activities, including the following:

- Playground equipment
- An outdoor basketball court
- Numerous picnic tables and benches dispersed near the playground equipment area

Figures 1, 3 and 4, show the amenities of Pankey Park.

Can We Avoid the Park?

Because of the need for alleys off of Russ Street and Crockett Street to provide access to homes in the Pankey Community, Pankey Park cannot be avoided. Design details are shown in Figure 5.

What Will the Project Do To the Park?

Approximately 0.4 acre of the 5.1 acres of Pankey Park (7.8% of its entire area) will be acquired. The contractor will be instructed to coordinate activities with the City of Little Rock engineers and park personnel to coordinate phases of construction, time constraints, determine which park properties would/could be utilized, and to provide the park personnel ample time to schedule park activities.

DRAFT



Figure 3
Pankey Park Play Area

DRAFT



Figure 4
Pankey Park

DRAFT



Figure 5
Pankey Park

Impacts to the park that result from road construction will include:

Negative Impacts

- Phased construction of the new city streets along Russ Street and Crockett Street will temporarily limit use of the Pankey Park access.

Positive Impacts

- The project will improve safety for all motorists using the park facilities.
- The project will improve or maintain existing capacity for each user group (there will be no decline in capacity for any one group).
- The project will promote pedestrian and bicycle use through improved facilities on Russ Street and will improved connection to the facilities to and from Highway10.

What Did We Do to Reduce Harm to the Park?

The following measures were included in the proposed project to reduce harm to Pankey Park:

- ARDOT minimized the footprint of the streets in the area of Pankey Park.
- Utilizing the existing right of way as much as possible.
- Coordination with city park officials about construction timing, construction clear zones, pedestrian and bicycle traffic diversions around the construction zone will be ongoing.
- Efforts to minimize impacts to citizens using Pankey Park include keeping the park open as much as possible until the project is complete. The Construction Contractor will coordinate with the Consulting Engineer, the City of Little Rock-Parks and Recreation Department, and ARDOT about the detours for access.
- The construction contractor will submit a Closure Plan to ARDOT providing a schedule of anticipated closure times for the area of Pankey Park and include a detour route, as specified by the City of Little Rock-Parks and Recreation Department, to be established and maintained by the construction contractor. ARDOT will coordinate with City of Little Rock-Parks and Recreation Department on the Closure Plan seeking mutual acceptance between the City and ARDOT before final approval is granted.
- ARDOT will continue to coordinate with City of Little Rock-Parks and Recreation Department on potential park access improvements along Russ Street.

DRAFT

How Did We Involve the Public In This Evaluation?

A public involvement meeting for this project was held on October 24, 2019, and neighborhood meetings in the Pankey Community were held on November 17, 2019, October 8, 2020 and April 13, 2021. Preliminary designs were shown to the public at the first meeting. Comments about potential community impacts were received at the meetings and that information was used to modify the project plans to minimize impacts.

The draft De Minimus 4(f) will be made available for public review at the Location and Design Public Hearing. Any comments concerning the park and any design changes in response to those hearings, will be resubmitted to the City of Little Rock-Department of Parks and Recreation. A Disposition of Public Comments and a Design Public Hearing Synopsis will be submitted with the Finding of No Significant Impacts (FONSI) document to FHWA.

What is the Decision?

We believe that this evaluation determines that the proposed road widening project will not harm the protected features, qualities, or activities that make the park important for recreation under Section 4(f), thus qualifying for a de minimis finding for Pankey Park in the City of Little Rock. The City of Little Rock has agreed that this project will not have a harmful effect on Pankey Park. A copy of this agreement is included in Appendix A.

DRAFT

APPENDIX A

CONCURRENCE LETTER

DRAFT

TBD, 2022

Leland Couch
Little Rock Parks & Recreation
500 West Markham Street, Room 108
Little Rock, AR 72201

Re: Job 061382
Taylor Loop Rd. – Pleasant Ridge Rd. (S)
Route 10, Section
Pulaski County

Dear Mr. Couch:

The Arkansas Department of Transportation (ARDOT) is proposing a project to improve Highway 10 by widening to six lanes, constructing a raised median, constructing curb and gutter drainage, and providing 3' grass berms and 5' sidewalks on both sides of Highway 10. The project will also improve and signalize key intersections along Highway 10 from Taylor Loop Road to Pleasant Ridge Road within the City of Little Rock, Pulaski County. As a result of the improvement project, additional access to houses in the Pankey Community was required. Alleys off Russ Street and Crockett Street are proposed for construction which will provide the additional access. Construction of the alleys will impact Pankey Park. The attached *De Minimis* 4(f) Evaluation discusses the impacts and the mitigation designed for Pankey Park.

A determination has been made by the ARDOT and the Federal Highway Administration (FHWA) that the proposed project will not adversely affect the protected features, attributes or activities qualifying the property for protection under Section 4(f). The ARDOT'S proposal includes all possible planning to minimize harm to the recreational use including the installation of a sidewalk on Russ Street that will enhance access to Pankey Park.

The total area of Pankey Park is 5.1 acres. Approximately 0.4 acre (7.8% of its entire area) will be acquired. The land conversion affects an area where no recreational activities occur. Recreational uses after construction of the street will be unchanged from the present conditions.

If you have any questions, comments or wish to discuss the impacts to the park further, please contact Terry Tucker (501) 569-2281.

If you agree with the assessment of the impacts of this project and the proposed minimization and mitigation for the impacts to Connor Park, please sign the statement below and return it to us.

DRAFT

Sincerely,

John Fleming
Division Head
Environmental Division

JF:TT:sw

Enclosure

I concur with the assessment and the proposed minimization and mitigation of impacts to Pankey Park as detailed above.

_____Signature

_____Title

_____Date

DRAFT