

**FINAL
ENVIRONMENTAL IMPACT
STATEMENT**

**PROJECT NO. ST-059-261-004
HELENA BYPASS
FROM COUNTY ROAD 52 IN HELENA
TO STATE ROUTE 261 NEAR BEARDEN ROAD
SHELBY COUNTY, ALABAMA**

**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
AND
STATE OF ALABAMA DEPARTMENT OF TRANSPORTATION**

**IN COOPERATION WITH:
U.S. ARMY CORPS OF ENGINEERS**

FHWA-AL-EIS-07-02-F

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Submitted pursuant to 42 U.S.C. 4321 et. Seq. by the
U.S. Department of Transportation Federal Highway Administration and the
Alabama Department of Transportation
in cooperation with the
U.S. Army Corps of Engineers

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Date

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For FHWA

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Project No. ST-059-261-004 is a proposal to construct a bypass of Helena, AL
from CR 52 to SR 261.

1 SUMMARY

DESCRIPTION OF PROPOSED ACTION

The proposed action is to construct a bypass of the City of Helena in Shelby County, Alabama. The Helena Bypass Project was identified in High Priority Project (HPP) No. 2608 of SAFETEA-LU. When complete, the alignment will likely become the relocated Alabama State Route (SR) 261.

The purpose of this project is to provide an effective and efficient roadway for the current and planned growth of the City of Helena which helps the City accomplish their Comprehensive Plan 2025.

The project begins at County Road (CR) 52 in the northern portion of the City of Helena. The project ends near Bearden Road on SR 261. Initial plans call for the bypass to tie to a planned five-lane section along SR 261, a five-lane typical for at least a portion of the bypass is planned. A transition to a four-lane divided typical section is planned for the remainder of the proposed bypass on new location. The length of the project will be approximately 3.8 miles.

Alternative I-A was identified as the preferred alternative. Throughout the study, this alternative was refined based upon cultural resources investigations and SHPO comments in order to lessen and eliminate impacts to archaeological and historic sites.

The selection of Alternative I-A was made based upon the following criteria: accomplishment of the purpose and need, traffic operation/movements, environmental impacts, relocation impacts, minority and low-income population impacts, and community support.

OTHER MAJOR GOVERNMENT ACTIONS

The study area has several projects nearby. The projects under consideration and planned for construction include:

- CMAQ-9802(126) Helena Buck Creek / Tocoa Rail-Trail System Multi-Use Trail Along Buck Creek and Abandoned Rail Beds from Bishop Creek to Cahaba River

(From CR 52 near Helena Intermediate School north to the rail road, east along Buck Creek and west along Buck Creek to SR 261)
Project Sponsor: City of Helena

- STPAA-7116(001) Morgan Road (CR-52) from South Shades Crest Road to SR 261

(Addition of lanes to and realignment of existing roadway)
Project Sponsor: Shelby County

- STPAA-7112(003) Add Lanes SR-261 From Bearden Road to SR-3 (US-31)

(Addition of lanes to and realignment of existing Roadway)
Project Sponsor: ALDOT

ALTERNATIVES CONSIDERED

In addition to the No-Build Alternative, four build alternatives were considered and determined as reasonable. These alternatives were studied in detail and presented in the DEIS in Chapter 4 of this document (see **Figure 4.05-1** for a map of the build alternatives). The alternatives are as follows:

- **No-Build Alternative**

The “No-Build” alternative for this project considers an alternative where future growth expected within the study area is added onto the existing transportation network and planned facilities outside the project corridor.

The “No-Build” alternative would not accomplish the purpose and need of the project.

- **Alternative I**

Alternative I has a length of approximately 3.6 miles. This alternative begins as a five-lane roadway at the western limit of the study corridor. After approximately 1200’ the typical section transitions into a four-lane divided roadway as it proceeds in a northeasterly direction along the northern portion of the study area for about 2 miles. At this point the alignment turns in an easterly direction and passes north of the Vulcan quarry site near SR 261. The alignment then turns north easterly, transitions into a five-lane roadway for the final 1500’ and ties to SR 261 in the vicinity of Bearden Road. This alternative includes grade separated crossings of 2 railroads and a hydraulic structure which crosses Buck Creek. It also crosses 3 large power transmission lines operated by Alabama Power Company.

This alternative will accomplish the purpose and need of the project. Based on the traffic projections, it would not function as well as Alternative I-A at the intersection with at CR 52.

- **Alternative II**

Alternative II has a length of approximately 3.8 miles. This alternative begins as a five-lane roadway at the western limit of the study corridor. After approximately 1200’ the typical section transitions into a four-lane divided roadway as it proceeds in a northeasterly direction along the northern portion of the study area for about 1.1 miles. At this point it turns in an easterly direction for 1.2 miles to pass south of the Vulcan quarry site near SR 261. The typical section transitions to a five-lane roadway as it ties to SR 261 near the Roy Cemetery. It then closely follows the existing SR 261 alignment for approximately 1.6 miles and terminates north of the intersection with Bearden Road. This alternative includes grade separated crossings of 2 railroads and a hydraulic structure which crosses Buck Creek. It also crosses 3 large power transmission lines operated by Alabama Power Company.

This alternative will accomplish the purpose and need of the project. Based on the traffic projections, it would not function as well as Alternative II-A at the intersection with at CR 52.

- **Alternative I-A (Preferred Alternative)**

Alternative I-A has a length of approximately 3.7 miles. It begins as a four-lane divided section at the western limit of the study corridor and proceeds in a northeasterly direction

along the northern portion of the study area for about 2 miles. At this point the alignment turns in an easterly direction and passes north of the Vulcan quarry site near SR 261. The alignment then turns north easterly, transitions into a five-lane roadway for the final 1500' and ties to SR 261 in the vicinity of Bearden Road. This alternative includes grade separated crossings of 2 railroads and a hydraulic structure which crosses Buck Creek. It also crosses 2 large power transmission lines operated by Alabama Power Company.

This alternative will accomplish the purpose and need of the project. Based on the traffic projections, it would function better than Alternative I at the intersection with CR 52.

▪ **Alternative II-A**

Alternative II-A has a length of approximately 3.9 miles. It begins as a four-lane divided section at the western limit of the study corridor and proceeds in a northeasterly direction along the northern portion of the study area for about 1.1 miles. At this point it turns in an easterly direction for 1.2 miles to pass south of the Vulcan quarry site near SR 261. The typical section transitions to a five-lane roadway as it ties to SR 261 near the Roy Cemetery. It then closely follows the existing SR 261 alignment for approximately 1.6 miles and terminates north of the intersection with Bearden Road. This alternative includes grade separated crossings of 2 railroads and a hydraulic structure which crosses Buck Creek. It also crosses 2 large power transmission lines operated by Alabama Power Company.

This alternative will accomplish the purpose and need of the project. Based on the traffic projections, it would function better than Alternative II at the intersection with CR 52.

BASIS FOR SELECTION OF THE PREFERRED ALTERNATE

The selection of Alternative I-A was made based upon the following criteria: accomplishment of the purpose and need, traffic operation/movements, environmental impacts, relocation impacts, minority and low-income population impacts, community support, and connectivity. See **Section 4.05** for a complete discussion on the selection of this alternative.

MAJOR ENVIRONMENTAL IMPACTS

The study has not identified any major adverse environmental impacts that would be caused by the project. While there would be minor adverse impacts such as:

- The loss of revenue due to removal of private lands from the local tax base. Although the loss of tax revenue from private land converted to highway use is a long term loss, the loss of revenue is expected to be a short term loss as planned development in the area will greatly increase local tax revenue.
- Some inconvenience during construction activities may have a negative effect on local businesses; however, this should be limited to either terminus as most of the project is on new location.

The following beneficial impacts can be expected:

- Improved travel times for emergency services and for local and through traffic based on the traffic projections for the bypass.

- An increase in tax revenue should be realized as planned development in the area occurs along the bypass corridor.
- The local economy will experience both short-term and long-term effects. One short-term effect will be increased employment opportunities, as well as increases in the need for local goods and services needed to support the increased construction work force. Another short-term benefit will be the result of an increase in local retail sales, through the local sales tax, that will provide an increase in local revenues.
- Long-term economic benefits for the City of Helena will be realized. In their Comprehensive Plan 2025 the City has adequately planned for future development. This project is part of that plan and will allow development in this area of Helena.

OTHER REQUIRED FEDERAL ACTIONS

An Individual Permit will be required from the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act for the Preferred Alternative (Alternative I-A) and for Alternative I. ALDOT will be responsible for obtaining all permits for this project. The Alternative Comparison Matrix on the following page lists the wetland impacts for the various alternatives.

As discussed in **Section 8.01**, compensatory wetlands and stream mitigation planning will be coordinated with the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service before project construction. It is anticipated that wetlands will be mitigated from an ALDOT wetland bank and that a private bank will be used for stream mitigation.

A Nationwide 14 for Linear Transportation Projects permit (NWP 14) would be required for stream crossings for Alternatives II and II-A. This permit falls under the jurisdiction of the U.S. Army Corps of Engineers for permit authorization. See **Section 6.11** for more discussion.

A stormwater construction (NPDES) permit will be required from the Alabama Department of Environmental Management (ADEM).

AREAS OF CONTROVERSY

There are no major areas of controversy surrounding this project which have been brought forward by the public. The concerns of impacts to threatened and endangered species have been addressed through meetings between the USFWS and ALDOT. Best management practices have been discussed and agreed upon to minimize adverse impacts to these resources. There are no major unresolved issues with this agency or other agencies.

Comparison of Impacts

The following table provides a comparison of the alternatives under consideration.

Alternative Comparison Matrix

Item	Unit	Alternative I	Alternative I-A	Alternative II	Alternative II-A	No-Build
Project Length	Mile	3.7 +/-	3.8 +/-	3.8 +/-	3.9 +/-	0
# of Bridges	Each	3	3	4	4	0
Environmental Justice	Impact	0	0	Starkey Street Neighborhood	Starkey Street Neighborhood	0
Relocations (Residential)	Each	0	0	8	8	0
Relocations (Business)	Each	0	0	3	3	0
Noise Impacts	Each	3	3	1	1	4
Wetlands	Acre	1.72	1.72	0.09	0.09	0
Stream Crossings	L.F.	2,280	2,280	4,585	4,585	0
*Total Costs	Million	\$21.1	\$21.4	\$24.5	\$24.7	\$0

Note: Impacts not listed are common in magnitude to the build alternatives.

* Indicates an estimate.

ENVIRONMENTAL COMMITMENT STATEMENT

Environmental commitments have been made for this project. A copy of ALDOT's Environmental Commitment Statement is included in the appendices.

The project commitments are as follows:

- All construction activities will be contained within the construction limits as set by the designer in an effort to reduce the potential impacts to the Cahaba River system (Cahaba River, Buck Creek, tributaries to the Cahaba River and Buck Creek, and areas within the Cahaba River floodway).
- A 6' graded area will be provided to accommodate for any future sidewalk along both sides of the proposed roadway. Every effort will be made to place this graded area at the back of the Right-of-Way. Where Right-of-Way is limited, the graded area will be placed at a minimum 6' behind the outside edge of the shoulder.
- Provide a thirty meter buffer for two cultural resource sites. One was an unmarked cemetery and the other, Site 1SH441, is a coke oven site.
- If Alternative II or II-A is selected, any parking area acquired from the Roy Cemetery will be recompensed with a "cost to cure" settlement or with assistance from ALDOT in acquiring additional parking to replace what is lost. Roy Cemetery is not affected by Alternative I or I-A.

- The following commitments are related to Best Management Practices (BMP's) during the construction of the project to minimize the turbidity and siltation that could affect the mussel, fish, and snail habitat in adjacent and downstream waters. These commitments have been discussed in detail with USFWS:
 - A Qualified Credentialed Inspector (QCI) will inspect BMP's on a daily basis to ensure that all controls are in place at all times and to ensure conformance with the contract documents.
 - Documented stormwater inspections will be made every 7 days or within a 24 hour period after a 3/4" rainfall.
 - The floor of culverts will be constructed at a minimum of one foot below the flow line of drainage channels.
 - Culvert and bridge crossings within the project area will be installed and the banks stabilized (mulched and vegetated) before additional soil is exposed.
 - Silt will be removed and properly disposed of when silt has accumulated to 1/3 of the above ground height of the silt fence in areas adjacent to and on slopes around all waterways. Along the remainder of the project the BMPs should be maintained according to ALDOT specifications.
 - The ALDOT standard specification of 17 acres of exposed soil is acceptable if the surrounding shoulders/approaches are stabilized before any additional soil is exposed.
 - Take immediate corrective action if erosion or sedimentation is observed.
 - Completely span Buck Creek.
 - No equipment, materials, or temporary stream crossings or work bridges shall encroach into Buck Creek.
 - Maintain vegetated buffers (to the extent practical) adjacent to streams that directly discharge into the Cahaba River. Erosion control measures will be provided during construction activities that may require vegetation to be removed. *(Note: "to the extent practical" would mean the range or magnitude to which practice or experience has shown suitable. It is impractical to expect no disturbance to vegetated buffers adjacent to streams that are being crossed by the roadway, as embankment will be required for the construction of the roadway and this embankment will replace the buffer. Also, it is common to remove some vegetated buffers in efforts to protect the remaining areas from things such as siltation in areas such as wetlands. These types of activities require some of the vegetated buffers to be temporarily and in some cases permanently disturbed. However the BMPs recommended are expected to limit the effects of the temporary and short-term construction impacts.)*
 - Provide vegetation slopes beyond the standard 8 ft. outside and 4 ft. inside paved shoulders to allow infiltration of pavement runoff.
 - Posts for silt fencing to be spaced 4-5 feet apart in sensitive areas or where water will concentrate, but can be spaced 6-7 feet apart in less sensitive or low stress areas.

- A new row of silt fence will be erected above or below the existing one whenever the existing fence has deteriorated to such an extent that the effectiveness of the barrier is reduced (approximately 6 months). If adequate room does not permit a new row of fence above or below the existing one, the existing silt fence should be removed, graded out, and a new fence should be properly installed.
- ALDOT will take redundant measures to control erosion and minimize the silt leaving the project and entering streams.
- ALDOT will invite the USFWS to participate in an on-site meeting with the construction contractor prior to project construction to review and comment on erosion control measures.
- ALDOT QCI Stormwater Training Manual measures will be required.

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3 Purpose and Need

The transportation issue which exists in this area is related to the City of Helena's Comprehensive Plan 2025 which has been developed to effectively manage the growth of the City. In developing this plan, the City has identified areas of growth and has changed zoning to control and guide the planned development. A portion of the planned commercial and residential growth area is currently inaccessible with the existing transportation system. Developers have begun constructing roads to provide access into these areas. While their efforts provide some accessibility, there is the possibility that a non-comprehensive, segmented roadway network will result. The purpose of this project is to provide an effective and efficient roadway for the current and planned growth of the City of Helena which helps the City accomplish their Comprehensive Plan 2025.

3.01 Other Project Benefits

There will be some other benefits as a result of the construction of this project. One such benefit resulting from the construction of the project is there will be some relief provided for the existing congested roadway network. An example of one such roadway that would realize some relief of the traffic burden is State Route (SR) 261. A Level of Service Analysis (LOS) was performed for SR 261 in the City of Helena and it revealed that SR 261 currently operates at a LOS 'E'. This analysis was performed using the 2007 traffic data available from the Alabama Department of Transportation (ALDOT) online traffic database (see **Appendix A**).

An evaluation of the future traffic conditions for SR 261 was also performed. For the purpose of the future operations, the projected traffic volumes provided by ALDOT for the year 2030 were used. With no other improvements or alternative routes for the projected increase of traffic, the analysis indicates that this same segment of SR 261 will operate at a LOS 'F' in the year 2030.

An additional analysis was performed for SR 261 with the bypass in place for the same time period (2030). With the bypass in place, the analysis indicated that SR 261 will operate at a LOS 'E'.

An analysis of the projected year 2030 traffic for the bypass indicates that the bypass would operate at a LOS 'A'.

The Historic District of Old Towne Helena currently experiences congestion problems, especially during the morning and evening rush hours. The proposed alternative route should benefit the congestion in this area by providing another option for motorists with destinations other than Old Towne.

There are two active railroads with "at-grade" crossings of SR 261 in the Old Towne area. There are regular delays and congestion in Old Towne resulting from the stopping of traffic on SR 261 when there is railroad activity. The bypass will cross the rail lines with grade separated structures. This will be a benefit to the mobility of Old Towne as the "through" traffic can pass along unimpeded utilizing the bypass.

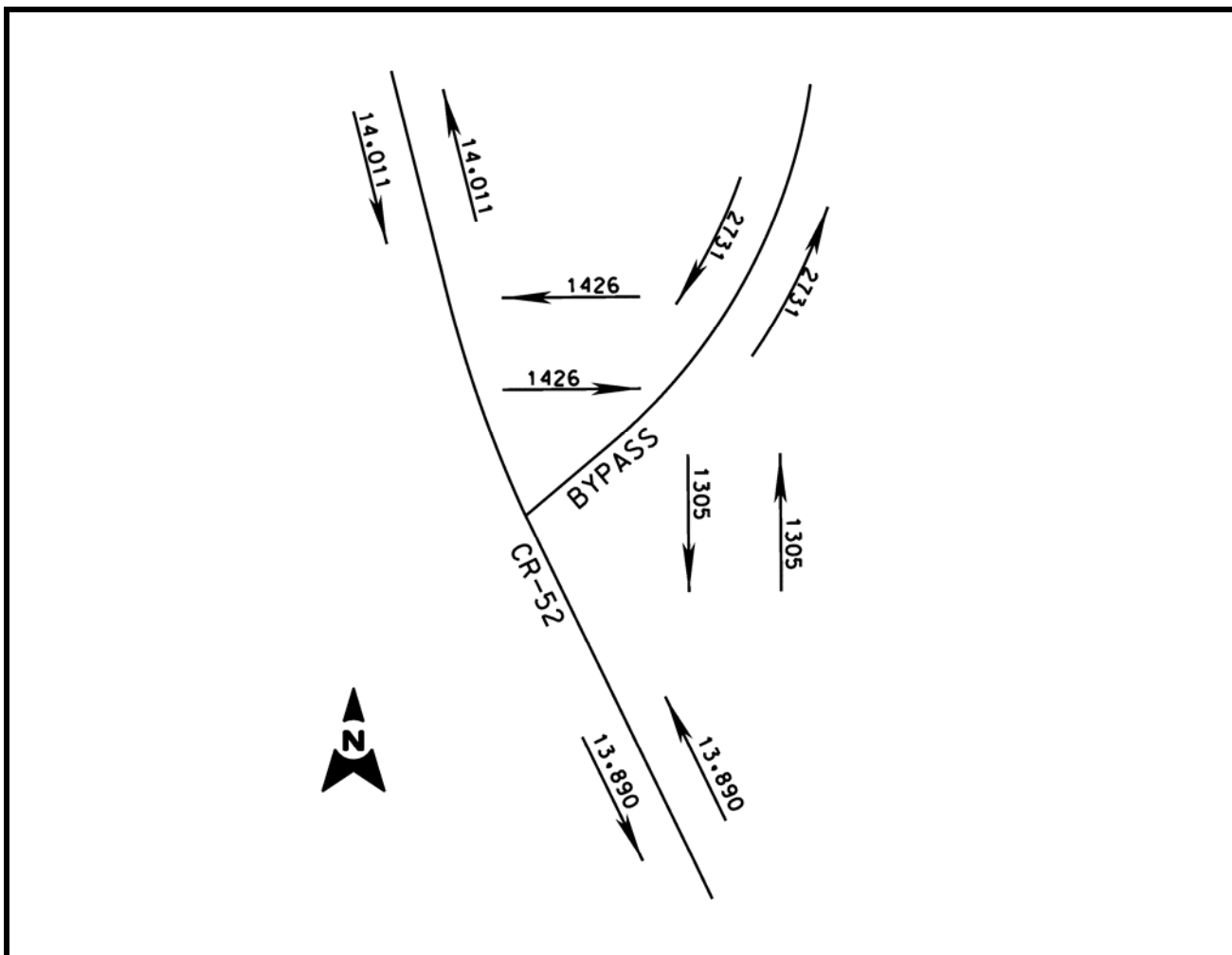
While the proposed Helena Bypass is not expected to eliminate all the congestion in Old Town; it should help to reduce it.

4 Alternatives

4.01 Logical Termini

The proposed project will provide access to the identified growth areas north of Helena, while avoiding impacts to current development and environmental resources. The primary transportation facilities north of Helena are County Road 52, functioning as the western terminus, and State Route 261, functioning as the eastern terminus, connecting the project into the area's regional transportation network. The proposed project will serve as the transportation backbone for Helena's ongoing development. (See **Figure 6.01-1** and **Figure 6.01-2**) The eastern terminus will tie into an environmentally approved project to add lanes SR-261 from Bearden Road to SR-3 (US-31), Project STPAA-7112(003).

Traffic Projections provided for the year 2030 are shown below:



The initial terminus at CR-52 was based on the anticipation that the majority of traffic would use the bypass, and that CR-52 south would become the third-leg in a T-intersection, and the existing sharp, 90-degree turn south on CR-52 would provide a smooth transition of the bypass onto this roadway. (See **Figure 4.05-1**) However, as studies progressed, ALDOT

traffic projections resulted in different numbers for the bypass than originally anticipated and showed that CR-52 would continue to carry the majority of traffic, thus remaining as the primary route.

To maintain CR-52 as the primary route and continue the free flow of traffic movement, an additional terminus was developed. This terminus was located approximately one-fourth mile south of the T-intersection on CR-52. This new terminus would permit the appropriate vertical and horizontal alignment of the roadway and provide the appropriate sight distance on CR-52. These geometric features would not be present at the original western terminus. The movement of traffic flow for both alternatives include: The original terminus, Alternatives I and II, which will allow the free-flow movement of traffic on CR-52 to travel east onto the bypass, but would stop traffic traveling north on CR-52 at the T-intersection with the bypass. The second terminus, Alternatives I-A and II-A, which will allow the free flow movement of traffic in both directions on CR-52, but stop the bypass traffic.

4.02 Constraints

Early in the process of determining alternatives, apparent environmental constraints within the study area were identified. These constraints included an active and expanding quarry site, the Cahaba River, a large park, the Helena Historic District, and historic coke ovens. Upon identifying the obvious constraints which would be prohibitive from either an environmental or an engineering perspective, two corridors were identified.

4.03 Other Design Considerations

There are other features that will be crossed by the build alternatives. These features do not have the unavoidable or prohibitive designation as the constraints listed above. However, they do require serious consideration, especially with respect to where they will be crossed. These features include two large power transmission lines, a bridged crossing for Buck Creek, and grade separated crossings of two railroads. Locations where these features are to be crossed have been evaluated and considered to occur where they will have the least impact both to the feature and to the surrounding or adjacent areas of concerns. An example is the crossing of Buck Creek has been identified fit with the terrain to reduce impacts on the Buck Creek Floodplain.

4.04 “No Action” or “No-Build” Alternative

As with any transportation improvement project, the “No-Action” or “No-Build” alternative is a consideration for this project. The “No-Build” alternative for this project considers an alternative where future growth expected within the study area is added onto the existing transportation network and planned facilities outside the project corridor.

The “No-Build” alternative would not have direct impacts to the natural and the human environments such as wetland impacts, construction impacts, or displacements.

Although the “No-Build” alternative would not accomplish the purpose and need of the project, it serves as the baseline or benchmark against which the Build Alternatives are evaluated. It will remain as a consideration throughout the study.

4.05 Build Alternatives

All build alternatives considered will satisfy the purpose of the project by providing access to areas of planned growth for the City of Helena. Two build alternatives, Alternative I and Alternative II (see **Figure 4.05-1**) were initially identified for the Helena Bypass project. Later as more information was received, in particular the projected traffic data (see discussion in **Section 4.01**), engineering considerations of traffic operations warranted the consideration of another connection location with CR 52. As a result, Alternative I-A and Alternative II-A were introduced as build alternatives. These four alternative alignments have been further refined throughout the course of the study to reduce impacts to various resources.

Typical Sections

In developing the build alternatives, typical sections were discussed. Recognizing the bypass would tie to a planned five-lane section along SR 261, a five-lane typical for at least a portion of the bypass was deemed reasonable. The five-lane typical section is shown in **Figure 4.05-3**. A transition to a four-lane divided typical section will be made and utilized for the remainder of the proposed bypass on new location. The four-lane divided typical section is shown in **Figure 4.05-4**.

There have been no changes to the alignments since the approval of the DEIS that would require modifications to the study area or additional studies to be performed.

▪ Alternative I

Alternative I has a length of approximately 3.6 miles. This alternative begins as a five-lane roadway at the western limit of the study corridor. After approximately 1200' the typical section transitions into a four-lane divided roadway as it proceeds in a northeasterly direction along the northern portion of the study area for about 2 miles. At this point the alignment turns in an easterly direction and passes north of the Vulcan quarry site near SR 261. The alignment then turns north easterly, transitions into a five-lane roadway for the final 1500' and ties to SR 261 in the vicinity of Bearden Road. This alternative includes grade separated crossings of 2 railroads and a hydraulic structure which crosses Buck Creek. It also crosses 3 large power transmission lines operated by Alabama Power Company.

This alternative will accomplish the purpose and need of the project. Based on the traffic projections, it would not function as well as Alternative I-A at the intersection with CR 52.

▪ Alternative II

Alternative II has a length of approximately 3.8 miles. This alternative begins as a five-lane roadway at the western limit of the study corridor. After approximately 1200' the typical section transitions into a four-lane divided roadway as it proceeds in a northeasterly direction along the northern portion of the study area for about 1.1 miles. At this point it turns in an easterly direction for 1.2 miles to pass south of the Vulcan quarry site near SR 261. The typical section transitions to a five-lane roadway as it ties to SR 261 near the Roy Cemetery. It then closely follows the existing SR 261 alignment for approximately 1.6 miles and terminates north of the intersection with Bearden Road. This alternative includes grade

separated crossings of 2 railroads and a hydraulic structure which crosses Buck Creek. It also crosses 3 large power transmission lines operated by Alabama Power Company.

This alternative will accomplish the purpose and need of the project. Based on the traffic projections, it would not function as well as Alternative II-A at the intersection with at CR 52.

- **Alternative I-A**

Alternative I-A has a length of approximately 3.7 miles. It begins as a four-lane divided section at the western limit of the study corridor and proceeds in a northeasterly direction along the northern portion of the study area for about 2 miles. At this point the alignment turns in an easterly direction and passes north of the Vulcan quarry site near SR 261. The alignment then turns north easterly, transitions into a five-lane roadway for the final 1500' and ties to SR 261 in the vicinity of Bearden Road. This alternative includes grade separated crossings of 2 railroads and a hydraulic structure which crosses Buck Creek. It also crosses 2 large power transmission lines operated by Alabama Power Company.

This alternative will accomplish the purpose and need of the project. Based on the traffic projections, it would function better than Alternative I at the intersection with CR 52.

- **Alternative II-A**

Alternative II-A has a length of approximately 3.9 miles. It begins as a four-lane divided section at the western limit of the study corridor and proceeds in a northeasterly direction along the northern portion of the study area for about 1.1 miles. At this point it turns in an easterly direction for 1.2 miles to pass south of the Vulcan quarry site near SR 261. The typical section transitions to a five-lane roadway as it ties to SR 261 near the Roy Cemetery. It then closely follows the existing SR 261 alignment for approximately 1.6 miles and terminates north of the intersection with Bearden Road. This alternative includes grade separated crossings of 2 railroads and a hydraulic structure which crosses Buck Creek. It also crosses 2 large power transmission lines operated by Alabama Power Company.

This alternative will accomplish the purpose and need of the project. Based on the traffic projections, it would function better than Alternative II at the intersection with CR 52.

- **Preferred Alternative**

Alternative I-A (**Figure 4.05-2**) has been identified as the preferred alternative. Throughout the study, this alternative was refined based upon comments and discovery. Slight adjustments to the alignment were made within the study corridor to lessen and eliminate impacts to archaeological and historic sites.

The selection of the preferred alternative was made based upon the following criteria: accomplishment of the purpose and need, traffic operation/movements, environmental impacts, relocation impacts, minority and low-income population impacts, community support, and connectivity.

Facilitating economic development and economic growth opportunities as identified in Helena's Comprehensive Plan 2025 are central to the purpose and need for this project. Alternative I-A

would provide the greatest opportunity for assisting the City in accomplishing their plan by providing the necessary access to previously inaccessible areas of land within the City.

The preferred alternative is estimated to cost \$300k more than Alternative I and \$3.1M and \$3.3M less than Alternative II and Alternative II-A respectively. While it is not the least expensive alternative, it will better serve the projected traffic movements at its southern terminus with CR 52, which is why the alternative was developed during the study.

There are no residential or business relocations associated with this alternative. Alternative I-A avoids impacts to the low-income and minority Starkey Street neighborhood and its selection is consistent with the endorsement of Starkey Street resident comments from the Public Hearing.

The preferred alternative minimizes the floodplain encroachment of Stream 1 by crossing it transversely and resulting in approximately 300 feet of stream length being impacted. In comparison with the other alternatives, the Stream 1 impact is the same for Alternative I due to the common alignment, however, it is much less than the 3,385 feet of encroachment associated with Alternatives II and II-A for this stream.

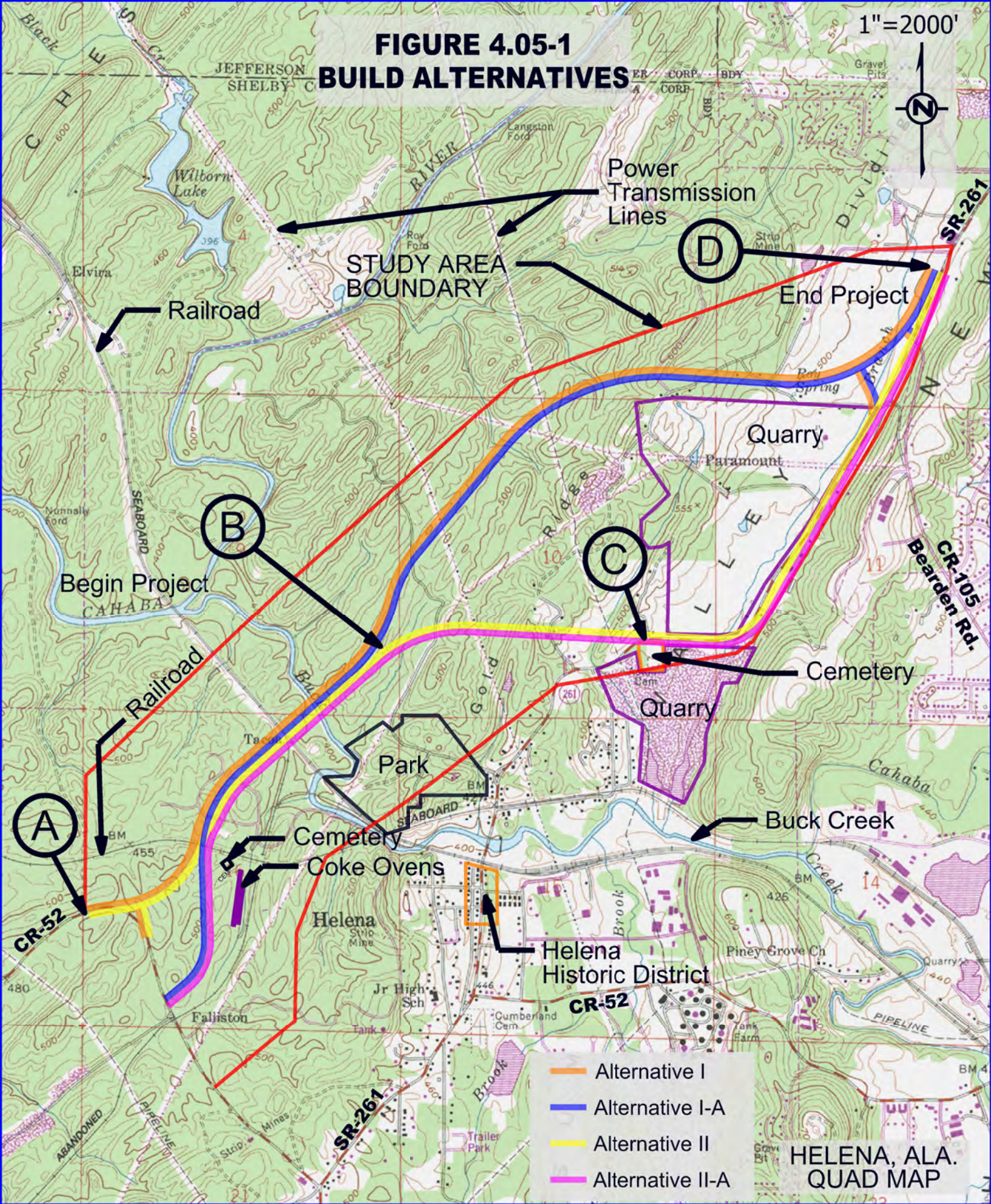
Wetland impacts associated with the preferred alternative are the same as those of Alternative I, and about 1.6 acres greater than those for Alternatives II and II-A. The preferred alternative affects 1.6 more acres of wetlands than two other alternatives, but this increased wetland impact is offset by the elimination of potential environmental justice impacts on the Starkey Street neighborhood, fewer residential and business relocations, the elimination of impacts to parking for Roy Cemetery, and the aforementioned reduction in longitudinal floodplain encroachments on Stream 1.

Alternative I-A has the greatest community support. At the public hearing 93 citizens registered their attendance. Of the 77 written comments received 57 indicated a preference for Alternative I-A. Other comments were encouraging the project to be expedited and that it was long overdue.

Lastly, the Alternative I-A fits well with the growing roadway network in the City, lining up with the newly constructed Hillsboro Parkway at its terminus with CR 52.

**FIGURE 4.05-1
BUILD ALTERNATIVES**

1"=2000'



- Alternative I
- Alternative I-A
- Alternative II
- Alternative II-A

**HELENA, ALA.
QUAD MAP**

**FIGURE 4.05-2
PREFERRED ALTERNATIVE**

1"=2000'



HELENA, ALA.
QUAD MAP

Figure 4.05-3
5-LANE TYPICAL SECTION

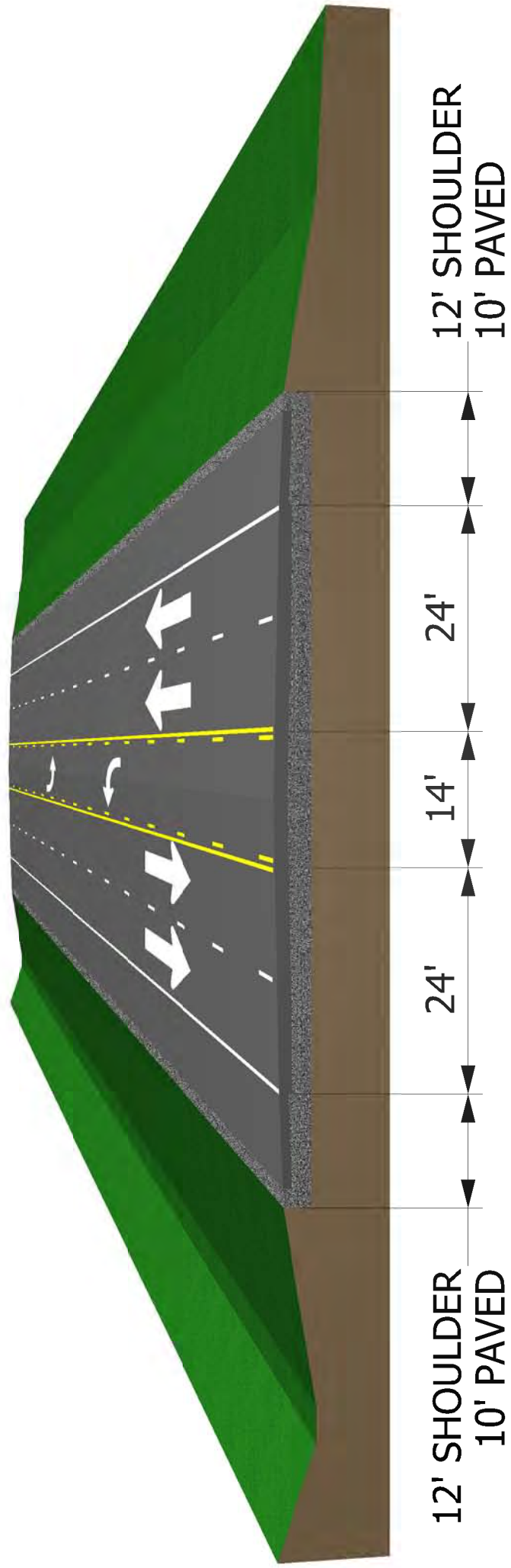
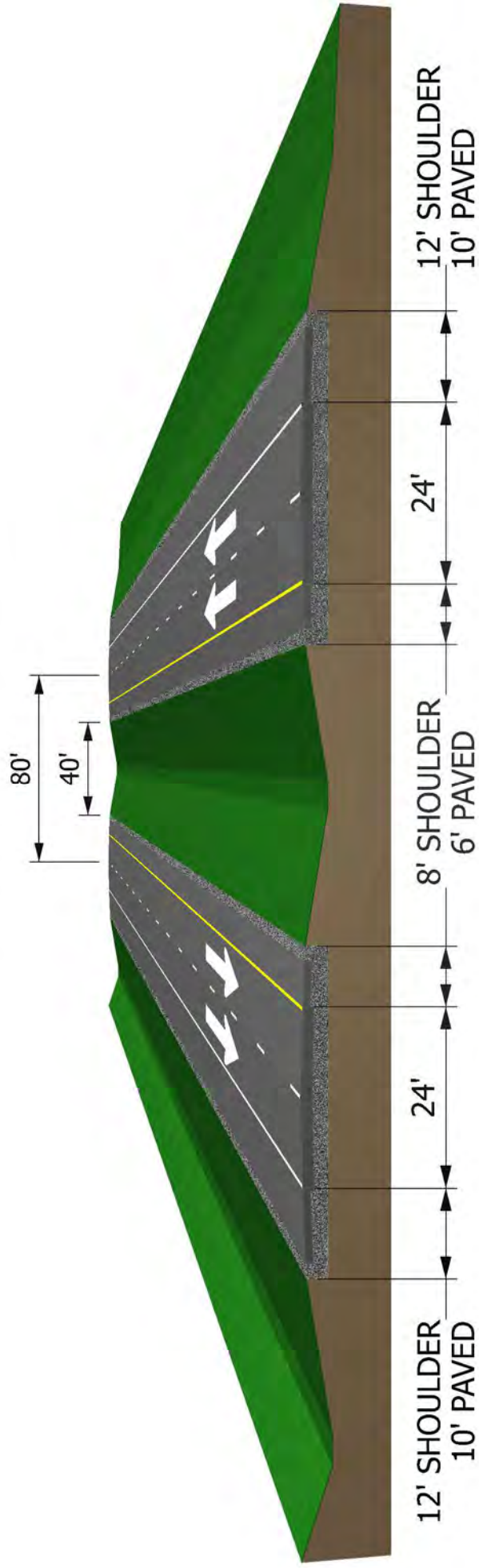


Figure 4.05-4

4-LANE DIVIDED TYPICAL SECTION



5 Affected Environment

COMMUNITY SETTING - The small City of Helena (Population 10,296-U.S. Census Bureau-2000) is located around the intersection of State Highway 261(SR 261) and Shelby County Road 52 (CR 52) in northwestern Shelby County, Alabama, approximately 15 miles from downtown Birmingham (see **Figure 5.0-1**). Shelby County is the fastest growing county in the State of Alabama and is home to many of the suburban bedroom communities of metropolitan Birmingham. Helena is located amid the ridges and valleys of the southernmost portion of the Appalachian Mountains with beautiful, wooded, rolling hills and along the banks of the Cahaba River and Buck Creek.

HISTORICAL BACKGROUND: The following historical data was taken from the City of Helena's Comprehensive Plan 2025 in order to provide a clear and concise background as to the current trends of Helena and Shelby County.

"Prior to incorporation, the communities of Central and Hillsboro occupied the area now known as Helena. Central was an important iron manufacturing center that included several mines and a rolling mill built along the banks of Buck Creek, and Hillsboro was a mineral springs resort located near the present junction of County Roads 17 and 52.

During the Civil War (1861 – 1865), a top secret iron factory was located in the community of Central. The factory, along with many other area coal mines, produced important iron products for the war efforts of the Confederate States of America. Wilson's Raiders ended the contributions of local coal and iron industries to the Confederacy when they marched through Helena and destroyed them in 1865. Despite the destruction, the community of Helena rose quickly from the ashes of the war due to the high demand for iron production, and soon, new mines, coke ovens and mills appeared around Helena.

In the spring of 1865, Peter Boyle, an engineer hired by the L&N Railroad to survey land for another rail line to serve the mill, named the station at the end of the line after his new wife from the area. His wife, Helen Lee Boyle, was the daughter of a prominent local judge. When the town was first incorporated in 1877, the name Helena was selected. This incorporation was later voided due to a technical error in the filing of the official papers and within a few years the town ceased corporate functions. The Town of Helena was reincorporated in 1915.

In the early days, Helena was a prosperous little town. Commercial establishments included stores selling furniture, pharmaceuticals, shoes, groceries and various sundries. Additional facilities located in Old Helena consisted of a hotel, butcher shop, gristmill garage, telephone exchange building, and a swimming pool resort located near the dam where the Incahoots Restaurant now stands.

On the morning of May 5, 1933, the City was hit by a tornado that devastated most of the churches and homes. Helena slowly recovered over the next several decades, but it wasn't until the 1970's that it began to grow rapidly. During the last 30 years, explosive growth has occurred in Helena due to the expanding population of Metropolitan Birmingham and its shift to northern Shelby County."

Helena’s percentage share of Shelby County and Birmingham’s population has steadily increased every census since 1930 with the exception of a slight dip from 1950 – 1960. The 2000 Census Data indicated Helena captured a large percentage share of the population in Shelby County and Birmingham than in years past. A favorable perception of the school system and an increase in family income has fueled suburbanization in the Birmingham Metropolitan Statistical Area (MSA). A detailed account of the comparative population trends of Helena from 1930 – 2000 is contained in **Table 5.0-1** below.

Table 5.0-1 Comparative Population Trends (1930-2000)

YEAR	HELENA POP.	SHELBY COUNTY POP.	HELENA % SHARE OF SHELBY COUNTY	B'HAM POP.	HELENA % SHARE OF B'HAM
1930	549	27,576	1.99%	259,678	0.21%
1940	667	28,962	2.30%	267,583	0.25%
1950	421	29,362	1.43%	326,037	0.13%
1960	523	32,132	1.63%	340,887	0.15%
1970	1,110	38,037	2.92%	300,910	0.37%
1980	2,130	66,298	3.21%	284,413	0.75%
1990	3,918	99,358	3.94%	265,852	1.47%
2000	10,296	143,293	7.19%	242,820	4.24%

Source: US Bureau of the Census, SF1 and Helena Comprehensive Plan 2025

The 2000 Census data in **Appendix H** support the various demographic characteristics noted in this document. The 2000 population for Helena was 10,296. The data indicated the racial makeup of 93.2 percent white, 5.0 percent Black or African American, 1.0 percent Hispanic or Latino, 0.7 percent Asian and the remainder, some other race. Only 5.1 percent are over the age of 65. 99.8 percent of the housing units indicated one or less occupants per room, thus large families in a crowded condition are minimal or non-existent. 9.1 percent of the total population indicated some type of disability and individual poverty level was 2.2 percent.

Socially sensitive areas within the project corridor/study area are shown on the map in **Figure 6.03-1**. These include police, fire and other emergency services, schools, libraries, churches, parks and recreation areas, cemeteries and the Old Towne Historic District.

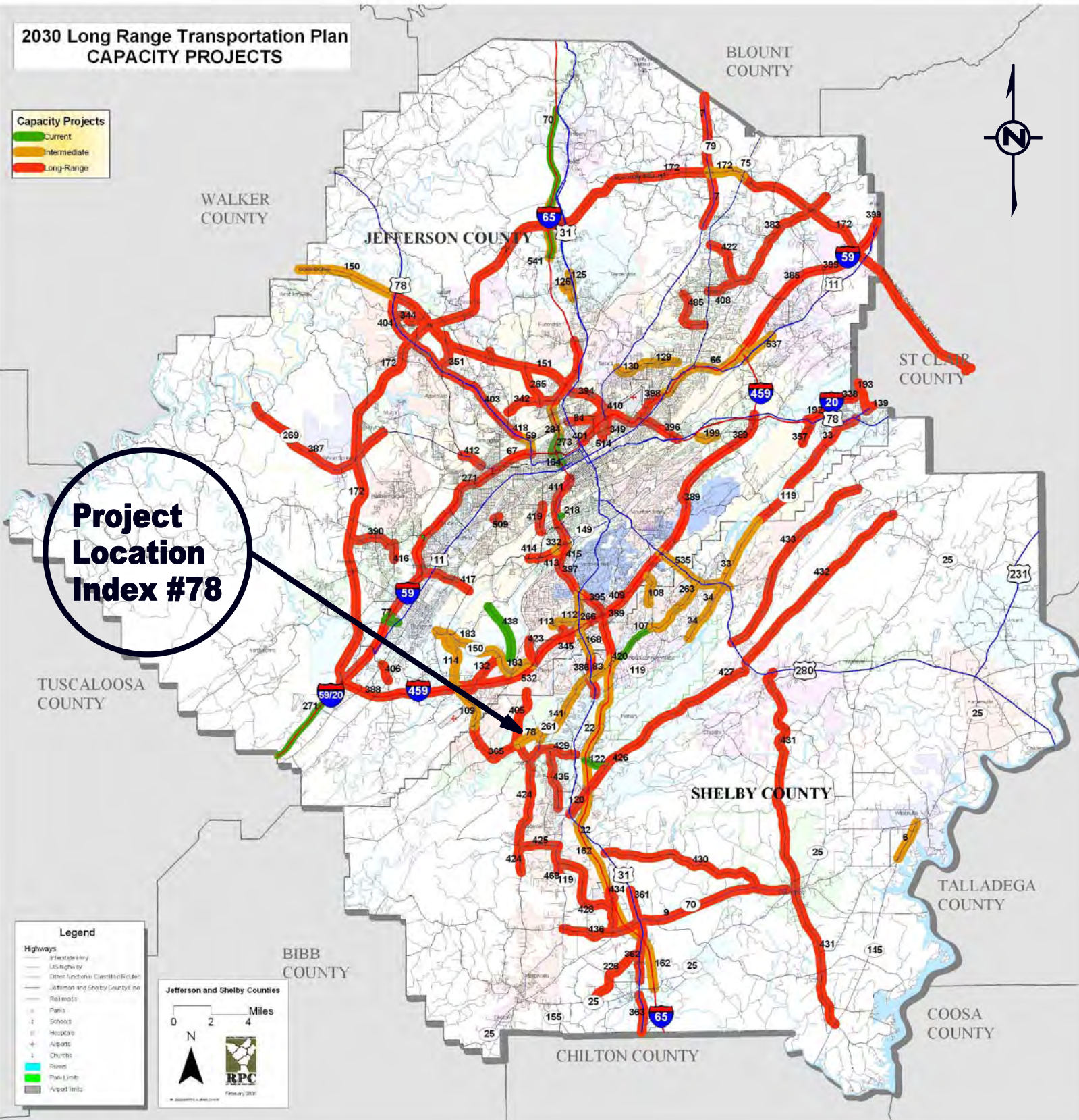
FIGURE 5.0-1 Project Vicinity Map

2030 Long Range Transportation Plan CAPACITY PROJECTS

- Capacity Projects**
- █ Current
 - █ Intermediate
 - █ Long-Range

**Project
Location
Index #78**

- Legend**
- Highways**
 - Interstate Hwy
 - US Highway
 - Other Non-Interstate Classified Routes
 - Jefferson and Shelby County Line
 - Railroads
 - Other**
 - Parks
 - Schools
 - Hospitals
 - Airports
 - Churches
 - Rivers
 - Trails
 - Airport Limits



6 Environmental Consequences

6.01 Land Use Impacts

The City of Helena updated its 1977 Comprehensive Plan in 2003. The new plan "Creating Connections and Special Places: Comprehensive Plan 2025" was adopted by the Helena City Council on October 23, 2003. This effort began in August of 2001 when the City of Helena approached the Regional Planning Commission of Greater Birmingham (RPCGB) to update its Comprehensive Plan. Due to suburban sprawl in north Shelby County, Helena was faced with substantial pressure from commercial and residential growth leading to problems such as traffic congestion and a fear of losing their small town character and charm. With these problems and fears in mind the RPCGB partnered with the Auburn University Center for Architecture and Urban Studies to provide a design based approach to planning Helena's future. This approach entailed a Small Town Design Initiative (STDI) prepared by the Auburn Center in conjunction with the Comprehensive Plan update performed by the RPCGB. Work began on this joint project in the spring of 2002 and the STDI was completed in the fall of 2002. Ultimately the goals and concepts of the STDI were blended into the new Comprehensive Plan, which currently serves as a guide for the orderly and efficient growth of the City of Helena. The 2025 Comprehensive Plan is an update to the 1977 Helena Comprehensive Plan. Additionally, the city updated and/or developed their subdivision plans (1972 and 2002) and their planning and zoning regulations (2001). These initiatives were to identify the demographic and economic conditions, land use, community facilities, transportation, housing and neighborhood improvements and capitol improvements program. The steps to accomplishing this plan included the initial decision to update the plan/s, collection and analysis of data, community participation, plan conceptualization and finally public hearing and adoption.

The land use element of the Comprehensive Plan is based on the Land-Based Classification Standards (LBCS). This system is an update of the 1965 Standard Land Use Coding Manual and provides a consistent model for classifying land uses based on their characteristics. The initial land use data for Helena was provided by Shelby County Development Services and based on December 2001 tax assessment data from Shelby County. The Regional Planning Commission of Greater Birmingham (RPCGB) then conducted fieldwork to update the existing land use by adjusting for any errors or recent changes.

Based on the LBCS, the existing land use in Helena consists of residential, commercial, industrial, utilities/transportation, recreational, institutional, mining, agricultural/forestry and undeveloped land uses as depicted in **Figure 6.01-1**. Descriptions of the existing land use patterns found in Helena are discussed by land use classification below.

Residential: This land use classification is defined as single-family homes, multi-family dwellings, manufactured homes and housing for the elderly at a variety of densities. Residential land use represents approximately 2,247 acres or 24 percent of the total land area in Helena. Residential land use is predominantly located in east Helena; however, the current trend is westward along County Road 52 towards the Cahaba River.

Commercial: This land use classification is defined as a wide range of establishments such as retail sales and service, automobile sales or service, finance and insurance, business, professional, scientific and technical services, food services and personal services. Commercial land uses represents approximately 113 acres or one percent of the total land use area in Helena.

Industrial: This land use classification is defined as manufacturing establishments such as plants, factories and mills that employ power driven machines, materials handling equipment and workers who create new products by hand. Industrial land use represents the smallest percentage of any land use at approximately 59 acres or less than one percent of the total land area in Helena. Industrial land use is almost exclusively located in the industrial park on County Road 52 near the tank farm.

Utilities/Transportation: This land use classification is defined as a catch-all category comprising utilities, transportation and communication for essential facilities that cannot be distinguished by a single physical location. Utilities/transportation land use represents approximately 135 acres or one percent of the total land area in Helena. Utilities/transportation land use is largely located along County Road 52 around the tank farm and adjacent to the industrial park.

Recreational: This land use classification is defined as establishments that operate facilities or provide services for a variety of cultural, entertainment and recreational functions such as ball fields, active and passive parks, golf courses, wildlife management areas and museums. Recreational land use represents approximately 156 acres or two percent of the land area of Helena. Recreational land use is dispersed throughout all areas of Helena and is generally found where parks are located.

Institutional: this land use classification is defined as establishments used by public agencies of federal, state and local governments such as administrative buildings, fire stations, police stations and post offices, educational facilities such as public schools, colleges, vocational schools and libraries, civic and religious facilities and cemeteries. Institutional land use represents approximately 163 acres or two percent of the total land area of Helena. Institutional land use is dispersed throughout Helena where government, civic facilities, schools and churches are located.

Mining: This land use classification is defined as establishments that extract natural mineral solids, liquid minerals and gases. Mining includes quarrying, well operations, beneficiating and other preparations performed at the mine site or as a part of the mining activity. Mining land use represents approximately 120 acres or one percent of the total land area of Helena. Mining land use is confined to the area around the quarries on State Route 261 north of Old Towne.

Agricultural/Forestry: This land use classification is defined as establishments that grow crops, raise animals, harvest timber and harvest fish and other animals from a farm, ranch, greenhouse, nursery, orchard, hatchery or their natural habitats. Agricultural/Forestry land represents approximately 858 acres or eight percent of the total land area in Helena.

Undeveloped: This land use classification is defined as land that has not been developed for a particular use and includes woodlands not in any use and undeveloped portions of residential subdivisions, shopping centers and industrial parks. Undeveloped land use represents the largest percentage of land use in Helena at approximately 6,163 acres or sixty percent. Undeveloped land is mainly concentrated in northwestern and southwestern Helena and is owned by large landowners. These vast tracts of undeveloped land offer excellent potential for future residential and commercial development over the next twenty-five years.

The future land use concept for Helena is shown in **Figure 6.01-2**. The future land use concept is based on the same land use classifications as the existing land use map. The Mixed use is an additional classification in the future land use concept and is described below.

Mixed Use: The future mixed-use land use classification is intended to be located in the proposed village centers. The mixed-use category is meant to encourage a mix of uses to include commercial, residential, recreational and institutional land uses in the appropriate combinations of density and location.

The future land use concept for Helena is consistent with the proposed Helena Bypass transportation project. As noted above, the project corridor/s is located primarily in the undeveloped land use classification areas. This is consistent with new transportation facilities in their future land use plan. The exact location and project termini aren't the same but the concept to serve the northwestern and southwestern areas of Helena will be achieved by the proposed project.

HELENA COMPREHENSIVE PLAN EXISTING LAND USE

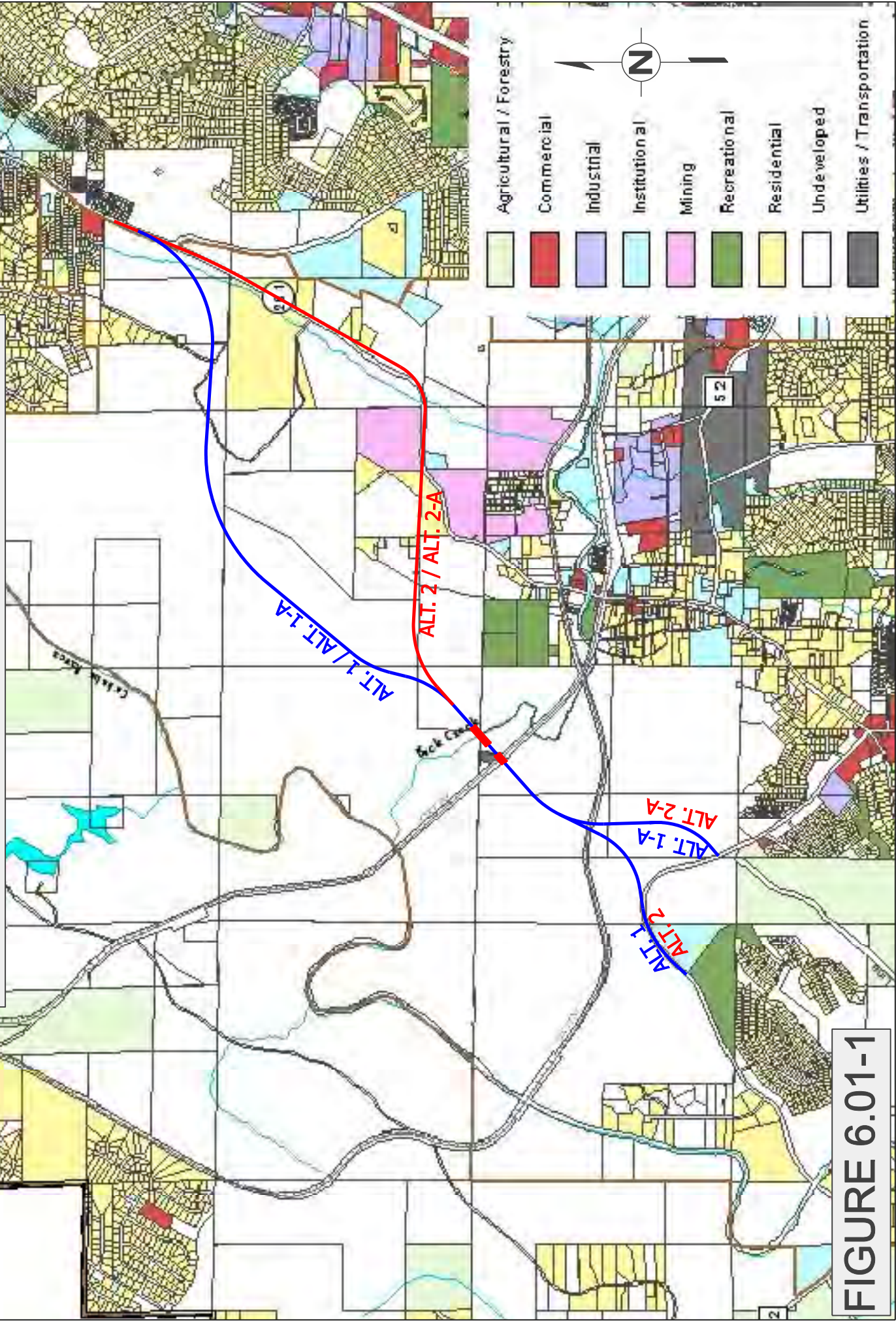


FIGURE 6.01-1

HELENA COMPREHENSIVE PLAN FUTURE LAND USE

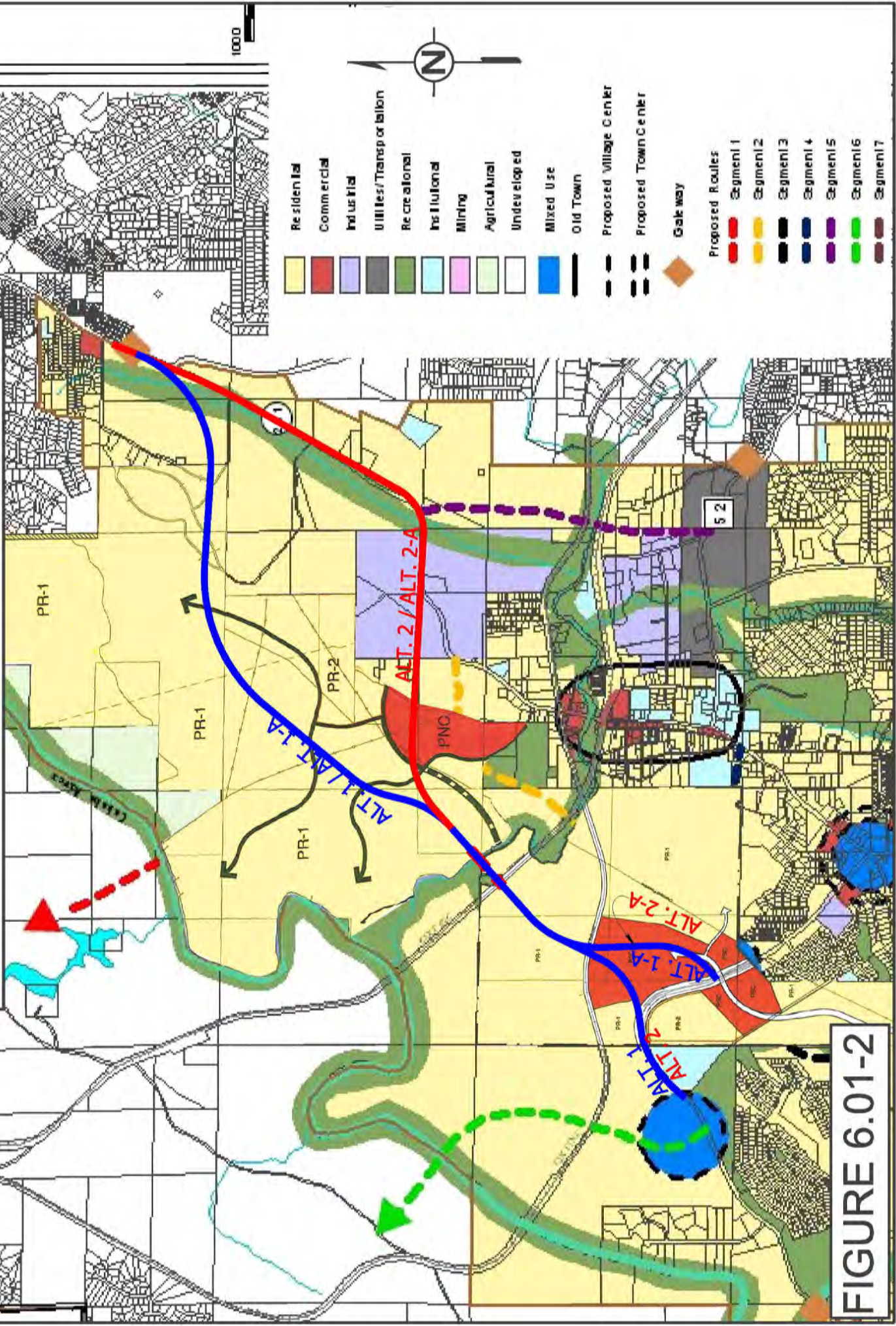
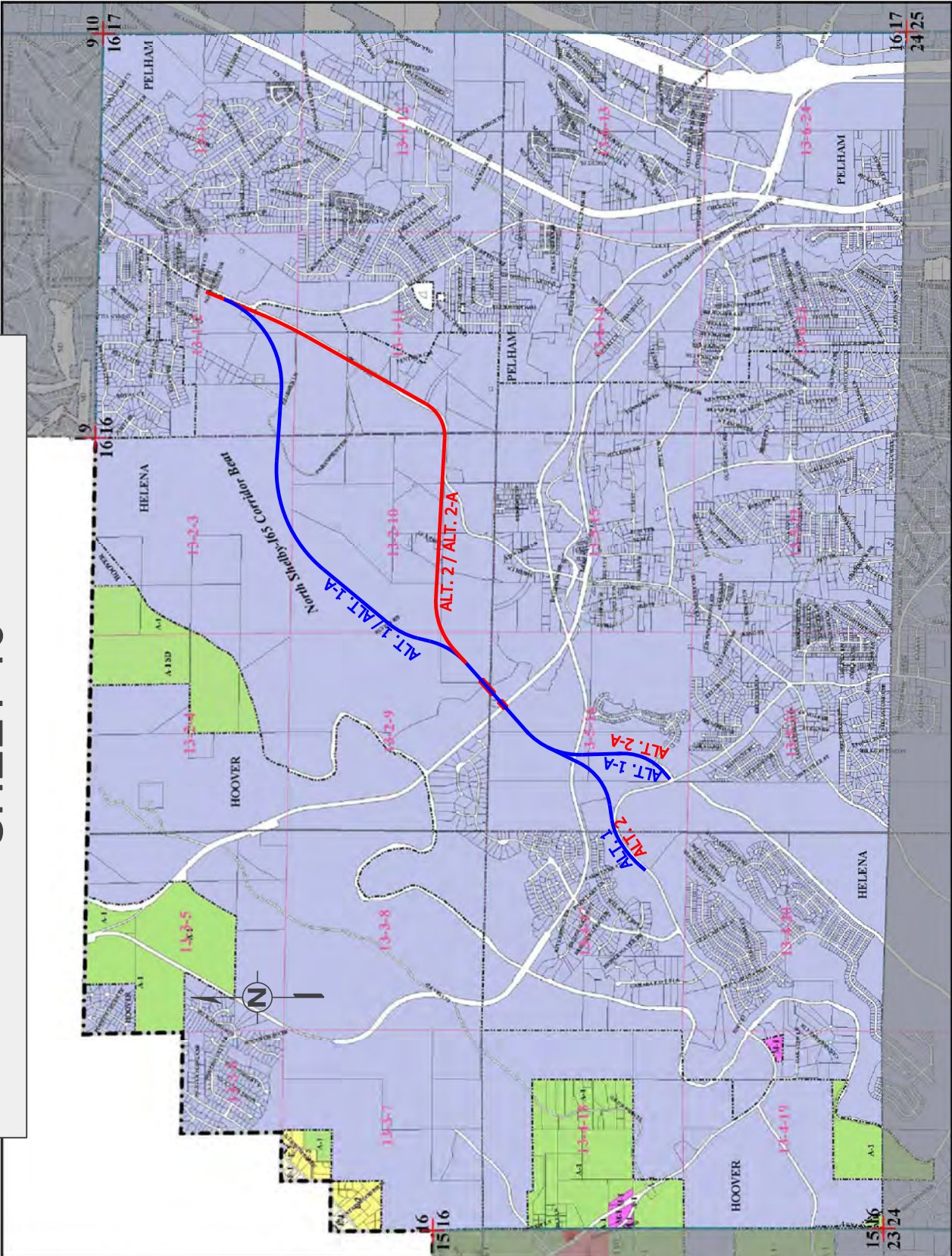


FIGURE 6.01-2

SHELBY COUNTY ZONING ATLAS SHEET 16

SHELBY COUNTY ZONING ATLAS SHEET 16



LEGEND

- H-Z Holding Zone District
- A-1 Agricultural District
- A-2 Agricultural Residential District
- A-3 Single-Family Estate District
- A-4 Single-Family Estate District
- A-5 Single-Family Estate District
- A-6 Single-Family Estate District
- A-7 Single-Family Estate District
- A-8 Single-Family Estate District
- A-9 Single-Family Estate District
- A-10 Single-Family Estate District
- A-11 Single-Family Estate District
- A-12 Single-Family Estate District
- A-13 Single-Family Estate District
- A-14 Single-Family Estate District
- A-15 Single-Family Estate District
- A-16 Single-Family Estate District
- A-17 Single-Family Estate District
- A-18 Single-Family Estate District
- A-19 Single-Family Estate District
- A-20 Single-Family Estate District
- A-21 Single-Family Estate District
- A-22 Single-Family Estate District
- A-23 Single-Family Estate District
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- A-35 Single-Family Estate District
- A-36 Single-Family Estate District
- A-37 Single-Family Estate District
- A-38 Single-Family Estate District
- A-39 Single-Family Estate District
- A-40 Single-Family Estate District
- A-41 Single-Family Estate District
- A-42 Single-Family Estate District
- A-43 Single-Family Estate District
- A-44 Single-Family Estate District
- A-45 Single-Family Estate District
- A-46 Single-Family Estate District
- A-47 Single-Family Estate District
- O-1 Office and Institutional District
- O-2 Office and Institutional District
- B-1 Neighborhood Business District
- B-2 General Business District
- M-1 Light Industrial District
- M-2 Heavy Industrial District
- SD Special District
- Municipality
- Hwy 119 Scenic Corridor Overlay District
- Hwy 280 Overlay District
- Road
- Location Area Section

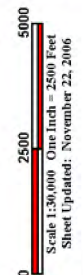


FIGURE 6.01-3

6.02 Farmland Impacts

The agricultural agencies listed below were consulted and invited to a scoping meeting that was held on September 6, 2006. Additionally, early coordination letters were mailed on January 4, 2007 to these agencies in state offices requesting views and comments for the proposed project.

COMMISSIONER

Alabama Department of Agriculture and Industry
1445 Federal Drive
Montgomery, AL. 36107

DIRECTOR

U.S. Department of Agriculture
National Resource Conservation Service
665 Opelika Road
P.O. Box 311
Auburn, AL. 36830

COORDINATOR

Environmental Quality Activities
U.S. Department of Agriculture
14th and Independence Avenue S.W.
South Building, NRCS Room 5105
Washington, D.C. 20250

The Farmland Protection Policy Act (FPPA) of 1981 (P.L. 97-98, Sec. 1539-1549; 7 U.S.C. 4201, et seq.) notes that farmlands which are already in or committed to urban development is by definition farmland not subject to the FPPA. Unique farmlands and farmlands of statewide or local importance are, however, subject to the FPPA (even in areas already in or committed to urban development). As noted on Form AD-1006 (**Figure 6.02-1**), the project area is located within the corporate limits of the City of Helena which is committed to urban development. There are no unique farmlands or farmlands of statewide or local importance within the project limits; therefore no further evaluation is required.

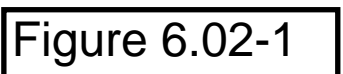
Supplemental Guidance for Implementation of Farmland Protection Policy Act issued on January 23, 1985, by the Director, Office of Environmental Policy states *“that Form AD 1006 need not be submitted to the SCS in cases where the site assessment criteria (Part VI) score is less than 60 points for each project alternative.”* For the build alternatives of this project, the Part VI scores were less than 60 (see **Figure 6.02-1**). Based on this information and coordination, the proposed project would have a minimal impact on farmland. No other alternatives need to be considered and no further coordination with NRCS is required.

FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency)		Date Of Land Evaluation Request 8/29/07			
Name Of Project ST-059-261-004 (Helena Bypass)		Federal Agency Involved Federal Highway Administration			
Proposed Land Use Roadway		County And State Shelby County, Alabama			
PART II (To be completed by NRCS)		Date Request Received By NRCS			
Does the site contain prime, unique, statewide or local important farmland? <i>(If no, the FPPA does not apply -- do not complete additional parts of this form).</i>		Yes <input type="checkbox"/>	No <input type="checkbox"/>	Acres Irrigated	Average Farm Size
Major Crop(s)	Farmable Land In Govt. Jurisdiction Acres: %			Amount Of Farmland As Defined in FPPA Acres: %	
Name Of Land Evaluation System Used	Name Of Local Site Assessment System	Date Land Evaluation Returned By NRCS			
PART III (To be completed by Federal Agency)		Alternatives			
		ALT I	ALT I-A	ALT II	ALT II-A
A. Total Acres To Be Converted Directly					
B. Total Acres To Be Converted Indirectly					
C. Total Acres In Site		0.0	0.0	0.0	0.0
PART IV (To be completed by NRCS) Land Evaluation Information					
A. Total Acres Prime And Unique Farmland					
B. Total Acres Statewide And Local Important Farmland					
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted					
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value					
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value Of Farmland To Be Converted (Scale of 0 to 100 Points)		0	0	0	0
PART VI (To be completed by Federal Agency) Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b))		Maximum Points			
1. Area In Nonurban Use		0	0	0	0
2. Perimeter In Nonurban Use		0	0	0	0
3. Percent Of Site Being Farmed		0	0	2	2
4. Protection Provided By State And Local Government		0	0	0	0
5. Distance From Urban Builtup Area		3	3	3	3
6. Distance To Urban Support Services		5	5	5	5
7. Size Of Present Farm Unit Compared To Average		2	2	2	2
8. Creation Of Nonfarmable Farmland		0	0	0	0
9. Availability Of Farm Support Services		2	2	2	2
10. On-Farm Investments		2	2	2	2
11. Effects Of Conversion On Farm Support Services		0	0	0	0
12. Compatibility With Existing Agricultural Use		2	2	2	2
TOTAL SITE ASSESSMENT POINTS		160	16	16	18
PART VII (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)		100	0	0	0
Total Site Assessment (From Part VI above or a local site assessment)		160	16	16	18
TOTAL POINTS (Total of above 2 lines)		260	16	16	18

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
----------------	-------------------	----------------------------------------------------------------------------------------------------------

Reason For Selection: The project area is located within the corporate limits of the City of Helena which is committed to urban development. Prime farmland which is already in or committed to urban development is by definition farmland not subject to the FPPA. Unique farmlands and farmlands of statewide or local importance are, however, subject to the FPPA (even in areas already in or committed to urban development). There are no unique farmlands or farmlands of statewide or local importance within the project limits; therefore no further evaluation is required.



6.03 Social Impacts

The proposed project is to bypass the downtown area of Helena and provide some relief from traffic congestion in the Old Towne Historic District. There will be no adverse impacts to school districts, recreation areas, churches, police and fire protection or other emergency services. These socially sensitive sites are identified in **Figure 6.03-1**. The project will have a beneficial effect in that travel times will be improved for all emergency services as well as local and through traffic. State Route 261 through the Old Towne Historic District currently experiences high levels of congestion. Traffic flow in this area is expected to be improved as much of the through traffic will utilize the bypass once the project is in place. This will increase highway and traffic safety as well as overall public safety.

The proposal will have little or no impact to neighborhoods or communities, depending upon the alternative selected. Since the project is basically on new location, there will not be any changes to neighborhoods or community cohesion. Additionally, the project is proposed to be a limited access facility, not a denied access project; therefore, there will be no isolation or separation of residents from community facilities. One small minority neighborhood, the Starkey Street Neighborhood, will be impacted by Alternatives II and II-A. This area is identified in **Figure 6.03-2**. A small church with modular construction is located in the neighborhood, but will not be impacted by the build alternatives. Several relocations will be required should Alternative II or Alternative II-A be implemented. There are no neighborhoods or communities impacted by Alternative I or Alternative I-A.

The 2000 Census data (see **Appendix H**) are attached to support the various demographic characteristics utilized to assess the social impacts for this document. Helena's total population is listed at 10,296 for this census. Social groups considered include:

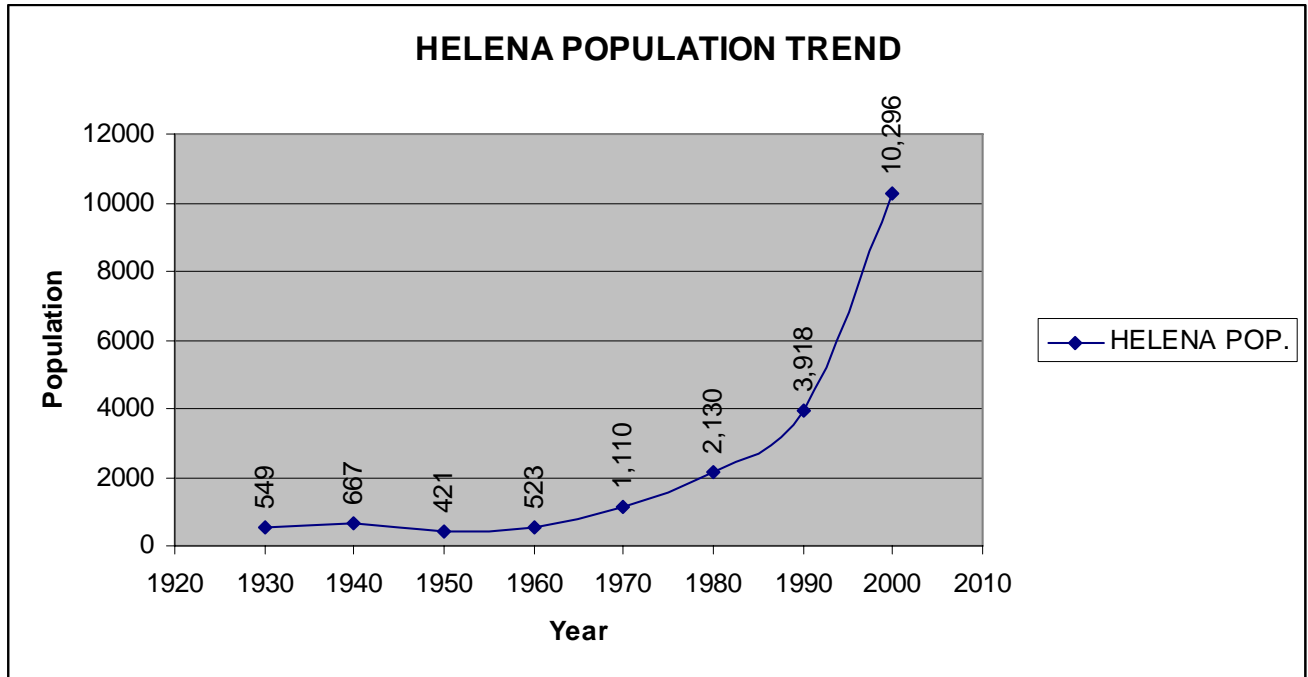
Elderly: The number in the age group between 65-74 years is 299 or 2.9 percent, between 75-84 is 187 or 1.8 percent, 85 years and over is 44 or 0.4 percent. The total of these three groups over the age of 65 (elderly) are 530 or 5.1 percent of the total population. The proposed project will have a minimal impact on the elderly population of Helena. Form ROW-RA-1 furnished by ALDOT (see **Appendix A**) states in the Narrative Analysis "...We have no direct indication of the existence of large numbers of elderly and disabled or ...large families."

Handicapped: The totals for persons with a disability are 939 or 9.1 percent of the total population. None of these disabled (handicapped) individuals were noted within the project corridor; therefore, there is very little potential to have an impact on handicapped individuals or groups. Form ROW-RA-1 furnished by ALDOT (see **Appendix A**) states in the Narrative Analysis "...We have no direct indication of the existence of large numbers of elderly and disabled or large families."

Non-drivers/Transit-dependent: There is no public transportation system (including taxi) in the City of Helena. The developed or built-up areas are all within a small geographic area that is easily accessible to non-drivers. The census data indicated only

27 individuals or 0.5% of the total population walked to work and this should be a good indication that there are very few non-drivers or transit-dependent individuals.

Minority/Ethnic: The racial makeup for Helena is 9,601 or 93.2 percent white, 515 or 5.0 percent Black or African American, 1.0 percent Hispanic or Latino, 0.7 percent Asian and the remainder, some other race. See the **Environmental Justice** section below for more discussion on Low Income and Minority populations.



The Helena Historic District was designated a historic district on April 18, 2006. The district is parts of AL-261 and Helena Road, parts of 1st – 3rd Avenue, 200 block of 3rd Street. This area is known locally as Old Towne and has been promoted as Helena’s historic downtown. Helena’s Comprehensive Plan 2025 calls for the promotion, preservation, and enhancement at all costs. Old Towne provides the unique identity that attracts residents and visitors to Helena.

▪ **Environmental Justice**

Executive Order 12898 requires all federal agencies to identify and address, as appropriate, “disproportionately high and adverse human health or environmental effects” of their programs, policies, and activities on minority and low income populations.

Disproportionately High and Adverse Effect on Minority and Low-Income Populations means an adverse effect that:

- (1) is predominately borne by a minority population and/or a low-income population; or
- (2) will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non low-income population.

Based on available data from the U.S. Census 2000 for the City of Helena, the affected environment and the portions within the affected environment that will be directly impacted by the proposed project are predominantly white (93.7%) populations with household incomes from a minimum range of \$25,000 to over \$200,000 (89.9%). There were only 41 (1.4%) of the total 2,944 families that were in poverty status in 1999. The median household income for the project area was \$62,908.

Neither Alternative I nor Alternative I-A will affect any neighborhoods or communities that are considered low income or minority.

Both Alternative II and Alternative II-A will impact the Starkey Street neighborhood. Starkey Street is a dead-end street located north of Old Towne on SR 261 near the quarry. These alternatives will impact the southern portion of this neighborhood and three residences (including two mobile homes) will be displaced. While there would be displacees elsewhere along the project, the Starkey Street neighborhood is the only residential neighborhood impacted by the build alternatives. These three displacees do not meet the criteria of Disproportionately High and Adverse Effect on Minority and Low-Income Populations.

Of the eight displacees for the project, the ROW-RA-1 only indicates two with income levels below \$30,000. **Figure 6.03-2** shows Alternatives II and II-A in relation to this neighborhood. The proposed project will have a minimal negative impact on this area should Alternative II or II-A be implemented.

HELENA COMPREHENSIVE PLAN SUBSTANDARD HOUSING

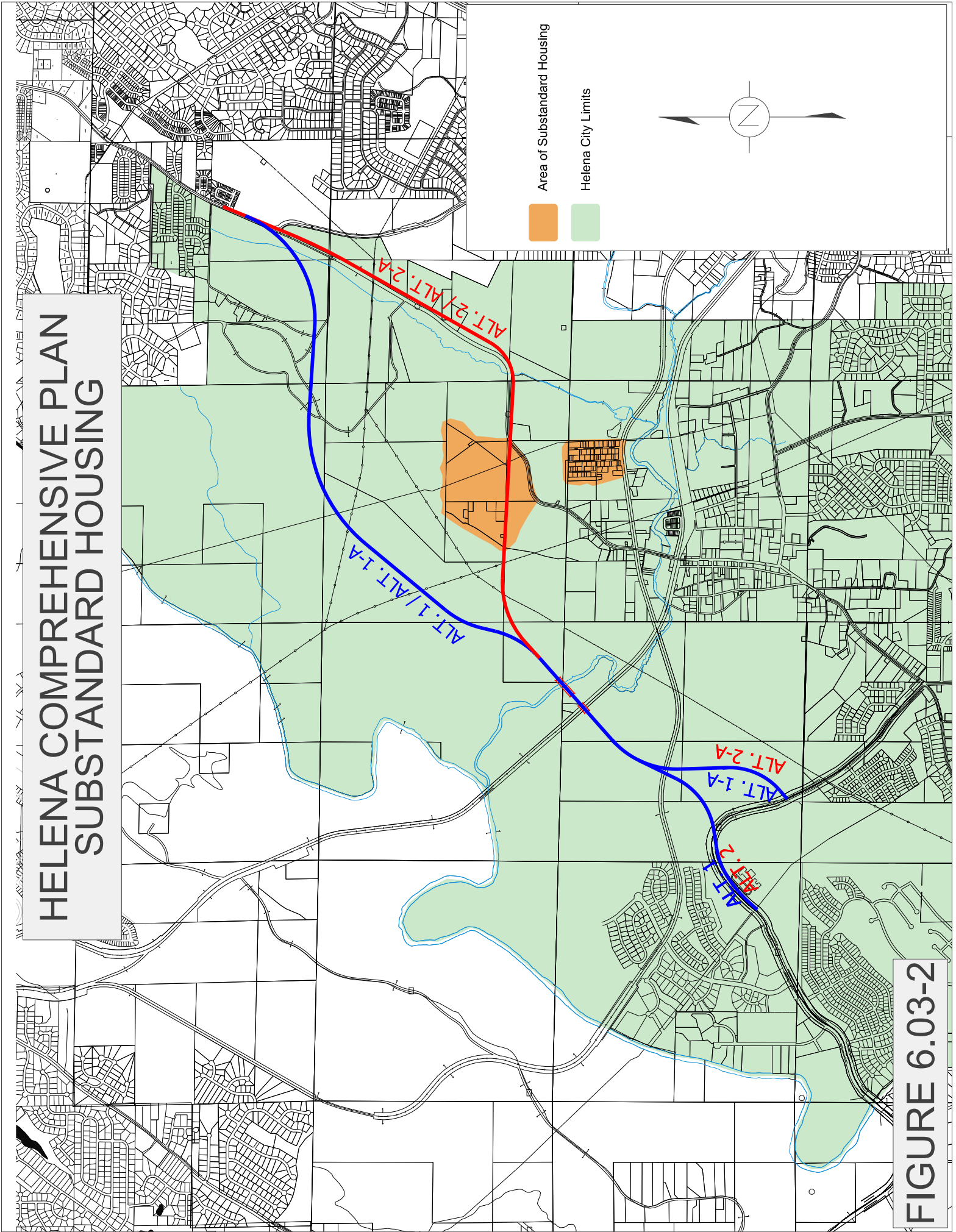


FIGURE 6.03-2

HELENA BYPASS SOCIALLY SENSITIVE AREAS

- Police, Fire, or Emergency Stations
- Parks or Other Recreation Facilities
- Historic Downtown Helena
- Schools or Libraries etc.
- Churches or Cemeteries

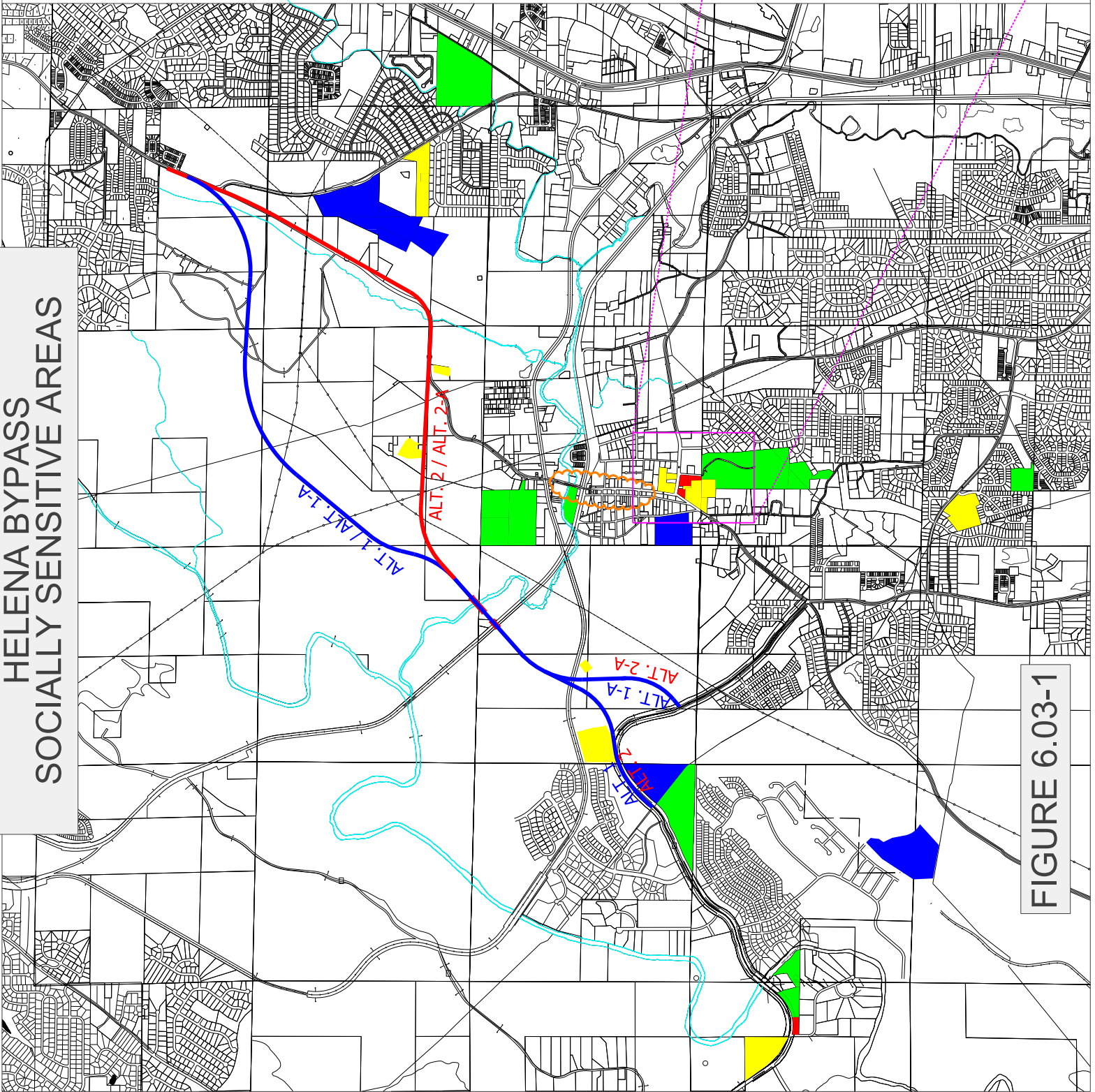
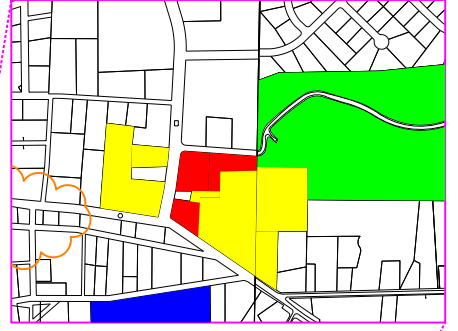


FIGURE 6.03-1

6.04 Relocation Impacts

The relocation impacts are assessed from information that was derived from the ALDOT windshield relocation analysis (Form ROW-RA-1 in **Appendix A**), contact with local officials, census data and visual inspections of the project area. Since these observations of a dynamic set occurred at various times, the numbers of mobile homes (which consequently affects relocations) has varied.

Alternative I and Alternative I-A

There will be no displacements (residential or business) with Alternative I or Alternative I-A.

Alternative II and Alternative II-A

ALDOT provided the information below regarding relocations in their form ROW-RA1.

There will be a total of eight (8) residential displacements by Alternatives II and II-A. This includes eight (8) homes, two (2) of which are occupied by tenants. All of the displacements are common to Alternatives II and II-A.

There will be a total of three (3) business relocation impacts with Alternatives II and II-A. The estimated number of displaces for these alternatives are shown in **Table 6.04-1** and **Table 6.04-2**.

The ALDOT windshield relocation narrative analysis noted:

- Two (2) vacant residences would be acquired with Alternative II and II-A.
- There was no direct indication of the existence of large numbers of elderly and disabled or large families.
- At the time of the survey, the housing and rental markets had enough homes to accommodate all the relocatees in the various home value ranges.
- No detrimental impact on neighborhoods, houses, or community services is evident. Adequate planning and coordination during the design phase should minimize or prevent any detrimental impact due to relocation.
- When necessary, Last Resort Housing plans will be made for any displacee, including the option of new construction. The Alabama Department of Transportation is committed to the equitable, timely, consistent relocation of all persons displaced by highway construction.
- Alternatives II and II-A would require the acquisition of three (3) businesses. This includes the storage yard for a business that at the time of the survey was vacant and available for rent.
- The consensus of local officials and community groups is favorable. Current and future need, growth impetus, and improved traffic flow are the most often cited reasons for wanting an improved facility.

- The Acquisition and Relocation Assistance Program Services will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended by the Surface Transportation & Uniform Relocation Assistance Act of 1987. Relocation assistance and resources will be made available to all residential and business relocatees without discrimination.

Additional Information Regarding Business Relocations

The three businesses identified as business relocations under Alternatives II and II-A were contacted to provide information regarding the type of business, occupancy type, number of employees, information regarding ethnic or minority employment, and the likelihood of the business relocating in the area. The responses to these questions are summarized in **Table 6.04-2**.

Ready Mix USA would not respond to repeated attempts of obtaining information.

Additional Information Regarding Available Housing

Table 6.04-1 indicates the replacement housing that was available at the time the market search was conducted. There is a possibility that the time the project is authorized for right of way, market conditions will be different. This could result in more or fewer houses being available at that time. If this is the case, another study will be conducted to identify houses in the comparable value range of the subject house. If at that time no replacement houses are available in the comparable value range of the subject house, a Replacement Housing Payment (RHP) would be made.

The data at the time of the market survey shows there were a greater number of available homes than were being displaced for each home value range. The available relocation housing should provide for the satisfactory relocation for the homes in all value ranges.

TABLE 6.04-1 RELOCATION IMPACTS SUMMARY MATRIX

Alternative	NPO	Business	Farm	Residential	RELOCATION					AVAILABLE HOUSING		
					OWNER	RENTER	VALUE/RENT	NO. OF BEDROOMS	Impacts	OWNER	RENTER	NO. OF BEDROOMS
I	0	0	0	0	NA	NA	0 - 40,000	1 - 3	0	7	--	1 - 3
					NA	NA	40,000 - 60,000	1 - 3	0	9	--	1 - 3
					NA	NA	60,000 - 80,000	1 - 3	0	10	--	1 - 3
					NA	NA	80,000 - 100,000	1 - 3	0	4	--	1 - 3
					NA	NA	100,000+	4 or more	0	9	--	4 or more
					NA	NA	0 - 150	1 - 3	0	--	0	1 - 3
					NA	NA	151 - 300	1 - 3	0	--	4	1 - 3
					NA	NA	301 - 400	1 - 3	0	--	3	1 - 3
					NA	NA	401 - 500	1 - 3	0	--	2	1 - 3
					NA	NA	501+	1 - 3	0	--	6	1 - 3
II	0	3	0	8	3	--	0 - 40,000	1 - 3	3	7	--	1 - 3
					3	--	40,000 - 60,000	1 - 3	3	9	--	1 - 3
					1	--	60,000 - 80,000	1 - 3	1	10	--	1 - 3
					0	--	80,000 - 100,000	1 - 3	0	4	--	1 - 3
					1	--	100,000+	4 or more	1	9	--	4 or more
					--	0	0 - 150	1 - 3	0	--	0	1 - 3
					--	2	151 - 300	1 - 3	2	--	4	1 - 3
					--	0	301 - 400	1 - 3	0	--	3	1 - 3
					--	0	401 - 500	1 - 3	0	--	2	1 - 3
					--	0	501+	1 - 3	0	--	6	1 - 3
I-A	0	0	0	0	NA	NA	0 - 40,000	1 - 3	0	7	--	1 - 3
					NA	NA	40,000 - 60,000	1 - 3	0	9	--	1 - 3
					NA	NA	60,000 - 80,000	1 - 3	0	10	--	1 - 3
					NA	NA	80,000 - 100,000	1 - 3	0	4	--	1 - 3
					NA	NA	100,000+	4 or more	0	9	--	4 or more
					NA	NA	0 - 150	1 - 3	0	--	0	1 - 3
					NA	NA	151 - 300	1 - 3	0	--	4	1 - 3
					NA	NA	301 - 400	1 - 3	0	--	3	1 - 3
					NA	NA	401 - 500	1 - 3	0	--	2	1 - 3
					NA	NA	501+	1 - 3	0	--	6	1 - 3
II-A	0	3	0	8	3	--	0 - 40,000	1 - 3	3	7	--	1 - 3
					3	--	40,000 - 60,000	1 - 3	3	9	--	1 - 3
					1	--	60,000 - 80,000	1 - 3	1	10	--	1 - 3
					0	--	80,000 - 100,000	1 - 3	0	4	--	1 - 3
					1	--	100,000+	4 or more	1	9	--	4 or more
					--	0	0 - 150	1 - 3	0	--	0	1 - 3
					--	2	151 - 300	1 - 3	2	--	4	1 - 3
					--	0	301 - 400	1 - 3	0	--	3	1 - 3
					--	0	401 - 500	1 - 3	0	--	2	1 - 3
					--	0	501+	1 - 3	0	--	6	1 - 3

Table 6.04-2 Business Relocation Impacts

Business/Owner Name	Type Of Business	Occupancy Type	Number Of Employees	Ethnic Or Minority Employment	Likelihood Of Relocation In This Area	Address	Phone Number	Impacted By This Alternative?			
								Alt. I	Alt. I-A	Alt. II	Alt. II-A
Ready Mix Usa	Concrete Mixing Facility	Tenant	*	*	*	6366 Helena Rd.	205-620-4871	No	No	Yes	Yes
Cotney Aerospace	Aerospace Engineering	Owner	10	No	Yes	6280 Helena Rd.	205-620-4990	No	No	Yes	Yes
Bearden Leasing Co / Joel E Bearden Quarry Trust	Rental Property / Vacant	Owner	0	0	Yes	5657 Helena Rd.	205-296-2327	No	No	Yes	Yes

* Indicates Questions For Which No Response/information Was Received

6.05 Economic Impacts

The local economy will experience both adverse and beneficial effects as a result of the proposed project. Adverse effects will include the loss of revenue due to removal of private lands from the local tax base. Although the loss of tax revenue from private land converted to highway use is a long term loss, the loss of revenue is expected to be a short term loss as planned development in the area will greatly increase local tax revenue. Additionally, some inconvenience during construction activities may have a negative effect on local businesses; however, this should be limited to either terminus as most of the project is on new location. Alternative II and Alternative II-A will have a negative effect on the concrete business as there are two concrete plants along the existing SR 261 near the quarry. Access will be maintained to these businesses throughout the construction phase. There may be times that access will be blocked; however, these will be of short duration and the main obstacle will be the inconvenience associated with construction activities.

The local economy will experience both short-term and long-term effects. One short-term effect will be the benefits derived from construction. Increased employment opportunities, as well as increases in the need for local goods and services needed to support the increased work force. This short-term benefit will continue throughout the construction period. Another short-term benefit will be the result of an increase in local retail sales, through the local sales tax, that will provide an increase in local revenues.

Long-term economic growth will be enhanced by opening up the undeveloped lands surrounding the project corridor through an improved transportation network. Development potential for the City of Helena is enormous. There are currently several subdivisions under construction and others are planned in the area. The development of these and other subdivisions will more than offset the loss of revenue due to ROW acquisition. The city officials have adequately planned for future development as shown in their Comprehensive Plan 2025. The proposed project is part of this plan and will be an impetus for development in this area of Helena.

Public expenditures are a vital concern for any city and especially one that is experiencing rapid growth. Helena has attempted to curb the burden for large increases for infrastructure revenues by requiring the developers to provide most of the needed streets, utilities and other public facilities needed to support their developments. This effort has been verified by the mayor and the planning and zoning board for the City of Helena. Additionally, they have enacted very stringent environmental regulations to insure that the planned growth is done in a manner that is consistent with protection of the environment. See the attached letter located in **Appendix G**. Long-term economic development is expected regardless of which alternative is selected.

6.06 Joint Development

There are plans being developed for a trail system throughout the community in Helena. The location of one of the trails is along Buck Creek. This trail is crossed by the proposed project near Buck Creek and coordination with the City of Helena has been accomplished to provide a

transportation corridor to ensure the proposed bypass does not conflict with the FHWA's Section 4(f) provisions of impacting park and recreation properties. The bridge over Buck Creek also crosses over the trail, thus providing joint use for this section of the bypass.

Appendix A contains both a letter from the City of Helena recognizing the preserved transportation corridor and a graphic from the Environmental Document for the Helena Buck Creek Multi-Use Trail Project (Project No CMAQ-9802(126)) which shows this corridor.

6.07 Considerations Related to Pedestrians and Bicyclists

Pursuant to 23 U.S.C., bicycle transportation facilities and pedestrian walkways must be considered on all transportation projects. Currently, there is no bicycle/pedestrian plan for the City of Helena. The Regional Planning Commission of Greater Birmingham (RPCGB) has a bicycle and pedestrian vision as shown on **Figure 6.07-1**. The City of Helena is in the process of planning and implementing a multiuse trail that is known as the Helena Buck Creek/Tocoa RailTrail Systems. This trail is noted as # 257 on the vision map. This multiuse trail is proposed to be completed in four phases as shown in **Table 6.07-1**. This table lists the sections and time frame for construction of the trail. The proposed project will cross this planned multiuse trail near the Buck Creek crossing. The planning efforts for this trail have dedicated an approximate 400 feet transportation corridor in order to avoid a potential 4(f) situation (See **Appendix A** for graphic). The proposed trail crossing will be bridged in conjunction with the Buck Creek bridge.

Within the City of Helena there are sidewalks in the Old Town area along SR 261. These sidewalks accommodate the pedestrians that shop in the adjacent businesses in Old Town. The City of Helena also has several parks that provide surfaced pedestrian facilities among these are Joe Tucker Park and Buck Creek Park. No bike lanes are currently provided in the transportation network near or within the project area. No sidewalks exist along CR-52 in the vicinity of the western terminus. No sidewalks exist along SR 261 from the quarry to the project terminus (near Bearden Road).

Bicyclists

ALDOT is currently updating the Alabama Statewide Bicycle and Pedestrian Plan. In accordance with the draft policy, only a Paved Shoulder (On-Street) facility would be appropriate for consideration with this project. The plans for this project include 12' shoulders with 10' of the shoulder to be paved. The proposed 10' paved shoulder exceeds the recommended 6' minimum for the condition on urban arterials where speeds exceed 50 mph. Currently there exists very little bicycle and pedestrian infrastructure in the project area. However, this may change in the future. The accommodations for any future use by bicyclists will be provided by the paved outside shoulders. (See **Figures 4.05-3** and **4.05-4**)

Pedestrians

With the planned implementation of the Helena Buck Creek/Tocoa Rail-Trail Systems, the Helena Buck Creek Multi-Use Trail Project, and the ongoing development of the Hillsboro Community which includes sidewalks along the subdivision roadways, pedestrians in the project area are expected to increase over time.

A 6' graded area will be provided to accommodate for any future sidewalk along both sides of the proposed roadway. Every effort will be made to place this graded area at the back of the Right-of-Way. Where Right-of-Way is limited, the graded area will be placed at a minimum 6' behind the outside edge of the shoulder.

TABLE 6.07-1

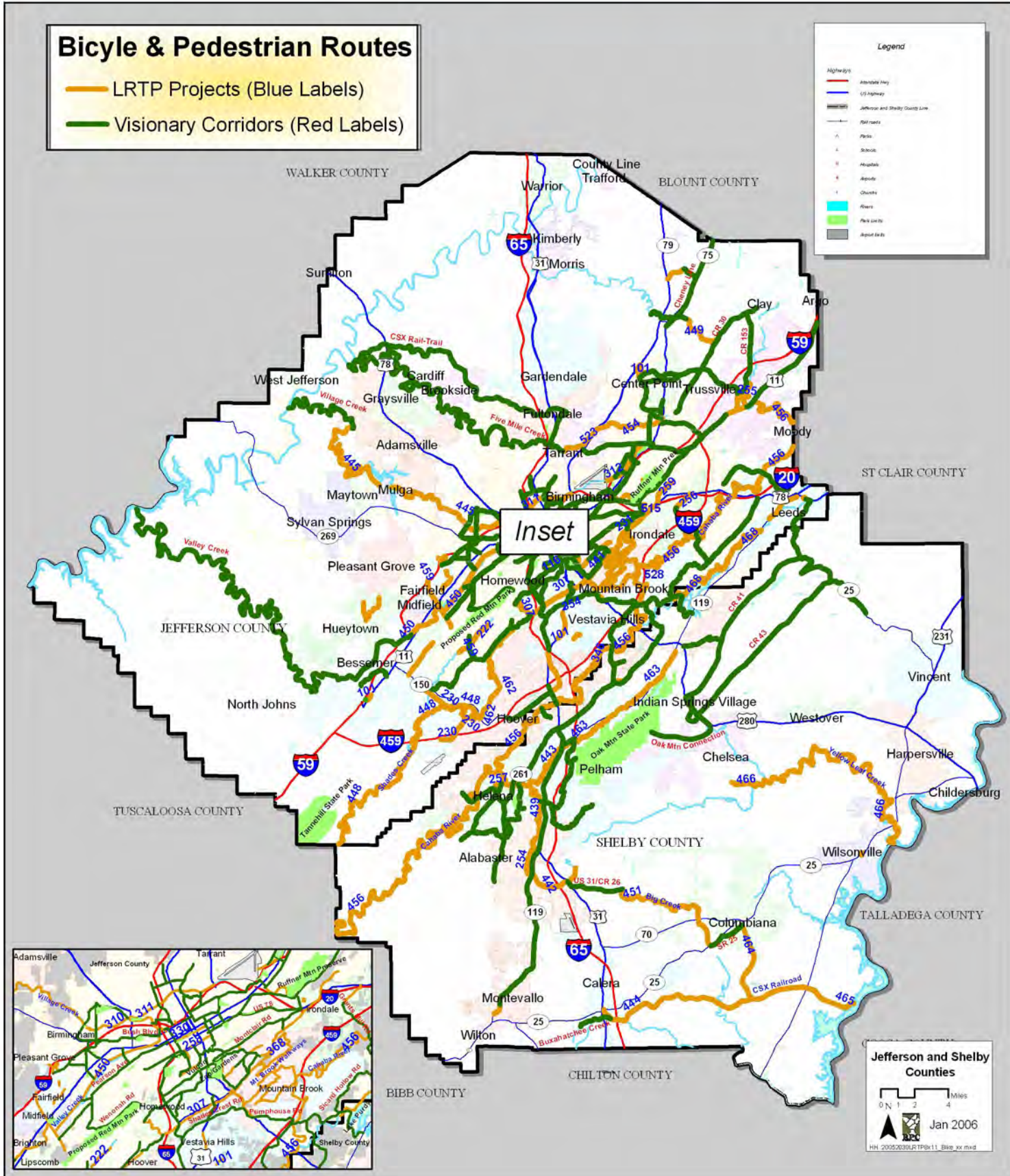
Helena Buck Creek / Tocoa Rail-Trail System Sections & Phasing

257	Helena	Helena Buck Creek/Tocoa Rail-Trail Systems Phase 1. Buck Creek East From SR-261 To Helena CL	2009	\$168,000
257	Helena	Helena Buck Creek/Tocoa Rail-Trail Systems Phase 2., Ph 2: Buck Creek From SR-261 to Tocoa	2015	\$117,000
257	Helena	Helena Buck Creek/Tocoa Rail-Trail Systems Phase 3. From Billy Goat Mine and Coke Ovens Park on Abandoned Rail Line.	2015	\$161,000
257	Helena	Helena Buck Creek/Tocoa Rail-Trail Systems Phase 4. Tocoa to Falliston on Abandoned Rail Line	2015	\$250,000

Figure 6.07-1

BIRMINGHAM METROPOLITAN PLANNING AREA

Bicycle and Pedestrian Vision



6.08 Air Quality Impacts

The Helena Bypass Corridor Study is included in the Birmingham Metropolitan Planning Area Transportation Improvement Program approved June 9, 2010 by the Regional Planning Commission of Greater Birmingham (RPCGB). The project is also in the current 2030 Birmingham Long Range Transportation Plan.

This project is in an area which has transportation control measures in the State Implementation Plan (SIP) which was approved by the Environmental Protection Agency (EPA) on March 19, 1990. The FHWA has determined that both the transportation plan and the transportation improvement program conform to the SIP. The FHWA has determined that this project is included in the transportation improvement program for the Birmingham Metropolitan Planning Organization. Therefore, pursuant to 23 CFR 770, this project conforms to the SIP.

Areas of the country where air pollution levels persistently exceed the national ambient quality standards may be designated "nonattainment". The Helena Bypass Project is located in Shelby County Alabama which is currently considered to be a nonattainment area for Particulate Matter (PM_{2.5}). Shelby County is also a maintenance area for Ozone (O₃).

A PM_{2.5} Hot Spot Checklist was completed for this project. The Birmingham Area Interagency Consultation Team reviewed the documentation and agreed that based on the Final PM Hot Spot Conformity Rule, this project is not of air quality concern.

▪ Particulate Matter

Air pollutants called particulate matter include dust, dirt, soot, smoke and liquid droplets directly emitted into the air by sources such as factories, power plants, cars, construction activity, fires and natural windblown dust. Particles formed in the atmosphere by condensation or the transformation of emitted gases such as sulfur dioxide (SO₂) and volatile organic compounds (VOCs) are also considered particulate matter.

Based on studies of human populations exposed to high concentrations of particles (sometimes in the presence of SO₂) and laboratory studies of animals and humans, there are major effects of concern for human health. These include effects on breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular disease, alterations in the body's defense systems against foreign materials, damage to lung tissue, carcinogenesis and premature death. The major subgroups of the population that appear to be most sensitive to the effects of particulate matter include individuals with chronic obstructive pulmonary or cardiovascular disease or influenza, asthmatics, the elderly and children. Particulate matter also soils and damages materials, and is a major cause of visibility impairment in the United States.

Annual and 24-hour National Ambient Air Quality Standards (NAAQS) for particulate matter were first set in 1971. Total suspended particulate (TSP) was the first indicator used to represent suspended particles in the ambient air. Since July 1, 1987, however, EPA has used

the indicator PM₁₀, which includes only those particles with aerodynamic diameter smaller than 10 micrometers. These smaller particles are likely responsible for most of the adverse health effects of particulate matter because of their ability to reach the thoracic or lower regions of the respiratory tract.

▪ **PM_{2.5} NAAQS Implementation**

The term "particulate matter" (PM) includes both solid particles and liquid droplets found in air. Many manmade and natural sources emit PM directly or emit other pollutants that react in the atmosphere to form PM. These solid and liquid particles come in a wide range of sizes.

Particles less than 10 micrometers in diameter (PM₁₀) pose a health concern because they can be inhaled into and accumulate in the respiratory system. Particles less than 2.5 micrometers in diameter (PM_{2.5}) are referred to as "fine" particles and are believed to pose the largest health risks. Because of their small size (less than one-seventh the average width of a human hair), fine particles can lodge deeply into the lungs.

Health studies have shown a high correlation between exposure to fine particles and premature mortality. Other important effects include aggravation of respiratory and cardiovascular disease (as indicated by increased hospital admissions, emergency room visits, absences from school or work, and restricted activity days), lung disease, decreased lung function, asthma attacks, and certain cardiovascular problems such as heart attacks and cardiac arrhythmia. Individuals particularly sensitive to fine particle exposure include older adults, people with heart and lung disease, and children.

Sources of fine particles include all types of combustion activities (motor vehicles, power plants, wood burning, etc.) and certain industrial processes. Particles with diameters between 2.5 and 10 micrometers are referred to as "coarse." Sources of coarse particles include crushing or grinding operations, and dust from paved or unpaved roads.

A PM_{2.5} Hotspot Checklist was completed for this project. It is included in Air Quality Report in **Appendix B**.

▪ **Microscale Analysis**

Since the project is located in a nonattainment area, analyses were performed to provide the required documentation for the Conformity Procedures of 40 CFR 51 and 93.

A Microscale carbon monoxide (CO) analysis was performed for the project using the MOBILE 6.2 and CAL3-QHC mobile source computer models. The "worst case" scenario (area of greatest congestion) was determined to be the southern termini (the intersection with CR 52) for the design year 2030 traffic volumes. It was determined that if the project CO contribution for this "worst case" analysis was well below the one and eight hour NAAQS, then it would not be necessary to analyze any other scenarios for this project (T6640.8A V 8(b)).

Traffic parameters for this intersection were provided by the ALDOT. Nineteen potential receptor locations lying in close proximity to the intersection were modeled in the analysis. The intersection was modeled for wind angles from 0° to 350° in 10° increments for a total of

36 wind angles. One hour concentrations were predicted for the year 2030 for all 36 wind angles. A background concentration of 3 parts per million (ppm) was used in the analysis.

The results of the analysis show that the NAAQS of 35 ppm (1-hour) will not be exceeded for any of the 36 conditions modeled. The highest concentration produced was 5.5 ppm at receptor 14 when the wind angle is 170° from the receptor site. This includes a background concentration of 3 ppm. Since the highest 1-hour concentration was less than 9 ppm (the 8-hour standard), a separate eight-hour analysis was not performed. The complete computer output for the analysis is included in the Air Quality Report which is provided in **Appendix B**.

6.09 Noise Impacts

A separate technical report for the noise analysis was prepared and is included in **Appendix C**. This report is consistent with the policy of the Federal Highway Administration (FHWA) (23 CFR 772). The noise study identified noise sensitive sites adjacent to the proposed Build Alternatives and assessed future noise, under both the Build and No-Build scenarios.

The following is a summary of the study's results.

▪ Fundamentals of Sound and Noise

The intensity or loudness of sound is measured in units called decibels (dB). However, since the human ear does not hear sound waves of different frequencies at the same subjective loudness, an adjustment or weighting of the high-pitched and low-pitched sounds is made to approximate how an average person hears sounds. When such adjustments to the sound levels are made, they are called "A-weighted levels" and are usually labeled "dBA."

The decibel scale for measuring the intensity of sound is based on the logarithm of the sound level pressure relative to a reference sound level pressure. Logarithmic scales are based on powers of ten, and are not linear.

It has been found that a 10 dBA increase in the sound level is perceived to be doubling of the sound level as heard by the human ear. This means that a sound level of 60 dBA sounds twice as loud as a sound level of 50 dBA and a sound level of 70 dBA sounds twice as loud as sound level 60 dBA. This also means that a sound level 70 dBA sounds four times as loud as a sound level of 50 dBA.

Because of the logarithmic nature of the decibel scale for sound levels, changes in sound levels are complex to define. For example, if a sound of 60 dBA is added to another sound of 60 dBA, the resulting sound is 63 dBA instead of 120 dBA.

Noise is defined as unwanted sound. Since highway traffic sound is normally unwanted, highway traffic sound is usually called highway traffic noise. The level of highway traffic noise is never constant; therefore, it is necessary to use a statistical descriptor to describe the varying traffic noise levels. The equivalent continuous sound level (L_{eq}) is the statistical descriptor used in this report. The L_{eq} sound level is the steady A-weighted sound level, which would produce the same A-weighted sound energy over a stated period of time.

▪ **Noise Abatement Criteria**

As was previously stated, this project was prepared pursuant to ALDOT and FHWA policy guidelines. **Table 6.09-1** lists the NAC for the various activity categories.

Table 6.09-1 ALDOT Noise Abatement Criteria

Activity Category	Leq(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)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (Exterior)	Developed lands, properties, or activities not included in categories A or B above.
D	-	Undeveloped lands.
E	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

▪ **Noise Level Measurements**

The data collection process for the study included field visits and examination of recent aerial photographs. Existing sound levels were recorded by hand from a Sound Level Meter by EXTECH (Model 407730). All sound levels in the report are 'A' weighted. All calculated sound levels are one hour average energy levels Leq(h). Field measured values are 15 minute energy averages Leq(15m). Field measurements are only used for the receptors which are too far from an existing road to model existing traffic noise as the primary source of sound energy, and as a selective case of verification of software accuracy.

Weather conditions for monitoring were hot (90° - 95°F), sunny, dry and suitable for all measurements.

▪ **Noise Impact Evaluation**

There were 29 facilities identified within 500 feet from the nearest travel lane. These facilities consisted of 11 commercial sites, 14 residential sites, 2 churches, and 2 cemeteries. 4 of these facilities have existing traffic noise levels approaching or exceeding the NAC levels shown in **Table 6.09-1**.

A summary of the 4 receptor locations with their corresponding noise levels is included as **Table 6.09-2**.

Table 6.09-3 is a compilation of all the impacted receptors, even the ones which will be relocation impacts. This table provides the associated sound levels.

Table 6.09-2 Noise Impact Location and Summary

Receptor Number	NAC Level	Existing Levels	No Build	Alt-I	Alt-IA	Alt-II	Alt-IIA	Remarks
20	67	67.6	68.3	67.1	67.1	74.4 Rel*	74.4 Rel*	Residence
23	67	67.5	68.1	67.2	67.2	72.6 Rel*	72.6 Rel*	Residence
28	67	67.7	68.3	64.3	64.3	64.2	64.2	Residence
29	67	70.9	71.6	68.4	68.4	68.5	68.5	Residence
Total Impacts		4	4	3	3	1	1	

* Noted receptor is a relocation impact for the noted alternative. Therefore this receptor is not considered a noise impact for this alternative.

Table 6.09-3 Receptors Which Reach NAC Levels

Detail Of Receptors Which Reach NAC Levels In One Or More Alternatives								
Receptor Number	NAC Level	Existing Levels	No Build	Alt-I	Alt-IA	Alt-II	Alt-IIA	Remarks
17	67	63.3	64.0	63.0	63.0	75.3 *	75.3 *	Residence
18	72	66.1	66.8	65.8	65.8	75.2 *	75.2 *	
20	67	67.6	68.3	67.1	67.1	74.4 *	74.4 *	
22	72	69.1	69.7	68.7	68.7	74.7 *	74.7 *	
23	67	67.5	68.1	67.2	67.2	72.6 *	72.6 *	Residence
28	67	67.7	68.3	64.3	64.3	64.2	64.2	Residence
29	67	70.9	71.6	68.4	68.4	68.5	68.5	Residence
Total Impacts		4	4	3	3	1	1	

* Noted receptor is a relocation impact for the noted alternative, and therefore not a noise impact.

It has been found that a 10 dBA increase in the sound level is perceived to be a doubling of the sound level as heard by the human ear. This means that a sound level of 60 dBA sounds twice as loud as a sound level of 50 dBA and a sound level of 70 dBA sounds twice as loud as sound level 60 dBA.

For Alternative I, no receptors will notice a perceived doubling of traffic noise.

For Alternative I-A receptor 4 is expected to have a perceived doubling of traffic noise.

For Alternative II, receptors 15, 17, 18 are expected to experience a perceived doubling of traffic noise.

For Alternative II-A, receptors 4, 15, 17, 18 are expected to experience a perceived doubling of traffic noise.

Receptor 4 is an abandoned cemetery which currently has no public access. Currently, it is not likely to be a place of regular human activity.

Receptors 15, 17 and 18 would all need to be relocated for the construction of Alternative II or Alternative II-A

▪ **Traffic Noise Abatement**

ALDOT's guidelines establish noise abatement criteria (NAC), as well as design and cost requirements for noise mitigation. The guidelines state that ALDOT shall identify noise abatement measures which are reasonable and feasible and which are likely to be incorporated in the project.

There are no feasible and reasonable noise abatement measures that will eliminate or reduce the noise impacts at the occupied facilities that are expected to receive noise impacts. The following is a list of common noise abatement measures and a brief discussion on how these measures are not feasible/reasonable for reducing or eliminating the noise impacts on this project.

Restricting Access to Heavy Trucks at certain times of the day is one way to reduce noise. The proposed SR 261 bypass of Helena will be an extension of a state highway and will likely be funded by state and federal tax dollars with the intent of providing travel for all users, including trucks. Given the industrial operations and commercial land uses that occur within the project area and the lack of alternative routes to those operations, it is not reasonable to prohibit or restrict trucks along the project corridor.

The *Acquisition of Property to Form a Buffer Zone* is generally a viable alternative for undeveloped lands where noise impact prevention is the goal. For impacted receptors along the existing facilities, either a buffer exists or the site has been developed so that most properties front the edge of the right-of-way line. This eliminates the potential of creating any buffer zones between the roadway and the residences.

The Alteration of the Horizontal and Vertical Alignments is an abatement measure to be considered for reasonableness. ALDOT noise policy section IV-B-3 states "the threshold of noise reduction which determines a 'benefited' residence is 5 dBA. To achieve benefits beyond this threshold, the horizontal alignment would have to be shifted away from the receptor 1.9 times more than the original distance. For instance, if a receptor is 100 feet from the current centerline, the alignment should be moved 190 feet to be 290 feet from the receptor to achieve a 5 dBA reduction. Receptor 28 is only a noise impact under the no-build alternative. It benefits from an alteration of horizontal alignment with all build alternatives. Two of the receptors which are noise impacts with Alternatives I and I-A (receptors 20 and 23) are noise impacts due to noise from the traffic on SR 261. The cost of realigning SR 261 to the extent necessary to benefit these structures would exceed the \$20,000/structure threshold for reasonableness. Receptor 29 is located at the end of the project. Extending the project would be required to generate a horizontal alteration for this receptor. It is very likely that doing so would generate additional impacted receptors and is therefore not considered feasible. No alteration of the horizontal or vertical alignments would achieve a benefit for a sufficient number of receptors. Therefore this abatement option is considered not reasonable.

Reducing Speed Limits is another option to control vehicle noise. On this project, the anticipated posted speed limit would range from 45 to 55 miles per hour (mph). Due to the arterial functional classification of this route, reducing the speed limit is not a feasible measure.

Noise Insulation of Public Use or Non-Profit Institutional Structures or soundproofing of buildings typically involves the installation of double-pane windows that are specially designed to provide a high degree of noise attenuation. ALDOT guidelines state that noise insulation is only applied to publicly used or non-profit organizational buildings experiencing severe impacts. There are no occupied facilities receiving impacts that fall within this category.

Noise Barriers are the most common form of traffic noise abatement that is used to reduce noise. Barriers can be comprised of concrete, wood, metal, earth or vegetation blocking the sound path between roadways and noise-sensitive areas. They are generally used on high-speed, limited-access facilities where noise levels are high and adequate room for barriers is available. Because the receptors that would benefit from a noise barrier are isolated, the cost of abatement would not meet the criterion of the ALDOT Noise Policy Section IV (B) (included in Appendix C)

▪ **Construction Noise Abatement**

The following noise abatement measures will be incorporated in the contract plans and specifications in order to prevent adverse construction noise impacts in the vicinity of the proposed project:

- The contractor shall comply with all state and local sound control and noise level rules, regulations and ordinances that apply to any work performed pursuant to the contract;
- Each internal combustion engine used for any purpose on work related to the project shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the project without such muffler.

6.10 Water Quality Impacts

The Water Quality Assessment included analyses of information from various sources which include Alabama Geological Survey and U.S. Geological Survey (USGS) publications, consultations with state and/or local agencies responsible for water quality in the study area (representatives of ADEM). In addition, water samples were obtained and analyzed to ascertain the ambient conditions of the streams and water bodies intersected by the project alternatives. A full report of the methodologies and findings is included in **Appendix D**.

▪ **Streams & Creeks**

Streams in the study area were assigned numerical identification (1-10) for this study. Ephemeral streams (i.e., those flowing only during rainfall events or shortly after) were not included in the assessment. A portion of Buck Creek flows through the study area. The locations of these streams are shown on **Figure 6.10-1**

The stream order is a measure of the degree of stream branching within a watershed. Each length of stream is indicated by its order (for example, first-order, second-order, etc.). A

first-order stream is an unbranched tributary, a second-order stream is a tributary formed by two or more first-order streams. A third-order stream is a tributary formed by two or more second-order streams and so on.

Stream 1 is depicted as a perennial flow (i.e., flowing year-round under normal conditions) on the *Helena, Alabama* topographic quadrangle. Stream 1 is a first-order stream that discharges directly into Buck Creek. However, based on field observations, Stream 1 most likely functions as an intermittently flowing tributary in the northern portion of the study area and converts to an ephemeral flow closer to Buck Creek. The upper reach of this stream has been impacted through agricultural land use and quarrying. Approximately 2,385 linear feet of the stream within the study area has been re-directed and straightened. Due to apparent dewatering from the adjacent quarry, the majority of the redirected stream bank is often dry.

Streams 2 through 4 are first-order intermittent streams that originate within the study area and discharge into a second order tributary of the Cahaba River.

Stream 5 is a first-order stream that appears to have a perennial flow, discharging directly into Buck Creek. The headwaters of Stream 5 have been impacted by the Vulcan Materials quarry through excavation and fill activity, which has resulted in approximately 2,000 feet of headwaters being apparently relocated and/or piped.

Streams 6 through 10 are first-order intermittent streams that originate within the study area and discharge directly into Buck Creek.

Buck Creek (partially within the study area) appears to be a third order creek with perennial flow, and discharges into the Cahaba River. Buck Creek and the Cahaba River (located to the west of the study area) are both included on the Alabama Department of Environmental Management (ADEM) 2008 §303(d) List (**Appendix D**) of State Impaired Waters. The 303(d) list includes state water bodies that are too polluted or otherwise degraded to support their designated and existing uses (e.g., drinking water, swimming, recreation, and fishing).

ADEM is the agency responsible for monitoring rivers and streams. Information regarding ADEM's surface water quality programs can be found at the following web address: <http://adem.alabama.gov/programs/water/waterquality.cnt>.

According to the ADEM §303(d) list, Buck Creek, extending from Cahaba Valley Creek to the Cahaba River, is degraded by the presence of pathogens from urban runoff and storm sewers. Pathogens are classified as microorganisms that can cause disease in humans and animals.

Several segments of the Cahaba River are included on the 303(d) list. However, segments potentially affected by the study area include a segment extending from County Road 52 (1.2 miles to the southwest of the study area) to Buck Creek and a second segment extending from Buck Creek to the dam near U.S. Highway 280 (9.5 miles to the northeast of the study area). The first segment is included on the list due to nutrient loading, siltation, pathogens, and other habitat alterations from municipal discharges, urban runoff, storm sewer discharge, and land development. The second segment is included on the list due to nutrient loading and siltation from municipal discharges, urban runoff, and storm sewer discharge. Nutrient loading is classified as substances assimilated by living things that promote growth. Nitrogen and phosphorus are the two major nutrients of concern. Siltation is classified as excessive

amounts of sediment, which degrade the habitat of aquatic organisms and interfere with the stream's aquatic community. Other habitat alterations are classified as aquatic organism habitat alteration as a result of stream channel modification (channelization) or changes in the stream's hydrograph (i.e., greater peak flows or extended low-flow periods).

More information regarding the TMDLs for the Cahaba River Watershed is available in ADEM's report titled "Final Nutrient Total Maximum Daily Loads (TMDL) for the Cahaba River Watershed". This report can be found at the following location:

<http://adem.alabama.gov/programs/water/wquality/tmdls/FinalCahabaRiverNutrientTMDLReport.pdf>.

In a telephone conversation with Mr. Dale Mapp of ADEM, he indicated that no special actions/coordination is required with ADEM for the purpose of the environmental study. He did state that prior to beginning any construction activity involving crossing a 303(d) stream, ADEM requires the Construction Best Management Practices Plan (CBMPP) Template to be completed, submitted, and approved. The link to that template is

<http://adem.alabama.gov/programs/water/waterforms/CBMPPTemplate.pdf>. For this project, it would be required to be completed for the crossing of Buck Creek. An e-mail was sent to Mr. Mapp with this understanding of the telephone confirmation and is included in

Appendix G.

Based on the wetland impact assessment, (see **Appendix D**) it appears Alternatives I and I-A for the proposed bypass will cross Stream 1, Stream 3, Stream 4 (including an ephemeral tributary of Stream 4), and Buck Creek, and an ephemeral tributary of Stream 10. Of these potential impacts, only the crossing of Streams 3 and 4 will result in impacts to undisturbed systems. Stream 1 currently provides little to no wildlife habitat function. Streams 3 and 4, though undisturbed, offer only moderate habitat function. Buck Creek will be completely spanned by bridging. Impacts (e.g., bridge supports) to this area should be minimal at most. The construction of either Alternative I or Alternative I-A will result in minimal impact to streams located within the study area.

Alternatives II and II-A for the proposed bypass will follow a portion of the existing SR 261, then veer west into the study area to cross Stream 1, Stream 5, an unnamed ephemeral tributary, ephemeral headwaters of Stream 6, and tie into Alternative I at Buck Creek. As indicated on **Figure 6.10-1**, Alternative II will result in potential impacts along the length of Wetland A as part of the SR 261 widening and approximately 2,385 linear feet of rerouted Stream 1 that now parallels the western side of SR 261. However, due to the degraded conditions of Stream 1, these impacts would be minimal.

Estimated potential stream impacts for each alternative route shown in **Figure 6.10-1** are provided in the following tables.

Table 6.10-1 Alternative I / I-A Stream Impacts

<u>Stream</u>	<u>Length</u>
Stream 1	300' intermittent stream
Tributary of Stream 1	300' intermittent stream
Stream 3	300' intermittent stream
Stream 4	300' intermittent stream
Tributary of Stream 4	780' ephemeral stream
Buck Creek	no anticipated impact (to be bridged)
Tributary of Stream 10	300' ephemeral stream
Total Length of Stream Impacts	2,280'

Table 6.10-2 Alternative II / II-A Stream Impacts

<u>Stream</u>	<u>Length</u>
Stream 1	1,000' intermittent stream
Stream 1 (change in type)	2,385' ephemeral stream
Stream 5	300' perennial stream
Tributary of Stream 5	300' ephemeral stream
Stream 6	300' ephemeral stream
Buck Creek	No anticipated impact (to be bridged)
Tributary of Stream 10	300' ephemeral stream
Total Length of Stream Impacts	4,585'

▪ **Sole Source Aquifers**

According to the U.S. Environmental Protection Agency (EPA) website (<http://www.epa.gov/region4/water/groundwater/r4ssa.html>) there are three sole-source aquifers that are entirely or partially within EPA Region 4, which covers the southeastern United States. Two of these aquifers are located in the state of Florida. The third is in Mississippi and Louisiana.

Mr. Cary Spiegel of the Groundwater Branch of the Alabama Department of Environmental Management confirmed there are no Sole Source Aquifers in the State of Alabama.

▪ **Wellhead Protection Areas**

The proposed project does not encroach on any wellhead protection areas.

Based on the Geological Survey of Alabama Water Availability, Shelby County, Alabama, issued 1980, there are three documented water wells (M-1 through M-3) in the northeastern part of the study area along SR 261. The wells are classified as domestic or stock use wells. There are no public water supply, industrial, or irrigation wells documented within the study area. The City of Helena has a public water supply well (M-7) located approximately 3,000 feet to the southeast of the study area. Additionally, two public water supply wells (M-8 and M-9) for the City of Pelham and two industrial use wells (M-5 and M-6) are located 1 to 2 miles to the east of the study area along Highway 31. Locations of documented water wells are depicted on **Figure 3** of the Water Quality Assessment Report in **Appendix D**.

Mr. Cary Spiegel of the Groundwater Branch of the Alabama Department of Environmental Management confirmed there are no Wellhead Protection Areas in this part of the state.

▪ **Roadway Runoff or Other Non-point Source Pollution**

There will be no adverse impacts on sensitive water resources (i.e. water supply reservoirs, ground water recharge areas, and high quality streams) from roadway runoff or other non-point source pollution as a result of this proposed action. Field investigations showed that there are no well-head protection areas or water supply reservoirs in proximity to the study area. Both the Cahaba River and Buck Creek are on the 303(d) list for impaired streams. Also, baseline water quality sampling has been completed for streams within the study area and these tests didn't indicate anything of concern.

▪ **Best Management Practices**

Best Management Practices (BMP's) for this project have been agreed upon by both the United States Fish and Wildlife Service (USFWS) and the ALDOT. To clarify the various discussions, ALDOT sent a letter dated July 31, 2009 to the USFWS with the BMP commitments for this project. USFWS provided their concurrence dated August 11, 2009. (See **Appendix G**)

The BMP's agreed upon by the USFWS and ALDOT will be implemented during the construction of this project to minimize the turbidity and siltation that could affect the mussel, fish, and snail habitat in adjacent and downstream waters.

An erosion control plan tailored to the site will be developed as a part of the construction plans for this project. This plan will be reviewed and approved by ALDOT. This erosion control plan will incorporate the following BMP's to minimize erosion and help prevent stream sedimentation, both during and after road construction:

- All construction activities will be contained within the construction limits as set by the designer in an effort to reduce the potential impacts to the Cahaba River system (Cahaba River, Buck Creek, tributaries to the Cahaba River and Buck Creek, and areas within the Cahaba River floodway).

- A Qualified Credentialed Inspector (QCI) will inspect BMP's on a daily basis to ensure that all controls are in place at all times and to ensure conformance with the contract documents.
- Documented stormwater inspections will be made every 7 days or within a 24 hour period after a 3/4" rainfall.
- The floor of culverts will be constructed at a minimum of one foot below the flow line of drainage channels.
- Culvert and bridge crossings within the project area will be installed and the banks stabilized (mulched and vegetated) before additional soil is exposed.
- Silt will be removed and properly disposed of when silt has accumulated to 1/3 of the above ground height of the silt fence in areas adjacent to and on slopes around all waterways. Along the remainder of the project the BMPs should be maintained according to ALDOT specifications.
- The ALDOT standard specification of 17 acres of exposed soil is acceptable if the surrounding shoulders/approaches are stabilized before any additional soil is exposed.
- Take immediate corrective action if erosion or sedimentation is observed.
- Completely span Buck Creek.
- Maintain vegetated buffers (to the extent practical) adjacent to streams that directly discharge into the Cahaba River. Erosion control measures will be provided during construction activities that may require vegetation to be removed. *(Note: "to the extent practical" would mean the range or magnitude to which practice or experience has shown suitable. It is impractical to expect no disturbance to vegetated buffers adjacent to streams that are being crossed by the roadway, as embankment will be required for the construction of the roadway and this embankment will replace the buffer. Also, it is common to remove some vegetated buffers in efforts to protect the remaining areas from things such as siltation in areas such as wetlands. These types of activities require some of the vegetated buffers to be temporarily and in some cases permanently disturbed. However the BMPs recommended are expected to limit the effects of the temporary and short-term construction impacts.)*
- Provide vegetation slopes beyond the standard 8 ft. outside and 4 ft. inside paved shoulders to allow infiltration of pavement runoff.
- Posts for silt fencing to be spaced 4-5 feet apart in sensitive areas or where water will concentrate, but can be spaced 6-7 feet apart in less sensitive or low stress areas.
- A new row of silt fence will be erected above or below the existing one whenever the existing fence has deteriorated to such an extent that the effectiveness of the barrier is reduced (approximately 6 months). If adequate room does not permit a new row of fence above or below the existing one, the existing silt fence should be removed, graded out, and a new fence should be properly installed.
- ALDOT will take redundant measures to control erosion and minimize the silt leaving the project and entering streams.

- ALDOT will invite the USFWS to participate in an on-site meeting with the construction contractor prior to project construction to review and comment on erosion control measures.
- ALDOT QCI Stormwater Training Manual measures will be required.

The "ALDOT Construction Best Management Practices Plan (CBMPP) ALDOT CBMPP Template (revised 03/24/2011)" is required to be completed for all ALDOT construction projects. Links about the CBMPP can be found at the following location:

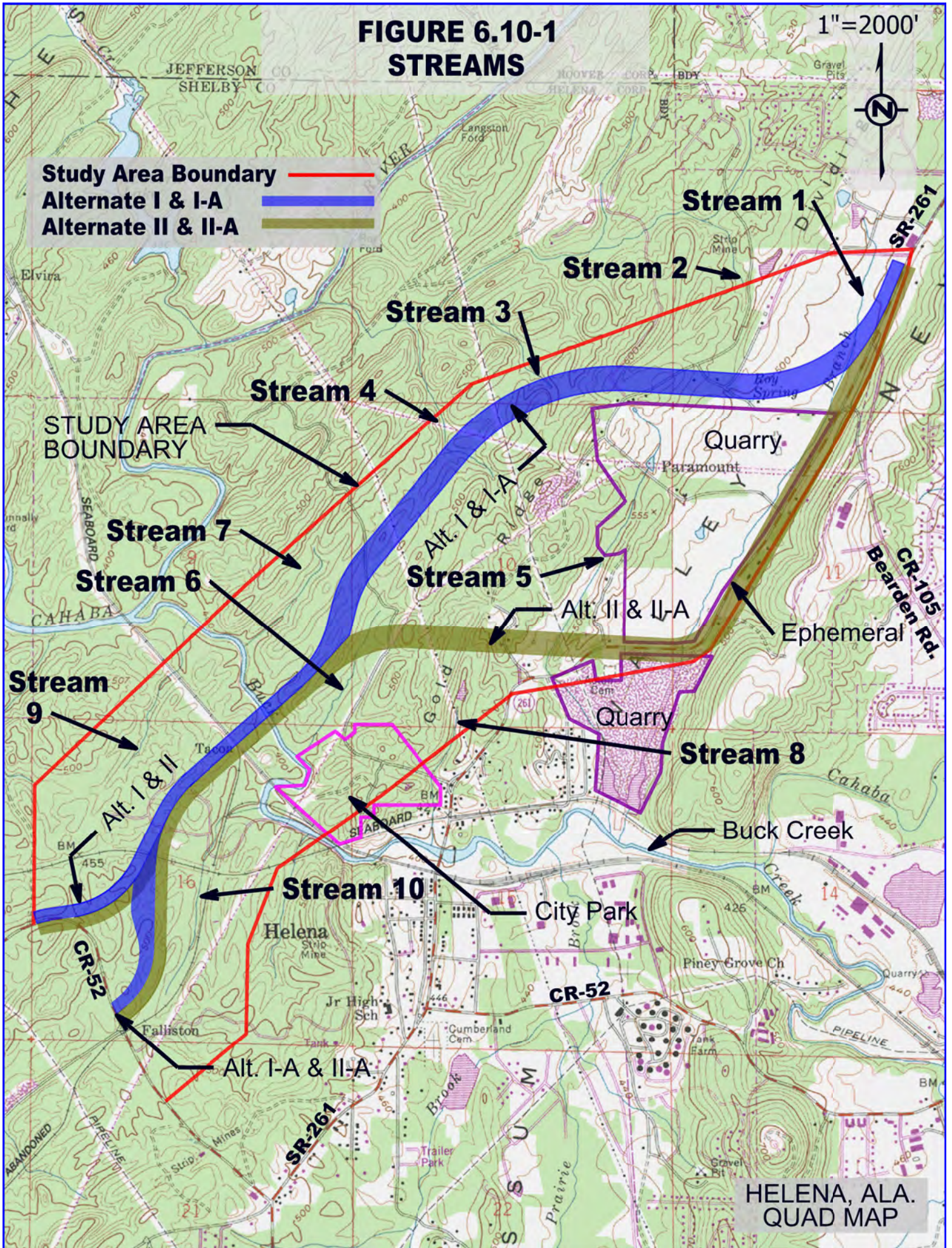
<http://www.dot.state.al.us/dsweb/cbmpp.htm>.

**FIGURE 6.10-1
STREAMS**

1"=2000'



- Study Area Boundary** — Red line
- Alternate I & I-A** — Blue line
- Alternate II & II-A** — Olive line



6.11 Permits

Section 401 Permit

The Alabama Department of Environmental Management (ADEM) manages programs designed to ensure the protection of Alabama's environment. This responsibility includes the protection of water quality and is accomplished through applicable state and federal statutes, implementing regulations, and permitting programs. One such mechanism for protecting water quality in the state is the federal Clean Water Act (CWA) Section 401 Water Quality Certification Program for dredge and fill activities that can impact state and federal waters. A National Pollutant Discharge Elimination System (NPDES) Stormwater Discharge Permit will be required from ADEM for construction activities along the length of the project. The permit application will be made and approval obtained prior to proceeding with construction activities on the project.

Section 402 Permit

The CWA Section 402 establishes the NPDES permit program to regulate point source discharges of pollutants into waters of the United States. Point source means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are, or may be discharged. Pollutant means dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water. An NPDES permit sets specific discharge limits for point sources discharging pollutants into waters of the United States and establishes monitoring and reporting requirements, as well as special conditions. The proposed project does not include any rest areas or other facilities that would have point source discharges of pollutants into the waters of the United States. A Section 402 Permit will not be required on this project.

Section 404 Permit

The discharge of dredged or fill materials into waters of the United States and wetlands is regulated under Section 404 of the Clean Water Act of 1972.

The Section 404 permit is issued subject to Section 404(b)(1) Guidelines, which call for proper sequencing in the decision-making process. This proper sequencing includes avoidance, minimization and then mitigation. The Guidelines provide that avoidance of wetlands be the primary consideration with regard to selecting reasonable and practicable build alternatives. If impacts to wetlands can not be avoided, then measures to minimize the impacts should guide the selection of build alternatives.

Field studies indicate a Section 404 individual permit will be required from the U.S. Army Corps of Engineers for Alternatives I and I-A. More discussion on this is provided in the Wetland Impact Assessment in **Appendix D**.

Nationwide Permits

A Nationwide 14 for Linear Transportation Projects Permit (NWP 14) is commonly required for transportation projects due to the construction, expansion, modification, or improvement of linear transportation crossings (e.g., highways, railways, trails, and airport runways or taxiways) in waters of the United States, including wetlands.

A NWP 14 would be required for Alternatives II and II-A.

The crossing of jurisdictional waters for Alternatives I and I-A will be covered by the Individual Permit as discussed in the Section 404 Permit topic above.

6.12 Wetland Impacts

Wetland impacts have been evaluated for this project in accordance with Executive Order 11990. The results of this evaluation indicate there will be some unavoidable impacts to wetlands as a result of this project. In accordance with the sequencing mentioned above (avoidance, minimization and mitigation), efforts have been made to avoid wetlands by striving to utilize the uplands instead of the lowlands. Other steps to minimize impacts to wetlands included attempting to cross creeks and streams as nearly to perpendicular where possible.

With these considerations there will still be impacts to Wetland "A". Total avoidance of this wetland would require widening SR 261 to the east in the vicinity of Bearden Road or changing the bypass alignment approximately 1200 feet to the west. Widening SR 261 to the east is not practical because of the terrain. In this area, SR 261 is at the base of a ridge and widening into the base of the ridge has far reaching impacts as cuts are made up the slopes of the ridge. Additionally, the grade on Bearden Road, which is quite steep for the school bus traffic, would need to be increased. If a grade change were made in conjunction with widening SR 261 to the east such that the grade on SR 261 was raised, this would help with the problem of the grade on Bearden Road, but would require a detour road to maintain traffic on SR 261 during construction. The detour road would need to be placed in Wetland "A" and would therefore impact it. If the bypass alignment was shifted west to avoid Wetland "A" there would be a potential relocation of one to three residences. Also with this scenario, connecting Bearden Road and SR 261 to the bypass could result in fill being placed in this wetland. These factors together with the assessment that this particular wetland "currently exhibits little biological and habitat function" were the basis for determining there were no practicable alternatives to avoid this site.

Based on the wetland impact assessment, (see **Appendix D**) Alternatives I and I-A for the proposed bypass will cross Stream 1, Wetland A, Stream 3, Stream 4 (including an ephemeral tributary of Stream 4), and Buck Creek, and an ephemeral tributary of Stream 10. Of these potential impacts, only the crossing of Streams 3 and 4 will result in impacts to undisturbed systems. Stream 1 and the associated Wetland A currently provide little to no wildlife habitat function. Streams 3 and 4, though undisturbed, offer only moderate habitat function. Buck Creek and the adjoining flood plain will be bridged. Impacts (e.g., bridge supports) to this

area should be minimal at most. The construction of either Alternative I or Alternative I-A will result in impacts to wetlands and/or other waters located within the study area.

Alternatives II and II-A for the proposed bypass will follow a portion of the existing SR 261, then veer west into the study area to cross Stream 1, Stream 5, an unnamed ephemeral tributary, ephemeral headwaters of Stream 6, and tie into Alternative I at Buck Creek. Based on **Figure 6.12-1**, Alternative II will result in potential impacts along the length of Wetland A as part of the SR 261 widening and approximately 2,385 linear feet of rerouted Stream 1 that now parallels the western side of SR 261. However, due to the degraded conditions of Stream 1, cumulative impacts would be minimal.

Estimated potential wetland impacts for each alternative route according to **Figure 6.12-1** are provided below.

Estimated Wetland Impacts

Alternative I / I-A Wetland Impacts (300' Corridor Width)

<u>Wetland</u>	<u>Acreage</u>
Wetland A -----	250' x 300' = 1.72 acres

Alternative II / II-A (300' Corridor Width)

<u>Stream/Wetland</u>	<u>Distance/Acreage</u>
Wetland A -----	400' x 10' = 0.09 acre

Only Practicable Alternative Finding

Executive Order No. 11990 was issued by President Carter on May 24, 1977. The intent of this order was to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands.

Discussion is provided above which explains why there are no practicable alternatives to the proposed action. Through the sequencing process, all practicable measures to minimize harm to wetlands has been accomplished by going through the steps of avoidance, minimization and ultimately mitigation that will accompany construction of the proposed facility.

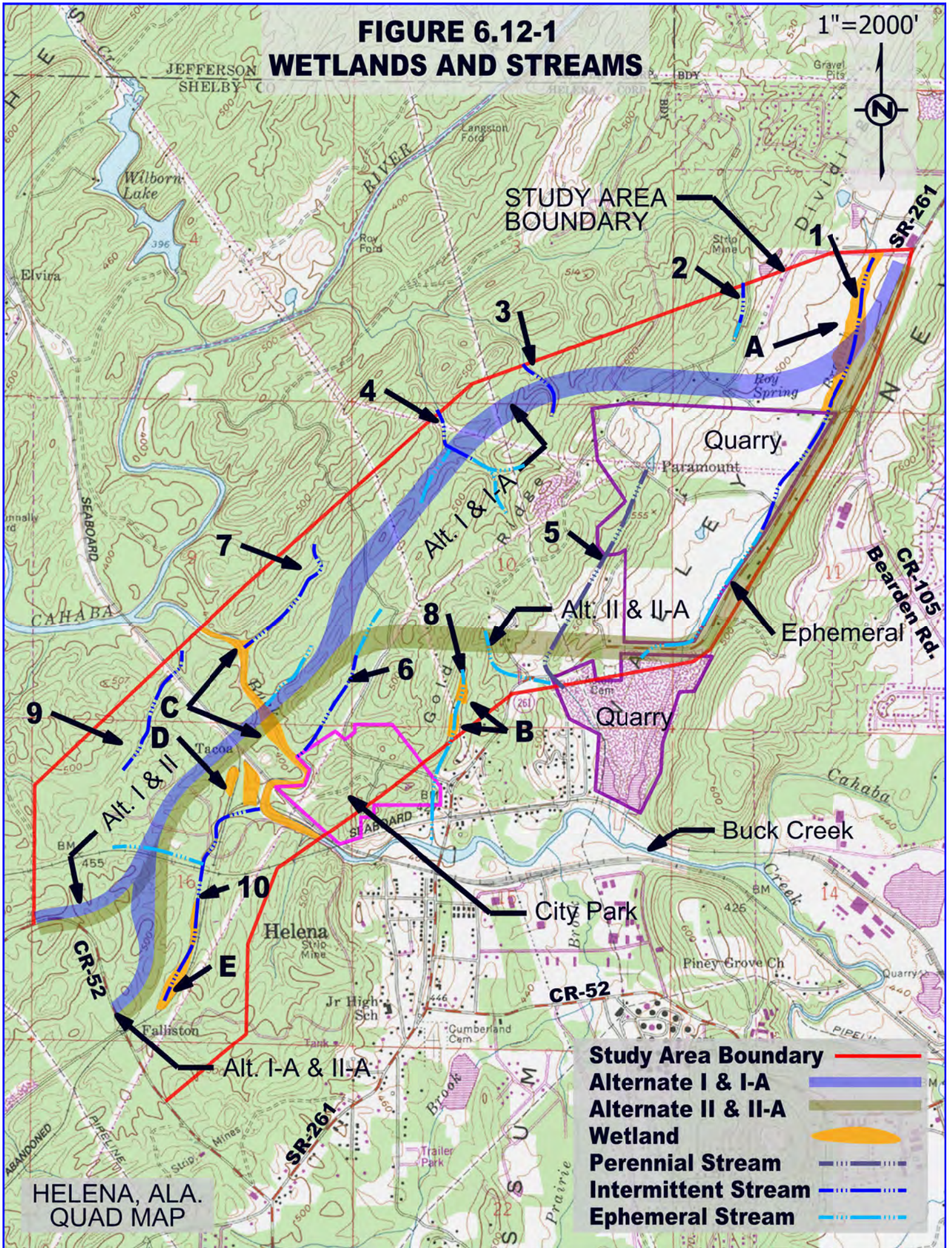
Based upon the above considerations, it is determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use.

Mitigation Of Wetland Impacts

Section 8.01 discusses the sequencing approach of avoidance, minimization and concludes with the planned approach to mitigating the wetland impacts for this project.

**FIGURE 6.12-1
WETLANDS AND STREAMS**

1"=2000'



HELENA, ALA.
QUAD MAP

- Study Area Boundary** ————
- Alternate I & I-A** ————
- Alternate II & II-A** ————
- Wetland** ————
- Perennial Stream** ————
- Intermittent Stream** - - - - -
- Ephemeral Stream** ······

6.13 Water Body Modification and Wildlife Impacts

The proposed project will require the placement of culverts and/or bridge structures at all drainage areas and water bodies. Additionally there will be a bridge crossing of Buck Creek. At the location of this crossing, ADEM has classified this portion of Buck Creek as "Fish & Wildlife Use".

Where drainage structures are required, the new culverts will be placed and sized in accordance with FHWA Hydraulic Circulars, Alabama Department of Transportation's "Hydraulic Manuals", Alabama Department of Transportation's Drainage Manuals, FEMA Flood Insurance Program, and Alabama Department of Transportation's Guideline for Operation.

There will be minimal impacts to fish and wildlife resulting from the loss, degradation or modification of aquatic or terrestrial habitat. BMP's during construction should preserve the quality of the aquatic habitat. Coordination with the USFWS has resulted in investigations for threatened and endangered species. A discussion of these investigations is included in the "Threatened and Endangered Species" section of this document.

6.14 Floodplain Impacts

Section 60.3 (d)(3) of the National Flood Insurance Program (NFIP) states that a community shall prohibit encroachments, including fill, new construction, substantial improvements and other development within the adopted regulatory floodway unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practices that the proposed encroachment would not result in any increase in flood levels within the community during the occurrence of the base (100-year) flood discharge.

All build alternatives cross Buck Creek at a common location. An examination of Floodplain Insurance Rating Maps (FIRM) (Panel # 010294 0001B and Panel # 010294 0003B) indicates that this common location would encounter approximately 800 feet of the 100-year floodplain of Buck Creek. (See **Figure 6.14-1**) Omitting the encroachments that would be eliminated by bridging Buck Creek results in only 2.6 acres of encroachments in the 100-year floodplain. These encroachments would be from fill necessary for the construction of the bridge abutments.

Due to the expanse of the floodway, avoidance of the floodplain is deemed unfeasible. However, due to the transverse crossing alignment of each alternative, there is little, if any, anticipated risk or effect to the floodway and surrounding areas. Additionally, the design of the drainage structure across this area will comply with Executive Order 11988/12148, Floodplain Management, and 23 CFR 650A which dictates that designs selected for encroachment shall be supported by analyses of design alternatives with consideration to capital costs, risks and economic, engineering, social and environmental concerns. To minimize the effect of the encroachments, bridges and/or box culverts will be the primary consideration at hydraulic crossings. ALDOT Best Management Practices will also be utilized during the construction of the structure(s).

A Location Risk Assessment Record has been completed for this project (see **Appendix D**). Preliminary grades, bridge lengths and culvert sizes have been established to minimize impacts to the 100-year floodplain.

The necessary hydraulic and hydrologic studies (HEC-2 Analysis) will be performed during final design. Final bridge lengths, culvert sizes, locations and profiles will be determined and steps will be taken to ensure that any changes in the 100-year flood elevations are within the allowable standards.

The major floodplain affected by this proposed project is associated with Buck Creek. Buck Creek discharges into the Cahaba River approximately 0.5 miles northwest of the proposed crossing location which is common to all build Alternatives. According to the FEMA (010294 0003B / January 6, 1982 and 010294 0001B / January 6, 1982) the 100-year flood elevation for Buck Creek in the vicinity of the crossing is approximately 462.8 feet above NGVD of 1929.

In addition to the Buck Creek floodplain, there will be other crossings of minor floodplains associated with intermittent and ephemeral streams. These are minor floodplains and these crossings are not considered to be a substantial encroachment. Where crossed the flow will be conveyed through drainage structures. The proposed drainage structures will have an effective waterway opening so that backwater surface elevations are not expected to increase. As a result, there will be no impacts on natural and beneficial floodplain values; there will be minimal changes in flood risks; and there will be no increase in potential for interruption or termination of emergency service or emergency evacuation routes; therefore it has been determined that these encroachments will be minimal.

Stream 1 would have longitudinal encroachments of approximately 3,385 feet on its floodplain with the implementation of Alternatives II and II-A. (See **Figure 6.12-1**). There would be a transverse crossing of this stream with Alternatives I and I-A.

In conclusion, there is minimal adverse impact on the natural and beneficial floodplain values. The project is a feasible and acceptable proposal from a flood risk standpoint. The following considerations have been observed in relation to the project:

- There is minimal associated flood risk.
- There is avoidance of any substantial longitudinal encroachment with Alternatives I and I-A. Alternatives II and II-A have longitudinal encroachments of approximately 3,385 feet of Stream 1.
- There is minimal potential for interruption of any roadway, which is needed for emergency vehicles or provides an evacuation route.

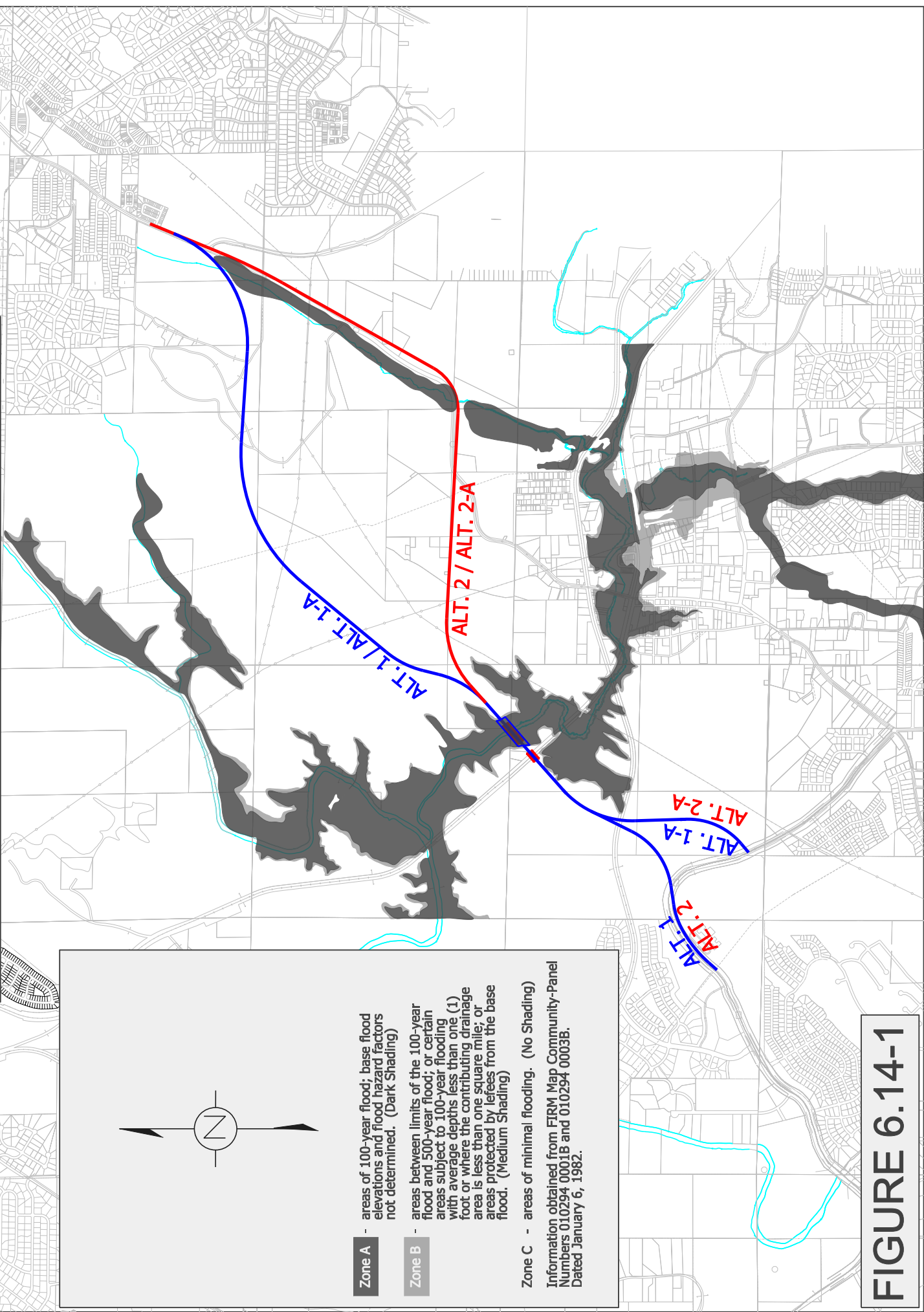
Only Practicable Alternative Finding

A crossing of Buck Creek is required for any of the build alternatives. As stated above, due to the expanse of the floodway, spanning the entire floodway is not feasible. Therefore, some encroachment of the Buck Creek floodplain will be required with the preferred alternative. All alternatives crossings of Buck Creek are in a common location and are the only practicable alternative as required by 23 CFR, Subpart A and Executive Order No. 11988.

The preferred alternative minimizes the longitudinal encroachment of Stream 1 by crossing it transversely.

Final bridge lengths, culvert sizes, locations and profiles will be determined and steps will be taken to ensure that any changes in the 100-year flood elevations are within the allowable standards. This includes any state or local floodplain protection standards.

FLOODPLAIN MAPPING



Zone A

- areas of 100-year flood; base flood elevations and flood hazard factors not determined. (Dark Shading)

Zone B

- areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium Shading)

Zone C - areas of minimal flooding. (No Shading)

Information obtained from FIRM Map Community-Panel Numbers 010294 0001B and 010294 0003B. Dated January 6, 1982.

FIGURE 6.14-1

6.15 Wild and Scenic Rivers

With the passage of the Wild and Scenic Rivers Act on October 2, 1968 (P.L. 90-542), eight rivers or river segments were included as initial components in the National Wild and Scenic Rivers System (National System). Congress and/or the Secretary of the Interior have added 155 rivers or river segments to the National System since then.

In Alabama the only river currently identified by the National Park Service as wild and scenic is the Sipsey Fork of the Black Warrior River. It has 36.4 miles classified as wild and 25.0 miles classified as scenic for a total of 61.4 miles. (P.L. 100-547)

The Cahaba River in Alabama is one of the 29 rivers identified by P.L. 93-621 to be studied for consideration to be added to the National System. The study was performed by the United States Forest Service. In the report transmitted to Congress on December 14, 1979, the Cahaba River was not qualified to be added to the system.

The proposed project does not cross any designated wild and scenic rivers or tributaries of designated wild and scenic rivers. The proposed project does not cross a river under study for designation to the National Wild and Scenic Rivers System. Therefore, this project will have no impact on Wild and Scenic Rivers.

6.16 Coastal Barriers

The Coastal Barrier Resources Act (CBRA) establishes certain coastal areas to be protected by prohibiting the expenditure of Federal funds for new and expanded facilities within designated coastal barrier units.

Alabama's Coastal Area Management Program (ACAMP) was approved and has been in effect since 1979. The program regulates various activities on coastal lands and waters seaward of the continuous 10-foot contour in Baldwin and Mobile Counties of Alabama. This project is located in Shelby County Alabama and will have no direct or indirect impacts on any coastal barrier units.

6.17 Coastal Zone Impacts

This project is located in Shelby County Alabama and will have no impact on and will not affect land or water uses within the area covered by Alabama's Coastal Zone Management Program

Alabama's Coastal Area Management Program (ACAMP) was approved and has been in effect since 1979. The program regulates various activities on coastal lands and waters seaward of the continuous 10-foot contour in Baldwin and Mobile Counties of Alabama.

Implementation of the Alabama Coastal Zone Management Program (CZMP) is shared by ADEM and the Alabama Department of Conservation and Natural Resources (ADCNR). ADEM is responsible for the permitting, monitoring, and enforcement activities associated with the ACAMP and the regulations set forth in ADEM Administrative Code R.335-8. These responsibilities include the review and permitting for the following projects when they occur within the Coastal Area: beach and dune construction projects, developments and subdivision of properties greater than five (5) acres in size, dredging and filling of state water bottoms and wetlands, the drilling and operation of groundwater wells with a capacity of 50 gpm or greater,

the siting of energy facilities, and other various activities which may have an impact on coastal resources

6.18 Threatened and Endangered Species

The USFWS issued a letter (see **Appendix G**) dated February 28, 2006, identifying several federally listed species that could potentially be found within the study area boundary. These species are:

- Cahaba shiner (*Notropis cahabae*) – Endangered
- Goldline darter (*Percina aurolineata*) – Threatened
- Finelined pocketbook (*Lampsilis altilis*) – Threatened
- Orange-nacre mucket (*Lampsilis perovalis*) – Threatened
- Triangular kidneyshell (*Ptychobranhus greenii*) – Endangered
- Cylindrical lioplax (*Lioplax cyclostomaformis*) – Endangered
- Round rocksnail (*Leptoxis ampla*) – Threatened
- Tennessee yellow-eyed grass (*Xyris tennesseensis*) – Endangered
- Gray bat (*Myotis griseseens*) – Endangered
- Indiana bat (*Myotis sodalist*) – Endangered

The letter also referenced the close proximity of the Cahaba River and concerns to protect important resources found in the Cahaba River.

To avoid directly affecting the Cahaba River, Alternatives I & II were developed with the intentions of providing an adequate “buffer area” between the roadway and the Cahaba River. The crossing of Buck Creek was selected based on its narrow floodplain width. By spanning Buck Creek at this location, much of the floodway will be spanned. This will reduce the potential placing fill material within the 100-year floodway.

In order to address the USFWS concerns of presence or habitat of the Tennessee Yellow-Eyed Grass, a biologist performed a survey of the area. In the report of the survey of the project area, Dr. L.J. Davenport reported: “I found no ideal habitats for Tennessee Yellow-Eyed Grass. Some marginal habitats for this species, however, were found along the cleared rights-of-way that criss-cross the forested part of the study area. Several of these areas retain enough water to support wetland vegetation, although no Tennessee Yellow-Eyed Grass was found. He went on to say “Only one marginal habitat for Tennessee Yellow-Eyed Grass was found in the Buck Creek floodplain forest. This small area, along an open rutted road, showed wetland vegetation but no Xyris.” (see **Appendix E**). The USFWS concurred with Dr. Davenport’s findings in their letter dated January 30, 2007 (see **Appendix G**).

In order to address the USFWS concerns of presence or habitat of the Gray Bat and the Indiana Bat, Mr. Stephen Howard, project scientist with Gallet and Associates, performed a survey of the area. No bat species were identified in the study area by the biologist. Additionally, no evidence was found that any sinkholes or structures encountered in the study

area are currently being used or have been used by bats as roosting/hibernating habitat (see **Appendix E**). The USFWS concurred with the survey results for Gray Bat and Indiana Bat species in their letter dated January 30, 2007 (see **Appendix G**).

In order to address the USFWS concerns studies by Dr. L.J. Davenport were performed for the presence of and suitable habitat for the seven federally listed aquatic species. These studies were undertaken at sites on the lower reaches of Buck Creek above its confluence with the Cahaba River and also at a site on the Cahaba River below that confluence point. There were no federally protected species found within the study area boundary. There was however one specimen of the Goldline Darter found approximately 0.25 mile away from the project study area boundary in the Cahaba River. The report of these studies is included in **Appendix E**.

In the USFWS concurrence with the BMPs to be incorporated into this project, they also stated "we agree with your findings that no federally listed species/critical habitat occur within the project area." This correspondence is included in **Appendix G** in the reply to the July 31, 2009 letter from ALDOT to Mr. William J Pearson.

The BMP's included in the response to ALDOT's July 31, 2009 letter to USFWS will be implemented during the design and construction phase to control the impacts (associated with the roadway construction) of turbidity and siltation of mussel, fish, and snail habitat in adjacent and downstream waters.

6.19 Historic and Archeological Preservation

A cultural resource survey of proposed corridors for Alternative I and Alternative II was conducted. The field work was conducted between August 8 and September 22, 2006. All work carried out under this agreement has followed the guidelines of the Secretary of Interior's *Standards and Guidelines for Archaeology and Historic Preservation* and the Alabama State Historic Preservation Officer as presented in the *Alabama Historical Commission Policy for Archaeological Survey and Testing in Alabama* and *Alabama Guidelines: Preparing Reports For Historic Architectural Resources Under Section 106 Of The National Historic Preservation Act Of 1966, As Amended*. In addition, the cultural resources investigation followed requirements as specified in the Federal Aid Highway Act Section 4(f), the National Environmental Policy Act, the National Historic Preservation Act Section 106 and 36 CFR 800.4.

Seventeen archaeological sites, the architectural integrity of 15 historic structures, and 9 Isolated Finds were recorded during the survey. Isolated finds represent one or two artifacts not obviously associated with an archaeological site. Of the 41 total resources evaluated, only archaeological site 1Sh553 is considered eligible for listing on the National Register of Historic Places.

The Alabama Department of Transportation, Environmental Technical Section, has commissioned a Phase II assessment of Site 1Sh553. The results of that study indicate that this site is eligible for NRHP inclusion based on Criterion D. Criterion D was considered because the site has yielded or may be likely to yield, information important in prehistory or history. This site has been evaluated for the potential of avoidance. The discussion of avoidance is included below in the Avoidance Evaluation Section that follows.

Upon the development of Alternative I-A and Alternative II-A, a supplemental study was performed to investigate the alternative corridor which was not previously studied. The supplemental study identified Site 1Sh441 as a potentially eligible resource that should be avoided. An unmarked cemetery was also identified. A review of the topographic information indicates a recommended thirty meter buffer for these two resources can be maintained. Upon review of the supplemental cultural resources report and the commitment to maintain the buffer, the SHPO concurred that cultural resources associated with the alternative corridor would suffer no effect.

Avoidance Evaluation for Site 1Sh553

Upon completion of the Phase II investigation of Site 1Sh553, a determination was made that this site is eligible for NRHP inclusion based upon Criterion D. Based upon this information, it was determined that an avoidance evaluation was necessary. A commitment was made to modify the alignment to avoid the site. An alignment change was developed that will have no construction impacts to the site. The corresponding alignment shift has been incorporated into the alignments of the build alternatives.

The potential environmental impacts for the alignment shift are similar to those of the original alignments. The minor shift in the alignment did not modify the impacts to other resources. The costs of avoidance will be negligible for the design and construction when compared to design and construction costs for the original alignments.

6.20 Hazardous Waste Sites

An Initial Site Assessment Survey of the project area was performed to identify potential hazardous waste sites, either permitted or non-regulated. This survey included:

- A record search of environmentally regulated sites in order to identify sites with documented contamination and also those sites considered as potential sources of contamination.
- A physical inspection (on December 7, 2006) of the site conditions in the project area.

During the site inspection no sites with environmental concerns were identified within the right-of-way corridors of the proposed project.

The review of the U.S. Environmental Protection Agency database indicated there are no documented sites within the study area. An additional search of the Enforcement and Compliance History Online (ECHO) database also returned no instances of contamination within the study area.

In a telephone conversation with Mr. Craig Hodes of the ADEM Groundwater Branch, he provided Underground Storage Tank (UST) information for sites in Helena. The only UST location that is near the ROW corridor for the project is the Kirkpatrick Concrete Company located on SR 261. A site visit was made August 6, 2009, to determine the location of the UST at this business. It was determined that there were no USTs located within the required construction limits for the alternatives adjacent to this property. Kirkpatrick Concrete company was also contacted regarding this matter. Mr. Neal Creatore was contacted at telephone number (205)232-8394. He said there were no USTs used at this location. He said they did

have a 500 gallon above ground storage tank for fueling operations and that this was removed when they sold the property. He said this particular concrete operation has been shut down for about six years.

ALDOT requested an Environmental Data Record (EDR) to be performed before providing their in-house clearance of Hazardous Materials Sites. This record search was commissioned and the results of it are included in **Appendix F**. The EDR search confirmed the previous investigations and concluded **"No mapped sites were found in EDR's search of available ("reasonably ascertainable") government records within the requested search area..."**. Based upon this report and a site visit on April 26, 2011, ALDOT provided a clearance letter which concludes **"Based upon the above referenced information, this project is environmentally cleared for construction work with no associated environmental remediation cost."**

6.21 Visual Impacts

The construction of a new roadway will have minimal visual impacts on adjacent areas. One of the problems inherent in designing a limited access roadway involves providing sufficient right-of-way to comply with the roadway design criteria, while disrupting the surrounding areas as little as possible. The combination of terrain and integrating the roadway with proposed and existing street patterns necessarily creates some areas where the roadway surface is at grade and others where it is elevated or depressed. This can lead to the construction of retaining walls and other elements where the roadway is elevated or depressed.

The visual impacts of Alternatives I, II, I-A, and II-A are similar. All alternatives will include substantial construction on new location. Alternative I and Alternative I-A are primarily on new location from beginning to end. Alternative II and Alternative II-A are on new location for approximately 2.5 miles and then are on existing alignment for approximately 1.3 miles. The visual impacts will be greatest for both alternatives where the new roadway ties to the existing roadway at each end. Also, the visual impacts will be greater for Alternatives II and II-A, since these alternatives include widening of approximately 1.3 miles of existing SR 261.

There are no 4(f) impacts for either alternative that would receive visual impacts.

Due to the terrain through which this proposed action would traverse, there is an opportunity to lessen visual impacts by blending the new roadway into the surrounding area in a pleasing and compatible manner. Where possible, trees along the highway will be retained and the shoulders and slopes will be landscaped in such a way as to minimize the visual impacts of the facility on the surrounding environment.

6.22 Energy Impacts

This project will have direct and indirect energy impacts. Direct energy impacts refer to the energy consumed by vehicles using the facility. Indirect impacts include construction energy and such items as the effects of any changes in automobile usage (i.e. high occupancy vehicle lanes).

Both build alternatives will relieve the traffic congestion of the existing transportation network, particularly in Old Towne Helena. The No-Build Alternative does not relieve traffic congestion on the existing transportation network. A portion of the amount of energy consumed by vehicles currently using the existing transportation network could be conserved by the improved traffic flow anticipated. This improved traffic flow will reduce delays of the roadway users which in turn will reduce the vehicular energy consumption for motorists transecting the study area. This conservation of energy represents a potential for energy savings directly attributable to the construction of the proposed action.

The proposed action would construct a new transportation corridor and reduce the vehicle operation times currently being experienced. The construction of the new facility would require a considerable amount of energy for the duration of the construction period.

It would be difficult to quantify the impact resulting from changes in automobile usage. This project would not be a good candidate for HOV lane. However, qualitative analysis indicates the build alternatives, when completed, would reduce the fuel consumed by vehicles idling while not moving and also reduces energy consumption currently required by the inefficient starting and stopping of vehicles due to the current congestion. The build alternatives will improve the traffic flow in the study area. The savings in operational energy resulting from this improved traffic flow, and the resulting reduction in motorist delays, will be a beneficial impact when compared to the growing energy consumption requirements of the No-Build alternative.

To summarize, the proposed project is not expected to have any adverse energy impact on the State or Region. The construction of the project will require a considerable expenditure of energy resources. The energy requirements of build alternatives are similar and are generally greater than the energy requirements of the No-Build alternative. The completed project would provide a more efficient road network for the area, relieve existing bottlenecks and congestion in the City of Helena, and provide for a stable flow of traffic, thereby providing a long term net savings in energy usage that would more than offset the construction energy requirements.

6.23 Construction Impacts

Construction, by definition, is temporary in nature and limited to a short-term duration. The construction period of either build alternative would be approximately 30 months. During this time period short-term traffic disruption, soil erosion and sedimentation, air quality reduction, noise increases, solid waste generation and utilities disruptions could occur. These minor impacts, although negative are short term in duration and common to construction activities.

▪ Traffic

Construction staging and traffic control plans will be prepared in accordance with FHWA's *Manual on Uniform Traffic Control Devices for Streets and Highways* (MUTCD). The traffic control plan will be included as an integral part of the construction plans. It will be used to ensure safe and expeditious movement of traffic through the work zones. It will also help ensure the safety of the work forces performing the construction operations of the project. Access will be maintained to businesses and residences during construction. Occasionally the

construction activities may require brief interruptions of access. Every effort will be made to minimize and limit access interruptions. The implementation of the Traffic Control Plan will minimize traffic interruptions not only to businesses, but also to residential areas along and surrounding CR 52 and SR 261.

▪ Soils

The initial clearing of the land removes the vegetative cover and permits rainfall to strike the bare land surface. Any subsequent excavation will remove topsoil and expose deeper soil layers. These activities lead to increased surface runoff and the potential for erosion.

Denudation is the process by which the removal of material, through means of erosion and weathering, leads to a reduction of elevation and relief in landforms and landscapes. Exogenic processes, including the action of water, ice, and wind, predominantly involve denudation. Denudation can involve the removal of both solid particles and dissolved material.

Factors affecting Denudation include:

1. Surface Geography
2. Soil Properties
3. Climate
4. Tectonic Setting
5. Activities of Man, Animals & Plants

Areas that undergo denudation produce runoff containing solid and dissolved material that can be deposited into lowland drainage areas. This material laden runoff can result in increased turbidity and sedimentation in water bodies downstream. Erosion control measures such as silt fence, straw bales, establishing vegetative cover and the use of silt basins can substantially reduce the effects of the solid and dissolved materials in the runoff.

The ALDOT's Plans and Specifications will contain provisions requiring conformance with all local and state laws and ordinances. Best Management Practices (BMP's) will be implemented to minimize the potential for erosion during construction. For more discussion on BMP's refer to **Section 6.10** of this document.

▪ Air

Temporary minor air quality impacts will occur within the immediate vicinity of construction activities. These activities and the equipment used in them will generate air pollutants such as carbon monoxide (CO) and particulates under 2.5 microns in diameter (PM-2.5). CO is a component of motor vehicle/equipment exhaust and PM-2.5 can be caused by fugitive dust emissions in and around the construction site. The emission of air pollutants will be reduced by the use of properly maintained construction equipment. Construction practices will include watering to help control the dust in the construction area and to help reduce the potential for increased suspended particulate matter. Restoration of the site with grass and other plantings will further minimize fugitive dust emissions.

▪ **Noise**

Temporary minor noise impacts will occur within the immediate vicinity of construction activities. The exact noise levels cannot be predicted because the specific types of construction equipment, methods and schedule are unknown at this time. These details are not specified in the contract documents, but are left up to the contractor to ensure the flexible utilization of personnel and equipment, and to minimize costs. Based on information provided in the US Environmental Protection Agency's "Noise from Construction Equipment and Home Appliances", noise associated with construction activities, i.e., excavation for foundation and grading, and construction of structures and roadways can be estimated. With respect to grading, assuming bulldozer and dump truck activity only, the projected noise levels would be approximately 85 dBA at 50 feet and would decrease to 67 dBA at 800 feet from the source. To the extent practical, every effort will be taken to minimize the temporary noise and vibration impacts due to the use of heavy equipment used during the construction of the project. Additionally, construction can be limited to normal daylight working hours to help minimize the noise impacts to residential areas.

▪ **Solid Waste**

There will be minimal solid waste impacts from the solid wastes generated by the construction and the removal of structures that cannot be relocated. The collection and disposal of these wastes will be the responsibility of the construction contractor. Such disposal operations are not expected to either affect the solid wastes services of privately owned haulers or decrease landfill capacity. Solid wastes generated during construction will be utilized on site if possible, or disposed only at sites designated and permitted for this purpose. The quantity of disposed wastes will represent a negligible proportion of the total load directed toward local landfills.

▪ **Utilities**

There will be minimal impacts to utilities. Coordination will be maintained with all affected utility companies prior to and during construction. Although disruption of telephone, natural gas, water, cable, and electric services may occur during relocation activities, these will be temporary and kept to the shortest duration possible. All easement requirements and relocation work will be coordinated with all participating agencies and done in conformance with applicable regulations.

▪ **Construction Controls**

In addition to applicable design criteria, the Alabama Department of Transportation's Standard Specifications include the following measures related to construction activities. While the details for design have not been finalized and some of these may not pertain to the construction of this project, they are common project related concerns and are included for information:

- Waste, loose soil or other materials removed from the roadway or channel changes shall not be deposited in live streams. Depositing material into the streams or stream channel where it would be washed away by high stream flows will not be permitted.

Surplus material may be deposited only in disposal areas approved by the Engineer. Disposal areas outside of the project right of way must be operated so as to blend into the surrounding area utilizing an erosion control plan, etc. as prescribed for local pit operations in Sub article 106.01(b).

- The hauling of materials, including logs, brush, and debris by fording live streams will not be permitted. Temporary bridges or other structures must be provided for this purpose.
- Operations of mechanized equipment in live streams or stream channels will not be permitted except in areas where channel changes, retaining walls, temporary or permanent bridges or other such work is required by the plans, or directed.
- Fuels, oils, bitumen or other greasy or chemical substances originating from construction operations shall not be allowed to enter or be placed where they may enter a live steam.
- The discharge ends of all channel changes shall be so laid out and aligned as to provide direct flow into old stream beds without an abrupt direction change.
- The Contractor shall take extreme care to insure that herbicide does not enter any lakes, streams, ponds or wetlands.
- The Contractor shall comply with all requirements of the Occupational Safety and Health Administration (OSHA) and other applicable regulatory agencies with regard to exposure to hazardous materials in construction.

6.24 Local Short-Term Uses vs. Long-Term Productivity

The local short-term impacts of the proposed action will be limited to the construction phase. These impacts to natural and human resources will be confined to the proximity of the construction limits. ALDOT's specifications address the natural impacts and are designed to hold these impacts to a minimum for both the materials required and the actual building of the roadway. Residential and business relocations that are unavoidable will be necessary; these relocatees will be compensated through the ALDOT's acquisition and Relocation Assistance Program Services. This program is conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. The major long-term impact will be the loss of natural habitat and displacement of wildlife; however, these impacts will be minimal to the ecology of the area as a whole. The long-term gains which are anticipated as a result of this proposed project include an enhanced transportation network with improved traffic flow and an increased development potential to allow the City of Helena's Comprehensive Plan to come about in an orderly, manageable fashion.

6.25 Irreversible and Irretrievable Commitment of Resources

This project will require certain irreversible and irretrievable commitments involving natural, physical, human and fiscal resources. Existing land uses within the proposed right of way, natural habitats, wooded lands, businesses and residential properties will be irreversibly committed, as will fuel, labor, construction materials, and both state and federal transportation funds required for the project. The commitment of these resources is based on the concept

that local residents, property owners, other road users, and anyone with an economic interest in the City of Helena will benefit from the improved accessibility and enhanced transportation system that this project offers. The constructed facility will provide improved accessibility, economics, safety, travel time, and fuel consumption for the local community along with the traveling public with other destinations. These factors are anticipated to offset and exceed the loss of the resources required for the project.

7 Updated Section Indirect and Cumulative Impacts Analysis

7.01 Indirect and Cumulative Effects Purpose and Background

Purpose of Indirect and Cumulative Effects Analyses

The purpose of an Indirect and Cumulative Impacts Assessment is to present an evaluation of the reasonably foreseeable potential indirect and cumulative impacts associated with this type of project, taking into consideration the socioeconomic, ecological, cultural/historic and archaeological resources of the project area.

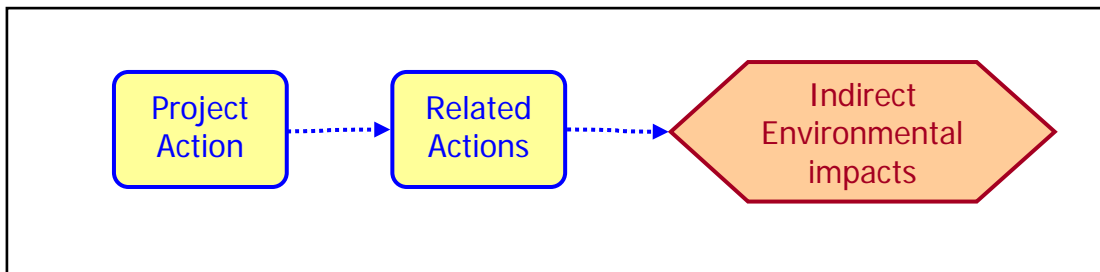
Alternatives Under Consideration

A No-Build Alternative and Four Build Alternatives are being considered for the Helena Bypass from CR 52 to SR 261. This facility, when completed, will provide a 4-lane divided highway link which will serve to connect the planned widened SR 261 all the way to CR 52. These build alternatives and the No-Build alternative are discussed in Chapter 4 of this document.

Definition of Indirect and Cumulative Impacts

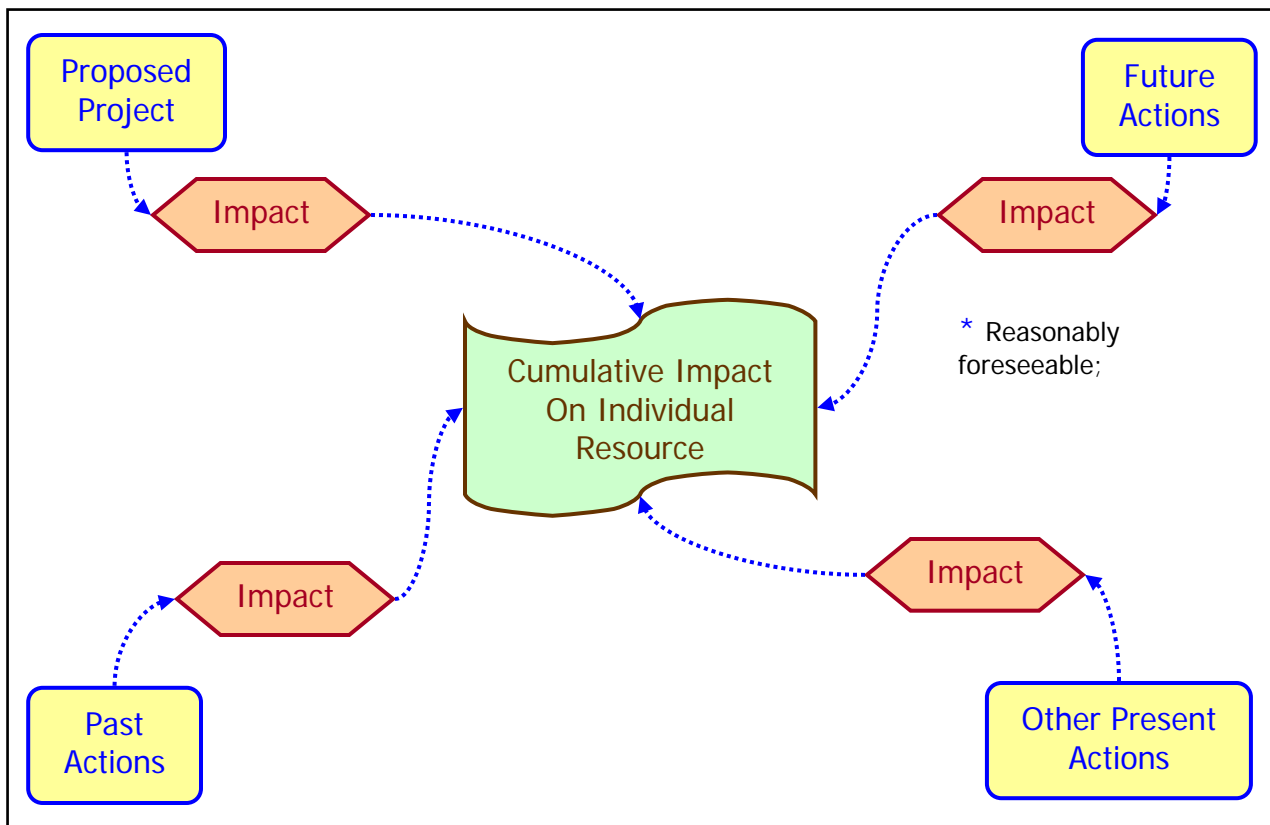
By United States Code of Federal Regulations (CFR) definition, indirect effects (or impacts), are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable (see **Figure 7.01-1** for a flow chart diagram). Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems (40 CFR § 1508.8).

Figure 7.01-1 Indirect Impacts Illustration



Cumulative effects (or impacts) are impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions (see **Figure 7.01-2**). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR § 1508.7).

Figure 7.01-2 Cumulative Impacts Illustration



Scope of Indirect and Cumulative Impacts

An analysis of indirect and cumulative impacts for a project of this nature involves an assessment of the direct and indirect environmental effects of the proposed action, and a discussion of incremental, resource-specific impacts when considering other past, present and reasonably foreseeable future actions. Specifically, this consists of:

- an identification of the environmental resources and features directly and indirectly impacted by the project, as determined in the environmental base studies completed during this study,
- an identification of other past, present and foreseeable future actions that have impacted (or will impact) the resources affected by the project,
- an identification of appropriate geographic and temporal limits for the analysis, and
- an assessment of cumulative impacts on resources affected by the project when considering resource conditions and all relevant past, present and future actions.

7.02 Indirect Impacts

Anticipated Indirect Project Impacts

When weighing the potential for secondary development related to construction of this proposed project, and the impacts that can reasonably be expected to occur as a result, several factors must be considered. Areas of indirect impacts considered include:

- the surrounding land use
- economic conditions
- ecosystems

For this project it appears that only changes in land use will be likely to occur.

No changes are expected to economic conditions, as the zoning does not provide for major economic generators.

No changes to sensitive ecosystems are anticipated since they occur in the areas protected by the a Conservation Easement [see **Appendix G** - ARTICLE XVIII CAHABA RIVER/BUCK CREEK CONSERVATION OVERLAY DISTRICT (CRBC)].

Impact Area

The study area where changes in land use are likely to occur as a result of this project must be defined. In establishing the study area, the City of Helena's Comprehensive Plan 2025 (see **Section 6.01**) was referenced. From the City's future land use plan (see **Figure 6.01-2**) the boundaries of the growth area promoted by the build alternatives would extend to the obvious barriers for development. The developable area (see **Figure 7.02-1**) is shown along with the barriers. The barriers would include the Cahaba River to the north and west (excluding the Riverwoods Subdivision area which is currently being developed), the existing railroads on the south, and the eastern boundary would include the land that is currently developed or has access already provided by the existing roadway network. There are some internal boundaries that prohibit development. These include two railroads, utility easements, and areas along Buck Creek and the Cahaba River preserved by a Conservation Easement [see APPENDIX G - ARTICLE XVIII CAHABA RIVER/BUCK CREEK CONSERVATION OVERLAY DISTRICT (CRBC)]. In **Figure 7.02-1** the project Study Area boundary is shown. This boundary contains approximately 1680 acres. The developable area outside the project study area consists of approximately 770 acres. Conclusions about the developable area outside the study area are drawn in the following sections.

Resources That Could Receive Indirect Impacts

▪ Archaeological / Historic Resources

In the initial Cultural Resource Survey (CRS) and supplemental CRS, numerous cartographic and ethnographic databases were referenced such as the Alabama State Site File (ASSF), the National Register of Historic Places (NRHP), Alabama Register of Landmarks and Heritage, Bureau of Land Management (BLM) General Land Office (GLO) Land Patent databases, and University of Alabama Historic Map Archive. Research of historic cemeteries in the area was

conducted through queries of the U.S. Geological Survey (USGS) Geographic Names Index System (GNIS), and the Alabama Cemetery Preservation Alliance (ACPA) online databases. This background research should not be considered exhaustive; however numerous sources were referenced for land use data within an appropriate distance of the area of interest.

The ASSF records indicated eighteen previously recorded sites within one mile of the survey area. None of these eighteen sites are located in an area shown in **Figure 7.02-1** that could potentially receive indirect impacts.

Sixteen previously recorded prehistoric sites were also located within the corridors of the build alternatives. Of these sixteen, only site 1SH553 is considered eligible for listing in the NRHP. As discussed in **Section 6.19**, ALDOT has provided a Phase II assessment of this site. As a result of the Phase II determination of eligibility, an avoidance alternative has been incorporated. It will therefore receive no direct impacts. Also, because of the location of the site it will receive protection from development from the local zoning regulations. Because of this it is very unlikely to receive indirect impacts from development.

The NRHP online database lists six properties within Shelby County. None of the currently listed properties lie within one mile (1.6 km) of the survey corridor.

The Alabama Register of Landmarks and Heritage (Alabama Historic Commission 2006) lists twenty-nine properties within Shelby County. One property lies within one mile (1.6 km) of the project corridor. The Buck Creek Historic District is located 0.5 miles west of the survey area at the conjunction of Buck Creek and the Cahaba River. The Buck Creek District was originally listed with the register in 1978, as described in more detail in the Cultural Resources Report for this project.

Significance and Magnitude of Impacts

Based upon the information available and after considering the locations of known archaeological sites and their geographic location with respect to the areas expected to receive indirect impacts (**Figure 7.02-1**) there would be no indirect impacts to these known archaeological sites. .

Based on the limited number of archaeological sites encountered in the Phase 1 investigation of the corridor, there is low probability that there would be indirect impacts to unknown archaeological sites.

▪ **Threatened / Endangered Species**

All threatened or endangered species are offered protection under the oversight of the USFWS. Of the threatened or endangered species that could potentially be found in the study area, all are aquatic except for the Gray Bat (*Myotis griseseens*), the Indiana Bat (*Myotis sodalist*) and Tennessee Yellow-Eyed Grass (*Xyris tennesseensis*).

The aquatic species investigated include: Cahaba shiner (*Notropis cahabae*), Goldline darter (*Percina aurolineata*), Finelined pocketbook (*Lampsilis attilis*), Orange-nacre mucket (*Lampsilis perovalis*), Triangular kidneyshell (*Ptychobranhus greenii*), Cylindrical lioplax (*Lioplax cyclostomaformis*), and Round rocksnail (*Leptoxis ampla*).

Tennessee Yellow-Eyed Grass – From the information available in Dr. L.J. Davenport's report of his survey of the study area (see **Figure 4.05-1** for the study area boundary of this survey), no ideal habitats for this species was found. Some marginal habitats were found along the cleared utility easements that criss-cross the forested part of the study area. These easements are shown on **Figure 7.02-1** as "Undevelopable Areas". Since these utility easements were the only locations where marginal habitat was identified and since they are "Undevelopable Areas", there should be no indirect impacts on any marginal habitat for this species. Additional marginal habitat was identified in the Buck Creek floodplain forest (see **Section 6.18**). Since this area is protected from development by the Cahaba River/Buck Creek Conservation Overlay District, there should be no indirect impacts on this marginal habitat.

Gray Bat and Indiana Bat – Gallet & Associates, Inc. (Gallet) provided a January 4, 2007, report of their assessment of the study area for the presence of habitat capable of supporting the Indiana Bat and/or the Gray Bat. Gallet reported they assessed the study area (see **Figure 4.05-1** for the study area boundary of this survey) for the presence of caves and sinkholes, which might be utilized by bat species as roosts. Their detailed report concludes that based on the geology of the study area and their field surveys, the proposed project will have no impact on the Indiana Bat and/or Gray Bat habitat. Since the study area encompasses most of the developable area which could receive indirect impacts, and since the remaining area that was not included in the study area is similar in history (mining) and geology, there should be no indirect impacts on the habitat for the Gray Bat and Indiana Bat species.

Aquatic Species – The existence or habitats of the following aquatic species were evaluated within the study area shown in **Figure 7.02-1**:

- Cahaba shiner – Endangered
- Goldline darter – Threatened
- Finelined pocketbook – Threatened
- Orange-nacre mucket – Threatened
- Triangular kidneyshell – Endangered
- Cylindrical lioplax – Endangered
- Round rocksnail – Threatened

Discussion on the results of the field surveys for these aquatic species is included in **Section 6.18**. There were no federally protected species found within the study area boundary. There was one specimen of Goldline Darter found in the Cahaba River downstream of its confluence point with Buck Creek.

The habitat for the area outside the study area which could receive impacts is limited to the upstream reaches of the Cahaba River

Significance and Magnitude of Impacts to Threatened and Endangered Species

Based upon the information available and after considering the locations of the marginal habitats for the Tennessee Yellow-Eyed Grass, it is not likely that there would be indirect impacts to this species. The locations of these marginal habitats consisted of utility easements

that had been cleared and areas protected by the Cahaba River/Buck Creek Conservation Overlay District.

Based upon the information available it is reasonable to expect no bat habitat is likely to occur in the developable areas which occur outside the limits of the study area. Therefore, indirect impacts to the habitats for the Gray Bat and Indiana Bat species are unlikely to occur.

Based upon the information available it is reasonable to expect no additional aquatic habitat other than the upstream portions of the Cahaba River. Because of the extensive protections given to the Cahaba River and to Buck Creek by the Cahaba River/Buck Creek Conservation Overlay District, there should be no indirect impacts on any aquatic species or on the habitat for the surveyed species which may be located here.

▪ **Water Resources**

All water resources are offered protection under the oversight of ADEM through their Rivers and Streams Monitoring Program (RSMP) Also, under the Clean Water Act (CWA), the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. The CWA also gives the Corps of Engineers responsibility and oversight to provide protection for wetlands under Section 404.

The main concern related to water resources is centered on the water quality of rivers and streams. While there are isolated areas of wetlands, whose impacts will be discussed, the focus is centered on the Cahaba River and Buck Creek.

Cahaba River

The Cahaba River, which is one of the geographic boundaries of the Indirect Impacts study area boundaries, is located near the proposed project. It is a considered a special river by many in this area. The Cahaba River's water quality is closely monitored and the cumulative impact to water quality is a topic which concerns some special interest groups.

Buck Creek

The proposed project also crosses Buck Creek, which is a tributary of the Cahaba River. Buck Creek drains much of the undeveloped lands adjacent to the Cahaba River which are zoned for residential development.

Wetlands

Approximately 48 acres of wetlands or potential wetlands were identified in the wetland evaluation of the study area. Of this, 24 acres are outside the developable area, 19 acres are within the area protected by the Cahaba River/Buck Creek Conservation Overlay District, 1 acre is within utility easement areas. The remaining 4 acres are located within the developable area.

Significance of Impacts

The City of Helena established the Cahaba River/Buck Creek Conservation Overlay District in their Zoning Ordinance. Ordinance XVIII establishes several zones: the Streamside Zone, the Middle Zone, and the Outer Zone. There are restrictions to development in these areas. For

example in the Streamside Zone allowable uses are highly restricted. This zone extends from the edge of the stream bank of the active channel a minimum distance of 50 feet. The Middle Zone begins at this point and extends a minimum of 100 feet for the Cahaba River and 50 feet for Buck Creek. The Middle Zone allowable uses are also quite restrictive and tree clearing in this zone is limited to the minimum required for the listed land uses for this zone. The Outer Zone's function is to prevent encroachment into the stream buffer and to filter runoff from residential and commercial development. It begins at the edge of the Middle Zone and extends a minimum of 50 feet. No structure or accessory structure can be located in the Outer Zone.

To summarize the protection provided by the Cahaba River/Buck Creek Conservation Overlay District, there will be no structures placed within 200 feet of the bank of the Cahaba River, and no structures placed within 150 feet of the bank of Buck Creek. (See **Appendix G**) This will provide substantial protection to water quality of both the Cahaba River and Buck Creek by restricting the adjacent development and clearing of lands. This buffer will allow for natural filtering of sediment that may result from development activities beyond the buffer zone. The Conservation Overlay District will also provide protection for the 19 acres of wetlands located here.

Magnitude of Impacts

Because of the forward thinking actions of the City of Helena in establishing the Cahaba River/Buck Creek Conservation Overlay District, effects on the water resources resulting from reasonably foreseeable future development should be minimal.

Feasible Mitigation

Wetlands that could potentially be impacted by development could be identified by the developers and preserved in place by the establishment of greenways and parks. Mitigation of wetland impacts could also be established within the developments by creating wetland banking sites as a part of future greenways and parks.







▪ **Noise**

The potential for noise impacts to future receptors has been evaluated. Sound Energy Level Contours for the 66 dBa and 71 dBa levels are included in this document (see **Appendix C**). The Sound Energy Level Contour for the 71 dBa level consistently falls within the estimated construction limits and should be contained within the right-of-way for the roadway. As such, there would be no impacts for future receptors realized by the 71 dBa sound level. This information will also be provided to the City and will allow developers to know where potential impacts from the 66 dBa level would occur. With this knowledge, future noise impacts could be minimized or eliminated.

▪ **Other Resources Impacted**

Other resources were considered, but only the resources listed above appear likely to receive Indirect Impacts as a result of this project.

LAND AVAILABLE FOR DEVELOPMENT

	Cahaba River/Buck Creek Conservation Overlay District
	Developable Areas
	Undevelopable Areas
	Helena City Limits
	Study Area Boundary
	Wetland

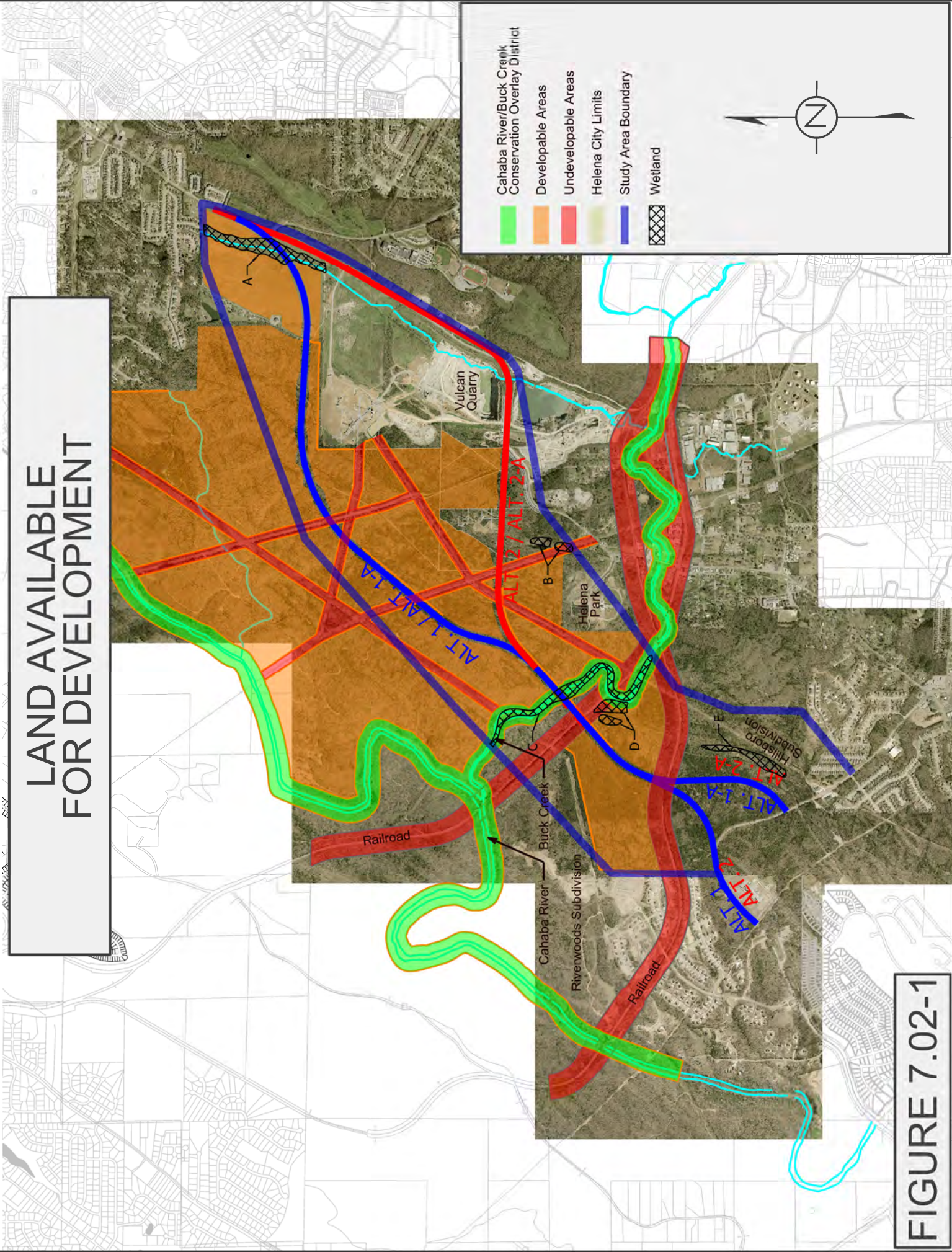


FIGURE 7.02-1

7.03 Cumulative Impacts

▪ Methodology

Cumulative impacts are resource specific and based on the direct and indirect impacts. In order to appropriately address the cumulative impacts it is necessary to determine the resources to study. Because of the direct and indirect impacts associated with this project were so limited, and because of the sensitivity of the Cahaba River and Buck Creek basins water quality is deemed to be the only appropriate resource to evaluate for cumulative impacts.

Having identified water quality as the impacted resource(s), the next step in the analysis is to identify the geographic and temporal limits of the study.

After the study area, geographic limits, and temporal limits have been identified, the next step is to describe the water quality. This description includes information about the past water quality, present water quality and anticipated future water quality.

A summary of the impacts completes the assessment.

Geographic Limits

The geographic limit for the water quality has been identified as the Cahaba River Watershed which is adjacent to the study areas for the direct impacts and indirect impacts. These areas are shown in **Figure 7.02-1** and are comprised of the "Study Area Boundary" and the orange "Developable Areas".

Temporal Limits

The temporal limits are somewhat difficult to define. The temporal limits include the timeframe for looking back in time to evaluate how past actions have affected the resource and also the timeframe for looking forward in time and forecasting actions that are reasonably foreseeable in order to evaluate their effects on the resource.

Although there have been changes to the geographic area over time, there is limited data to quantify impacts of past actions. Some of these changes are discussed below in the section titled Past Actions.

Establishing the forecasted timeframe, The Helena Comprehensive Plan 2025 basically sets the time boundary as it relates to future actions.

Past Actions

As previously stated, when establishing the temporal limits of past actions, there are limitations on available historical data. Past actions that have affected the environmental resources and features in the project area include roadway construction, residential development, farming, logging, and mining operations.

Road construction relevant to this analysis includes establishment of the current existing local road network (particularly SR 261, CR 52 and the Helena city street network). SR 261 crosses Buck Creek, CR-52 crosses the Cahaba River beyond the study limits and the Helena city street network was constructed in the basin that drains into Buck Creek and the Cahaba River.

Information presented in the book Images of America Helena Alabama, (ISBN 978-0-7524-5280-4) provides insight to the early history of Helena. This history includes a steel rolling mill on Buck Creek in Helena. Also included in the history of Helena is information related to the mining of coal in the area. Coal mining in this area began before the Civil War and continued to meet coal demands through World War I. This industry continued until "labor unrest closed the mines forever". These past actions may have had unquantifiable impacts to the water quality in the area. The impacts from this activity commonly consist of contamination of streams and surface waters with suspended fine solids and/or dissolved minerals.

The timber industry was active in the area during the mining days, as timbers were required to provide supports for the mines. Activities associated with harvesting timber may have had some unquantifiable impacts on the water quality during and after the harvest operations. The nature of timber as a renewable resource which can be re-established over time appears to have overcome any adverse long-term impact, as there is an abundance of timber in and around the study area.

The past aggregate mining operation (quarry) in the study area may have had unquantifiable impacts to water quality. As mining operations have occurred, the surface has been stripped of vegetation which has the potential to result in sediment from runoff. The open quarry may have similarly had impacts to the water quality along with the water table in the area due to dewatering for mining activities.

Reasonably Foreseeable Future Actions

Relevant future actions in the project area foreseeable through the 2025 design and planning horizon include the continued maintenance of the local road network, continued progress with the Hillsboro Planned Community and continued water/sewer infrastructure improvements.

The Hillsboro Planned Community includes a well-planned mix of residential and commercial development. This development is credited with developing the initiative that resulted in the creation of the Cahaba River / Buck Creek Conservation Overlay District. This future development will take place in accordance with the City of Helena's Special District Zoning Amendment for the Hillsboro Planned Community dated November 18, 2004. This plan includes the following development objectives and strategies for Hillsboro:

- Achieve minimal environmental impact through environmental resource conservation and an overall Tree Conservation Plan. This includes:
 - Maintain large open spaces and greenways for forest, stream and ecosystem conservation.
 - Conserve tree cover in open space, conservation areas, and wildlife corridors.
 - Integrate environmental areas with education and recreation.
 - Minimize impact within floodplains and floodplain buffers.
 - Preserve historic and unique features.
 - Provide access to key parts of environmental areas.
 - Provide passive recreation in natural areas.
 - Revegetate areas disturbed by land clearance and grading.

- Retain areas of valuable tree canopy.
- Require a tree planting program of individual residential lots.
- Encourage minimal community impact through clustered building patterns.
 - Create a community of mixed uses, with housing, commerce, recreational facilities and natural amenity areas.
 - Create development clusters and concentrate development locations in strategic locations.
 - Reserve areas for open space uses.
 - Minimize infrastructure operation and maintenance costs by creating dense housing patterns in key locations to take advantage of infrastructure investments.
 - Concentrate service and commercial uses in a compact core.
- Use community open spaces as the community's common thread, linking together nature, historic landscapes and most community public facilities.
 - Develop linear parks and natural areas, designated for environmental conservation, historic interpretation and community interaction.
 - Use historic mining landscapes and rail corridors as park spines, linking together a collection of historic and interpretive parks, nature preserves, neighborhood parks, and trails.
 - Reserve natural areas to serve as wildlife corridors and groundwater recharge areas.
 - Select and preserve with the utmost regard to the natural environment and the historic character of the Helena community.
 - Construct features such as trails, bridges, park pavilions and boardwalks with materials such as stone, wood, iron, and limestone to respect the community's historic character.

As mentioned in the development strategies, the plan includes Article 5 – Tree Conservation, Tree Planting, Open Space and Buffers. The purpose of this Article is to provide buffering and enhanced beautification of Hillsboro, control soil erosion, protect natural vegetation in accord with this Plan and enhance tree cover through tree planting and reforestation.

With these Special Zoning District requirements, future impacts to water quality are expected to be minimal.

▪ **Water Quality**

Past Water Quality Studies (2002)

There have been studies of the Cahaba River Basin commissioned by the EPA for the purpose of providing supporting information for the determination of an appropriate target for the development of a Total Maximum Daily Load (TMDL) for the 303(d) listed segments of the Cahaba River. One such study can be found at the web site <http://www.epa.gov/region4/sesd/reports/2002-0809/cahaba.pdf>.

While this study was an overall study of the Cahaba River, a portion of the study included analysis and determinations for portions of Buck Creek located within the geographic limits of this Cumulative Impacts Assessment. The EPA study presented impairment determinations for Buck Creek based on samples taken at site BC-2 (below the dam on Buck Creek in Helena). The determination was that Buck Creek at sample site BC-2 had “excessive impairment”. This conclusion was based upon the change in relative abundance of tolerant and intolerant organisms by contrasting numerical abundances of these organisms at the reference or site control to the numerical abundances of other stations. This determination was not based upon the water quality, but rather the presence of ichthyofauna assemblages at the sample location.

Present Water Quality Analysis (2006)

A water quality analysis was performed for this project by Gallet (**Appendix D**). The study resulted in the following conclusions:

- Ambient water quality in the study area indicates minimal impairment with respect to the most common contaminants found in urban runoff (PAHs and metals).
- Stream sediment composition is interpreted to largely reflect the geologic setting (natural levels); however, additional loading of metals via stormwater runoff may lead to water quality impairments in excess of regulatory limits since some constituents, especially As and Pb are naturally elevated to start.
- TMDLs for the 303(d) listed streams segments within and in close proximity to the study area are not likely to be exceeded by the proposed Helena Bypass project so long as the appropriate BMP design is implemented during and after construction of either alternative.

Interestingly, Sample site 4 from the 2007 Gallet Water Quality Assessment Report is essentially the same location as Sample location BC-2 from the EPA study of 2002. Gallet’s report shows that polynuclear aromatic hydrocarbons (PAHs) were below laboratory reporting limits for this site. The report also shows that of the thirteen Priority Pollutant Metals, only copper (Cu) was detected and the detected amount was below the Maximum Contaminant Level (MCL) for this pollutant. Since EPA determined that this site had “excessive impairment” in 2002, one could conclude that based upon the water quality data gathered in 2006 the conditions have improved at this site.

Future Water Quality

When considering the protections for the environment that have been established by the City of Helena through responsible, careful planning (Helena’s Comprehensive Plan 2025) and the establishment of Ordinances and Regulations [see Ordinance XVIII and Ordinance 597-02 (as amended) in **Appendix G**], it is reasonable to draw conclusions about the future water quality of the area. The regulations will ensure that the natural filtering of stormwater runoff in place today is preserved largely without change. Areas that are disturbed as development occurs will have the vegetation re-established. Parks and Greenways will provide additional buffer areas.

Roadway construction, when performed, will incorporate the USFWS-approved BMP's. This will help minimize the short-term effects resulting from common construction activities.

- **No-Build vs. Preferred Alternative Impacts**

A qualitative comparison of the cumulative impacts on water quality for the No-Build Alternative versus the Preferred Alternative is provided. As discussed in this section above, there is limited data to quantify impacts of past actions. Similarly, there is no data for future actions to evaluate, as they have not yet occurred. Projections of data for future actions that are reasonably foreseeable are highly speculative, they are constrained by the projections and assumptions made and may or may not be accurate. For these reasons a qualitative analysis is preferred over a quantitative analysis for this project.

When providing a cumulative impact analysis of the water quality for the No-Build alternative, the same methodology is used as for the build alternatives. This includes an analysis of the geographic limits and the temporal limits.

Geographic Limits

The geographic limit for the No-Build Alternative cumulative analysis for water quality is limited to the same area as evaluated for the Preferred Alternative (as discussed earlier in this section). This provides the most appropriate area for the qualitative comparison.

Temporal Limits

The temporal limits for the water quality are the same for the No-Build Alternative as for the Preferred Alternative (as discussed earlier in this section). This is necessary to look back at previous actions that have impacted this resource in the past and to look forward into the reasonably foreseeable future.

Past Actions Comparison

The impacts to water quality for the No-Build Alternative resulting from past actions are identical to those for the Preferred Alternative. There is no difference as the same actions have occurred on the same study area.

Reasonably Foreseeable Future Actions Comparison

While the No-Build Alternative does not accomplish the Purpose and Need of the project, it provides a baseline comparison as stated in **Section 4.04**. In comparing the No-Build Alternative with the Preferred Alternative, the relevant future actions in the project area foreseeable through the 2025 design and planning horizon include the continued maintenance of the local road network, continued progress with the Hillsboro Planned Community and continued water/sewer infrastructure improvements. With the selection of the No-Build Alternative, it is anticipated that maintenance of the local road network would continue. It is expected that the Hillsboro Planned Community and the associated water/sewer infrastructure improvements would continue, perhaps at a slower rate, but would not stop all together. The temporal limits for full build out would likely be pushed further into the future.

Since the City of Helena has established the Cahaba River / Buck Creek Conservation Overlay District in their zoning ordinances, the selection of the No-Build Alternative would still result in the same protections for the water quality as those provided for the Preferred Alternative.

With the selection of the No-Build Alternative, it is reasonably foreseeable that changes to some of the currently accessible developable areas would be accomplished, however this development would still be subject to the constraints of the Cahaba River / Buck Creek Conservation Overlay District. With this protection established, it is expected that the development associated with the No-Build Alternative would have similar future impacts to the water quality as those resulting from the development expected for the Preferred Alternative. Granted, the time horizon for the cumulative impacts to occur would probably be pushed further into the future, but they would not be increased or lessened appreciably.

Conclusions

The cumulative impacts to water quality are the same for past actions for both the No-Build Alternative and the Preferred Alternative.

With the selection of the No-Build Alternative, the development of the Hillsboro Planned Community would be delayed but not eliminated. The cumulative impacts to water quality resulting from this delay would be pushed further into the future.

Greater impacts to water quality due to segmented, developer-driven growth are not expected due to the protections afforded by the Cahaba River / Buck Creek Conservation Overlay District.

The cumulative impacts on water quality for the No-Build Alternative versus the Preferred Alternative would not be appreciably different due to the City's forward thinking and implementation of the Cahaba River / Buck Creek Conservation Overlay District.

With the selection of the No-Build Alternative, there would likely be a negative impact to the transportation network. This would result from the construction of a developer driven roadway network that would be staged as funding permits and likely built to lower design standards. The result would be a less-efficient roadway as compared to a comprehensive, well-planned segment of the statewide transportation network.

▪ Summary

Having identified water quality as the only resource to evaluate for cumulative impacts, the following observations can be made:

- All build alternatives are located within the same geographic study boundary which comprises a portion of the Buck Creek and Cahaba River watershed.
- All build alternatives have been subjected to the same general impacts from past actions (roadway construction, residential development, farming, logging and mining operations) and there is no specific data available to evaluate specific impacts to water quality associated with the individual alternatives beyond that of a general, historical qualitative review.

- All build alternatives are located in an area of planned, future growth as identified by the City of Helena's Comprehensive Plan, and due to their proximity to each other and with the area of planned growth, it is reasonable to expect the impacts to water quality in the foreseeable future would be similar regardless of which build alternative were selected.

Upon considering this, a determination can be made that no substantial difference exists in the cumulative impacts on water quality for the various build alternatives. These cumulative impacts and the impacts of this project are expected to be minimal to the overall water quality of the study area as discussed further in the following paragraphs.

Past actions in the project area in Shelby County that may have resulted in unquantifiable impacts to water resources include roadway construction, scattered single family residential and farm property development, logging activities, coal mining operations, and more recently aggregate mining operations (quarries).

The City of Helena has established the Cahaba River/Buck Creek Conservation Overlay District in their Zoning Ordinance. This ordinance combined with the City of Helena's Special District Zoning Amendment for the Hillsboro Planned Community will help minimize and possibly eliminate any long-term adverse impacts to water quality associated with the planned development within the study area.

With the implementation and monitoring of the USFWS-recommended BMPs for construction, construction of the proposed bypass project should have minimal impacts on study area water quality.

▪ **Global Climate Statement**

One topic that will not be specifically addressed by this document is that of greenhouse gas emissions and their effects on the global climate. This issue is an important national and global issue, in which FHWA is actively engaged. FHWA has been working with other Federal agencies, including EPA and DOE, to evaluate effective approaches consistent with our national goals. However, no national approach has yet been set in law or regulation, nor has EPA established criteria or thresholds for greenhouse gas emissions. Because a national strategy to address greenhouse gas emissions from transportation – and all other sectors – is still being developed, FHWA believes that it is premature to implement policies that attempt to incorporate consideration of greenhouse gas emissions into transportation planning.

From a NEPA perspective, it is analytically problematic to conduct a project level cumulative effects analysis of greenhouse gas emissions on a problem that is global in nature. It is technically unfeasible to accurately model how negligible increases or decreases of CO₂ emissions at a project scale would add or subtract to the carbon emissions from around the world. Given the level of uncertainty involved, the results of such an analysis would not be likely to inform decision-making at the project level, while adding considerable administrative burdens to the NEPA process. The scope of such an analysis, with any results being purely speculative, goes far beyond the disclosure of impacts needed to make sound transportation decisions. We believe our approach meets the stated purpose of NEPA, in accord and with

CEQ regulations, to concentrate on the analyses of issues that can be truly meaningful to the project decision, rather than simply amassing data.

8 Mitigation of Environmental Impacts

8.01 Wetland Impacts

As discussed in **Section 6.12**, there is no practicable alternative which would entirely avoid wetland impacts. Attempts to avoid and minimize impacts to wetlands were undertaken early on in the project study.

Avoidance and Minimization

Identification of alternatives was undertaken with primary considerations being the avoidance and then the minimization of impacts to wetlands. Where wetland avoidance was not possible, alternatives were developed that crossed wetlands at their narrowest locations possible.

Avoidance and minimization measures for the proposed project include identifying wetland soil types and adjusting alternatives to avoid these where possible such as with Wetland D. Avoidance was also accomplished with the use of bridges at Buck Creek to eliminate streamside wetland impacts to Wetland C.

Mitigation

The only wetland that was not avoidable is Wetland A. It would be impacted by all of the alternatives.

Compensatory wetlands and stream mitigation planning will be coordinated with the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service during the Section 404/401 permitting phase of the project. At the time of the permitting phase just prior to construction, ALDOT will first consider mitigating impacts by debiting credits from an ALDOT wetland bank. If ALDOT obtains a bank for the Cahaba River watershed, then it is anticipated that credits from that bank would be used. Otherwise, an acceptable bank will be identified in the coordination efforts with the Corps. If necessary, other mitigation options will be considered, such as purchasing credits from Corps approved private mitigation banks. As is common with roadway construction projects, the mitigation of wetland impacts will be resolved through coordination with the Corps prior to the commencement of any roadway construction activities.

8.02 Stream Impacts

As discussed in **Section 6.10**, there will be minor stream impacts due to linear crossings of the streams and tributaries of the drainage basin. Since these crossings are unavoidable, efforts have been undertaken to minimize the impacts of the crossings. The primary minimization effort was to locate the new roadway along the ridges and to cross the streams with as little skew as possible. This minimizes the roadway footprint and its associated impacts.

Mitigation

For impacts that are not eliminated by avoidance and minimization, typically some type of compensatory mitigation is required. Methods used for compensatory mitigation include

restoration, establishment, enhancement, preservation and mitigation banking. It is anticipated that the purchase of stream credits from a private bank would be used to mitigate stream impacts for this project.

As with the mitigation of wetlands, ALDOT will coordinate with the U.S. Army Corps of Engineers to determine the appropriate form and amount of compensatory mitigation required prior to the commencement of any roadway construction activities.

8.03 Storm-Flow Delay

The pavement design is an element of the upcoming construction plan development phase. A materials report will be prepared and the data resulting from the materials report will be utilized in the development of the pavement design for the project. In an attempt to mitigate the increased stormwater runoff rates resulting from the increase of impervious area due to paving of the new roadway, FHWA and ALDOT will investigate the use of an open-graded asphalt mixture in the design of the pavement during the construction plan phase.

In addition to helping reduce the stormwater runoff rates and thereby reducing water quality impacts, there could be other benefits of an open-graded asphalt mix. According to a report by Robert M. Joubert, Senior District Engineer, of the Asphalt Institute (http://www.asphaltinstitute.org/upload/Durable_OG_Mixes_Enhance_Safety_Reduce_Noise.pdf), open-graded friction courses provide environmental and safety features. These features include: sharp contrast between pavement surface and line striping, reduced headlight glare, reduced hydroplaning, noise reduction, and reduced splash from large trucks.

9 List of Preparers

NAME	TITLE	QUALIFICATIONS
FEDERAL HIGHWAY ADMINISTRATION		
Bill Van Luchene, P.E.	Environmental Coordinator	Federal Highway Administration Highway Engineer
Lynne Urquhart, P.E.	Environmental Engineer	Federal Highway Administration Environmental Engineer
Lynn Heisler	Environmental Protection Specialist	Federal Highway Administration Environmental Engineer
ALABAMA DEPARTMENT OF TRANSPORTATION		
Corey Clifton	Assistant Environmental Coordinator	ALDOT Transportation Manager
SOLID CIVIL DESIGN, LLC		
Robert J. Carr, P.E.	President	B.S. in Civil Engineering with over 18 years in Transportation Design for various state DOT's and other public and private clients.
Charles G. Lowe, P.E.	Executive Vice-President	B.S. in Civil Engineering with over 18 years in Transportation Design / NEPA document preparation. Former Assistant Environmental/Location Division Engineer for a state DOT.
Joe P. Bearrentine	Environmental Specialist	B.A. Economics with over 30 years experience in the planning and preparation of NEPA documents.
David E. Ferrell, P.E.	Project Engineer	B.S. in Civil Engineering with over 9 years in Transportation Design for such clients as the Alabama Department of Transportation, Mississippi Department of Transportation, and other local and private clients.
Matthew R. Chelette, P.E.	Civil Engineer	B.S. in Civil Engineering with over 5 years in Transportation Design for such clients as the Alabama Department of Transportation, Mississippi Department of Transportation, and other local and private clients.
Jared Lipskoch	Engineering Technician / I.T. Administrator	Over 5 Years experience in transportation design and plan preparation for projects in various states.
Southeastern Anthropological Institute		
Hunter Johnson (MA)	Principal Investigator	Director, Southeastern Anthropological Institute
Keith Harrelson (BA)	Staff Archaeologist / GIS Coordinator	
Tiffany Boyd (B. Arch)	Architectural Designer	
Gallet		
Stephen Howard	Project Scientist	B.S. in Wildlife Science, Auburn University. M.S. in Environmental Management, Samford University. 10+ years experience in wetland delineation, permitting & mitigation, T&E species studies, EA's & EIS's.
Karl Peters	Staff Scientist	B.S. in Environmental Biology, University of North Alabam. 7+ years experience in wetland delineation, permitting & T&E species studies.
Tom Creech	Geologist II	B.S. Geology, Furman University. He has work project work experience that includes soil and groundwater investigations, watershed management activities, coastal sedimentation studies, coastal geomorphology studies, and wetlands assessments.
Leslie Noble	Manager, Environmental Services	B.S. Geology, University of Alabama at Birmingham. M.S. Geology University of Tennessee.
L. J. Davenport, Ph.D.	Aquatic Rare and Endangered Species Expert	Professor of Biology, Samford University

10 List of Agencies, Organizations, and Persons to Whom Copies of the Statement are Sent

The following is a list of agencies, organizations, and persons to whom copies of the Statement were sent for review:

Federal Agencies:

Advisory Council on Historic Preservation
Federal Emergency Management Agency
U.S. Army Corps of Engineers (Cooperating Agency)
U.S. Coast Guard
U.S. Department of Agriculture
U.S. Department of Commerce
U.S. Department of Defense
U.S. Department of Energy
U.S. Department of Health and Human Services
U.S. Department of Housing and Urban Development
U.S. Department of Interior
U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service
U.S. Geological Survey
U.S. Department of Transportation – Federal Aviation Administration

State Agencies

Alabama Department of Conservation and Natural Resources
Alabama Department of Economic and Community Affairs
Alabama Department of Education, Superintendent of Education
Alabama Department of Environmental Management
Alabama Department of Industrial Development
Alabama Department of Industrial Relations
Alabama Development Office
Alabama Emergency Management Agency
Alabama Forestry Commission
Alabama Geological Survey

Alabama Historical Commission
Alabama State Council on Arts and Humanities
Alabama Soil and Water Conservation Commission
Alabama Soil Conservation Service
State Historic Preservation Officer
State of Alabama Attorney General
State of Alabama Oil and Gas Board

Local Government

Senator Cam Ward
Representative Mary McClurkin
Representative April Weaver
Mayor Charles Penhale
Chairman of Shelby County Commission – Corley Ellis

Tribal List

Absentee-Swawnee Executive Council
Alabama – Quassarte Tribal Town
Caddo Indian Tribe of Oklahoma
Cherokee Nation
Choctaw Nation of Oklahoma
Coushatta Tribe
Creek Nation of Oklahoma
Eastern Shawnee Tribe of Oklahoma
Eastern Band of the Cherokee nation
Kialegee Tribal Town
Mississippi Band of Choctaw Indians
Poarch Band of Creek Indians
Seminole Nation of Oklahoma
Seminole Tribe of Florida
Thlopthlocco Tribal Town
Tunica-Biloxi Office of Cultural and Historic Preservation
United Keetoowah Band of Cherokee Indians

Others

Alabama Conservancy

Alabama Power Company

Birmingham Airport Authority

Cahaba River Society

Sierra Club

11 Comments and Coordination

11.01 Coordination Plan

A coordination plan has been developed for this project to facilitate and document the lead agencies' structured interaction with the public and other agencies and to inform the public and other agencies of how the coordination will be accomplished.

There are several designated groups in this plan each with varying roles. These groups include:

LEAD AGENCIES: The FHWA and ALDOT are joint leads for this project.

PARTICIPATING AGENCIES: The following agencies have been identified as potential participating agencies:

County of Shelby, engineering

Alabama Historical Commission, cultural resources

Alabama Department of Environmental Management, water quality

The Regional Planning Commission of Greater Birmingham, planning data

U.S. Fish and Wildlife Service, rare and endangered species and/or critical habitat

COOPERATING AGENCIES: Cooperating agencies have a slightly higher degree of authority, responsibility, and involvement in the environmental review process. Cooperating agencies are, by definition in [40 CFR 1508.5](#), agencies with jurisdiction by law or special expertise.

The U.S. Army Corps of Engineers is the only cooperating agency for this project.

PROJECT SPONSOR: This is the City of Helena. The project sponsor has the same responsibilities as the participating agencies.

PUBLIC: Anyone with an interest in the project. Opportunities for input from this group occur at the Public Involvement Meetings and the public hearing.

11.02 Scoping Meeting

A Scoping Meeting was held for the project on September 7, 2006. The meeting was held in the ALDOT Third Division Auditorium in Birmingham.

The agenda/handout, register of attendance and minutes of the meeting are included in **Appendix G**.

11.03 Public Involvement Meetings

Initial Meeting

A public involvement meeting was held for the project on September 14, 2006. The meeting was held from 4:00 p.m. – 7:00 p.m. at the Riverside Baptist Church gymnasium.

The hearing was conducted using an informal walk-in information session format. As the guests entered, they were welcomed and asked to sign a register of attendance. They were

given an information packet for the project and asked to complete and return a comment form which was part of the information packet. Displays of the alternatives under consideration were presented for viewing. Design personnel, right-of-way personnel, and environmental experts were there to answer questions and provide answers for citizens' questions.

The meeting was attended by approximately 74 citizens. Of the 35 written comments received, 34 citizens approve of the project, 0 disapprove of the project, and 1 neither approved nor disapproved.

The written responses indicated the following preferences:

Alternative I	30
Alternative II	2
No Preference	3

The meeting advertisement, handout, and summary are included in **Appendix G**.

Second Meeting

After the initial public involvement meeting, engineering concerns related to traffic operations warranted the consideration of a revised intersection configuration at the beginning terminus. Another public involvement meeting was held on July 17, 2007. The meeting was held from 4:00 p.m. – 7:00 p.m. at the Riverside Baptist Church gymnasium.

The hearing was conducted using an informal walk-in information session format. As the guests entered, they were welcomed and asked to sign a register of attendance. They were given an information packet for the project and asked to complete and return a comment form which was part of the information packet. Displays of the alternatives under consideration were presented for viewing. Design personnel, right-of-way personnel, and environmental experts were there to answer questions and provide answers for citizens' questions.

The meeting was attended by approximately 68 citizens. Of the 35 written comments received, 35 citizens approve of the project, 0 disapprove of the project, and 0 neither approved nor disapproved.

The written responses indicated the following preferences:

Alternative I	13
Alternative I-A	18
Alternative II	0
Alternative II-A	4
No Preference	0

The meeting advertisement, handout, and summary are included in **Appendix G**.

11.04 Comments Received at Scoping and Public Meetings

Scoping Meeting

The following are responses to questions asked at and after the scoping meeting.

How much right-of-way would be needed for the alignments?

Response: the required right-of-way will vary and will depend upon factors such as the proposed profile, the existing terrain, and the typical section.

Where will the alternatives tie to CR-52?

Response: there are two locations for the CR-52 terminus. These are discussed in **Section 4.05** and the general locations are shown in **Figure 4.05-1**.

Will there be grade separations at the railroads.

Response: For the build alternatives under consideration, all railroad crossings will be grade separated.

There were questions about the tie-ins near the schools and how this would be accommodated with a multilane divided section versus a multilane undivided section.

Response: the design of the intersection with the bypass and Bearden Road will depend upon the alternative selected. Alternatives I and I-A would require shifting the location of the intersection to the west, providing more room to develop design alternatives for the intersection. Alternatives II and II-A would be somewhat more restrictive because of the existing alignment and grade on Bearden Road. It is anticipated that with either alternative, an undivided section would be utilized at this location. Signalization of this intersection is likely, and will be evaluated during the design stage.

There was additional discussion regarding how the tie near Bearden Road would be accommodated for Alternative I versus Alternative II. This intersection for Alternative I may be somewhat more complex than for Alternative II.

Response: See the response provided above

Will the selected alternative have limited access?

Response: Limited access is anticipated for the section on new location.

Alabama Power representatives expressed their concern about having access to their service roads as the discussions on limited access took place.

Response: Access to the service roads will be provided; the details of that access will be worked out during the design phase.

Mr. Tom Ferguson representing Shelby County Schools at the scoping meeting asked for the school office to be notified concerning the point of intersection on CR 52 near Helena Intermediate School and the point of intersection near Bearden Road, which is near Pelham High School.

Response: Mr. Ferguson will be contacted and advised when the project is scheduled for a public hearing. He will also be offered an opportunity for a one-on-one meeting to review the latest alternatives at that time.

Comments From Public Involvement Meetings - Related To Need Of Project And Timing Of Construction

The comments in this section will not be addressed individually. They are included to show the pulse of the community regarding both their perception of the need of this project and the timing with which it should be carried out.

"Much Needed!"

"Bypass is greatly needed"

"This has been a long time coming and is critical to improving traffic flow."

"Very needed – too much traffic in Old Towne Now!"

"I believe this will help traffic congestion for both Helena and surrounding area. We strongly support this project. The inability to egress from Helena in the mornings is having an effect on the housing market in the area."

"Desperately needed. This project will help the traffic congestion in Helena."

"This project needs to be started as quickly as possible. Traffic through Helena grows on a daily basis."

"If there are no impacts found in the Env. Study, then construction of this project should begin immediately."

"If environmental study is ok, start construction immediately. Delay causes the existing problems to be compounded."

"Once EIS is complete construction should commence."

"It will alleviate congestion in a rapidly growing community."

"Rush hour traffic is unbelievable."

"Need is critical"

"The sooner the better"

"Badly needed"

"Begin ASAP"

"Hurry up!"

"Any bypass is absolutely necessary due to horrible traffic congestion"

"Complete as quickly as possible"

"There is no doubt on the need of this project"

"This project is desperately needed to ease congestion and enhance value of the historic district."

"Hurry"

"Construction needs to begin as soon as possible."

"Start construction right away."

"Needed this yesterday. We need to hurry up and get it done!"

"Can you start tomorrow?"

"Need badly"

"Need is real and immediate."

"With more houses being built everyday, this project needs to be fast-tracked."

"Please Hurry!"

"Do it quickly."

"Please escalate project."

"Bypass is definitely needed to assist/improve traffic flow."

"Very needed. ASAP"

"This project should receive top priority to eliminate traffic delays, traffic delays are hindering development and decreasing property values."

"Helena needs this! More roads / wider roads will help. Alternative 1 & 1A provide more choice (extra new roadway). I prefer it for its potential for growth in Helena."

"Much needed project; new alignment bypassing quarry will be effective and can implement access control"

"This is a necessary project. Traffic at certain periods of the day is already too congested."

"This project needs to happen!!"

"There is an immediate need before traffic becomes more hazardous."

"It is needed to improve traffic flow and route traffic around Old Towne Helena"

"Anything to increase the number of lanes in and out of the City."

"USS agrees that an alternative route is needed to relieve traffic from the already congested CR-52 and SR-261."

"Although I do not commute on these routes, I drive it regularly during rush hour and have watched the back-up lengthen from a block to a mile or more. There is no question of need. Presentation of alternatives with consultants and local officials was most informative as was the flyover view on screen. At this point my concern is stopping traffic on the bypass and Co. Rd. 52 particularly. Has there been any discussion of a \$\$ flyover at this proposed intersection? This is rhetorical and does not require an answer. US Steel will develop the acreage and population will no doubt continue to grow energetically."

Comments Related To Alternative I / I-A

The comments in this section will not be addressed individually. They do show some of the reasoning behind some of the citizens' preference for these Alternatives. Alternative I and I-A have been combined because Alternative I-A was developed after the initial public involvement

meeting (PIM) and many comments received at the second PIM were common to both Alternatives I and I-A.

"The reason we like Project I is that we think it would flow better. Going through the quarry would be a tight curve."

"Alternative I looks like a very logical plan. Our community will appreciate your efforts to bring about the subject road."

"A straight road is better than a zig-zag one. It appears to negate a new quarry bridge."

"Alternative I is clear choice based on intersections flow and property disturbed."

"Alt #I makes the most sense and will certainly be less costly than Alt II"

"Alt I as soon as possible"

"Alt I seems to be less expensive – don't need to buy up other property along 261"

"I like #I because it can avoid the PHS traffic."

"I would like to see a good intersection with Bearden Road and the preferred alternative above (Alt. I)"

"Alt. IA makes sense. The logical termini of this bypass should allow planned connections for extension to County Rd. 17."

"Building this road across will enhance travel route that will greatly relieve some of the traffic issues that are problematic."

"Blue alternative allows room for future business expansion."

"Alt. I-A is better for traffic flow."

"Project that goes north of quarry is more efficient. Alternative I"

"Alternative I makes everyone happy and is less costly"

Comments Related To Alternative II / II-A

Not all of the comments in this section will be addressed individually. They provide insight to some of the reasoning behind some of the citizens' preference for these Alternatives.

Alternative II and II-A have been combined because Alternative II-A was developed after the initial public involvement meeting (PIM) and many comments received at the second PIM were common to both Alternatives II and II-A.

Comment: "Local unknown needs, as a descendent of those buried at Roy Cemetery we are opposed to any further disruption of earth nearby. Prefer Alternative I due to loss of possible needed parking area. I'm referring to the Roy Cemetery as my father and grandmother are buried there. For funerals and Decoration Day parking is needed."

Response: a commitment has been made to provide a "cost to cure" settlement or assist the cemetery in acquiring additional property to replace any lost with the construction of Alternative II or II-A. (See the **Environmental Commitment Statement** in the **Summary** of this document.)

Comment: "Alt II utilizes existing ROW. We should optimize existing ROW before impacting other areas. We may eventually need both; however Hwy 31 & especially I-65 will need to accommodate the increased flow."

Comment: "Do not go through existing quarry road"

Comment: "USS prefers the Alternative II-A connection to Hillsboro Parkway, only if reasonable access is maintained into the retail district planned at the intersection of Hillsboro Parkway and CR-52. At a minimum this would include the opposing turnouts already designed and constructed into the Parkway, approximately 250 feet and 650 feet north of CR-52, and one opposing turnout before the roadway crosses CSX Railroad."

Comments Related to Bicycle and Pedestrian Facilities

The comments below were received regarding bicycle and pedestrian facilities. More discussion on bicycle and pedestrian facilities is provided in **Section 6.07** of this document.

Comment: "Final design should consider and provide for safe bicycle corridor if designed right."

Response: This project has been coordinated with the Buck Creek / Tocoa Rail-Trail system which is a 3.6 mile multiuse trail along Buck Creek and rail beds from Bishop Creek through Helena center to the Cahaba River. Accommodations for bicyclists and pedestrians will be provided in accordance with the Alabama Statewide Bicycle and Pedestrian Plan. See **Section 6.07** of this document for more information about considerations for pedestrians and bicyclists.

Comment: "Alternative transportation – allow space for bicycles & sidewalks."

Response: See previous response & **Section 6.07** of this document for more information about considerations for pedestrians and bicyclists.

Comment: "Include plans for future developments and additional access roads, planned parking areas for access to walking trail planned in area of historic coke ovens."

Response: During the design phase, the locations of access points will be evaluated and determined. See **Section 6.07** of this document for more information about the Buck Creek / Tocoa Rail-Trail system.

Comments With Responses Provided

Comment: "It is very important that the RR X-ings be grade separations instead of at-grade X-ings."

Response: All railroad crossings for the proposed bypass will be grade separated.

Comment: "The tie-in @ CR 52 should be studied carefully."

Response: This comment received at the initial PIM has been done. This is a reason why Alternatives I-A and II-A were developed and presented at a second PIM.

Comment: "Alter geometry of bypass at western end to remove impact to church property."

Response: After the initial PIM, coordination with the church was accomplished. Information regarding the church's Master Plan was obtained and the connection with CR 52 for

Alternatives I and II were revised to lessen the impact. Additionally, Alternatives I-A and II-A have been proposed and if selected would remove the impact to the church's property.

Comment: "Please consider connections – the more, the better." "I wish old neighborhood streets would connect to new developments! Let's make it happen."

Response: The planned connections for existing streets are limited to the termini, as much of the bypass is on new location. Connecting the bypass to the existing street network is beyond the scope of this study. However, there will be provisions made as development proceeds for the new roads to tie into the bypass in accordance with the City's Comprehensive Plan.

Comment: "I know this plan is limited to 261 Old Towne bypass but must be considered along with need to widen Hwy 52 between I459 and terminus of this project. In my opinion, Hwy 52 need is more critical than 261 Bypass."

Response: That project is not included in this study. However, a study to widen CR 52 to I-459 has been completed and approved. We understand that plans are currently being developed by Jefferson and Shelby Counties to accomplish this widening.

Comment: "Need adjoining roads (i.e. 261 and 52) widened."

Response: See previous response regarding CR 52. Similarly SR 261 has been studied and plans are currently being developed by others to accomplish this widening.

Comment: "This is a good start to the transportation issues, however, all roads into Helena need to be addressed."

Response: See previous 2 responses.

Comment: "It benefits only a small portion of traffic. It needs to go to CR 91 and on to Hwy 17 and possibly beyond. It's a corridor for Alabaster and south Shelby County."

Response: Since this study began, a roadway (Hillsboro Parkway) has been designed and construction is underway. Hillsboro Parkway begins at CR 17 continues northwesterly and crosses CR 91 near the new Helena Middle School. It continues from CR 91 and turns northeasterly where it ties to CR-52 at the proposed intersection location of Alternatives I-A and II-A.

Comment: "Helena has quickly outgrown its road system. Please ask our politicians to help fund and expedite this project and other road improvement in our city. This will greatly improve property values as well."

Response: Mayor Penhale has actively pressed for this project to be expedited. Partial funding for the construction of the bypass is in place.

Comment: "Could we avoid or limit businesses unless we have exits like a highway?"

Response: The proposed bypass will be a limited access highway. A limited access highway controls the access points to the highway and increases both the capacity and the safety of a transportation facility.

11.05 Other Agency Coordination

Advance notification and early coordination procedures were initiated in accordance with 23 CFR 771.111 to solicit comments from federal, state, regional, local agencies, and groups concerning issues related to the proposed project.

Agency coordination has and will continue to take place throughout the project. Copies of all pertinent correspondence are included in **Appendix G**. There were no comments or issues raised that warrant further studies or consideration.

11.06 Public Hearing

A public hearing was held for the project on November 18, 2010. The meeting was advertised in the Shelby County Reporter and the Birmingham News. The meeting was held from 4:00 p.m. – 7:00 p.m. at the Helena Community Center located at 110 Ruffin Road, Helena, AL.

The hearing was conducted using an informal walk-in information session format. As the guests entered, they were welcomed and asked to sign a register of attendance. They were provided an information packet for the project and asked to complete and return a comment form which was part of the information packet. Displays of the alternatives under consideration were presented for viewing. Design personnel, right-of-way personnel, and environmental experts were there to answer questions and provide answers for citizens' questions.

The meeting was attended by approximately 93 citizens. There were 8 Alabama Department of Transportation employees present, 3 representatives from Shelby County, 18 representatives from the City of Helena, 1 representative from the Regional Planning Commission and 5 representatives from the sponsor's consultant firm of Solid Civil Design.

There were 77 written comments received concerning this project. The comment forms indicate 66 approve of the project, 5 disapprove, and 6 neither approve nor disapprove.

The written responses indicated the following preferences:

Alternative I	6
Alternative I-A	39
Alternative I or I-A	17
Alternative II	2
Alternative II-A	4
Alternative II or II-A	1
Alternative I-A or II-A	1
No Preference	7

The meeting handout, and summary are included in **Appendix G**.

Comments From Public Hearing

The comments in this section will not be addressed individually. They are included to show the pulse of the community regarding both their perception of the need of this project and the timing with which it should be carried out.

"Helena is known for traffic congestion. Alternate routes are necessary to grow our community and shorten our commutes. Helena is the greatest place on earth to live and raise a family. Except our roads!!"

"This project is very much needed! Helena traffic needs relief ASAP!"

"Hurry"

"Congestion is awful. Traffic is Shelby Co. number one problem. The longer you wait the more it will cost. The traffic will get worse."

"Faster the better"

"Definitely need and as soon as possible. Will be happy to have access for development of current inaccessible commercial zoned property."

"Project needs to be completed ASAP"

"Would be of tremendous benefit to the city. The sooner the better."

"Lets get it done"

"Will ease traffic congestion."

"The project is sorely needed."

"Please start project soon. Roadways are congested and serious traffic accidents are occurring."

"Traffic is horrible. Please start immediately!"

"The city needs this badly. This would be a tremendous help with our city's traffic problem. Waiting impatiently on this project to begin."

"Greatly needed to reduce traffic congestion and increase safety. Start work ASAP."

"This project should have been completed 20 years ago."

"I do wish for a speedy conclusion to this project."

"Helena is drowning in traffic. This can be our lifeline."

"Badly needed."

"I'm getting older, hurry up. Git-R-Done. Full speed ahead. Don't spare the horses."

"Definitely needed sooner."

"Past due. We have outgrown existing infrastructure. Need to begin immediately."

"Much needed project to support growing area."

Comments With Responses Provided

Comment: "Expand the width of 52 to Shades Crest Road."

Response: There is another environmental study that has evaluated the impacts of that work. That project, *STPAA-7116(001) Morgan Road (CR-52) from South Shades Crest Road to SR 261* is not within the scope of this study, but is planned for the future.

Comment: "The improvements to 261 should include paved shoulders to accommodate bicycle traffic and a plan to keep them swept of debris."

Response: The proposed typical sections for the improvements (see **Figure 4.05-3** and **Figure 4.05-4**) provide for planned paved shoulders. The preferred alternative (Alternative I-A) would have this paved shoulder where it ties to SR 261. **Section 6.07** of this document provides information for the consideration to bicyclists and pedestrians.

Comment: "Add bike lanes – 4 lane divided."

Response: See previous comment and response.

Comment: "Sidewalks/walking trails should be accommodated. Roadway needs to accommodate bicycles. Curb lane needs to be 17' wide. "

Response: **Section 6.07** of this document addresses bicyclists and pedestrians. Open shoulders are the planned typical section, not curb and gutter. See previous comment and response.

Comment: "Neither sidewalks or a wider curb lane are shown on the typical sections. Sidewalks and bicycles need to be allowed for. Pedestrians need crosswalks and pedestrian lights."

Response: See the previous response regarding bicyclists and pedestrians. This project plans to provide a sidewalk area on both sides of the roadway. The exact location for sidewalks will be determined during design.

Comment: "Add on-street bike lanes/bike and/or pedestrian signage."

Response: See previous comments regarding bike lanes and pedestrians.

Comment: "Concern over ability of residents to get out of Chadwick Subdivision."

Response: This project does not extend to Chadwick subdivision. However, there is another project with planned construction that should address this concern. That project is *STPAA-7112(003) Add Lanes SR-261 From Bearden Road to SR-3 (US-31)*

Comment: "I think property owners should be fairly compensated if this project takes their property."

Response: **Section 6.04** of this document addresses property acquisition and relocations. The Acquisition and Relocation Assistance Program Services will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended by the Surface Transportation & Uniform Relocation Assistance Act of 1987. Relocation assistance and resources will be made available to all residential and business relocatees without discrimination.

Comment: "Use max design speed not to exceed 45 mph"

Response: The design criteria will be established by ALDOT during the design phase and will be appropriate for the roadway classification.

Comment: "Consider roundabout at Hillsboro Road"

Response: Currently a signalized intersection is planned for the preferred alternative (Alternative I-A) at the CR-52 intersection. This will be reviewed during the design phase of the project.

Comment: "Location of bypass in reference to Riverwoods (my address) appears to be quite close 1000 feet / (1/5 mile). If correct please move farther away (1 mile or so). Noise and future residential development near this will be quite tragic."

Response: According to ALDOT Noise Policy, receptors beyond 500 feet are not typically modeled for noise impacts as they are typically too far away to receive noise impacts. Moving the roadway an additional 0.8 miles away from this receptor is not a feasible option due to engineering constraints and other environmental concerns related to the crossing of Buck Creek.

Comment: "Alternative I-A would necessitate the area of Alternative I-A, CR 105 and SR 261 be reconfigured differently to the plan presented at the public hearing (having only one signal at Alternative I-A and CR 105 leaving the intersection of Alternative I-A with SR 261 south of CR 105 without a signal). With SR 261 still being a major route for traffic into and out of Helena, a non-signalized intersection of SR 261 with Alternative I-A south of CR 105 will create a traffic problem for those using SR 261 as noted in the above mentioned comments. SR 261 traffic may be reduced but its remaining traffic will still be more than CR 105's traffic as it leads into Helena's industrial, commercial, and east central residential areas. My preferred option would have CR 105 cross under Alternative I-A, looping back to a signalized southern intersection of Alternative I-A and SR 261; however, such most likely would delay the project more than anyone would desire and add significant cost. Still a better option than what was presented at the public hearing and one that would not delay the project would be reconfiguring this area to include two traffic signals – one at Alternative I-A and CR 105 and the other at Alternative I-A and SR 261 south of CR 105."

Response: Your last suggestion has been considered. It will be further developed during the design phase with signal locations established based upon signal warrants.

Comment: "Alternative I-A would need to have an access point provided between the railroads to connect with Riverwoods Subdivision preferably using the stub at River Oaks Place to allow residents to avoid accessing CR 52."

Response: The access to the bypass will be limited. The locations of the access points will be determined during the design phase and will be in accordance with Helena's Comprehensive Plan 2025.

Comment: "Alternative I-A would require an access point provided to allow Ruffin Road to be extended to the bypass and beyond to areas of Hillsboro North or a future river crossing."

Response: The access to the bypass will be limited. The locations of the access points will be determined during the design phase and will be in accordance with Helena's Comprehensive Plan 2025.

DEIS Comments from EPA with Responses Provided

Comment: "The Final EIS should indicate whether an alternative was evaluated that involves routing rail and street traffic to different grades at the two problematic crossings. It should indicate why this alternative would or would not meet the project's purpose and need."

Response: The proximity of these at-grade crossings to the Helena Historic District and the Buck Creek Park, preclude any reasonable solutions to provide a grade separation. Even if a reasonable solution were possible a grade separation could help the traffic delays, but would still not accomplish the purpose and need of the project.

Comment: "The FEIS should include a more detailed explanation of what the qualifier "to the extent practical" means."

Response: A note has been added to qualify the phrase "to the extent practical" in the Best Management Practices portion of **Section 6.10**.

Comment: "In addition, other streams and wetlands (not just direct tributaries to the Cahaba) should also have buffers similar to those described for the Cahaba River/Buck Creek Conservation Overlay District, particularly given the existing impairments of Buck Creek and the Cahaba River that would likely be exacerbated by the proposed development."

Response: The applicability the Cahaba River/Buck Creek Conservation Overlay District (CRBC) includes: "...any land located within the floodway of the Cahaba River, Buck Creek, their tributaries or the Stream Setback/Buffer, whichever is greater...". In addition, the following has been added as an environmental commitment and listed in the BMPs in **Section 6.10**: "*All construction activities will be contained within the construction limits as set by the designer in an effort to reduce the potential impacts to the Cahaba River system (Cahaba River, Buck Creek, tributaries to the Cahaba River and Buck Creek, and areas within the Cahaba River floodway)*".

Comment: "The DEIS identifies two impaired water bodies that do not meet water quality standards or their designated uses and the status of development of Total Maximum Daily Loads (TMDLs) for each waterway in the study area. EPA notes that there are development related 303(d) impairments for both Buck Creek and the Cahaba River (pathogens for Buck Creek: nutrients, siltation, pathogens, and habitat alterations for the Cahaba River). Based on our assessment, the best management practices (BMPs) described in the DEIS may not be sufficient to avoid contributing to those impairments."

Response: As stated in **Section 6.10** "*Best Management Practices (BMP's) for this project have been agreed upon by both the United States Fish and Wildlife Service (USFWS) and the ALDOT.*" The USFWS agreed that these BMPs were satisfactory to address the concerns for the protected resources.

Comment: "EPA recommends that ALDOT and FHWA consider more protective measures and design features (i.e., permeable pavement) that could result in significant water quality, storm-flow delay, as well as traffic safety benefits. These measures should be discussed and included in the FEIS. In addition, there should be information regarding these entities that will be responsible for their implementation and oversight."

Response: **Section 8.02** has been added to discuss the use of an open-graded friction

course pavement. The decision regarding the pavement type will be made during the design phase by FHWA and ALDOT.

Comment: "In the DEIS, stream impacts have been quantified by converting reach length to acreage. In addition, intermittent streams on site are described as offering "*only moderate habitat function due to their intermittent classification*" (p. 41). EPA recommends that stream length should be used in the main body of the FEIS. This is a better metric for conveying and assessing project related stream impacts. The FEIS should also eliminate the statement indicating that intermittent streams only offer moderate habitat function due to their classification because this is not an appropriate characterization of these streams. Intermittent streams have important functions."

Response: **Table 6.10-1** and **Table 6.10-2** presented both the lengths of the streams impacted and the corresponding fill anticipated to be placed in them. The calculation showing the area filled has been removed as EPA has requested.

The phrase "*due to their intermittent classification*" has been removed in both occurrences.

Comment: "The DEIS should include a draft mitigation plan to compensate for predicted wetland and stream losses that remain following efforts to avoid and minimize such impacts. The compensatory mitigation proposed should comply with the "2008 Compensatory Mitigation for Losses of Aquatic Resources; Final Rule" which is better known as the 2008 Mitigation Rule (the Rule). All former Regulatory Guidance Letters (RGL) and Guidance (e.g., Mitigation Banking Guidance, 1995) with the exception of the 1990 Mitigation Memorandum of Agreement have been subsumed by the 2008 Mitigation Rule. The FEIS should include information regarding the basic approach that will be used to address issues related to compensatory mitigation (e.g., use of a mitigation bank, assessment methodology, and baseline information). The compensatory mitigation approach should also address temporal losses, as well as all three types of loss for streams."

Response: A new chapter has been added to the FEIS, Chapter 8, which addresses the mitigation of environmental impacts. The Mitigation of Wetlands Impacts section of this chapter includes a general approach that will be used to address issues associated with compensatory mitigation.

Comment: "EPA recommends that table entitled, "Detail of receptors which reach the NAC level in one or more alternative" located in Appendix C, Page 7 be moved to the main body of the noise analysis (**Section 6.09**). In addition **Section 6.09** should discuss any sites that may experience a perceived doubling of noise levels. This discussion should include information for such sites prior to relocation and post relocation."

Response: **Table 6.09-3** has been added. Discussion has been included for the receptors anticipated to experience a perceived doubling of noise levels including the ones that are to be relocation impacts.

Comment: "EPA recommends that every effort be made to ensure that minority and low income populations within the project area are actively and meaningfully involved in the decision-making process including the identification of appropriate mitigation for community-related impacts. The outcomes of meetings and special efforts to target these EJ communities should be summarized and documented in the FEIS. Given that the area within the vicinity of the Starkey Street Neighborhood appears to be planned for future industrial development, the

FEIS should discuss Helena or Shelby County's comprehensive strategy for working with these EJ communities to ensure that they are engaged in the process and treated equitably."

Response:

The preferred alternative does not directly impact the EJ community (Starkey Street neighborhood). This alternative was selected in part from the overwhelming support for it at the public meetings and hearing (including support for it by Starkey Street residents). The zoning information included for the purpose of making decisions about the transportation system. It was not performed as a result of this study. Investigation of Helena or Shelby County's comprehensive strategy for working with EJ communities is beyond the scope of this study and would not affect the selection of Alternative I-A as the preferred alternative.

Comment: "The FEIS should indicate whether this project is in the most recent TIP and Long Range Transportation Plan. The air quality section of the DEIS should reference the Air Quality Report located in Appendix B regarding the PM_{2.5} hotspot checklist that was completed for the Helena bypass project. EPA notes that the air quality sections of the DEIS do not address air toxics."

Response: This information has been updated in **Section 6.08** to reflect that the project is in the most recent Transportation Improvement Program (TIP) and Long Range Transportation Plan (LRTP).

The Air Quality Section (**Section 6.08**) has been modified to include references to the Air Quality Report in Appendix B regarding the PM_{2.5} Hotspot Checklist which was completed for this project.

DEIS Comments from USACE with Responses Provided

Comment: "Based upon preliminary review of the proposed project, a Department of the Army permit will be required for this project. The Draft EIS discusses four alternate build scenarios for the bypass. It appears Alternates I and IA would require a Section 404 Individual Permit because of the amount of wetland impacts. Under the current Nationwide Permits, a Nationwide 14 for Linear Transportation Projects would be applicable to Alternates II and IIA. The delineation of the streams and wetlands that has been performed by Gallet and Associates has not been verified by this office. A site visit will be necessary following the receipt of the permit application to verify the accuracy of the delineation"

Response: Information was added to **Section 6.11** of the FEIS stating the need for the Section 404 Permit for Alternatives I and I-A. A new subsection was also added to address the need for a Nationwide 14 Permit.

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