

Final Environmental Impact Statement And Final Section 4(f) Evaluation

**State Highway 397
(Mack Hatcher Parkway Extension)
From US 31 (State Route 6, Columbia Pike) south of Franklin
To US 431 (State Route 106, Hillsboro Road) north of Franklin
Franklin, Williamson County, Tennessee**

**Submitted Pursuant to the
National Environmental Policy Act of 1969
42 U.S.C. 4332(2)(c)**

Lead Agencies:
US Department of Transportation
Federal Highway Administration

Cooperating Agencies:
US Army Corps of Engineers
Tennessee Valley Authority

**State Highway 397
(Mack Hatcher Parkway Extension)
From US 31 (State Route 6, Columbia Pike) south of Franklin
To US 431 (State Route 106, Hillsboro Road) north of Franklin
Franklin, Williamson County, Tennessee**

**FINAL ENVIRONMENTAL IMPACT STATEMENT
AND FINAL SECTION 4(F) EVALUATION**

U.S. Department of Transportation
Federal Highway Administration
and
Tennessee Department of Transportation

Cooperating Agencies:
US Army Corps of Engineers
Tennessee Valley Authority

Submitted Pursuant to 42 U.S.C. 4332 (2) (c) (and when applicable, 49 U.S.C. 303) by the U.S.
Department of Transportation, Federal Highway Administration, and
Tennessee Department of Transportation

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Bobby W Blackmon
FHWA Division Administrator

1/12/09
Date of Approval

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This document identifies and assesses the environmental impacts of the Selected Alternative and previously studied alternatives associated with the project to complete State Route 397 (Mack Hatcher Parkway) around the City of Franklin, Tennessee, from US 31 (State Route 6, Columbia Pike) south of Franklin to US 431 (State Route 106, Hillsboro Road) north of Franklin in Williamson County, Tennessee. This study evaluates the feasibility of constructing a four-lane divided, limited access facility on new alignment within right-of-way that ranges from a minimum of approximately 133 feet in the urban sections and a maximum of approximately 250 feet in the rural sections. The total length of the proposed improvement is approximately 7.5 miles.

SUMMARY

S.1 Project History

This document identifies and assesses the environmental impacts associated with the proposed State Route (SR) 397/Mack Hatcher Parkway extension. This project has been under study since 2000, and its evaluation has included preliminary alignment studies, environmental investigations and the Context Sensitive Design (CSD) process.

In early 2001, the Tennessee Department of Transportation (TDOT) produced an Advanced Planning Report (APR) identifying two alternatives based on engineering factors and anticipated impacts to the surrounding landowners. In the spring of 2001, an environmental study was started based upon the APR alignments to determine the most appropriate location for the project and to quantify social, economic, environmental, cultural and engineering issues related to its location. Based upon public input received at an advertised and well-attended public meeting and environmental concerns identified in the planning process, alignment changes were made that avoided or reduced potential project impacts. These refined alignments were the subject of the Draft Environmental Impact Statement (DEIS), which was approved in November of 2004.

In January of 2005, TDOT held two public hearings for the DEIS. Following the public hearings, the Board of Mayor and Aldermen of the City of Franklin passed a resolution outlining five issues that the City wanted addressed as a part of their review of the DEIS, including a request that TDOT give full consideration to incorporating Segment 17 back into the alternatives under consideration. (Segment 17 had been included in the preliminary alternatives as Segment 7, was then renamed Segment 17 and was later removed from consideration.)

In response to the City's request, TDOT fully developed and evaluated Segment 17. Segment 17 was added to DEIS Segments 1, 9, 11 and 13 to create Build Alternative G. Build Alternative G was added to the Build Alternatives as the seventh alternative to be carried forward in the National Environmental Policy Act (NEPA) process. Alternative G was presented in an August 2005 Supplemental DEIS (SDEIS). A public meeting was held for the SDEIS on July 7, 2005.

In December of 2005, TDOT announced that Build Alternative G had been chosen as the Selected Alternative. The selection was based on the desires of the City, public and agency comments and environmental factors identified in the DEIS and SDEIS. At that time, TDOT also announced its intention to utilize the CSD process to develop the design concepts for SR 397/Mack Hatcher Parkway. The CSD process, which resulted in a recommendation of key design concepts, was completed in 2007. The CSD recommendations were approved by TDOT on April 10, 2007. These recommendations are incorporated into the Selected Alternative in the Final Environmental Impact Statement (FEIS).

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In February of 2008, the City of Franklin requested that TDOT consider shifting a portion of Segment 13 of the Selected Alternative approximately 130 feet to the east to avoid impacts on the eastern boundary of the Westhaven development (see Figure S-1). Technical studies were conducted in the summer of 2008 to determine the impacts associated with such a shift. On August 9, 2008, the Board of Mayor and Aldermen for the City of Franklin approved the alignment shift. Preliminary discussions have also begun regarding the possibility of considering tolling on the SR 397/Mack Hatcher Parkway extension.

Meanwhile, a reevaluation of the DEIS and SDEIS was prepared in accordance with 23 CFR 771.129 due to the time that had elapsed since the submittal of the SDEIS. The reevaluation was approved by FHWA on October 24, 2008 and the FEIS has been updated accordingly.

Agency coordination and public involvement have occurred throughout the NEPA process. The US Army Corps of Engineers (USACE) and the Tennessee Valley Authority (TVA) are cooperating agencies for this project. To address Section 106 of the National Historic Preservation Act (NHPA), Federal Highway Administration (FHWA), the Tennessee State Historic Preservation Office (SHPO) and TDOT have entered into a Memorandum of Agreement (MOA) to address effects to historic properties.

S.2 Project Description

The proposed project is located in Williamson County, on the west side of the City of Franklin. As illustrated in Figure S-1, the project begins at the intersection of SR 6/Columbia Pike¹ (US 31) and existing SR 397/Mack Hatcher Parkway, south of downtown Franklin. The project then proceeds westward around the City of Franklin, ending north of the City at the intersection of SR 106/Hillsboro Road (US 431) and existing SR 397/Mack Hatcher Parkway. The length of the seven Build Alternatives ranges from seven to ten miles. The Selected Alternative is approximately 7.5 miles in length.

The existing SR 397/Mack Hatcher Parkway, between SR 6/Columbia Pike and SR 106/Hillsboro Road on the east side of Franklin, is classified as an urban principal arterial. The proposed extension of the parkway to the west would be a limited access roadway, consistent with the existing SR 397/Mack Hatcher Parkway on the east side of Franklin.

Developed through the CSD process, the typical sections along the corridor vary. All sections consist of four lanes with a median except where the roadway intersects with other major arterials. The urban sections are proposed to be curb-and-gutter, within a minimum right-of-way (ROW) of 133 feet. This is a reduced section from that proposed in the DEIS and SDEIS and is intended to lower speeds in these areas. The rural sections are proposed to have inside curbs and stabilized grass shoulders on the outside. A maximum ROW of approximately 250 feet is proposed in the rural sections. The typical section throughout the project length will include a paved multi-use path.

¹ SR 6 is named Columbia Pike south of SR 397/Mack Hatcher Parkway, and Columbia Avenue north of SR 397/Mack Hatcher Parkway. For the purposes of this document, SR 6 will generally be referred to as SR 6/Columbia Pike unless the reference is to a specific location on the roadway north of SR 397/Mack Hatcher Parkway, in which case it will be referred to as SR 6/Columbia Avenue.

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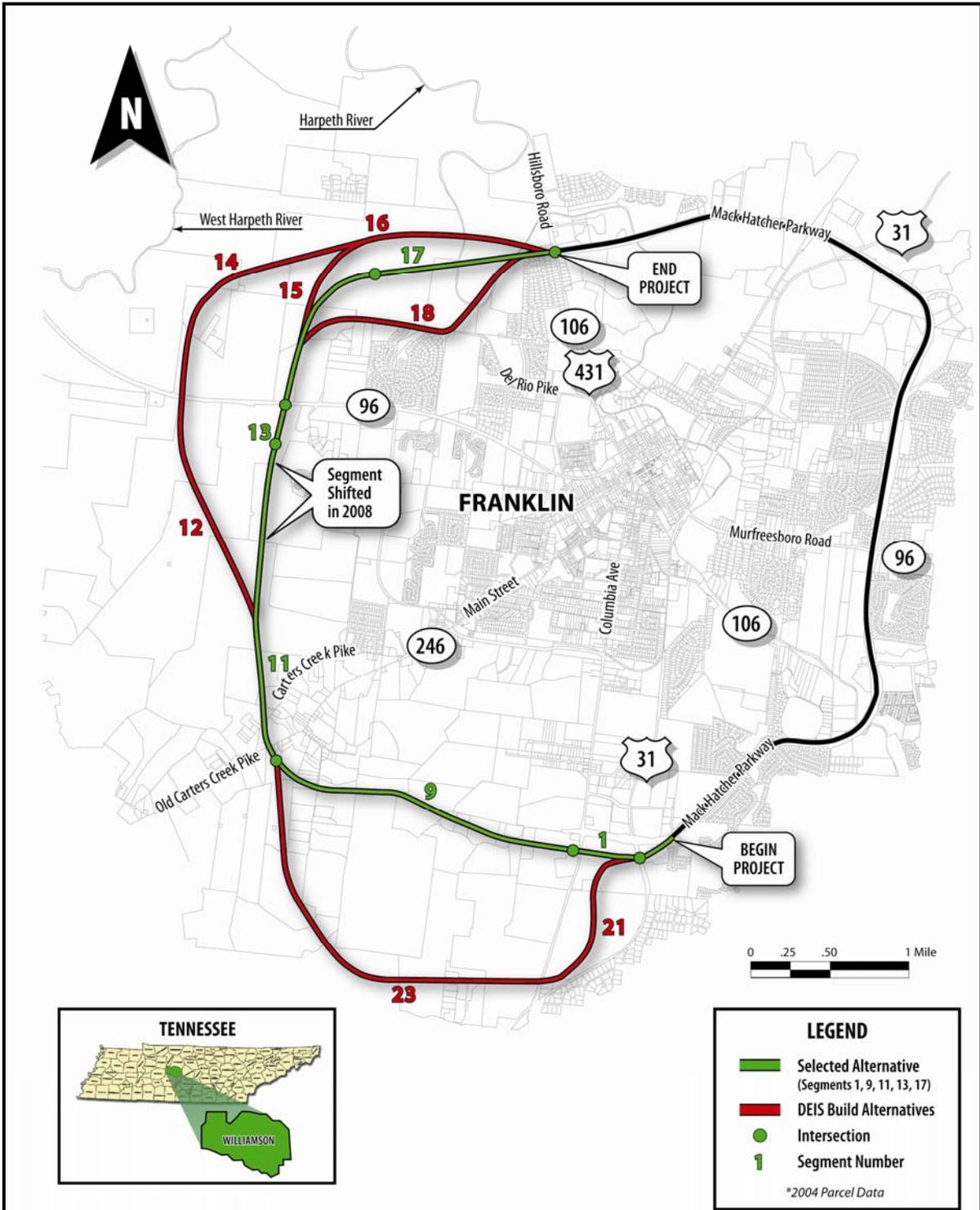


Figure S-1. Project Location Map

The project area is predominantly open farmland and forested tracts, with rapidly expanding residential development. Residential development is scattered along the major roadways that lead into and out of the project area. Land use at the project termini is a mixture of commercial and retail development with single-family residential developments.

The project area is currently located within two jurisdictional authorities, Williamson County and the City of Franklin. The proposed project is within the City of Franklin's urban growth boundary (UGB), and is consistent with City and County planning documents. The proposed project is also included in the Metropolitan Planning Organization's (MPO) *2008-2011 Transportation Improvement Program (TIP)* (#2006-418), and as a 2016 project in the MPO's *2030 Long Range Transportation Plan (LRTP)* (#6045).

S.3 Purpose and Need

Through coordination with local officials, agencies and the public, the purpose and need for the project has been clearly defined. In summary, the purpose of the project is to develop a transportation improvement that:

- Reduces existing and anticipated traffic congestion;
- Provides continuity to the regional highway system;
- Increases efficient movement of goods and people;
- Improves safety to the traveling public;
- Improves emergency vehicle response times; and
- Conforms to local planning documents.

S.4 Reasonable Alternatives Considered

The following alternatives were considered in the decision-making process for the proposed project:

- No Build Alternative;
- Transportation System Management (TSM) Alternative;
- Transit Alternative;
- Alternative to Improve Existing Transportation Network; and
- DEIS and SDEIS Build Alternatives.

S.4.1 No Build Alternative

The No Build Alternative implies that the SR 397/Mack Hatcher Parkway extension is not constructed and that no major improvements beyond typical maintenance would be undertaken on the existing transportation network. This alternative would result in no improvement to traffic service in the project area and, with future increases in traffic, travel conditions would worsen or deteriorate. This would place a limitation on development in the study area and result in a higher burden on the existing poorly-connected roadway network.

S.4.2 TSM and Transit Alternative

The TSM and Transit Alternatives do not meet the purpose and need of the project. They would not increase connectivity west of downtown Franklin, nor would these alternatives sufficiently address capacity and safety issues on area roadways. These alternatives are not considered reasonable transportation improvement strategies for this corridor.

S.4.3 Alternative to Improve Existing Transportation Network

Upgrading the existing roadway network west of the City of Franklin to serve as a parkway around the west side of Franklin is not feasible. The existing roads are primarily located in heavily developed areas. Combining existing circuitous and disconnected roads to create a western parkway loop would have major environmental impacts and would provide a roadway with substandard alignment and travel speeds. The option of improving the existing roadways to meet the project purpose and need was eliminated from further consideration because of the potential magnitude of adverse impacts to the community.

S.4.4 DEIS and SDEIS Build Alternatives

Table S-1 lists the Build Alternatives and each alternative’s related segments. The Build Alternatives listed in Table S-1 have been defined by a combination of alignment segments presented in the DEIS and the SDEIS. Build Alternatives A through F were presented in the DEIS. In response to the request by the City of Franklin, Segment 17 was subsequently combined with Segments 1, 9, 11 and 13 from the DEIS to form Alternative G. Since Segment 17 had not been fully developed and evaluated to the same level of environmental analysis as all other alternatives carried forward as DEIS Build Alternatives, TDOT prepared an SDEIS. The SDEIS included all of the segments and Build Alternatives of the DEIS plus Segment 17 of Alternative G.

Table S-1. DEIS and SDEIS Build Alternatives

Alternatives	Combination of Segments
A	1, 9, 11, 13, 18
B	1, 9, 11, 13, 15, 16
C	1, 9, 11, 12, 14, 16
D	21, 23, 11, 13, 15, 16
E	21, 23, 11, 13, 18
F	21, 23, 11, 12, 14, 16
G	1, 9, 11, 13, 17

S.5 Selected Alternative

In December 2005, TDOT announced Alternative G as the Selected Alternative for the proposed project. Alternative G was selected for the following reasons:

- It is preferred by the City of Franklin. On February of 2005, the Board of Mayor and Aldermen issued a resolution identifying this alternative as their preferred route;
- It reflected the best compromise when coordinated with the Tennessee Valley Authority's (TVA) Aspen Grove Transmission Line, Southern Alternative (under construction in 2005 and now completed);
- The Tennessee State Historic Preservation Office (SHPO) concurred that it provides the fewest impacts to the Harpeth River Historic District and the Winstead Hill/Harrison House Historic District;
- It avoids bisecting the Westhaven Town Center (under construction in 2005);
- It costs less than other alternatives (it was close in cost to Alternative C, but that original cost estimate would have increased because of impacts to Westhaven); and
- It best meets the project purpose and need.

In December of 2005, TDOT also announced its intention to utilize the CSD process to develop SR 397/Mack Hatcher Parkway. The CSD process began in March 2006.

In October of 2006, the FHWA and the SHPO entered into a Section 106 MOA, to which TDOT was a signatory. The MOA committed FHWA and TDOT to design the project using the CSD approach to minimize effects to the Harpeth River Historic District and to consider a number of design and other measures to mitigate the project's Section 106 adverse effects to the District.

A SHPO staff member participated in the CSD process as a member of the Agency Resource Team (ART), which supported the Citizen Design Team (CDT). The process took place in a series of meetings primarily held in 2006. After the last CSD Team Meeting (December 7, 2006), a *Consensus Memo* was created to document the list of consensus decisions of the CDT and the ART. The CSD recommendations contained in the *Consensus Memo* were approved by TDOT on April 10, 2007.

Figure S-2 shows the location of the Selected Alternative. As previously stated, a portion of Segment 13 of the Selected Alternative was shifted approximately 130 feet to the east at the request of the City of Franklin in 2008.

As previously described, the typical sections were developed through the CSD process. The entire roadway will consist of four lanes with a median and a multi-use path on one side, except where the roadway intersects with major arterials. The urban sections are proposed to be curb-and-gutter, within a minimum ROW of 133 feet. This section is reduced from that proposed in the DEIS and SDEIS and is intended to reduce traffic speed. The rural sections are proposed to have inside curbs and stabilized grass shoulders on the outside. An

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Figure S-2. Selected Alternative

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anticipated maximum 250-foot ROW is proposed in the rural sections. The typical section through the National Register of Historic Places (NRHP) eligible Harpeth River Historic District is rural, with the outside grass shoulders intended to minimize the visual impacts of the roadway on the Historic District.

Because the proposed SR 397/Mack Hatcher Parkway extension would be designed as a limited-access facility, bicycle and pedestrian traffic will not be permitted to use the roadway. However, the project design includes a multi-use path, exclusively designated for walking, biking, skating and other non-motorized forms of travel. The multi-use path runs on the south side (outside edge) of the proposed roadway from SR 6/Columbia Pike to the SR 246/Carters Creek Pike roundabout. From SR 246/Carters Creek Pike to SR 106/Hillsboro Road, the multi-use path runs on the east/south side (inside edge) of the proposed roadway.

In accordance with the recommendations developed during the CSD process, at-grade signalized intersections are proposed at SR 6/Columbia Pike and SR 106/Hillsboro Road. Double-lane roundabouts are proposed at: SR 246/Carters Creek Pike; SR 96 West; and Del Rio Pike. CSD recommendations included a statement that additional access points may be added in project design. One such access point has been added, SR 397/Mack Hatcher Parkway at Townsend Boulevard. The roadway is planned to provide access to Westhaven and is located approximately 1,300 feet south of SR 96 West. These are the only intersections presently under consideration along the proposed roadway.

Through the CSD process, it was also determined that two parallel bridge structures would be continuous from the eastern edge of the floodway to the western end of the floodway, spanning both the floodway and the two Harpeth River crossings.

S.6 Summary of Impacts

Adverse Impacts

The No Build Alternative would have minimal environmental impacts, but, as previously stated, it would not address the project purpose and need.

The impacts to the social, economic, physical and natural environment resulting from the implementation of the Selected Alternative and the DEIS Build Alternatives are summarized in Table S-2.

In summary, the adverse, or negative, impacts are:

- Residential displacements;
- Impacts to Harpeth River Historic District;
- Increased development in and around the proposed project;
- Impacts to streams and waterways;
- Potential for degradation of water quality from increased sedimentation into waterways;
- Noise impacts; and
- Temporary construction impacts.

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Table S-2. Summary of Impacts

		DEIS Build Alternative						Selected Alternative
Units		A	B	C	D	E	F	G
Segments		1-9-11-13-18	1-9-11-13-15-16	1-9-11-12-14-16	21-23-11-13-15-16	21-23-11-13-18	21-23-11-12-14-16	1-9-11-13-17
Engineering Considerations								
Length of Alternative	Miles	7.86	7.97	8.55	9.11	9.00	9.69	7.51
ROW	Acres	210	218	235	263	255	280	206
Construction Cost plus Engineering*	\$ (Millions)	53.93	44.59	45.56	49.71	59.05	50.68	42.26**
Utility Cost*	\$ (Millions)	1.50	1.46	1.54	1.16	1.19	1.23	1.36**
ROW Cost*	\$ (Millions)	12.60	9.98	9.33	14.73	17.35	14.08	9.15 **
Total Project Cost*	\$ (Millions)	68.03	56.03	56.42	65.59	77.59	65.99	52.77**
Projected Traffic (2029)	ADT	19,100	19,000	19,000	19,000	19,100	19,000	18,500
LOS (2029)	LOS	C	C	C	C	C	C	C
Socio/Economic Considerations								
Residential Displacements	Number	18	5	4	6	19	5	17
Business Displacements	Number	0	1	1	2	1	2	0
Community Impacts (including Environmental Justice)	Impact?	No	No	No	No	No	No	No
Impact on Current Land Use***	Rating	High	Med	Med	Med	High	Med	Med
Impact on Future Land Use	Rating	Med	Med	High	Med	Med	High	Med

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Table S-2. Summary of Impacts (continued)

	DEIS Build Alternative						Selected Alternative	
	Units	A	B	C	D	E		F
Segments	1-9-11-13-18	1-9-11-13-15-16	1-9-11-12-14-16	21-23-11-13-15-16	21-23-11-13-18	21-23-11-12-14-16	1-9-11-13-17	
Environmental Considerations								
Public Lands (Parks and Wildlife Areas)	Number	0	0	0	0	0	0	0
Waterbody Crossings	Number	13	13	13	14	14	14	13
Wetlands	Acres	1.25	1.25	0	1.25	0	0	1.25
Floodplain Impacts	Type	Longitudinal	Perpendicular	Perpendicular	Perpendicular	Longitudinal	Perpendicular	Perpendicular
Threatened and Endangered Species	Impact?	No	No	No	No	No	No	No
Forest	Acres	76	76	73	58	58	55	67
Farmlands	Acres	165	176	189	235	224	248	173
Hazardous Waste Sites	Number	0	0	0	0	0	0	0
Noise ****	Impact?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Section 4(f) Involvement	Impact?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Section 106 Adverse Effects	Impact?	Yes	Yes	Yes	Yes	Yes	Yes	Yes

* Costs for DEIS Build Alternatives A through G were calculated in 2005 dollars.

** Costs for the Selected Alternative (G) were updated during the CSD process. These costs, which are in 2007 dollars, can be found in Table 2-4.

*** Current Land Use: High - High number of displacements, land use is disturbed

Medium - Few displacements, moderate change in land use

Low - No displacements, no change in land use

**** According to the TDOT Noise Policy in effect at the time of the study (for details, see Chapter 4, Section 4.9).

Beneficial Impacts

Implementation of the proposed improvement will have long term benefits to this area, which is currently experiencing rapid growth in residential and commercial development. The recognized benefits are:

- Improves local circulation;
- Reduces existing and anticipated traffic congestion;
- Provides connectivity to the regional highway system (including Interstate 65);
- Increases efficient movement of goods and people;
- Improves safety to the traveling public;
- Improves emergency vehicle response times; and
- Conforms to the *Major Thoroughfare Plan (MTP)*.

The degree to which each Build Alternative provides the above benefits varies, but the differences are minimal.

S.7 Areas of Controversy

Coordination with the public to learn about their concerns took place throughout the planning process. A public meeting and two public hearings were held for the DEIS and a public meeting was held for the SDEIS. During the DEIS meeting/hearings and the SDEIS meeting, residents were given an opportunity to express their views regarding the proposed project. Additionally, TDOT utilized the CSD process to develop design recommendations for the Selected Alternative, which eliminated most areas of potential controversy. The CSD process is a way to balance the goals of safety and mobility with the preservation and enhancement of aesthetic, historic, environmental and community values. In addition to numerous ART and CDT meetings, two public meetings were held during the CSD process.

S.8 Other Unresolved Issues

Preliminary discussions have begun regarding the possibility of considering tolling on the SR 397/Mack Hatcher Parkway extension. A feasibility study is underway. There are no other unresolved issues related to this project.

S.9 Permits

It is anticipated that the proposed action will require the following permits:

- A Nationwide Section 404 Permit issued by the US Army Corps of Engineers (USACE);
- An Aquatic Resource Alteration Permit (ARAP) issued by the Tennessee Department of Environment and Conservation (TDEC);
- A National Pollutant Discharge Elimination System Permit (NPDES) also issued by TDEC; and
- A Notice of Intent issued by TDEC, Division of Water Pollution Control.

S.10 Statute of Limitations on Filing Claims

A federal agency may publish a notice in the *Federal Register*, pursuant to 23 USC 139 (1), indicating that one or more federal agencies have taken final actions on permits, licenses or approvals for a transportation project. If such notice is published, claims seeking judicial review for those federal agency actions will be barred unless such claims are filed within 180 days after the date of publication of the notice, or within such shorter time period as is specified in the federal laws pursuant to which judicial review of the federal agency is allowed. If no notice is published, then periods of time that otherwise are provided by the Federal laws governing such claims will apply.

Environmental Commitments

The project will be developed in accordance with the Tennessee Department of Transportation's (TDOT) *Standard Specifications for Road and Bridge Construction*, which addresses sediment and erosion control and siltation; channelization; floodplains; construction impacts; utility relocation; and traffic maintenance and detours. Best Management Practices (BMPs) will be stringently implemented throughout the construction period.

Project-specific environmental commitments for the Selected Alternative are outlined below:

1. TDOT announced in December of 2005 its intention to utilize the Context Sensitive Design (CSD) process to develop SR 397/Mack Hatcher Parkway. The CSD process began in March 2006 and culminated in a *Consensus Memo*, outlining the Citizen Design Team (CDT) and Agency Resource Team (ART) design recommendations for the Selected Alternative. The CSD recommendations were approved by TDOT on April 10, 2007 and have been incorporated into the Selected Alternative. The recommendations are listed below.
 - SR 397/Mack Hatcher Parkway will be a four-lane, limited access facility.
 - Access points will be located at Hillsboro Road (at-grade intersection), Del Rio Pike (roundabout), SR 96 (roundabout), Carters Creek Pike (roundabout) and Columbia Pike (at-grade intersection). The future analysis of additional access points between SR 96 and Carters Creek Pike and in the Hillview Lane area was recommended. *(Since the CSD process concluded, it has been determined that access to Townsend Boulevard, a roadway planned for approximately 1300 feet south of SR 96 West, will be included in the project design.)*
 - The typical section of the roadway will be a four-lane divided roadway with a vegetated median and curb and gutter, with the consideration of additional landscaping in buffer areas where feasible. The typical section of the roadway through the Harpeth River Historic District will be a four-lane divided roadway with a vegetated median and grass shoulders to minimize visual intrusion into the District.
 - A multi-use path will be constructed to accommodate bicycles and pedestrians, and sidewalks are only to be used on bridges or in those areas where multi-use paths are not feasible. The multi-use path at Hillview Lane will be on the outside of the roadway, but should cross back over to the inside of SR 397/Mack Hatcher Parkway at the closest intersection.
 - The bridge over the Harpeth River crossings will be two parallel bridge structures that are continuous over both river crossings. The typical section of the west bound bridge should include a sidewalk and the east bound bridge should include a multi-use path.
 - Landscaping that is appropriate to the character segments presented in the 2006 CSD *Final Report*, Section 3.6.

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2. To address adverse impacts to the Harpeth River Historic District, in October of 2006, Federal Highway Administration (FHWA) and the Tennessee State Historic Preservation Office (SHPO) entered into a Section 106 Memorandum of Agreement (MOA), to which TDOT was a signatory. The MOA committed FHWA and TDOT to design the project using the CSD approach to minimize effects to the District and to consider a number of design and other measures to mitigate the project's adverse effects. The CSD recommendations are included in the Selected Alternative. Other mitigation measures recommended in the MOA will be evaluated for inclusion in the project during the preliminary design phase, including:
 - Native landscaping, such as berms specific plantings, and stabilized grass shoulders;
 - Bridge/Culvert details, such as stone facing on the bridges and retaining walls;
 - Guardrail, such as Core Ten steel-backed timber guardrail;
 - Fencing, such epoxy coated;
 - Pull-offs with historical markers or exhibits describing the history of the area; and
 - Recordation, such as archival photography to be housed at TDOT or the Tennessee SHPO.
3. To minimize visual impacts in the vicinity of the historic Winstead Hill/Harrison House Historic District, the row of trees along Hillview Lane will be preserved and Hillview Lane will become a segment of the Selected Alternative's multi-use path.
4. During the right-of-way (ROW) phase of the project, TDOT will assess damages to farm properties and will compensate property owners accordingly. This process will include the assessment of fragments of farmland created by the project.
5. TDOT will work closely with permitting agencies during the design and permitting process to determine whether a span bridge or box culvert will be used to cross streams. If an in-stream disturbance is necessary, the stream composition and bottom elevations will be altered to the least extent possible. Tree removal will be minimized to maintain stream characteristics. Work within the stream impact area will be performed in the dry season (summer months) to the greatest extent possible.
6. The proposed project will be designed to accommodate the Harpeth River's use as a recreational resource.
7. The owners of Walker Dam and Gentry Dam will be notified if any blasting is to take place in and/or around their facilities. The contact information can be obtained from Mr. Lyle Bentley, Manager of the Safe Dams Section of the Division of Water Supply at the Tennessee Department of Environment and Conservation (TDEC). Mr. Bentley may be reached at (615) 532-0154.

8. Water wells will be addressed further in the preliminary design phase by a team of engineers, surveyors and geologists. Geotechnical data, including soil and bedrock borings, will be obtained to facilitate the road location. Water wells, if impacted by construction related activities, will be properly terminated, sealed and abandoned by a licensed well contractor according to applicable state guidelines.
9. Sinkholes will be addressed further in the preliminary design phase by a team of engineers, surveyors and geologists. At that time, the TDOT's Geotechnical Section will provide a full geotechnical investigation and report. More detailed site reconnaissance, along with subsurface drilling, will be conducted in the area of the sinkholes to ascertain the extent of the sinkhole problem and to develop remediation plans. These recommendations will be provided to the project engineer and the TDOT's Environmental Permits Section. The Environmental Permits staff will submit information to TDEC to obtain the proper permits, including a letter of authorization from the Underground Injection Control Program in TDEC's Groundwater Management Section. Input from the Hydraulics Section may be necessary if the presence of sinkholes on the project may influence drainage design. If sinkholes are identified in the vicinity of the alignment, TDEC's Division of Water Supply's requirements for erosion control will be followed.
10. Permanent wetland impacts will be mitigated through the use of the Harpeth Wetland Mitigation Bank. Since the project area is within the services of the Harpeth Wetland Mitigation Bank, the mitigation ratio will be two to one. If necessary, TDOT will seek a mitigation site closer to the project area.
11. Prior to the demolition of any structure during the course of construction, an inspection for asbestos will take place. Should asbestos be present in the structure, TDEC's Division of Air Pollution Control will be notified 10 days prior to its removal.
12. If archaeological materials are uncovered during construction, all construction work in the area of the find will cease. The Tennessee Division of Archaeology and recognized Native American tribes will be immediately contacted so that a representative will have the opportunity to examine and evaluate the materials.
13. During the design phase of the project, TDOT will make a final determination regarding the feasibility of including noise abatement measures in the project design.
14. The construction contractor will be required to provide such equipment (sound deadening devices, shields, physical barriers) and take such noise abatement measures that may be necessary to restrict the transmission of construction-related noise to sensitive sites such as homes and churches in the immediate vicinity of the project. These measures may include, but are not necessarily limited to, the following:
 - Provide sound-proofing housing or enclosures for stationary noise-producing machinery such as drills and augers, cranes, derricks, compactors and pile drivers;
 - Provide efficient intake and exhaust mufflers on internal combustion machines;
 - Perform proper maintenance on all noise producing equipment to prevent excessive rattling and vibration of metal surfaces; and

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- Restrict construction operations in the vicinity of noise sensitive locations to the periods of the day when excessive noise would be least harmful.
15. The Contractor shall review all applicable individual and general permits and shall take active measures to comply with each, including special conditions.
 16. If any environmental note on the plans conflicts with any other environmental note, or with conditions of a general or individual permit, the more stringent shall apply, as determined by the Contract Engineer after consultation with TDOT's Environmental Division.

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- Appendix C – Comment Letters Received Regarding DEIS
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- Appendix E – Mobile Source Air Toxics (MSAT)

LIST OF ACRONYMS

ADT	Average Daily Traffic
APE	Area of Potential Effect
APR	Advanced Planning Report
ARAP	Aquatic Resource Alteration Permit
ART	Agency Resource Team
AST	Aboveground Storage Tank
ASTM	American Society of Testing and Materials
BMP	Best Management Practices
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CDT	Citizen Design Team
Census	US Census Bureau
CO	Carbon Monoxide
CSD	Context Sensitive Design
CSR	Conceptual Stage Relocation Plan
DA	Department of the Army
dba	Decibels
DEIS	Draft Environmental Impact Statement
DOE	Determination of Eligibility
DOI	Department of the Interior
DWPC	Division of Water Pollution Control
EAC	Early Action Compact
EIS	Environment Impact Statement
ESA	Environmental Site Assessment
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
HOA	Homeowners Association
HOV	High Occupancy Vehicle
HUD-FIA	US Department of Housing and Urban Development, Federal Insurance Administration
I-65	Interstate 65
IRIS	Integrated Risk Information System
LOS	Level of Service
LRTP	Long Range Transportation Plan
MCL	Maximum Contaminant Level
MHP	Mack Hatcher Parkway
MOA	Memorandum of Agreement
MPH	Miles per hour

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MPO	Metropolitan Planning Organization
MRA	Multiple Resource Area
MSA	Metropolitan Statistical Area
MSATs	Mobile Sources Air Toxics
MTEMC	Middle Tennessee Electric Membership Corporation
MTP	Major Thoroughfare Plan
NCHRP	National Cooperative Highway Research Program
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NATA	National Air Toxics Assessment
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NLEV	National Low Emission Vehicle Standards
NPDES	National Pollutant Discharge Elimination System Permit
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSR	New Source Review
NWI	National Wetlands Inventory
PCPI	Per Capita Personal Income
ppm	Parts per Million
PRGs	Preliminary Remediation Goals
ROD	Record of Decision
ROW	Right-of-Way
RTA	Regional Transit Authority
SDEIS	Supplemental Draft Environmental Impact Statement
SF	Summary File
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SR	State Route
SSD	Subsurface Sewage Disposal
STIP	State Transportation Improvement Program
TDEC	Tennessee Department of Environment and Conservation
TDOT	Tennessee Department of Transportation
THC	Tennessee Historical Commission
TIP	Transportation Improvement Plan
TND	Traditional Neighborhood Development
TSM	Transportation Systems Management
TVA	Tennessee Valley Authority

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TWRA	Tennessee Wildlife Resources Agency
UGB	Urban Growth Boundary
USACE	US Army Corps of Engineers
USDA	US Department of Agriculture
USDOT	US Department of Transportation
USEPA	US Environmental Protection Agency
USFWS	US Fish and Wildlife Service
USGS	US Geological Survey
UST	Underground Storage Tank
VMT	Vehicle Miles Traveled

1.0 Purpose and Need for Action

1.1 Introduction to the Project

The Tennessee Department of Transportation (TDOT) and the Federal Highway Administration (FHWA) are proposing to improve the transportation system around the west side of the City of Franklin, Williamson County, Tennessee due to the growing population and subsequent traffic demands. The general project location is shown in Figure 1-1. This Final Environmental Impact Statement (FEIS) defines the purpose and need for the project, and it identifies and assesses the environmental impacts associated with the proposed project.

Following agency reviews and public involvement efforts associated with the Draft Environmental Impact Statement (DEIS), the Supplemental Draft Environmental Impact Statement (SDEIS) and the Context Sensitive Design (CSD) process, TDOT identified the Selected Alternative for the State Route (SR) 397/Mack Hatcher Parkway (US 431) extension around the City of Franklin. As illustrated in Figure 1-2, the Selected Alternative combines Segments 1, 9, 11, 13 from the DEIS with Segment 17 from the SDEIS to form the proposed SR 397/Mack Hatcher Parkway extension.

The City of Franklin is located within Williamson County, which is one of the fastest growing counties in Tennessee. Between 1990 and 2007, Williamson County's population grew by 105 percent, while the City of Franklin's population grew by 186 percent. This population growth is well above the statewide average of 26 percent for the same period (US Census Bureau 2007 Population Estimates, 1990 Census). This growth has placed a heavy burden on the existing transportation system and is expected to continue. The proposed extension of SR 397/Mack Hatcher Parkway will complete a circumferential route around Franklin. This route is expected to help the overall flow of regional and local traffic in and around the City.

The existing SR 397/Mack Hatcher Parkway is a partial circumferential route on the east side of the city providing access to a number of the radial arterials from the center of Franklin. The existing route is a limited access-controlled facility constructed within 300 feet of right-of-way (ROW). From SR 6/Columbia Pike (US 31)¹ south of Franklin to SR 106/Hillsboro Road (US 31) north of Franklin, it is a two-lane facility, which is currently being expanded to five lanes. From Franklin Road to SR 106/Hillsboro Road (US 431), SR 397/Mack Hatcher Parkway is a four-lane divided facility.

The following sections discuss in detail the purpose and need for this proposed action, which will provide improved connectivity to the existing transportation network in Franklin and Williamson County. This improved transportation network will address existing and future capacity needs within the study area and will provide improved mobility to local and regional destinations. The proposed action supports development currently in place, under construction or planned within the study area.

¹ SR 6 is named Columbia Pike south of SR 397/Mack Hatcher Parkway, and Columbia Avenue north of SR 397/Mack Hatcher Parkway. For the purposes of this document, SR 6 will generally be referred to as SR 6/Columbia Pike unless the reference is to a specific location on the roadway north of SR 397/Mack Hatcher Parkway, in which case it will be referred to as SR 6/Columbia Avenue.

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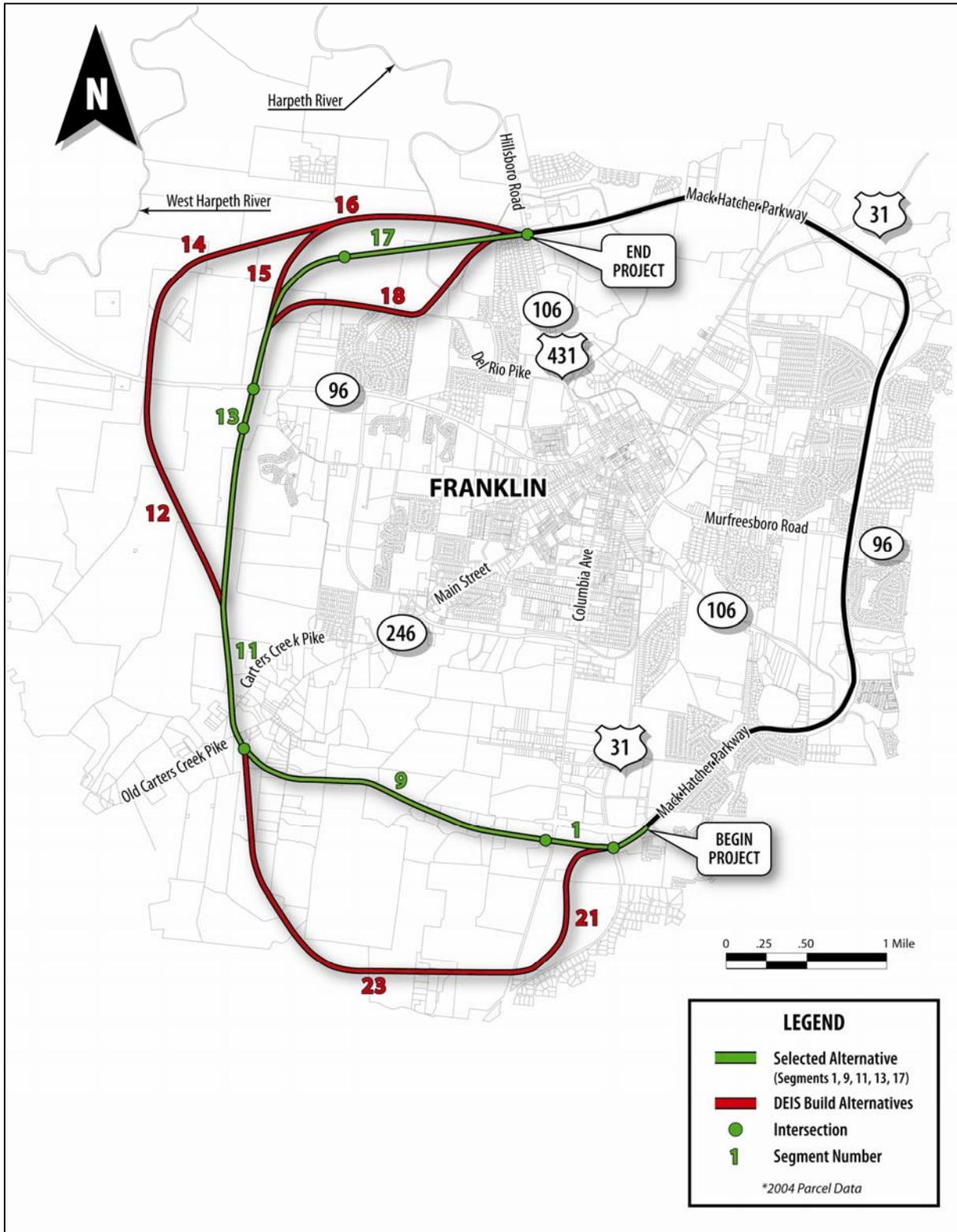


Figure 1-2. Project Location Map

1.2 Project History

This project has been under study since 2000, and its evaluation has included preliminary alignment studies, environmental investigations and the CSD process.

In early 2001, TDOT produced an Advanced Planning Report (APR) identifying two alternatives based on engineering factors and anticipated impacts to the surrounding landowners. In the spring of 2001, an environmental study was started based upon the APR alignments to determine the most appropriate location for the project and to quantify social, economic, environmental, cultural and engineering issues related to its location. Based upon public input received at an advertised and well-attended public meeting and environmental concerns identified in the planning process, alignment changes were made that avoided or reduced potential project impacts. These refined alignments were the subject of the DEIS, which was approved in November of 2004.

In January of 2005, TDOT held two public hearings for the DEIS. Following the public hearings, the Board of Mayor and Aldermen of the City of Franklin passed a resolution outlining five issues that the City wanted addressed as a part of their review of the DEIS, including a request that TDOT give full consideration to incorporating Segment 17 back into the alternatives under consideration. (Segment 17 had been included in the preliminary Alternatives as Segment 7, was then renamed Segment 17 and was later removed from consideration.)

In response to the City's request, TDOT fully developed and evaluated Segment 17. Segment 17 was added to DEIS Segments 1, 9, 11 and 13 to create Build Alternative G. Build Alternative G was added to the Build Alternatives as the seventh alternative to be carried forward in the National Environmental Policy Act (NEPA) process. Alternative G was presented in an August 2005 SDEIS. A public meeting was held for the SDEIS on July 7, 2005.

In December of 2005, TDOT announced that Build Alternative G had been chosen as the Selected Alternative. The selection was based on the desires of the City, public and agency comments and environmental factors identified in the DEIS and SDEIS. At that time, TDOT also announced its intention to utilize the CSD process to develop the design concepts for SR 397/Mack Hatcher Parkway. The CSD process, which resulted in a recommendation of key design concepts, was completed in 2007. The CSD recommendations were approved by TDOT on April 10, 2007. These recommendations are incorporated into this FEIS. Chapter 2 contains a detailed discussion on the development of the Build Alternatives and the Selected Alternative. Chapter 6 provides additional discussion on the CSD process and recommendations.

In February of 2008, the City of Franklin requested that TDOT consider shifting a portion of Segment 13 of the Selected Alternative approximately 130 feet to the east to avoid impacts on the eastern boundary of the Westhaven development. Technical studies were conducted in the summer of 2008 to determine the impacts associated with such a shift. On August 9, 2008, the Board of Mayor and Aldermen for the City of Franklin approved the alignment shift. This shift has been incorporated into the Selected Alternative. Preliminary discussions have

also begun regarding the possibility of considering tolling on the SR 397/Mack Hatcher Parkway extension.

Meanwhile, a reevaluation of the DEIS and SDEIS was prepared in accordance with 23 CFR 771.129 due to the time that had elapsed since the submittal of the SDEIS. The reevaluation was approved by FHWA on October 24, 2008. The reevaluation revealed that there were minimal changes in the impact assessment as presented in the DEIS approved on November 24, 2004 and the SDEIS approved on August 18, 2005. Although some data had been updated since the approval of the original documents and, as described above, some changes to the final alignment of the Selected Alternative had occurred, the overall impacts of the project have not substantively changed.

Agency coordination and public involvement have occurred throughout the NEPA process. The US Army Corps of Engineers (USACE) and the Tennessee Valley Authority (TVA) are cooperating agencies for this project. To address Section 106 of the National Historic Preservation Act (NHPA), FHWA, the Tennessee State Historic Preservation Office (SHPO) and TDOT have entered into a *Memorandum of Agreement (MOA)* to address effects to historic properties.

1.3 Project Description

The proposed project is located in Williamson County, on the west side of the City of Franklin (see Figure 1-2). The project begins south of Franklin at the intersection of SR 6/Columbia Pike and existing SR 397/Mack Hatcher Parkway. The project then proceeds westward around the City of Franklin, ending north of the City at the intersection of SR 106/Hillsboro Road and existing SR 397/Mack Hatcher Parkway. The project length of the seven alternatives ranges from seven to ten miles. The Selected Alternative is approximately 7.5 miles long.

In accordance with the recommendations developed during the CSD process, at-grade signalized intersections are proposed at SR 6/Columbia Pike and SR 106/Hillsboro Road. Double-lane roundabouts are proposed at: SR 246/Carters Creek Pike; SR 96 West; and Del Rio Pike. CSD recommendations included a statement that additional access points may be added in project design. One such access point has been added, SR 397/Mack Hatcher Parkway at Townsend Boulevard. The roadway is planned to provide access to Westhaven and is located approximately 1,300 feet south of SR 96 West. These are the only intersections presently under consideration along the proposed roadway.

The existing SR 397/Mack Hatcher Parkway is classified as an urban principal arterial. The proposed extension would be a four-lane divided, limited access controlled roadway. This is consistent with the existing SR 397/Mack Hatcher Parkway on the east side of Franklin. When combined with the existing SR 397/Mack Hatcher Parkway, this project would create a complete loop around the City of Franklin and provide needed connectivity throughout the region.

Developed through the CSD process, the typical sections along the corridor vary. All sections consist of four lanes with a median, except where the roadway intersects with other major arterials. The urban sections are proposed to be curb-and-gutter, within a minimum ROW of

133 feet. The rural sections are proposed to have inside curbs and stabilized grass shoulders on the outside. A maximum 250-foot ROW is proposed in the rural sections. The typical section throughout the project length will include a paved multi-use path.

1.4 Project Purpose and Need

Through coordination with local officials, agencies and the public, the purpose and need for the project has been clearly identified, and is described in the following subsections.

1.4.1 System Linkage

The existing transportation system provides limited mobility on the west side of the City of Franklin for Franklin and Williamson County residents. Franklin has three main roads (SR 96, SR 6 and SR 106) that bring traffic into the City from points outside the City (Figure 1-2). SR 96 is primarily an east-west route and provides a direct connection to Interstate 65 (I-65), east of the City. Both SR 6 and SR 106 are north-south routes that connect Franklin with Nashville to the north (SR 6/Franklin Road and SR 106/Hillsboro Road), and Columbia (SR 6/Columbia Pike) and Lewisburg (SR 106/Lewisburg Avenue) to the south. SR 246/Carter Creek Pike is a rural, two-lane secondary road that connects to SR 6/Columbia Pike south of downtown Franklin and reconnects to SR 6/Columbia Pike just north of Columbia. While there are some roadway segments that feature a multi-lane cross section, the routes are primarily rural, two-lane roads that intersect in downtown Franklin.

The routes through Franklin are primarily radial in nature and lack connectivity (see Figure 1-1). The existing SR 397/Mack Hatcher Parkway provides connectivity to those roads that radiate eastward from downtown Franklin, but there is very little connectivity between those roads that radiate westward from downtown Franklin (Refer to Figure 1-2). Currently, all major routes through Franklin require passing through the downtown area to reach points west of the City. For example, a motorist on SR 106/Hillsboro Road traveling to SR 96 would have to drive all the way into the city and traverse a series of narrow congested city streets. A regional commuter who lives on the west side of Franklin who wants to access I-65 on the east must complete a similar pattern of travel. As a result, commercial and retail businesses are located either in the downtown area of Franklin or along SR 96 between downtown and I-65. Cool Springs, which is located northeast of downtown Franklin, is a regional retail area and office hub that is home to the new Nissan North America headquarters. The proposed project will provide a needed connection to these areas that the existing street system cannot provide.

The City of Franklin has worked extensively to revitalize its award-winning downtown commercial district. The community has made a concerted effort to retain the integrity of the downtown area, while downtown merchants have worked hard to provide quality-shopping opportunities to the regional community. Shops and restaurants located along and adjacent to downtown Franklin's Main Street (SR 6/US 31) provide shoppers with unlimited opportunities to shop for unique retail merchandise and dine in a pedestrian-friendly and quaint atmosphere. Circulation in and out of the downtown area becomes congested due to the lack of connectivity that forces through traffic to travel through downtown Franklin, mixing with traffic destined for downtown. The

connectivity provided by the proposed project would relieve congestion in downtown Franklin, helping maintain the small-town pedestrian-friendly character the community wishes to preserve.

1.4.2 Social and Economic Development

The proposed project is located within two jurisdictional entities: the City of Franklin and Williamson County. According to the 2007 Census population estimates, the total population of Williamson County, including 57,380 persons in the City of Franklin, is 166,128. The population in each jurisdiction has increased steadily since 1960. Between 1990 and 2007, Williamson County’s population grew by 105 percent while the City of Franklin’s population grew by 186 percent. This population growth is well above the statewide average of 26 percent for the same period (US Census Bureau 2007 Population Estimates, 1990 Census). According to the *Williamson County Comprehensive Land Use Plan (2007)*, this rapid growth is expected to continue. The *Williamson County Comprehensive Land Use Plan* includes the population projections shown in Figure 1-3.

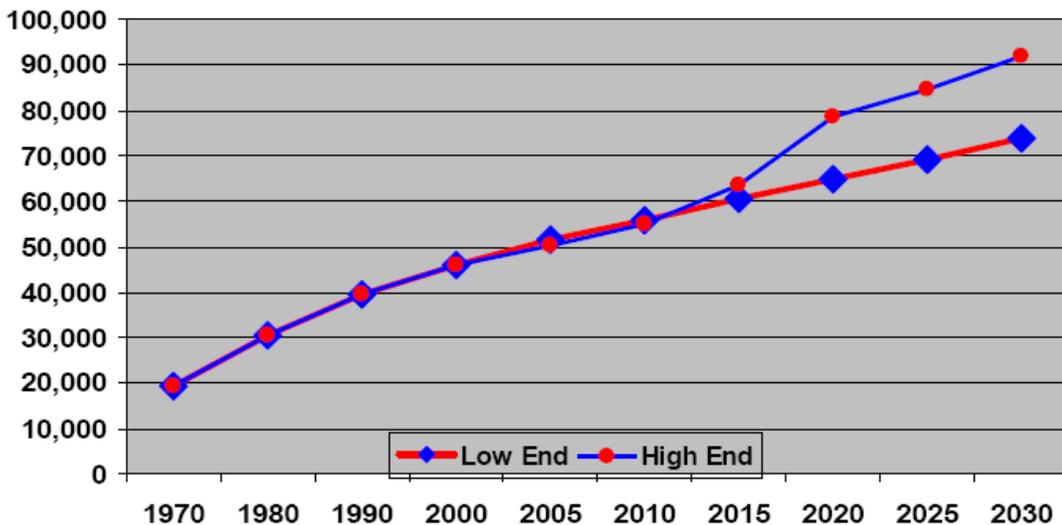


Figure 1-3. Historic and Forecasted Population Growth for Unincorporated Williamson County

Source: Williamson County Comprehensive Land Use Plan

Low end population projections anticipate unincorporated Williamson County’s population to grow by approximately 61 percent between 2000 and 2030. On the other hand, high end population projections anticipate unincorporated Williamson County’s population to grow by approximately 100 percent between 2000 and 2030.

The City of Franklin’s Land Use Plan, which was adopted in 2004, includes a discussion on future growth trends within the Urban Growth Boundary (UGB) of the City of Franklin (see Figure 1-4). The City’s existing population at the time of the study (approximately 57,380) is forecasted to grow to approximately 78,000 by 2020,

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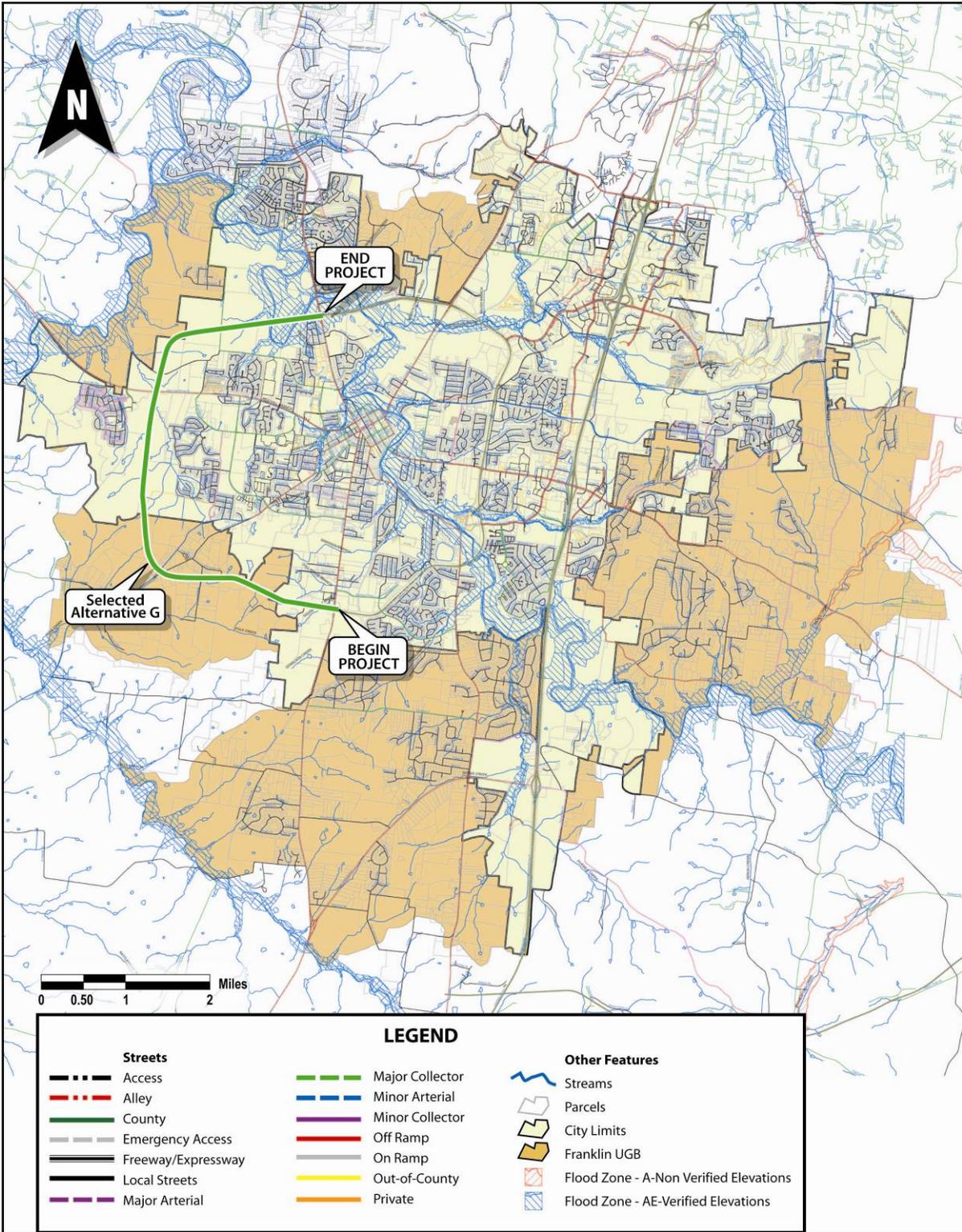


Figure 1-4. Urban Growth Boundary

an increase of over 40 percent. Over 40,000 new employees are forecasted for the City of Franklin's UGB.

A major portion of the area around the proposed project is rural and suburban in nature, consisting primarily of farmland and residential subdivisions. While a portion of the project area is outside the Franklin City Limits, the entire project area falls within Franklin's 20-year UGB and much of the forecasted growth for the City and County will likely occur in this area. Several large-scale developments are under construction or planned for construction. For example, Westhaven is a traditional neighborhood development located immediately west of the proposed project on SR 96. It contains 1,305 acres of residential development with 1,665 proposed dwelling units. Planned commercial development will cover 230 acres with 500,000 square feet of development. Phase one of Westhaven's development is complete, and Phase two is underway. Other projects have been approved in the vicinity of the project area, including both residential and commercial development. This dramatic growth contributes to congestion on area roadways.

The completion of the proposed project will improve access to this portion of the City and County. With this added connectivity, the existing and future residents in this part of Williamson County and the City will have improved access to and from their homes, jobs and commercial and service establishments. This would result in reduced travel times, easier access to commercial and retail development and less downtown congestion.

The improved access provided by the proposed project will likely impact land use in both Williamson County and the City of Franklin. Future land use changes brought about by the project implementation are expected to be economically beneficial to the overall area and are consistent with local planning documents (see Section 1.5). A full discussion of land use impacts is included in Chapter 4.

1.4.3 Capacity/Transportation Demand

The operational characteristics of a roadway can be described by a Level of Service (LOS) ranging from A to F. The LOS takes into account travel speed, traffic density and vehicle flow rate. A general description of operating conditions for each LOS is in Table 1-1.

Using typical values for roadway conditions, a matrix of typical roadway capacities can be developed. Table 1-2 shows the amount of traffic that different typical sections can carry at each LOS. Currently, the area where the proposed project would be located is considered rural, but with the rapid development occurring in the region, this may not be true for many more years.

DEIS and SDEIS Traffic Analysis: Traffic volume projections were developed for the study area for 2009 and 2029 as part of the DEIS and SDEIS. The data is shown in Figures 1-5 and 1-6, and it is summarized in Table 1-3.

Table 1-1. LOS Description

LOS	Description
A	Free Flow operations. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream. The general level of physical and psychological comfort provided to the driver is high.
B	Reasonably free flow operations. The ability to maneuver within the traffic stream is only slightly restricted and the general level of physical and psychological comfort provided to the driver is high.
C	Flow with speeds at or near free flow. Freedom to maneuver within the traffic stream is noticeably restricted and lane changes require more vigilance on the part of the driver. The driver notices an increase in tension because of additional vigilance required for safe operation.
D	Speeds decline with increasing traffic. Freedom to maneuver within the traffic stream is noticeably limited. The driver experiences reduced physical and psychological comfort levels.
E	At the lower boundary, the facility is at capacity. Operations are volatile because there are virtually no gaps in the traffic stream. There is little or no room to maneuver. The driver experiences poor levels of physical and psychological comfort.
F	Breakdowns in traffic flow. The number of vehicles entering the highway section exceeded the capacity, or ability of the highway to accommodate that number of vehicles. There is little or no room to maneuver. The driver experiences poor levels of physical and psychological comfort.

Table 1-2. Daily Service Volumes Related to LOS

Roadway Type	LOS A	LOS B	LOS C	LOS D	LOS E
4-Lane Rural arterial	13,100	18,600	23,100	28,000	37,300
4-Lane Urban arterial	10,700	15,400	19,000	23,000	30,700
2-Lane Rural arterial	8,400	12,000	14,900	18,000	24,000
2-Lane Urban arterial	6,500	9,400	11,600	14,000	18,700

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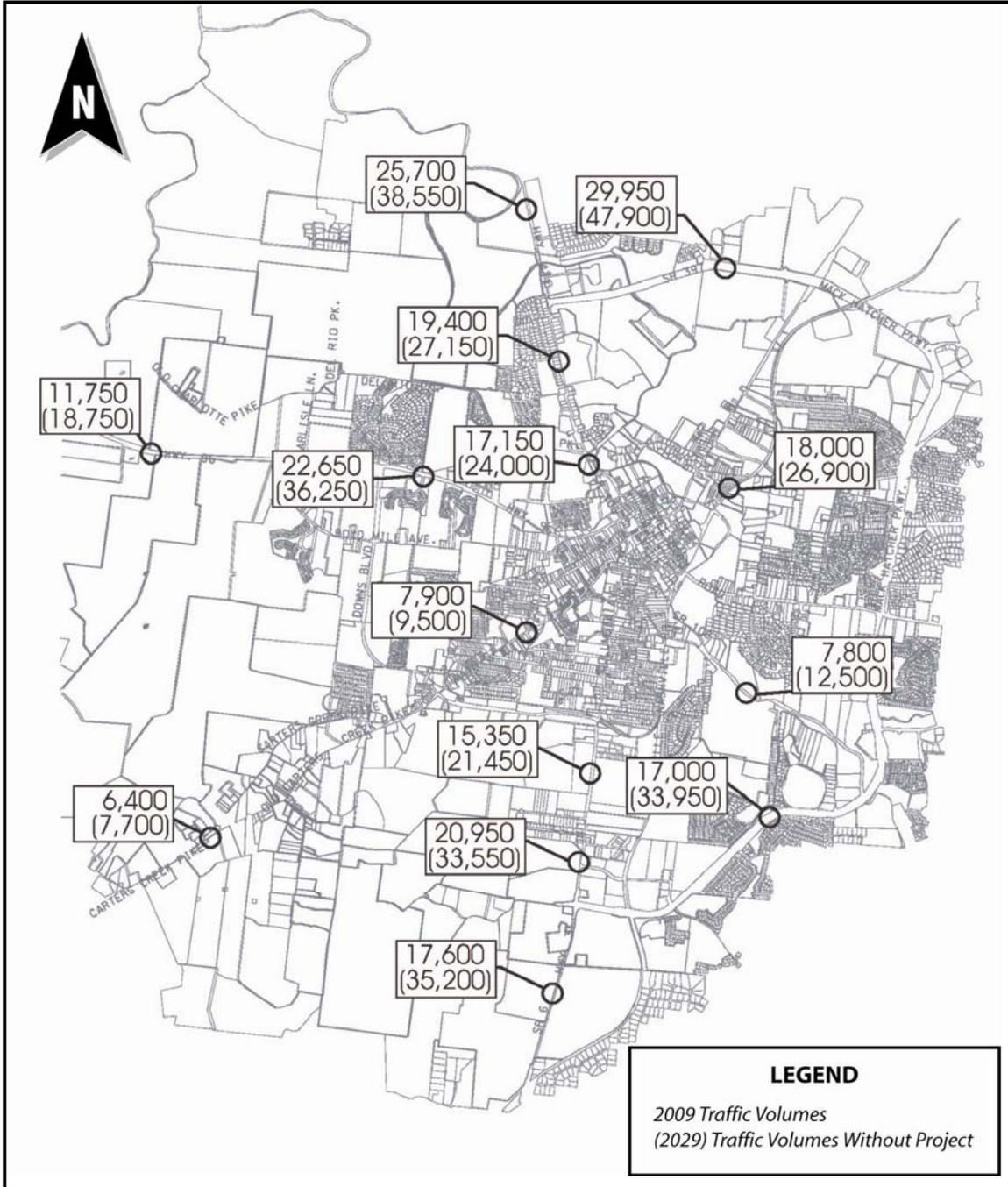


Figure 1-5. Traffic Volumes Without the Project

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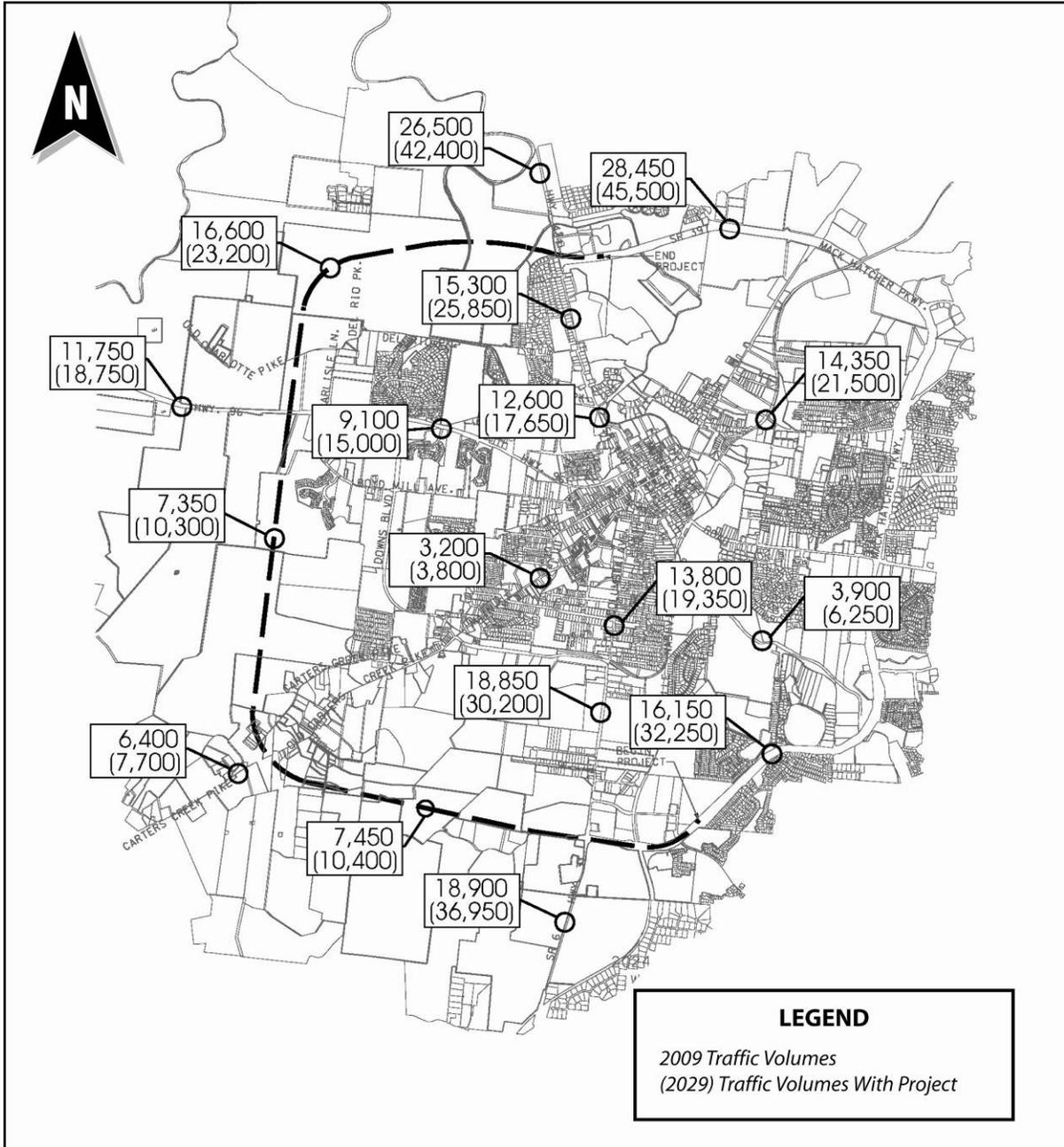


Figure 1-6. Traffic Volumes With the Project

Table 1-3. Average Daily Traffic Volumes for 2009 and 2029

LOCATION	Without Project (No Build Alternative)		With Project (Build Alternative)	
	2009	2029	2009	2029
SR 106 /Hillsboro Road				
North of MHP*	25,700	38,550	26,500	42,400
South of MHP	19,400	27,150	15,300	25,850
SR 6/Columbia Avenue/Pike				
North of MHP (Columbia Avenue)	15,350	21,450	18,850	30,200
South of MHP (Columbia Pike)	17,600	35,200	18,900	36,950
SR 96				
West of MHP	11,750	18,750	11,750	18,750
East of MHP	22,650	36,250	9,100	15,000
SR 246 /Carter Creek Pike				
Southwest of MHP	6,400	7,700	6,400	7,700
Northeast of MHP	7,900	9,500	3,200	3,800
SR 397/Mack Hatcher Parkway				
From SR 106 to SR 96	N/A	N/A	16,600	23,200
From SR 96 to SR 246	N/A	N/A	7,350	10,300
From SR 246 to SR 6	N/A	N/A	7,450	10,400

*MHP = Proposed SR 397/Mack Hatcher Parkway extension

The projected traffic volumes, based on future growth and development within the study area, were distributed over the existing transportation system and considered in a transportation network that included a Build and No Build Scenario. The Build and No Build Scenarios assist in determining the need for the roadway and the “benefits” of the proposed improvements. In this case, “benefits” are an improved LOS on roadways within the study area.

The Average Daily Traffic (ADT) volumes for 2009 without the proposed SR 397/Mack Hatcher extension (No Build Alternative) are as follows:

- SR 106/Hillsboro Road: 7,800 to 25,700;
- SR 96: 11,750 to 22,650;
- SR 246/Carter Creek Pike: 6,400 to 7,900; and
- SR 6/Columbia Pike: 15,350 to 20,950.

Three of the roadways would require capacity improvements from two lanes to four or six lanes by 2029: SR 106/Hillsboro Road, SR 96 and SR 6/Columbia Pike. Capacity improvements to each of the three facilities would require major displacements along each of the respective corridors. Development along each of these corridors, particularly within the Franklin City Limits, is located adjacent to the corridor with minimal setbacks that would not allow for expansion of the facility on the existing alignment without major residential or business displacements along these corridors.

The projected volumes were distributed over the four main roadways that currently serve the west side of Franklin: SR 106/Hillsboro Road, SR 96, SR 246/Carter Creek Pike and SR 6/Columbia Pike. The results of this analysis are shown in Table 1-4. With the exception of SR 246/Carter Creek Pike, it was determined that the capacity of these roadways would be exceeded and the LOS would begin to approach F by the year 2029.

Traffic volume projections also evaluated the benefits of the SR 397/Mack Hatcher Parkway extension (i.e., the Build Alternative). It is anticipated that the proposed SR 397/Mack Hatcher Parkway extension would have traffic volumes ranging from 7,350 to 16,600 ADT for 2009 (Table 1-3). The 2029 traffic volumes range between 10,300 and 23,200 ADT. Truck traffic is estimated at four percent of the total traffic volumes for 2009 and 2029.

With the SR 397/Mack Hatcher Parkway extension in place, traffic volumes along three of the four corridors are reduced (refer to Table 1-3). Traffic reductions would occur on the following roadways, all between downtown Franklin and the proposed parkway:

- SR 106/Hillsboro Road north of downtown Franklin and south of its intersection with proposed SR 397/Mack Hatcher Parkway;
- SR 96 east of its intersection with proposed SR 397/Mack Hatcher Parkway; and
- SR 246/Carter Creek Pike northeast of its intersection with proposed SR 397/Mack Hatcher Parkway.

Traffic currently required to use SR 106/Hillsboro Road, SR 96, SR 246/Carter Creek Road or SR 6/Columbia Pike to travel to destinations north, south and east of Franklin would be diverted to the SR 397/Mack Hatcher Parkway extension. With the exception of the SR 106/Hillsboro Road corridor, these existing two-lane roadways would operate at an improved LOS and major capacity improvements to these roadways could be avoided or postponed.

The projected volumes for the SR 106/Hillsboro Road corridor indicate that capacity improvements are still required, regardless of whether the SR 397/Mack Hatcher Parkway is constructed. The City of Franklin is currently developing plans to provide capacity improvements to SR 106/Hillsboro Road, from SR 96 to existing SR 397/Mack Hatcher Parkway. These improvements are included in the Nashville Area

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Table 1-4. LOS For Build and No Build Scenarios

LOCATION	Roadway Geometry # Lanes	Without Project (No Build Alternative)		With Project (Build Alternative)	
		2009	2029	2009	2029
SR 106/Hillsboro Road					
North of MHP*	4	D	F	D	F
MHP to Del Rio Pike	2	E	F	D	F
Del Rio Pike to Highway 96	2	D	E	C	D
MHP to US 31	2	A	C	A	A
SR 6/Columbia Avenue/Columbia Pike					
SR 106 to MHP	2	D	F	C	E
Southeast Parkway to Downs Blvd.	2	D	E	C	E
MHP to Southeast Parkway	2	E	F	E	F
South of MHP	2	C	F	E	F
SR 96					
West of MHP	2	B	E	B	E
East of MHP	2	E	F	B	D
SR 246/Carter Creek Pike					
Southwest of MHP	2	A	A	A	A
Northeast of MHP	2	A	B	A	A
SR 397/Mack Hatcher Parkway Extension					
From SR 106 to SR 96	2	N/A	N/A	D	E
From SR 96 to SR 246	2	N/A	N/A	A	B
From SR 246 to SR 6	2	N/A	N/A	A	B

*MHP = Proposed SR 397/Mack Hatcher Parkway extension

Metropolitan Planning Organization's (MPO's) *2008-2011 Transportation Improvement Program (TIP) (#2006-418)*, and as a 2016 project in the MPO's *2030 Long Range Transportation Plan (LRTP) (#6045)*.

Without the proposed project, the existing roadway network will be inadequate to handle projected traffic volumes. Most of the traffic would be forced to come through downtown Franklin, an already congested area that is not designed to handle this volume of traffic. As the rapid growth in Williamson County and the City of Franklin continues, congestion within the downtown area will continue to get worse if the proposed project is not constructed.

CSD Traffic Analysis: In 2006, as part of the CSD process, the traffic projections and the LOS analysis were updated. The 2006 analysis, presented in TDOT's final report on the SR 397/Mack Hatcher Parkway CSD process, found that in the Year 2030, the proposed western segment of the parkway would operate at an LOS of B between SR 6/Columbia Pike south of Franklin and SR 96, and an LOS of C, from SR 96 to the project end at SR 106/Hillsboro Road north of Franklin.

1.4.4 Modal Interrelationship

The Regional Transit Authority (RTA) provides ridesharing opportunities to nine counties in the Middle Tennessee region, including Williamson County. RTA has helped to organize 10 van pools within the Williamson County area. There are two associated park-and-ride facilities along I-65 east of Franklin. The SR 397/Mack Hatcher extension would provide easier access to the park-and-ride facilities for residents on the west side of Franklin and Williamson County that desire to participate in the ridesharing program.

Neither the City of Franklin nor Williamson County has county/city-wide transit services. The Franklin Transit Authority recently began trolley service on four routes. These four routes serve points east of the project area, including downtown Franklin and the Cool Springs area. In addition, the Franklin Transit Authority provides pre-arranged curb-to-curb access to the Franklin trolleys for the areas three-quarters of a mile from the fixed routes. Between August 2006 and August 2007, 53,092 people took advantage of the transit services provided by the Franklin Transit Authority.

There are no nearby rail or airport facilities. Many trucks use SR 96 and currently have difficulty maneuvering through the tightly constrained city streets. Additionally, the presence of truck traffic on city streets limits the City's ability to create a transportation network that is pedestrian and bicycle friendly. These vehicles and the community would benefit greatly from an alternative route around the city. A multi-use path along the route would promote use of bicycles and other modes of transportation between destinations along the route.

1.4.5 Safety and Roadway Deficiencies

As previously stated, downtown Franklin is designed as a pedestrian-friendly environment with streetscaping and shops to attract people from around the region to experience Franklin's small town character. Many of the buildings surrounding downtown Franklin are listed in, or are eligible for, the National Register of Historic Places (NRHP) due to their architectural and historical significance. Many homes are at least 100 years old, and several played an important role in the Civil War. Heritage tourism related to the Civil War brings people from all over the country to Franklin and Williamson County. Traffic increases in downtown Franklin decrease the safety level for pedestrians and bicyclists while minimizing the City's efforts to encourage alternative modes of transportation (i.e., walking and bicycling). By reducing congestion and removing through traffic and truck traffic from local streets, the proposed project would complement the City's efforts to create a comfortable pedestrian and bicycle environment in downtown Franklin.

By improving connectivity and mobility throughout the region, there would be a substantial improvement in emergency vehicle response times. Every moment is critical when there is a potential for the loss of personal property or human life. As more development occurs in the region, locating emergency facilities and providing direct access to all of the developed areas will become increasingly important. The proposed project will improve safety by reducing emergency vehicle response times and reducing traffic in highly congested areas.

1.5 Consistency with Other Plans

The project area is currently located within two jurisdictional authorities, Williamson County and the City of Franklin. Throughout the project planning and development process, the City of Franklin has taken a great interest in the progress of this project due to the high level of interest from its constituents. As stated previously, the City has offered comments to TDOT and the study team at several stages of the alternative development process. A full discussion of local government coordination is contained in Chapter 6. The proposed project is within the City of Franklin's UGB, and it is consistent with City and County planning documents, which are as follows:

Williamson County:

- *Williamson County, Tennessee Comprehensive Plan Update, 1988*
- *Williamson County Comprehensive Land Use Plan, 2007*
- *Williamson County Major Thoroughfare Plan Update, 1996*
- *Williamson County Zoning Ordinance, 1988*

City of Franklin:

- *Franklin, Tennessee Land Use Plan, 2004*
- *City of Franklin Major Thoroughfare/Bikeway Plan, 1998*
- *City of Franklin Major Thoroughfare/Bikeway Plan, Limited Western Update, 2000*
- *Final Report, City of Franklin Major Thoroughfare Plan Update, 2004*
- *City of Franklin 2003 Bicycle and Pedestrian Plan Update, 2003*
- *Central Franklin Area Plan, May 2004*
- *Zoning Ordinance, July 2008*

The proposed project is also included in the MPO's 2008-2011 TIP (#2006-418), and as a 2016 project in the MPO's 2030 LRTP (#6045).

1.6 Logical Termini and Independent Utility

The Selected Alternative for the project has logical termini because it connects to the existing SR 397/Mack Hatcher Parkway south of Franklin and north of Franklin, completing the circumferential route around Franklin. It also connects two of the major roadways entering Franklin: SR 106/Hillsboro Road north of Franklin and SR 6/Columbia Pike south of Franklin. The proposed project is of sufficient length to address environmental matters on a broad scope.

The Selected Alternative demonstrates independent utility because it provides more direct access for the many developments located west of downtown Franklin to the area's regional transportation network, including I-65 to the east, SR 6/Columbia Pike (US 31) to the south, and SR 106/Hillsboro Road (US 31) and SR 5/Franklin Road (US 31) to the north. The proposed project would not restrict consideration of alternatives for other foreseeable transportation improvements.

2.0 Alternatives

The following alternatives were considered in the decision-making process and are described in this Chapter:

- No Build Alternative;
- Transportation System Management (TSM) Alternative;
- Transit Alternative;
- Alternative to Improve Existing Transportation Network; and
- Build Alternatives.

2.1 No Build Alternative

Under the No Build Alternative, the State Route (SR) 397/Mack Hatcher Parkway extension would not be built and no major improvements beyond typical maintenance would be undertaken on the existing transportation network. The No Build Alternative requires no capital expenditures for construction.

The No Build Alternative does not meet the purpose and need of the project. This alternative would result in no improvements to traffic service or access in the project area and, with future increases in traffic, travel conditions would worsen or deteriorate. This would place a limitation on development in the study area and result in a higher burden on the existing poorly-connected roadway network.

2.2 Transportation System Management and Transit Alternatives

The TSM Alternative includes efforts to maximize the efficiency of the present system by using techniques such as fringe parking, ridesharing, high-occupancy vehicle lanes and traffic signal optimization. The Transit Alternative includes transit options such as bus and rail.

Construction of the project would provide additional opportunities for park-and-ride lots and ridesharing by commuters into the Nashville area. The Regional Transit Authority (RTA) currently administers a regional ridesharing program, which encompasses the study area. Currently 10 vanpools are in operation in the area. The regional population density is not appropriate for the use of High Occupancy Vehicle (HOV) lanes in the study area except for the interstate system, which is several miles east of the city and of the proposed project area. HOV lanes are provided on Interstate 65 (I-65), beginning just south of Franklin and ending just south of downtown Nashville.

Neither the City of Franklin nor Williamson County have local bus service, so use of such service to provide transportation options to the single-occupancy vehicle is not an option at this time. In 2003, the City of Franklin began operating four trolley routes within the City. This service is designed to take traffic to the development centers within the City limits, including downtown, the Factory at Franklin, the Cool Springs area and the Williamson Medical Center. These development centers are all east of the project area and trolley service would not be appropriate for the project area due to its distance from the development centers and the fact that all of these centers are basically on a north-south axis. The expansion of trolley service to

the west of Franklin is not viable at this time as travel needs to the development centers from this area would likely be minimal.

The TSM and Transit alternatives do not meet the purpose and need of the project as stated in Chapter 1. They would not increase connectivity west of downtown Franklin, nor would these alternatives sufficiently address capacity and safety issues on area roadways. These alternatives are not considered reasonable alternative strategies for this corridor.

2.3 Alternative to Improve Existing Transportation Network

Upgrading the existing roadway network west of the City of Franklin to serve as a parkway around the west side of Franklin is not feasible. The existing roads are primarily through heavily developed areas. Because the roads in the study area are circuitous and disconnected, combining existing roads to create a western parkway loop would have both major environmental impacts and would provide a roadway with substandard alignment and travel speeds. Upgrading the existing routes through downtown Franklin is also not feasible. The roads through downtown Franklin would provide a roadway with substandard alignment and travel speeds, and upgrading the roadways would result in major social and economic impacts to the City of Franklin. The option of improving the existing roadways to meet the project purpose and need was eliminated from further consideration because of the potential magnitude of adverse impacts to the community.

2.4 Build Alternatives

This section describes the:

- 2001 Advance Planning Report (APR) Alternatives;
- Alternatives Presented at 2001 Public Meeting;
- Revisions to Preliminary Alternatives;
- Draft Environmental Impact Statement (DEIS) Alternatives;
- Supplemental Draft Environmental Impact Statement (SDEIS) Alternatives; and
- Selected Alternative.

2.4.1 2001 Advance Planning Report Alternatives

At the request of the City of Franklin, in 2000 the Tennessee Department of Transportation (TDOT) began preliminary engineering on alternatives to complete the SR 397/Mack Hatcher Parkway around the west side of Franklin. An APR, dated March 15, 2001, identified two primary alternatives for the proposed extension of Mack Hatcher Parkway. Figure 2-1 shows the preliminary APR alternatives: Alternative A and Alternative B. These alternatives were carried forward to the environmental study phase.

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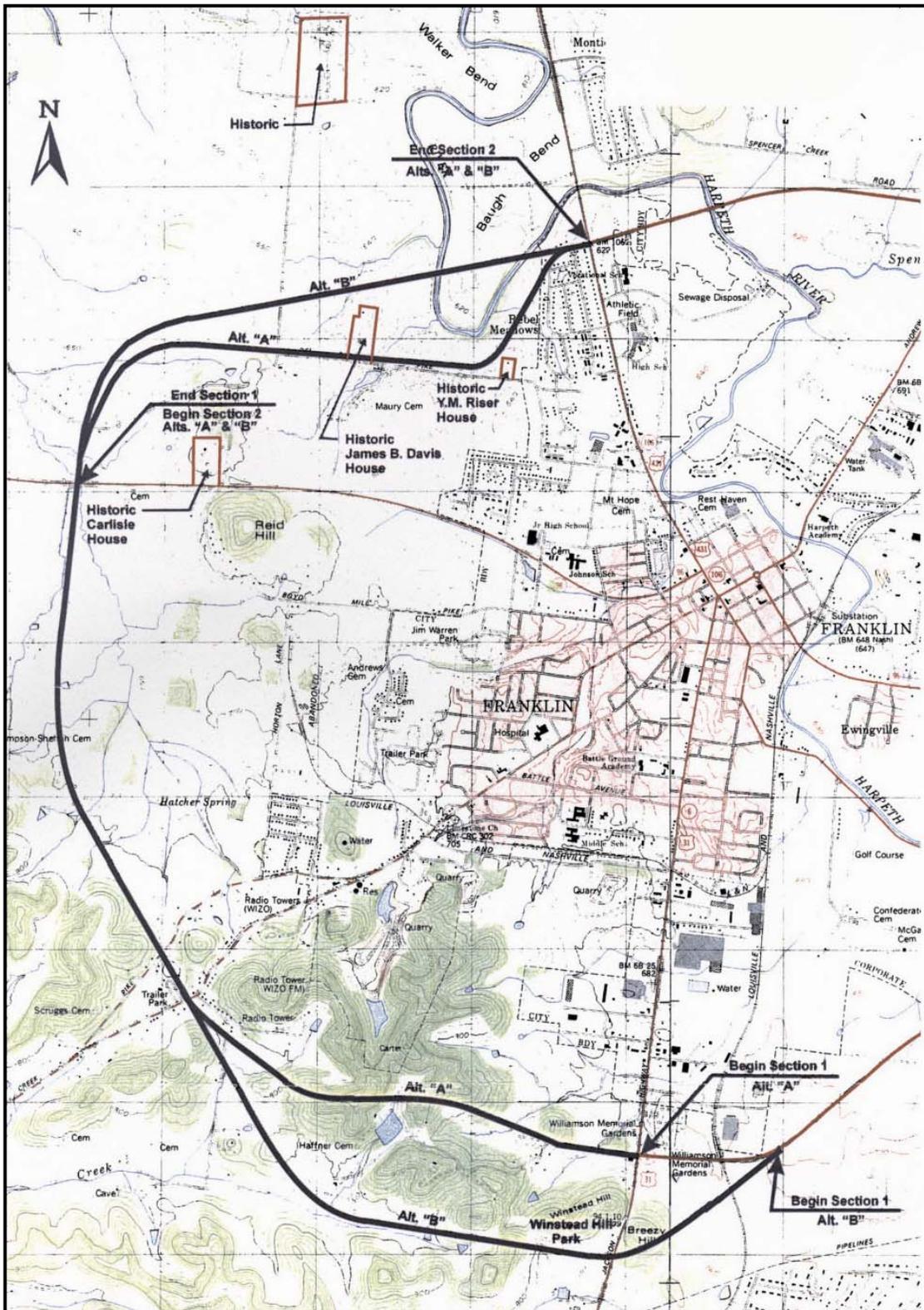


Figure 2-1. 2001 Advance Planning Report Alternatives
(Source: TDOT APR)

2.4.2 Alternatives Presented at 2001 Public Meeting

Based on environmental studies, data collected and agency scoping, the APR alternatives evolved into eight segments that were combined into six alternative routes.

The preliminary alternatives, which are shown in Figure 2-2, were presented to the public at an information meeting on July 31, 2001. The eight segments are described below.

Segment 1 follows existing SR 397/Mack Hatcher Parkway from the beginning of the project to the existing intersection with SR 6/Columbia Pike. The existing alignment and right-of-way (ROW) would be used for this segment with no additional ROW needed.

Segment 2 bends to the south to avoid impacts to the viewshed of historic Winstead Hill and makes an s-turn to avoid the Sullivan Farms subdivision. In order to avoid ROW impacts to the Sullivan Farms subdivision, the design speed was lowered and a narrower typical section was assumed. The segment ends approximately 1,300 feet south of the intersection of SR 397/Mack Hatcher Parkway and SR 6/Columbia Pike, just north of the Winstead Elementary School.

Segment 3 has the same beginning and ending points as Segment 2. This segment, however, lacks the s-turn and the reduced typical section included in Segment 2. As a result, this segment displaced 36 homes in the Sullivan Farms subdivision.

Segment 4 continues to the west from the existing intersection of SR 397/Mack Hatcher Parkway and SR 6/Columbia Pike to Old Carters Creek Pike.

Segment 5 begins approximately 1,300 feet south of the intersection of existing SR 397/Mack Hatcher Parkway with SR 6/Columbia Pike where Segments 2 and 3 terminate. It continues to the west to Old Carters Creek Pike.

Segment 6 is routed between Old Carters Creek Pike and SR 96 and is the only alternative through this area.

Segment 7 begins at the SR 96 interchange and turns to the east just west of Del Rio Pike. The alignment continues northeast and crosses the Harpeth River with two bridge structures. The segment passes through the Rebel Meadows subdivision, displacing 13 homes before it ties into the existing SR 397/Mack Hatcher Parkway and SR 106/Hillsboro Road intersection.

Segment 8 begins at the SR 96 interchange and turns to the east to follow the general alignment of Del Rio Pike along the backside of the Founders Point neighborhood. The segment then turns north and parallels the Harpeth River turning east to connect to existing SR 397/Mack Hatcher Parkway at SR 106/Hillsboro Road. The alignment displaces 15 houses in the Rebel Meadows subdivision.

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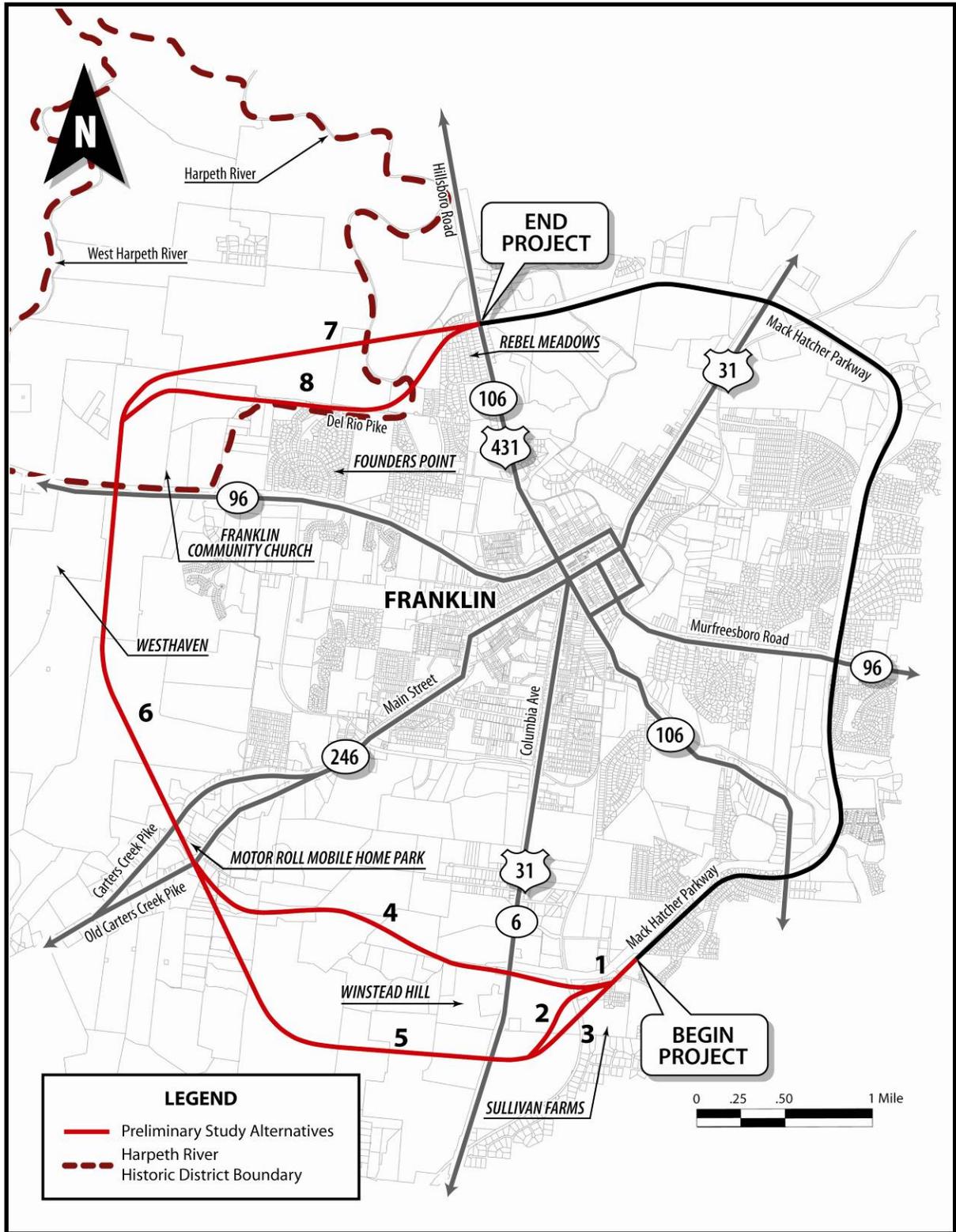


Figure 2-2. 2001 Preliminary Study Alternatives

Following the July 2001 meeting, comments received were evaluated. Based on the on-going data collection efforts, technical studies and the public and agency comments received, several modifications were made to the APR Alternatives.

The following issues were raised and addressed through the coordination process (most of the referenced properties are shown in Figure 2-2):

- The Sullivan Farms subdivision organized and petitioned TDOT to eliminate Segment 3 from further consideration due to the 36 homes displaced by its alignment. In response to this request, Segment 3 was eliminated from further consideration since Segment 2, with only minor modifications, provided the same benefit and avoided the residential impacts.
- The State Historic Preservation Office (SHPO) expressed concerns regarding the impacts of Segment 5 to the historic William Harrison House viewshed. They also expressed concerns regarding the impacts of Segment 4 on historic Winstead Hill. In order to provide an alternative that would minimize the visual impacts on these sites, Segment 10 was developed later in the planning process to avoid adverse impacts to the viewshed of the Winstead Hill Park, a property that is designated as a National Historic Landmark (NHL) and is listed in the NRHP. It was determined, however, that Segment 10 would adversely impact the viewshed of another property in the same District: the NRHP-listed William Harrison House. Because of this, additional alignment option segments were developed for further evaluation (Segments 21, 22 and 23). Because Segment 10 would acquire land from this significant historic resource, the segment was eliminated from further consideration.
- Motor Roll Mobile Home Park, located off of SR 246/Carters Creek Pike, was impacted by Segment 6, which was common to all alternatives. Due to concerns about the availability of comparable replacement housing in the area and potential environmental justice issues, this alignment was moved to the southwest to minimize impacts to this area. This resulted in an increased cost but was preferred due to the minimized social impacts.
- The cultural resource assessment of the study area determined that the area north of SR 96, and bordered on the northeast and northwest by the West Harpeth and Harpeth rivers, was eligible for the NRHP as a historic district. This District would encompass approximately 2,495 acres of farmland that has been in continuous cultivation since the early 1800s. Within the District, 2,000 acres currently remained under cultivation. Incorporated within the Harpeth River Historic District are properties that are currently on or have been determined eligible for the NRHP. Coordination was undertaken with the SHPO in an effort to minimize the effect of the roadway on the Historic District and those structures located within the boundaries of the District. The impacts to the Jesse Short Farm, identified as individually NRHP eligible and the NRHP-listed James B. Davis House (contributing resources in the NRHP-eligible Harpeth River Historic District) resulted in modifications to Segments 6, 7 and 8.
- Coordination efforts were conducted with the developers of Westhaven, a mixed-use community located south of SR 96 in the vicinity of Carlisle Lane.

At that time, the developers were in the approval process with the City of Franklin, and they laid out the residential community to accommodate the proposed extension of SR 397/Mack Hatcher Parkway based on the alignment presented in the March 2001 APR. Because of modifications to alignments north of SR 96 within the NRHP-eligible Harpeth River Historic District, the planned alignment in the vicinity of the development was shifted by a considerable amount. The Westhaven Development requested that the alignment be moved farther to the east to minimize impacts to their approved development plan, a request that was implemented. A representative from Westhaven was a member of the Citizen Design Team (CDT) during the Context Sensitive Design (CSD) process.

- The Franklin Community Church is located north of SR 96 in the vicinity of Carlisle Lane between the Jesse Short Farm and the Knights of Pythias Pavilion, both contributing resources within the NRHP-eligible Harpeth River Historic District. The Church requested an alignment shift and, in later planning phases, Segments 13, 15 and 18 were modified to avoid impacts to the church.
- Residents from the Rebel Meadows subdivision were concerned that all of the alternatives being considered required the displacement of houses in their neighborhood. This was primarily due to the fact that the existing intersection of SR 106/Hillsboro Road and SR 397/Mack Hatcher Parkway is located directly across from the neighborhood and an extension from that point westward would run directly into the neighborhood. As a result, an avoidance alternative was developed and added to the Build Alternatives that alters the existing intersection of Hillsboro Road and SR 397/Mack Hatcher Parkway. This would involve shifting the existing alignment of the parkway north of the intersection of SR 397 and Hillsboro Road, skewing the intersection and involving the potential displacement of a local business.

2.4.3 Revisions to Preliminary Alternatives

Based on the above-described issues and concerns expressed during and following the 2001 public meeting, revisions were made to the preliminary alternatives. Figure 2-3 illustrates the various study segments. The major revisions made to the preliminary alternatives are as follows:

- Segment 3 was eliminated from further consideration.
- Segments 4 and 5 were modified at the SR 246/Carters Creek Pike termini and replaced with Segments 9 and 10.
- Segment 6 was modified to minimize impacts to development and replaced with Segments 11, 12 and 13.
- Segments 19 and 20 were eliminated from further consideration.

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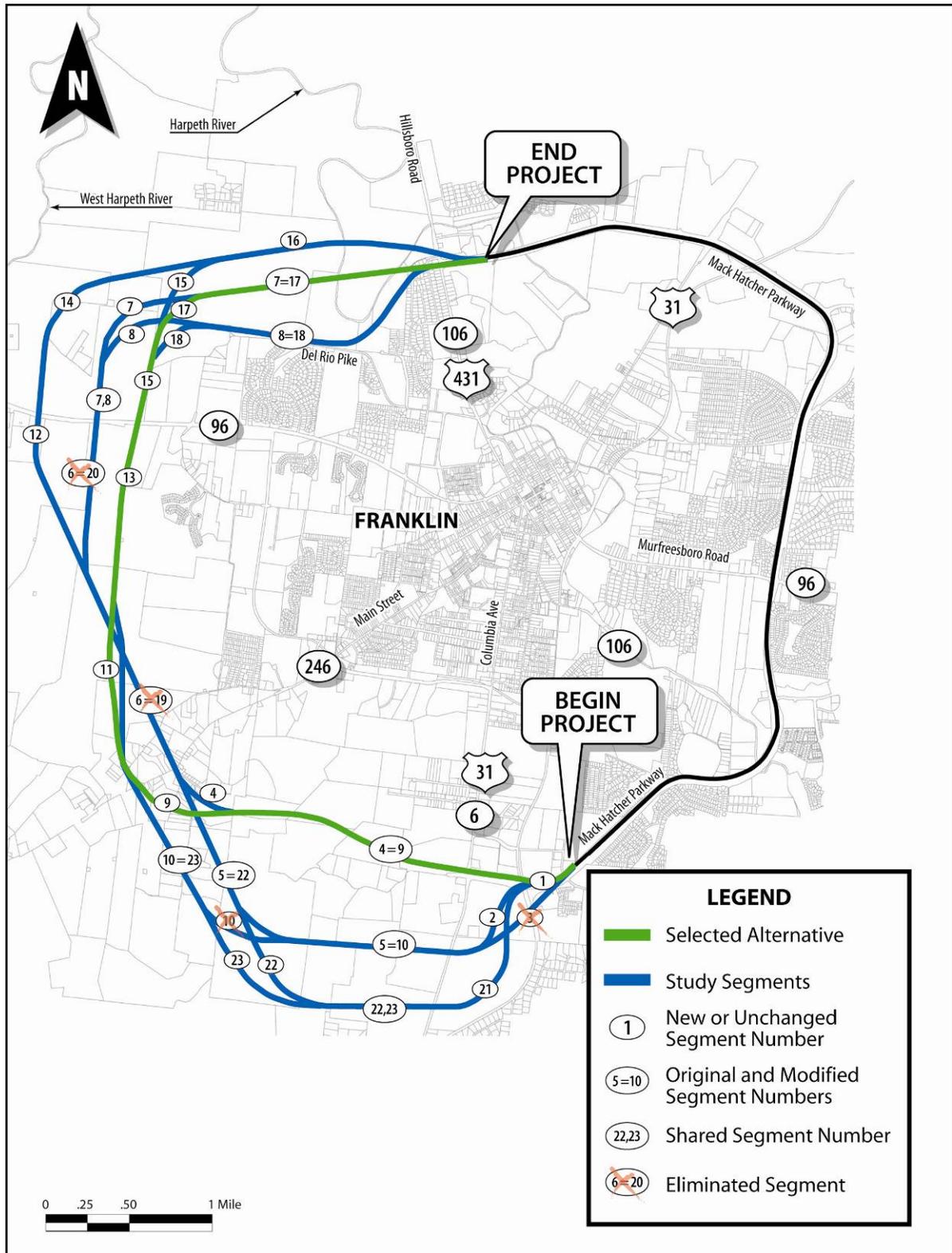


Figure 2-3. Revisions to Preliminary Alternatives, Study Segments

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- Segments 7 and 8 were modified and expanded to Segments 14, 15, 16, 17 and 18 to minimize harm to historic resources in the Harpeth River Historic District.
- A new alignment further south of the Winstead Hill/Harrison House Historic District was developed to minimize harm to the resource (Segments 21, 22 and 23).
- Residents of the Rebel Meadows subdivision, located southwest of the SR 106/Hillsboro Road and SR 397/Mack Hatcher Parkway intersection, approached TDOT and requested an avoidance alternative be developed. Segment 7 was modified to avoid impacts to the subdivision.

Table 2-1 summarizes the segment numbering changes that were made to the original study segments.

Table 2-1. Original and Updated 2001 Segment Numbers

Original Segments	Modified Segments	Reason for Modification
Segment 1	No Change	N/A
Segment 2	No Change	N/A (later eliminated from further consideration)
Segment 3	Eliminated from further consideration	Response to Sullivan Farms
Segment 4	Segment 9	Western termini changed to avoid Motor Roll Mobile Home Park
Segment 5	Segment 10	Western termini changed to avoid Motor Roll Mobile Home Park and to avoid or minimize impacts to a historic property
Segment 6	Segments 11, 12 and 13	Northern termini split to the east and west to develop new segments to avoid or minimize impacts to historic properties
	Segments 19 and 20	Renamed during interim step in developing avoidance segments (later eliminated from further consideration)
Segment 7	Segments 14, 15, 16 and 17	Segments developed to generally follow the alignments of Segments 11, 12 and 13 to avoid or minimize impacts to a historic property
Segment 8	Segment 18	Renamed to align with Segment 13

2.4.4 2004 DEIS Alternatives

Based on the public involvement process, agency coordination and preliminary impact analyses, 11 study segments were selected for in-depth study in the DEIS process. The segments, which were combined to form the six DEIS alternatives (A-F), are illustrated in Figure 2-4 and were described in the DEIS as follows:

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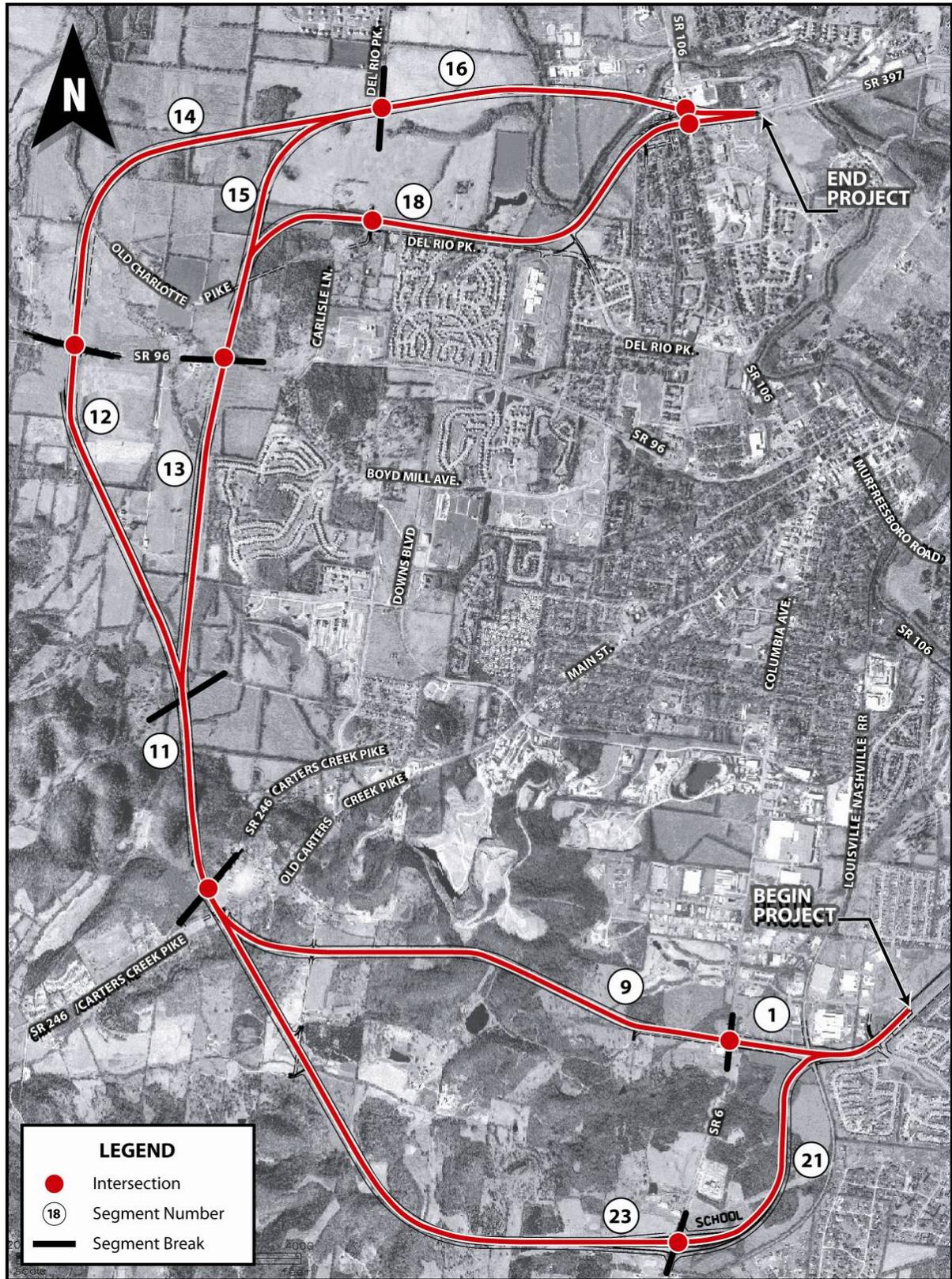


Figure 2-4. DEIS Study Segments

Segment 1 follows the existing alignment of SR 397/Mack Hatcher Parkway from the start of the project to the intersection with SR 6/Columbia Pike. This segment is 0.79 mile long and is within existing ROW. The existing typical section is a two-lane roadway within 250 feet of ROW. This segment would require the widening of a railroad overpass.

Segment 9 is a continuation of Segment 1, from SR 6/Columbia Pike westward to SR 246/Carters Creek Pike. This segment is approximately 2.4 miles long and travels mostly through large-lot suburban residential areas and farmland. This alignment follows the northern edge of Hillview Lane, an existing tree-lined, residential access road. The segment ends at SR 246/Carters Creek Pike, just south of the Motor Roll Mobile Home Park. A grade-separated interchange was proposed at the Carters Creek Pike termini. The proposed typical section at SR 6/Columbia Pike is a five-lane highway within 104 feet of ROW with curb and gutter. After passing the Winstead Hill Park, the roadway in this segment expands to a four-lane, divided rural typical section within 250 feet of ROW.

Segment 11 is from SR 246/Carters Creek Pike to a point 0.97 mile north. This segment passes through land that is primarily agricultural. The alignment was developed to accommodate the mixed-use Westhaven development. As previously stated, Segment 11 was shifted southwest from its original location to avoid the Motor Roll Mobile Home Park. The proposed typical section is a four-lane divided rural highway within 250 feet of ROW.

Segment 12 is approximately 1.2 miles long and ends at SR 96. This segment is the westernmost alignment, crossing SR 96 nearly three miles west of Franklin. This segment was developed to minimize impacts to the Jesse Short Farm, an NRHP-eligible contributing property in the Harpeth River Historic District. This segment traverses the Westhaven development. A grade-separated interchange was proposed at SR 96. The proposed typical section is a four-lane divided rural highway within 250 feet of ROW.

Segment 13 is approximately 1.2 miles long and passes through open farmlands. As this segment approaches SR 96, it passes close to the Franklin Green subdivision, but no residential displacements would occur. This alignment was developed to accommodate the Westhaven development. A grade-separated interchange was proposed at SR 96. The proposed typical section is a four-lane divided rural highway within 250 feet of ROW.

Segment 14 begins at SR 96, parallels Old Charlotte Pike on the east for approximately 1,500 feet and then turns northeast terminating at Del Rio Pike. This segment is approximately 1.8 miles long and passes through the NRHP-eligible Harpeth River Historic District in the proximity of two contributing properties (Jesse Short Farm and Elijah Hamilton House). The proposed typical section is a four-lane divided rural highway within 250 feet of ROW.

Segment 15 is approximately 1.2 miles long and passes between the Jesse Short Farm and Knights of Pythias Pavilion, both contributing properties within the Harpeth River Historic District. The alignment parallels the easternmost boundary of the Short Farm for approximately 1,200 feet and turns east to terminate at Del Rio Pike. The terminus is approximately 2,400 feet north of the Carlisle Lane/Del Rio Pike intersection. Land use along this segment is primarily open farmland. The proposed typical section is a four-lane divided rural highway within 250 feet of ROW.

Segment 16 begins at Del Rio Pike and terminates at SR 106/Hillsboro Road and SR 397/Mack Hatcher Parkway. It is approximately 1.5 miles long. This segment requires two Harpeth River crossings and potentially involves floodplain encroachment. Land use is primarily open farmlands. The existing Brownland Horse Farm would potentially be disrupted by this alignment. This segment is within the boundary of the Harpeth River Historic District. This alignment also displaces an existing business on SR 106/Hillsboro Road and a development in the northeast quadrant of the SR 106/Hillsboro Road and SR 397/Mack Hatcher Parkway intersection. The proposed typical section is a four-lane divided rural highway within 250 feet of ROW.

Segment 18 begins at SR 96 and runs northward along the Jesse Short property line in the Harpeth River Historic District. At a point approximately 1,200 feet north of SR 96, it turns east to cross over Del Rio Pike just north of the intersection of Del Rio Pike and Carlisle Lane. The segment continues east, paralleling Del Rio Pike for approximately 1,800 feet then turning northeast along the Harpeth River. This segment is approximately 2.6 miles long and passes four contributing properties within the Harpeth River Historic District, including the Y. M. Rizer House, the James B. Davis House, the Jesse Short Farm and the Knights of Pythias Pavilion. The proposed typical section is a four-lane divided rural highway within 250 feet of ROW.

Segment 21 avoids Sullivan Farms and turns farther to the south than previous alternatives to avoid visual impacts to the Winstead Hill/Harrison House Historic District. This segment is approximately 1.5 miles long. The proposed typical section is a four-lane divided rural highway within 250 feet of ROW.

Segment 23 begins at the western terminus of Segment 21. This segment is approximately 2.8 miles long through mostly open farmland area. This alignment passes south of the Winstead Hill/Harrison House Historic District and avoids impacts to the District. The segment ends at SR 246/Carters Creek Pike south of the existing Motor Roll Mobile Home Park. The proposed typical section is a four-lane divided rural highway within 250 feet of ROW.

The above-described segments were combined to form the six alternatives that were carried forward into the DEIS. The segments comprising the six alternatives are listed in Table 2-2.

Table 2-2. DEIS Build Alternatives

Alternatives	Combination of Segments
A	1, 9, 11, 13, 18
B	1, 9, 11, 13, 15, 16
C	1, 9, 11, 12, 14, 16
D	21, 23, 11, 13, 15, 16
E	21, 23, 11, 13, 18
F	21, 23, 11, 12, 14, 16

The six DEIS Build Alternatives tie into existing SR 397/Mack Hatcher Parkway north of downtown Franklin, just east of SR 106/Hillsboro Road, and south of downtown Franklin, just east of SR 6/Columbia Pike. The alternatives range in length from approximately seven to ten miles. The DEIS Build Alternatives were developed based upon a four-lane divided facility with partial controlled access. Access to the facility would be limited to major roadways (e.g., SR 96 and SR 246/Carters Creek Pike). Local developments and individual property owners would not be allowed to directly access the roadway or access would be very limited.

Table 2-3 highlights key adverse and beneficial impacts of each alternative and presents a selection of data that was used to compare the alternatives in the DEIS process. Figures 2-5 through 2-10 show the alignment of each DEIS alternative on an aerial photograph.

In January of 2005, TDOT held two public hearings for the six DEIS alternatives. Four hundred and thirty people attended the two hearings. Key issues voiced at the hearing and within the comment period following the hearing include:

- Reduced property values;
- Noise impacts;
- Impacts on existing neighborhoods;
- Design issues (design speed, desire for at-grade interchange at the intersection/roundabout at SR 96);
- Impacts to farmland/open space;
- Time constraints (too much time being taken, projected timeline is too long and too many decisions to choose from);
- Continued coordination with the Tennessee Valley Authority (TVA) and TDOT;
- Landscaping;
- Impacts to Rebel Meadows and other environmental impacts (air/pollution, historic resources);
- Impacts to Harpeth River; and
- Pedestrian and bicycle considerations.

Table 2-3. Comparison Table of Impacts of DEIS Alternatives

DEIS Alternative	Adverse or Negative Impacts	Positive or Beneficial Impacts
A	<ul style="list-style-type: none"> • 18 residential displacements, primarily in Rebel Meadows subdivision. • Visual impacts to Harpeth River Historic District and Winstead Hill/Harrison House Historic District. • Requires 60 acres of ROW from the Harpeth River Historic District, physical impacts to six contributing properties and the James B. Davis House. • Converts agricultural property in Harpeth River Historic District to transportation use. • Has longitudinal encroachment into the Harpeth River 100-year floodplain. • Potential impacts to a former landfill. 	<ul style="list-style-type: none"> • No business displacements. • The shortest alignment at approximately 7.86 miles in length. • Requires the least conversion of farmland to public use (overall project length). • No crossings of Harpeth River. • Lowest number of impacts to blueline streams (two).
B	<ul style="list-style-type: none"> • Five residential displacements, and one business displacement. • Disrupts business operations of the Brownland Farm. • Visual impacts to Harpeth River Historic District and Winstead Hill/Harrison House Historic District. • Requires 57 acres of ROW from the Harpeth River Historic District, physical impacts to three contributing properties. • Converts agricultural property in Harpeth River Historic District to transportation use. • Traverses the 100-year floodplain of the Harpeth River with two bridge crossings. • Potential impacts to a former landfill. 	<ul style="list-style-type: none"> • One of the shortest alternatives at approximately 7.97 miles in length. • Comparatively low number of residential displacements, none in Rebel Meadows. • Requires lowest amount of ROW from the Harpeth River Historic District.
C	<ul style="list-style-type: none"> • Four residential displacements, one business displacement. • Disrupts business operations of the Brownland Farm. • Visual impacts to Harpeth River Historic District and Winstead Hill/Harrison House Historic District. • Requires 75 acres of ROW from the Harpeth River Historic District, physical impacts to three contributing properties. • Converts agricultural property in Harpeth River Historic District to transportation use. • Potential impacts to a former landfill. 	<ul style="list-style-type: none"> • Lowest number of residential displacements, no displacements in Rebel Meadows.

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Table 2-3. Comparison Table of Impacts of DEIS Alternatives (continued)

DEIS Alternative	Adverse or Negative Impacts	Positive or Beneficial Impacts
D	<ul style="list-style-type: none"> • Two business displacements. • Disrupts business operations of the Brownland Farm. • Visual impacts to Harpeth River Historic District and Winstead Hill/Harrison House Historic District. • Requires 57 acres of ROW from the Harpeth River Historic District, physical impacts to one contributing property. • Converts agricultural property in Harpeth River Historic District to transportation use. • Does not utilize the existing alignment of Mack Hatcher near Columbia Pike. 	<ul style="list-style-type: none"> • Comparatively low number of residential displacements (six), none in Rebel Meadows. • Reduced visual impact to the Winstead Hill/Harrison House Historic District.
E	<ul style="list-style-type: none"> • Highest number of residential displacements (19), most in the Rebel Meadows subdivision, one business displacement. • Visual impacts to Harpeth River Historic District and Winstead Hill/Harrison House Historic District. • Requires 60 acres of ROW from the Harpeth River Historic District, physical impacts to six contributing properties. • Converts agricultural property within Harpeth River Historic District to transportation use. 	<ul style="list-style-type: none"> • Reduced visual impact to the Winstead Hill/Harrison House Historic District. • Location of Segment 18 leaves greatest portion of Harpeth River Historic District undisturbed. • No crossings of Harpeth River.
F	<ul style="list-style-type: none"> • Five residential displacements and two business displacements. • Disrupts business operations of the Brownland Farm. • Visual impacts to Harpeth River Historic District and Winstead Hill/Harrison House Historic District. • Requires 75 acres of ROW from the Harpeth River Historic District, physical impacts to three contributing properties. • Converts agricultural property within Harpeth River Historic District to transportation use. • The longest alternative at approximately 9.69 miles in length. 	<ul style="list-style-type: none"> • Comparatively low number of residential displacements, none in Rebel Meadows. • Reduced visual impact to Winstead Hill/Harrison House Historic District.

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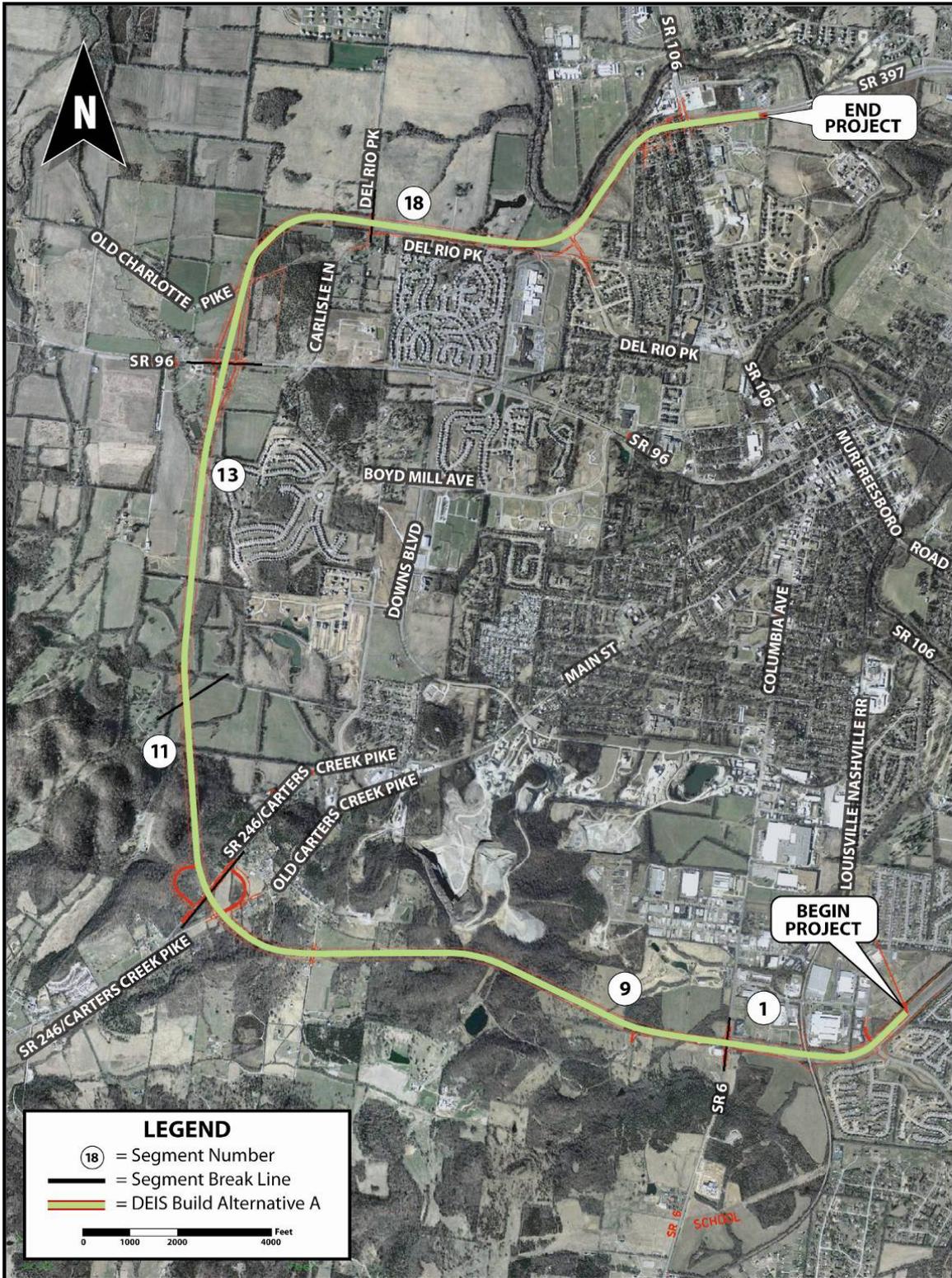


Figure 2-5. DEIS Alternative A

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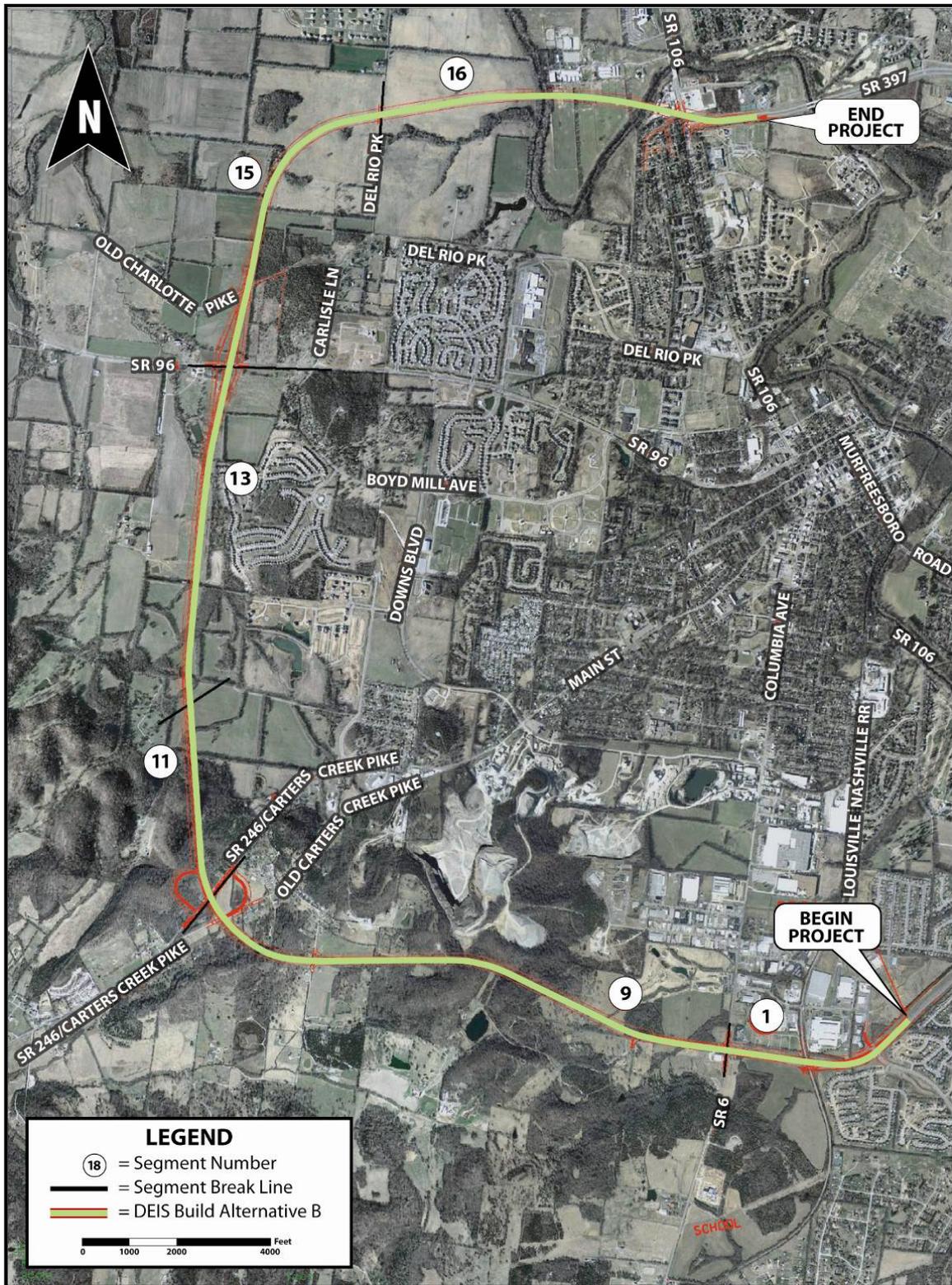


Figure 2-6. DEIS Alternative B

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Figure 2-7. DEIS Alternative C

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Figure 2-8. DEIS Alternative D

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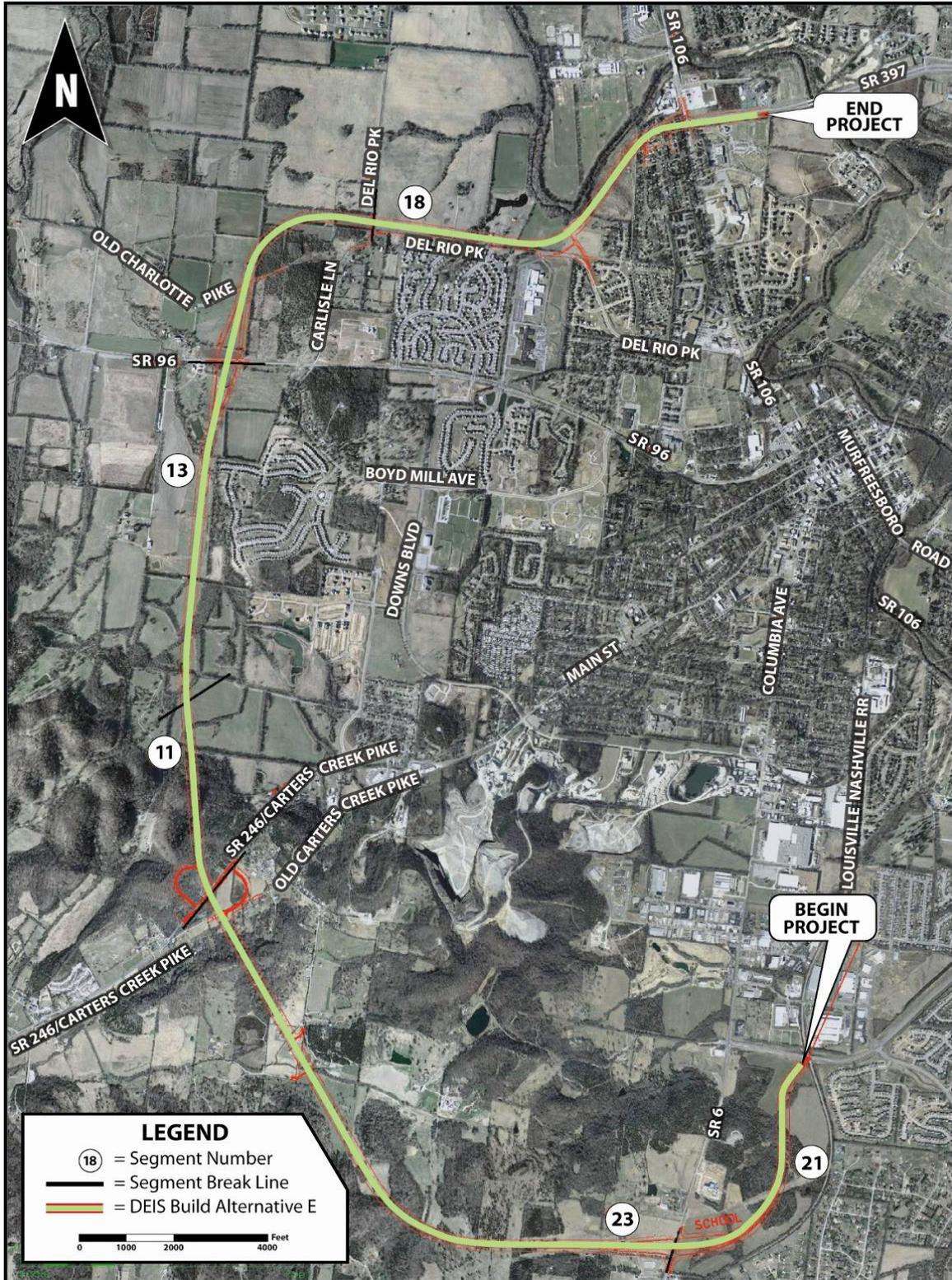


Figure 2-9. DEIS Alternative E

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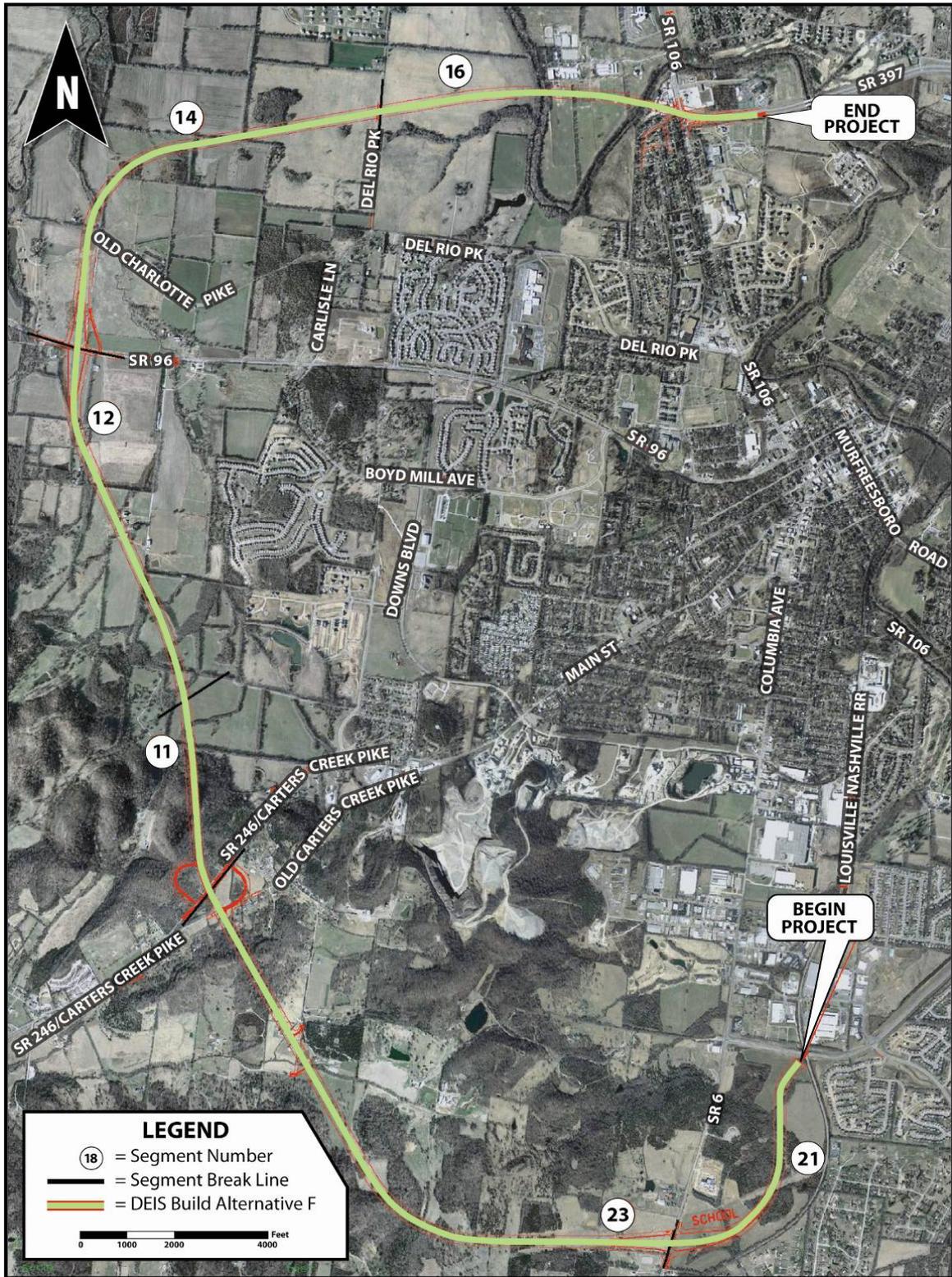


Figure 2-10. DEIS Alternative F

Following the public hearing, the Board of Mayor and Aldermen of the City of Franklin passed a resolution outlining five issues that the City wanted to have addressed as a part of their review of the DEIS, including a request that TDOT give full consideration to incorporating Segment 17 into the evaluation of alternatives. Segment 17 had been developed early in the planning process, but was eliminated from further consideration because of impacts to Rebel Meadows and the Harpeth River Historic District.

2.4.5 SDEIS Additional Alternative

A modified version of Segment 17 was subsequently combined with Segments 1, 9, 11 and 13 from the DEIS to form Alternative G. Since Segment 17 had not been fully developed and evaluated to the same level of environmental analysis as the DEIS Build Alternatives, TDOT prepared an SDEIS. The SDEIS included all of the segments and Build Alternatives of the DEIS plus new Alternative G. Segment 17 is described below.

Segment 17 begins at SR 96 and terminates at the existing intersection of SR 106/Hillsboro Road and SR 397/Mack Hatcher Parkway. It is approximately 2.13 miles long. The proposed typical section is a four-lane divided rural highway within 250 feet of ROW. This segment involves two crossings of the Harpeth River. Land use is primarily open farmlands with residential development associated with Rebel Meadows. It is anticipated that there would be minor disruption to the operations at Brownland Farm, located in the horseshoe bend of the Harpeth River. This segment is also within the limits of the Harpeth River Historic District, a NRHP-eligible property. This alignment avoids displacement of any existing businesses on SR 106/Hillsboro Road and at the SR 106/Hillsboro Road and SR 397/Mack Hatcher Parkway intersection. This alignment would displace approximately 17 homes in the Rebel Meadows subdivision.

As Figure 2-11 illustrates, Segment 17 was combined with Segments 1, 9, 11 and 13 to form Alternative G. The information contained in the DEIS remained valid, and was supplemented to reflect the additional Build Alternative—Alternative G, which is shown in Figure 2-11. A public meeting was held in July of 2005 to present Build Alternative G and approximately 104 people attended the public meeting. Key issues identified included:

- Noise impacts (noise barriers and buffering neighborhoods);
- Impact and access to Rebel Meadows;
- Flooding in neighborhoods;
- Impacts to farmland; and
- Design issues (design speed, roundabout at intersection with SR 96 and closure of SR 246/Old Carters Creek Pike)--Request Use of CSD process to develop project design.

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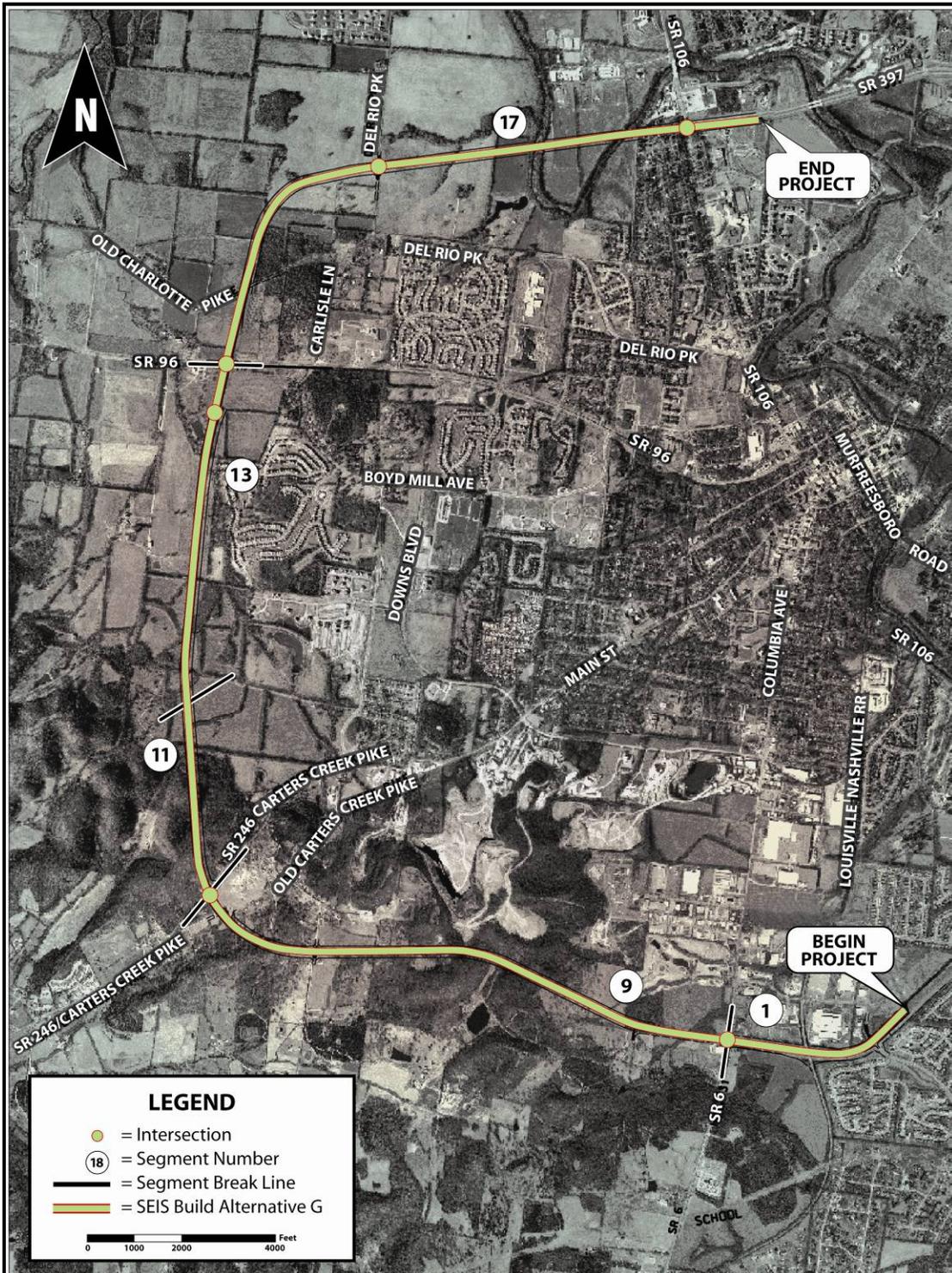


Figure 2-11. SDEIS Alternative G

The SDEIS was approved in August 2005. Upon approval of the SDEIS, Alternative G was added to the Build Alternatives to be carried forward in the National Environmental Policy Act (NEPA) process.

2.4.6 Selected Alternative (SDEIS Build Alternative G)

In December 2005, TDOT announced Alternative G as the Selected Alternative for the proposed project. It includes Segments 1, 9, 11, 13 and 17. Its alignment, as presented in 2005, is shown in Figure 2-12.

In 2008, the City of Franklin requested that a portion of Segment 13 of the Selected Alternative be shifted approximately 130 feet east in the vicinity of Westhaven and the Franklin Green subdivision (see Figure 2-12). At that time, the environmental impacts of the shift were evaluated, and it was determined the impacts were minimal. As a result, TDOT agreed to the revision, and the Selected Alternative's alignment was shifted approximately 130 feet east from the southern boundary of the Westhaven development northward to the stream crossing near the Nolen Avenue cul-de-sac. The shifted alignment is shown in Figure 2-13.

Alternative G was selected for the following reasons:

- It is preferred by the City of Franklin. On February of 2005, the Board of Mayor and Aldermen issued a resolution identifying this alternative as their preferred route;
- It reflected the best compromise when coordinated with the TVA's Aspen Grove Transmission Line, Southern Alternative (under construction in 2005);
- The SHPO concurred that it provides the fewest impacts to the Harpeth River Historic District and the Winstead Hill/Harrison House Historic District;
- It avoids bisecting the Westhaven Town Center (under construction in 2005); and
- It costs less than other alternatives (it was close in cost to Alternative C, but that original cost estimate would have increased because of impacts to Westhaven).

The Selected Alternative meets the purpose and need of the project as described in Chapter 1 of this report. Alternative G would:

- Reduce existing and anticipated traffic congestion;
- Provide connectivity to the regional highway system;
- Increase efficient movement of goods and people;
- Improve safety to the traveling public;
- Improve emergency vehicle response times; and
- Conform to the *Major Thoroughfare Plan (MTP)*.

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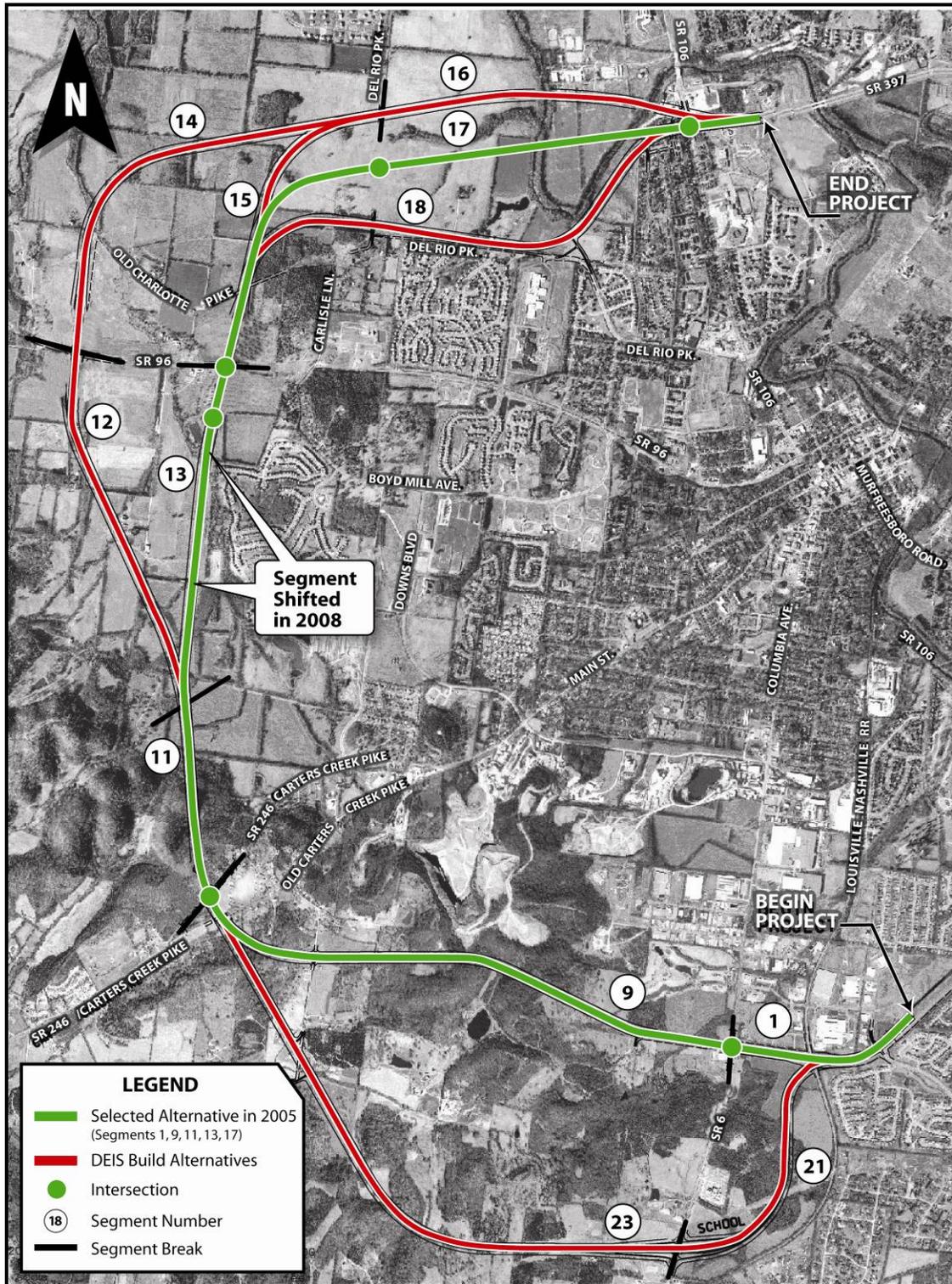


Figure 2-12. Selected Alternative in 2005 (Pre-Shift)

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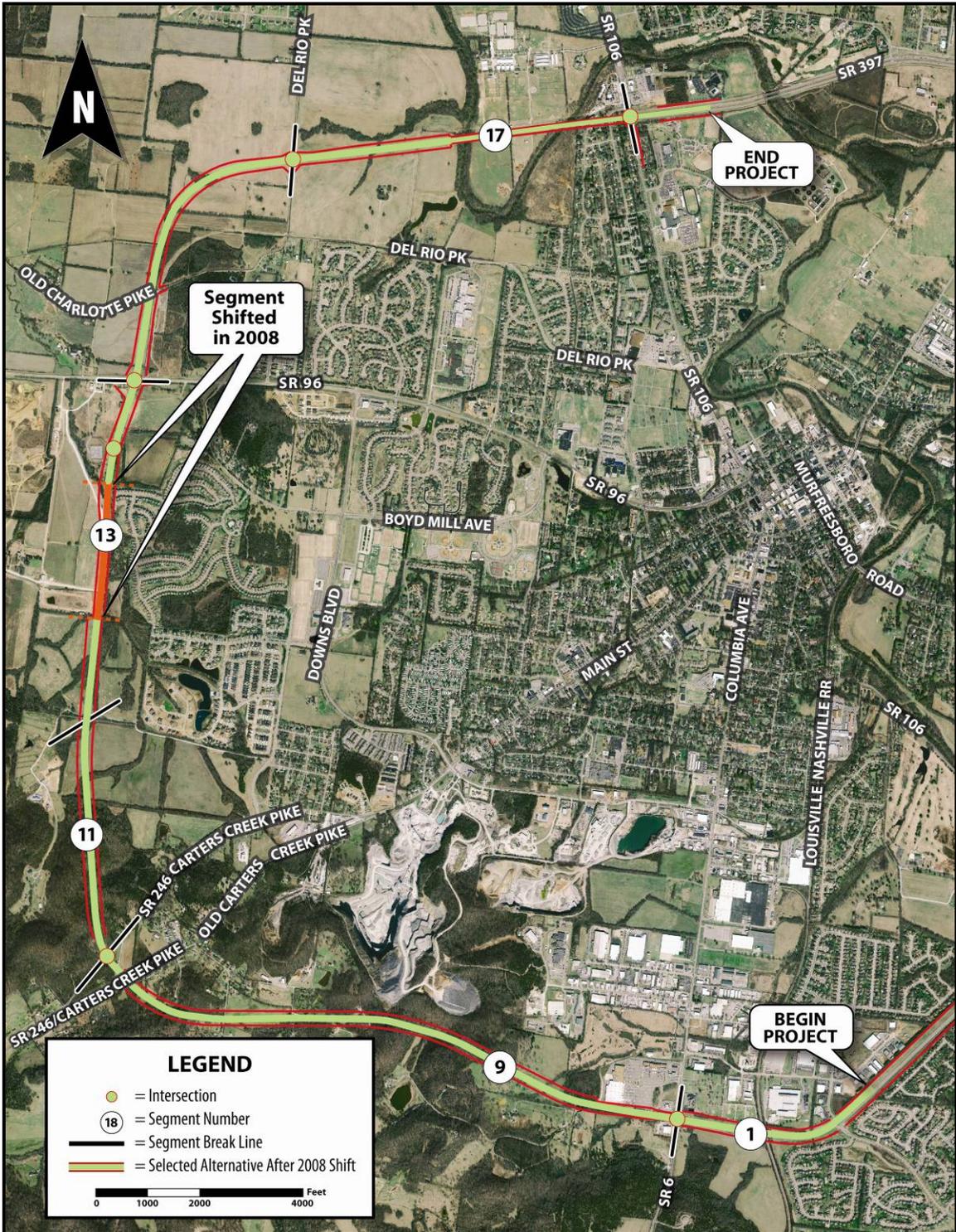


Figure 2-13. Selected Alternative (Post 2008 Shift)

TDOT also announced in December of 2005 its intention to utilize the CSD process to develop SR 397/Mack Hatcher Parkway. The CSD process began in March 2006. The process resulted in a report and a consensus memo, outlining the CDT and Agency Resource Team (ART) design recommendations for Alternative G. The CSD recommendations were approved by TDOT on April 10, 2007. The CSD process is discussed in further detail in Chapter 6.

The proposed SR 397/Mack Hatcher Parkway extension is a limited-access facility. Bicycle and pedestrian traffic will not be permitted to use the facility. The project design, however, includes a multi-use path, exclusively designated for walking, biking, skating and other non-motorized forms of travel. The multi-use path runs on the south side (outside edge) of the proposed roadway from SR 6/Columbia Pike to the SR 246/Carters Creek Pike roundabout. From SR 246/Carters Creek Pike to SR 106/Hillsboro Road, the multi-use path runs on the east/south side (inside edge) of the proposed roadway. The proposed multi-use path is included in the City of Franklin's *Bicycle and Pedestrian Plan*.

The proposed typical sections for the Selected Alternative were developed through the CSD process to fit into the context of the various segments of the project. The entire project consists of a four-lane roadway with a raised grass median and the multi-use path described above, except where the roadway intersects with other major arterials.

Two urban sections of roadway are proposed. Reduced from the section proposed in the DEIS and SDEIS to lower speed through these areas, the urban sections include: 1) the segment of the roadway on the south end of the project from SR 106/Columbia Pike north to SR 96; 2) the roadway segment from the east end of the Harpeth River crossings eastward to SR 106/Hillsboro Road; and 3) approaches to intersections. These segments will feature an urban curb-and-gutter section built within a minimum ROW of approximately 133 feet (Figure 2-14).

A rural section is proposed for the roadway, between SR 9 and the west end of the Harpeth River Bridge crossings. It features inside curbs and outside stabilized grass shoulders within a maximum ROW of approximately 250 feet (Figure 2-15). Segment 17 within the Harpeth River Historic District (from SR 96 to west of the Harpeth River crossings) will feature this typical section, which is intended to minimize visual impacts in the historic area. Urban, curbed sections will be utilized near the intersections along the corridor in the rural section, such as at the Del Rio Pike and SR 96 traffic circles and the section along Hillview Lane as it approaches SR 6/Columbia Pike (US 31).

Lastly, through the CSD process, it was also determined that two parallel bridge structures would be continuous from the eastern edge of the floodway to the western end of the floodway, spanning both the floodway and the two Harpeth River crossings. This segment of the project consists of two, two-lane bridges, shoulders and a bike and pedestrian path, within a minimum ROW of approximately 133 feet.

Through the CSD process, the grade-separated interchanges considered in the DEIS and SEIS have been eliminated and replaced by at-grade intersections, as follows:

- SR 6/Columbia Pike;
- SR 246/Carters Creek Pike (double-lane roundabout and access to Old Carters Creek will be from SR 246/Carters Creek Pike);
- Townsend Boulevard;
- SR 96 West (double-lane roundabout);
- Del Rio Pike (double-lane roundabout); and
- SR 106/Hillsboro Road (US 431).

Table 2-4 provides the cost for the Selected Alternative. This cost was developed during the CSD process in 2007 and is based on the TDOT planning level cost estimate spreadsheet. (The Alternative G cost presented in Chapter 4, Table 4-17, differs from the cost shown in Table 2-4 because the costs in Table 4-17 are in 2005 dollars and those do not include the CSD design elements that are incorporated into the cost presented in Table 2-4.)

Table 2-4. Planning Level Costs for the Selected Alternative

Planning Level Costs*	
Construction	\$77,851,092
ROW	\$6,297,363
Total	\$84,148,455

* These costs are in 2007 dollars and were developed by Wilbur Smith Associates during the CSD process.

3.0 Affected Environment

This chapter provides a general description of the current social, economic and environmental setting of the project area. These descriptions establish the existing baseline conditions and provide a basis of comparison for the determination of the impacts and environmental consequences of the proposed action as presented in Chapter 4 (Environmental Consequences of the Proposed Action).

3.1 Land Use

The project area is composed of open farmland, forested tracts, residential development and limited commercial land uses. Residential development is scattered along the major roadways that lead into and out of the project area. The dominant land use within the study area is farming operations with associated farm buildings. Land use at the termini is a mixture of commercial and retail development with single-family residential developments.

The project area is currently located within two jurisdictional authorities, Williamson County and the City of Franklin. The City of Franklin has included this area in its Urban Growth Boundary (UGB). Each authority has adopted the following planning documents:

Williamson County:

- *Williamson County Comprehensive Plan Update, 1988*
- *Williamson County Comprehensive Land Use Plan, 2007*
- *Williamson County Major Thoroughfare Plan Update, 1996*
- *Williamson County Zoning Ordinance*

City of Franklin:

- *Franklin, Tennessee Land Use Plan, 2004*
- *City of Franklin Major Thoroughfare/Bikeway Plan, 1998*
- *City of Franklin Major Thoroughfare/Bikeway Plan, Limited Western Update, 2000*
- *Final Report, City of Franklin Major Thoroughfare Plan Update, 2004*
- *City of Franklin 2003 Bicycle and Pedestrian Plan Update, 2003*
- *Central Franklin Area Plan, May 2004*
- *Zoning Ordinance, July 2008*

Maps respectively depicting the current Williamson County Land Use Zones, the City of Franklin *Zoning Ordinance* (July 2008) and the City of Franklin's *Long Range Bicycle Facilities Plan* (taken from the *2003 Bicycle and Pedestrian Plan Update*) are shown in Figures 3-1, 3-2 and 3-3.

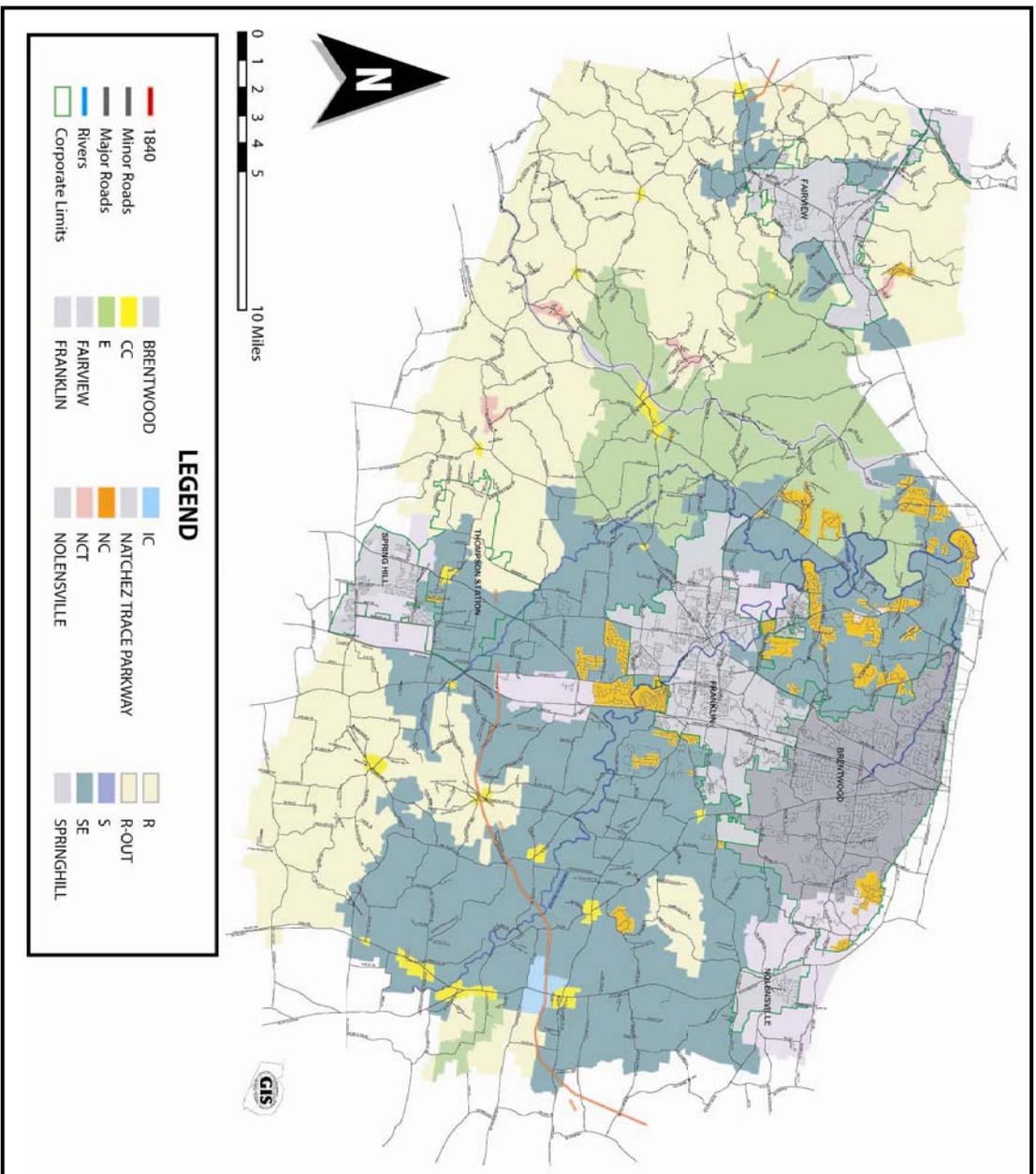


Figure 3-1. Williamson County Land Use Zones

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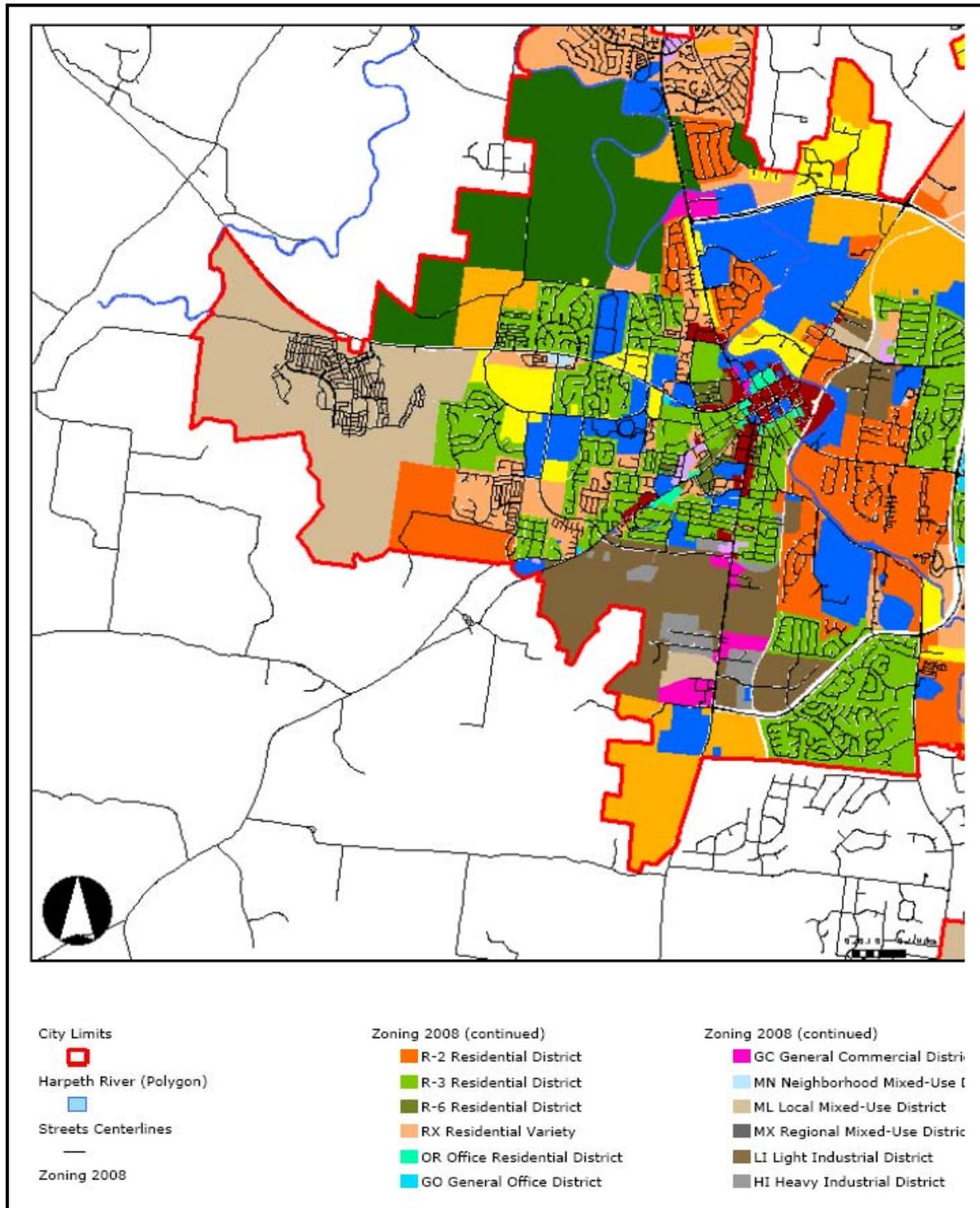


Figure. 3-2. City of Franklin Zoning Ordinance (July 2008)

3.2 Farmland

Most of the undeveloped areas of Williamson County are devoted to farming operations with much of the open land in use for pasturing livestock. In 2002, there were 1,712 farms in Williamson County, up from 1997 (1,410 farms) and 1992 (1,296 farms). However, during the same time period, the average farm size decreased from 158 acres in 1992, to 140 acres in 1997 and to 118 acres in 2002 (United States Department of Agriculture [USDA] National Agricultural Statistics Service: 1992, 1997 and 2002 Census of Agriculture).

Several major farming operations (those greater than the average 118-acre farm) are found in the study area. These farming operations consist of crops, such as corn, wheat and tobacco. Some smaller tracts are also devoted to these crops and to cattle. Primary agricultural crops in both the State of Tennessee and Williamson County are hay, cotton, corn, soybeans and wheat. Figure 3-4 shows the existing farmland areas in the project area.

3.3 Sociological and Economic Characteristics

3.3.1 Population

The total population of Williamson County, including 57,380 persons living in the City of Franklin, is 166,128 (2007 US Census Bureau [Census] Population Estimates). The population in each jurisdiction has increased steadily since 1960. Between 1990 and 2007, Williamson County's population grew by 105 percent, while the City of Franklin's population grew by 186 percent. This population growth is well above the statewide average of 26 percent for the same time period (2007 Census Population Estimates, 1990 Census).

The area impacted by this project is primarily rural and suburban in character. The population density for the City and County are approximately 1,393 persons per square mile and 217 persons per square mile, respectively. These averages exceed the state population density of 138 persons per square mile (2000 Census Summary File [SF] 1, Population, Housing Units, Area and Density).

3.3.2 Race

A breakdown of population, by race, is shown in Table 3-1. Williamson County's population is 8.4 percent minority, while the City of Franklin's population is 15.5 percent minority. Both of these figures are well below the statewide minority population, which is 19.8 percent of the State's total population.

3.3.3 Income

The per capita personal income (PCPI) for Williamson County in 2006 was \$51,841. This figure is comparable to a statewide PCPI of \$32,172 and a nationwide PCPI of \$36,714. Between 1995 and 2006, the average annual growth rate of PCPI in Williamson County was 4.2 percent, which is comparable to the average annual growth rate for the state (3.9 percent) and for the nation (4.3 percent) (Regional Economic Information System, Bureau of Economic Analysis).

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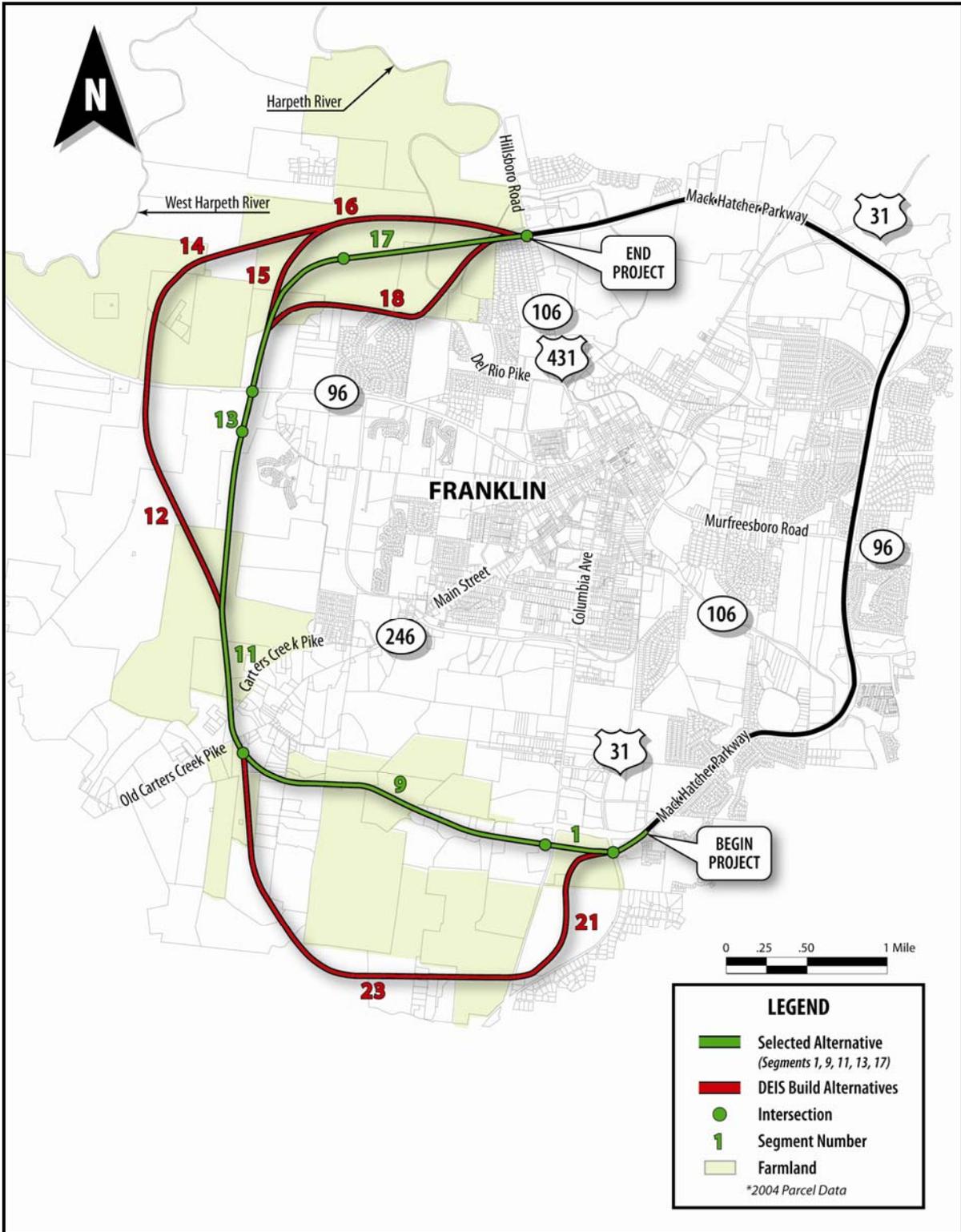


Figure 3-4. Farmland

Table 3-1. County and City Total Population by Race

	Williamson County		City of Franklin	
White	115,941	91.6 %	35,368	84.5%
Black or African-American	6,564	5.2%	4,330	10.3 %
Hispanic or Latino	3,197	2.5%	2,025	4.8%
American-Indian & Alaska Native	248	0.2%	99	0.2 %
Asian	1,583	1.3 %	674	1.6 %
Native Hawaiian and Other Pacific Islander	32	0.0%	19	0.0 %
Other	1,226	1.0 %	908	2.2 %
Two or More Races	1,044	0.8 %	444	1.1 %
	126,638		41,842	

Source: 2000 Census, Summary File 1

The median household income in each jurisdiction is estimated to be \$69,104 in Williamson County and \$56,431 in the City of Franklin, which is well above the median household income for the State of Tennessee (\$36,360). The percent of total families below the poverty level in Williamson County is 3.5 percent, compared to a statewide poverty rate of 10.3 percent (2000 Census, SF 3).

The overall unemployment rate for Williamson County and the City of Franklin was 4.7 percent in August 2008, compared to a statewide unemployment rate of 6.6 percent (Tennessee Department of Labor and Workforce Development, Labor Force Estimates [not seasonally adjusted]). One of the main reasons for this relatively low unemployment rate is the proximity of the project area to the Nashville urban area and its associated commercial and industrial base. The project is also located south and west of Cool Springs, a growing regional employment and retail center. With developing residential communities on the western boundary of Franklin, which the proposed project will serve, along with a trend toward commercial growth centers outside the Nashville area, a continued increase in the overall employment picture is expected.

3.3.4 Neighborhoods

Williamson County's population is growing due to the number of large residential developments that have been constructed over the past 20 years. As Figure 3-5 illustrates, several large neighborhoods/subdivisions exist in the study area, including Rebel Meadows, Founders Point, Westhaven, Franklin Green, Willowsprings and Oak Leaf Estates. Several new subdivisions have been approved for development, including Waterford Crest, Barclay Place, Parish Park and Through the Green (see Figure 3-5). These new developments are representative of the development trends in the area. The remainder of the study area is primarily undeveloped or developed at low densities.

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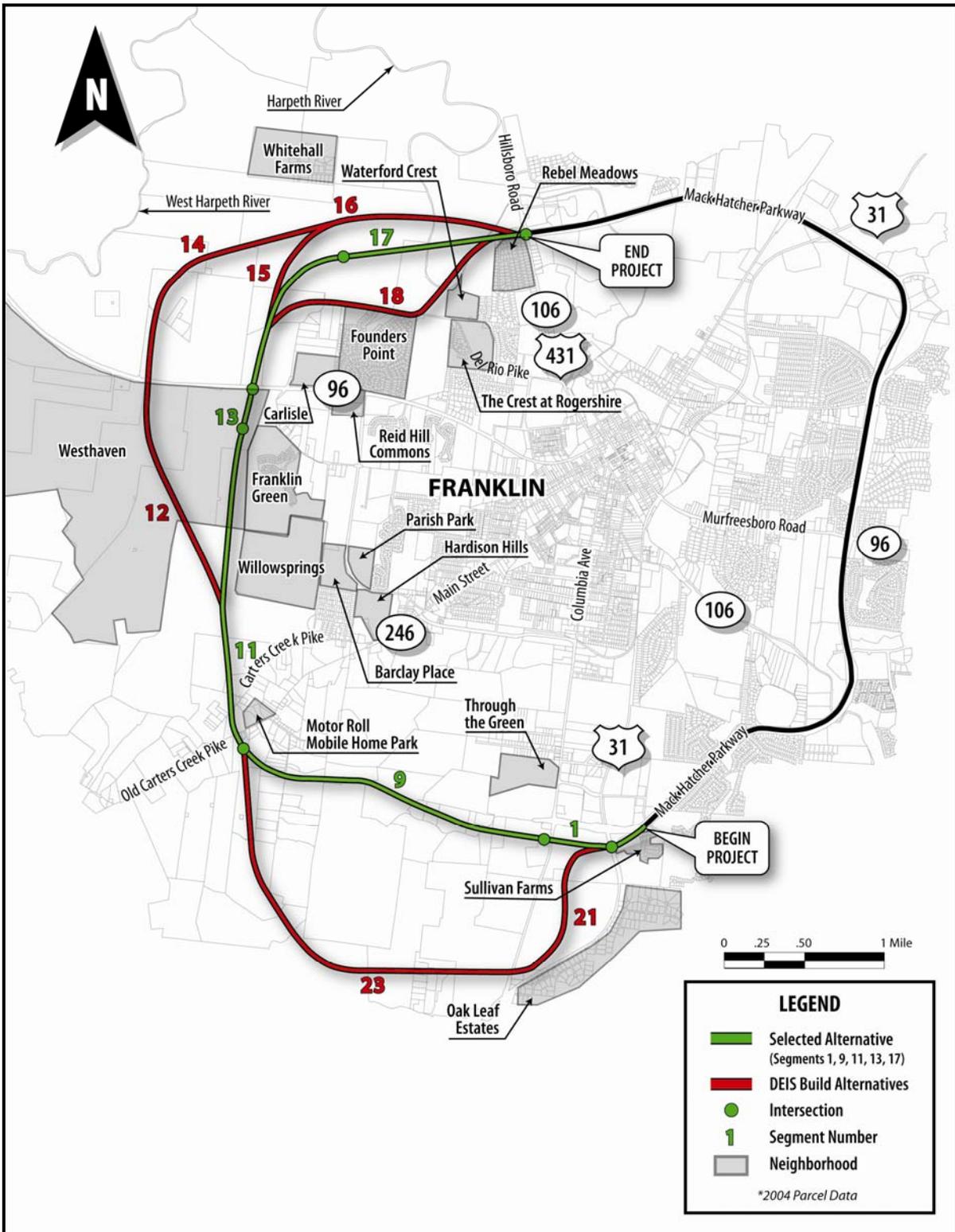


Figure 3-5. Neighborhoods

3.4 Ecological Systems

3.4.1 Geology and Physiography

The study area lies in the western portion of the outer Central Basin physiographic province of Tennessee. The Central Basin is a more or less ovoid geologic and topographic feature approximately 50 miles wide and 80 miles long. The Nashville (Central) Basin lies on the geologic formation known as the Nashville Dome and is composed mostly of middle and upper Ordovician age materials. The Nashville Basin is an erosional remnant that has been most eroded at its center (inner basin) and has experienced less weathering around the periphery.

Topography becomes more undulating toward the Highland Rim. The Highland Rim surrounding the Central Basin is typically 500 to 600 feet higher in elevation. West of the project area, the Highland Rim is demarcated by Backbone Ridge, which also divides the less fertile "Barrens" from more fertile soils in the Outer Basin. In the Central Basin, the topography is rolling and characterized by ridges and hills dissected by small to large streams. Elevations seen along the project area in this physiographic section are demonstrably lower, ranging from 600 to 900 feet above mean sea level.

Ordovician age limestones and shales underlay the majority of the Central Basin. These deposits are generally flat or dip in all directions away from the center of the Nashville Dome near Murfreesboro, east of the project area. Karst topography is common in areas where the underlying limestones have weathered creating subterranean cavities (caves and sinkholes). According to the Geologic Maps of the Leipers Fork and Franklin, Tennessee, United States Geological Survey (USGS) Quadrangle, sinkholes are present in the Rebel Meadows subdivision located near the intersection of SR 397/Mack Hatcher Parkway and SR 106/Hillsboro Road. Additionally, a sinkhole was located along Section 16 adjacent to the proposed ROW. The geology of north-central Williamson County is typical of the Central Basin in Tennessee. The area is underlain primarily by the Fort Payne, Hermitage, Bigby-Canon and Leipers and Catheys Foundations.

Bigby-Canon Limestone has wide surface exposure throughout the area and is comprised of Dove-colored, Cannon and Bigby limestone. The formation ranges from 50 to 90 feet in thickness. Cannon limestone is uniformly bedded and is medium grained. The Dove-colored limestone is crypto crystalline and evenly bedded. Bigby limestone outcrops are coarse, cross-bedded and usually contain phosphates. Leipers and Catheys Limestone formations are also exposed widely in this area of Williamson County. These formations directly overlay the Bigby-Canon Formation (making it younger in age) and are inter-bedded with shaly deposits.

According to the soil survey for Williamson County, Tennessee, eight different soil associations are generally used to describe the County. Approximately three of these eight soil associations will be traversed by the proposed project. The Sulphura-Dellrose-Bodline association is present along the southern and western portions of the proposed project and can be found as shallow and deep soils on the steep hills of the Highland Rim. The Maury-Armour-Braxton association is present along the southeastern and western portions of the study area and can be found on the uplands of the outer Central Basin as

gently rolling soils overlying phosphatic limestone. The Lindside-Armour-Huntington association is present in the northern study area and can be found on bottomlands as level to gently sloping soils and as level to moderately steep soils on stream terraces.

3.4.2 Terrestrial Habitat

The terrestrial habitat types that best describe the study area are wooded communities and agricultural land. Habitat types along the proposed alignments range from the wooded area generally confined to the steeper terrain of the southern half of the study area to level, gently rolling open farmland in the northern half of the study area. The steep terrain is covered by second growth forest of hackberry, elm, mulberry, osage orange and chinquapin oak trees. These community types support a limited variety of wildlife due to the lack of sufficient habitat and regular agricultural activities.

3.4.3 Aquatic Resources

The methodology for identifying aquatic resources involved checking agency records and maps (e.g., USGS quadrangle maps, soil maps and National Wetlands Inventory [NWI] maps), land owner contact, field reconnaissance and field surveys. Field surveys were conducted in 2001 and 2002 along the corridors of all of the alternative routes considered during the project planning stages. The surveys were conducted to identify aquatic resources such as streams and wetlands. To conduct the field surveys, a plat map of land parcels with overlain alignment corridors was used for orientation and determination of routes on the ground. That map was supplemented by functional drawings, which consisted of enlarged aerial photographs with the route corridors overlain on them.

The field survey identified 17 aquatic resources within the proposed alignments. These resources are represented by blue lines on the Leipers Fork 7.5 minute USGS quadrangle and are unnamed with the exception of Polk Creek and the Harpeth River. Ten of these sites are considered ephemeral and were dry during the field review. The remaining seven were determined to be perennial. Table 3-2 and Figure 3-6 describe and identify the perennial streams within the study corridor that were identified in the field studies. The field survey identified no other streams. Stream determinations will be confirmed in the permitting process.

In response to US Environmental Protection Agency (USEPA) comments on the DEIS, an evaluation of existing water quality for the waterbodies along the Selected Alternative was conducted in November 2007. Figure 3-6 illustrates the 13 waterbodies crossed by the Selected Alternative; all are within the Harpeth River Watershed. The map identifiers correspond to Table 3-3, which provides additional pertinent information, such as the USEPA waterbody ID, the waterbody's assessment status, and possible cause of impairment, if applicable. According to the USEPA assessment data for Tennessee (Harpeth Watershed, year 2006) nine of the 13 waterbodies have not been assessed. The remaining four waterbodies, contained within project segments 9, 13 and 17, are listed as impaired. The Selected Alternative crosses the Harpeth River twice.

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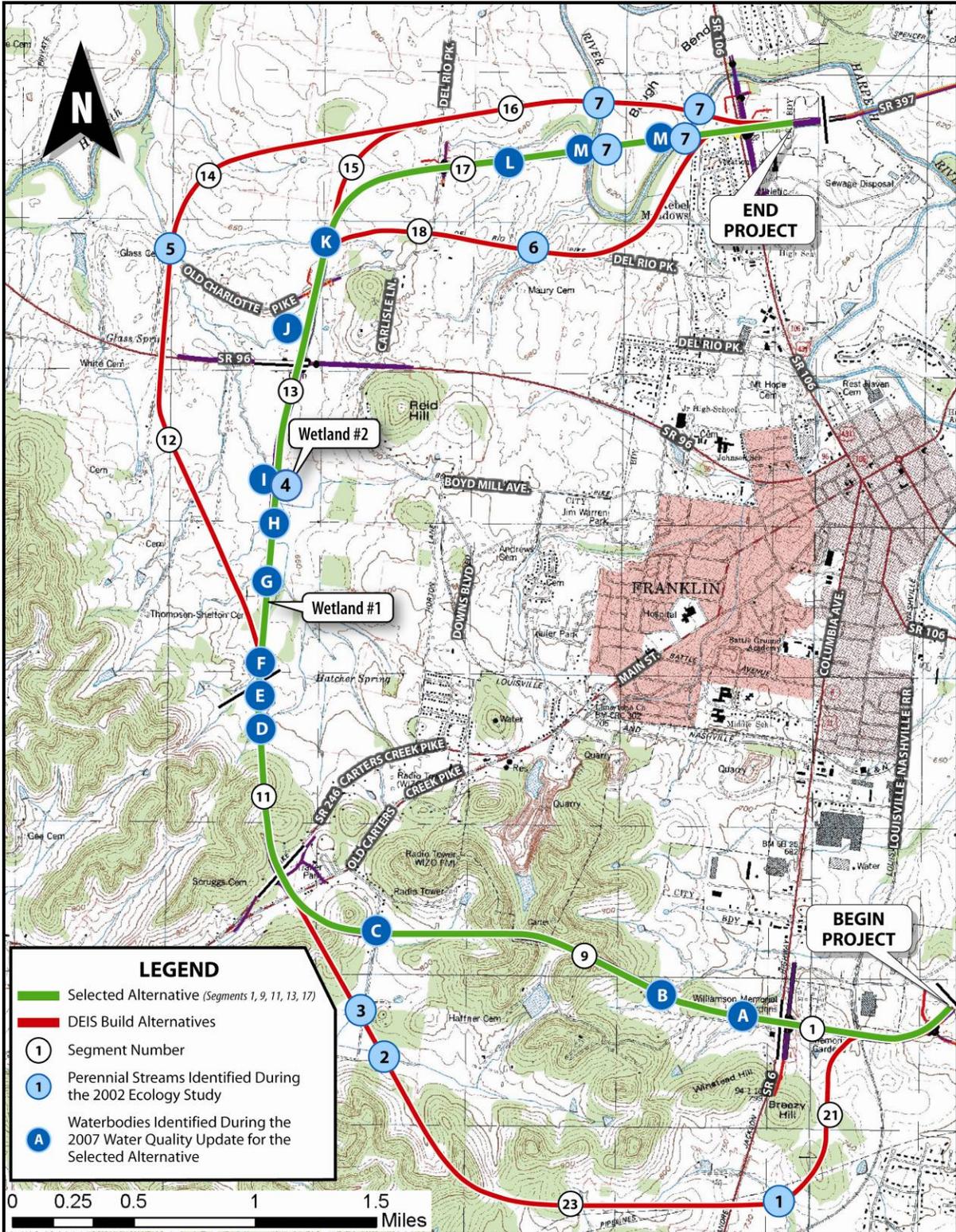


Figure 3-6. Aquatic Resources

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Table 3-2. Characterization of Perennial Streams within the Study Corridor

Map ID (Keyed to Figure 3-6)	Temp °C	D.O. Mg/L	PH Std. Units	Conductivity µmohs/cm	Habitat Assessment	Aquatic Fauna	Width ft.	Depth ft.	Velocity ft/sec.	Substrate
1	20.4	8.74	7.75	350	Sub-optimal	<i>Lirceus sp.</i> , Hydropsychidae, Gerridae	4	0.15	1.05	Gravel- cobble-sand
2 (Polk Cr.)	22.2	4.94	7.75	340	Poor	<i>Gerridae</i> , <i>Lirceus sp.</i> , <i>Rheotanytarsus sp.</i> , <i>Physella sp.</i> , <i>Coenagrionidae</i>	4	0.25	1.0	Sand-gravel
3	20.4	8.16	7.19	480	Marginal	<i>Gerridae</i> , <i>Cambaridae</i> , <i>Veliidae</i> , <i>Corixidae</i>	5	0.5	0.5	Gravel- cobble
4	14.5	7.83	7.94	440	Sub-optimal	A complete list of aquatic fauna is contained in the appendix of the 2002 <i>Ecological Study</i> prepared for TDOT by Pennington & Associates.	8	1	1.5-2.0	Cobble- boulder- bedrock
5	22.0	4.60	7.39	470	Sub-optimal	<i>Cambaridae</i> , <i>Stenacron</i> <i>sp.</i> <i>Hydropsychidae</i> , <i>Physella sp.</i>	10	0.5	1.5-2.0	Cobble- gravel-sand
6	16.8	7.14	7.12	260	Sub-optimal	Amphipoda, <i>Cambaridae</i> , <i>Cheumatopsyche sp.</i> , <i>Gerridae</i> , <i>Lirceus sp.</i> , <i>Tipula sp.</i>	4	0.5	1.0	Gravel-sand- cobble
7 (Harneth River)	25.7	5.01	7.59	300	Sub-optimal	<i>Cheumatopsyche sp.</i> , <i>Ferrissia rivularis</i> , <i>Psephenus herricki</i> , <i>Stenelmis sp.</i>	50	3	0.5	Sand-gravel- sand

Source: Ecological Studies by Pennington and Associates, 2001 and 2002. Reports on file at TDOT Environmental Division, Nashville, TN.

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Table 3-3. Existing Water Quality Data for Waterbodies Located Along the Selected Alternative

Project Segment No.	Map ID (Keyed to Figure 3-6)	Waterbody ID	Description	Assessment Status	Cause of Impairment
1	N/A	N/A	N/A	N/A	N/A
9	A	Not Assessed	Second order unnamed tributary to Harpeth River	Not Assessed	Not Assessed
	B	Not Assessed	Third order unnamed tributary to Harpeth River	Not Assessed	Not Assessed
	C	TN05130201013_0200	First order unnamed tributary to Harpeth River	Impaired	Sediment/Siltation; Alteration in Stream-Side or Littoral Vegetative Covers
11	D	Not Assessed	Fourth order unnamed tributary to West Harpeth River	Not Assessed	Not Assessed
	E	Not Assessed	Fifth order unnamed tributary to West Harpeth River	Not Assessed	Not Assessed
13	F	Not Assessed	Fifth order unnamed tributary to West Harpeth River	Not Assessed	Not Assessed
	G	TN05130204013_0100	Fourth order unnamed tributary to West Harpeth River	Impaired	Sediment/Siltation; Alteration in Stream-Side or Littoral Vegetative Covers
	H	Not Assessed	Third order unnamed tributary to West Harpeth River	Not Assessed	Not Assessed
	I	TN05130204013_0100	Second order unnamed tributary to West Harpeth River	Impaired	Sediment/Siltation; Alteration in Stream-Side or Littoral Vegetative Covers
17	J	Not Assessed	Second order unnamed tributary to West Harpeth River	Not Assessed	Not Assessed
	K	Not Assessed	Second order unnamed tributary to West Harpeth River	Not Assessed	Not Assessed
	L	Not Assessed	Second order unnamed tributary to Harpeth River	Not Assessed	Not Assessed
	M	TN05130204016_1000	Harpeth River (2 crossings)	Impaired	Phosphate; Dissolved Oxygen

Source: Gresham, Smith and Partners, 2007.

The 2002 ecology report prepared for the project found there were two wetlands located within the project alignments (see Figure 3-6). The presence of these two wetlands was later confirmed during a 2008 field assessment of the alignment shift in the vicinity of Westhaven and Franklin Green (for a description of this shift, see Chapter 2, page 2-26). Figure 3-6 illustrates the general location of the two wetlands.

3.4.4 Groundwater

Groundwater located in the area of the proposed project is usually found only within fractures or conduits within the bedrock. Primary porosity within the limestone and shale bedrock is most often less than 25 percent. Once a fractured and solutional enlargement has occurred, a secondary porosity of 50 percent or greater can be observed. Typically, a perched groundwater table can be located along the soil/bedrock interface. This perched water table does not typically yield more than 0.5 gallon per minute and is generally unsuitable for domestic water wells. Much of the proposed right-of-way (ROW) is generally either agricultural or undeveloped and contains several springs. These springs generally feed streams and/or ponds.

Three groundwater supply wells were located during the *Phase I Preliminary Assessment Study* near Sections 9, 13 and 16. The water wells located near Sections 9 and 13 do not appear to be in use and the water well located near Section 16 is located on a large farm and is used primarily for agricultural purposes. Water wells could potentially act as direct conduits for the transfer of contaminants to the ground water aquifer.

According to the Geologic Maps of the Leipers Fork and Franklin, Tennessee, USGS Quadrangle, sinkholes are present in the Rebel Meadows subdivision located near the intersection of SR 397/Mack Hatcher Parkway and SR 106/Hillsboro Road. Additionally, a sinkhole was located along Section 16 adjacent to the proposed ROW. The presence of sinkholes is indicative of a karst terrain. Like water wells, sinkholes could potentially act as direct conduits for the transfer of contaminants to the groundwater aquifer and care will be taken to prevent contaminants from entering sinkholes. Sinkholes may become solutionally enlarged due to surface drainage or groundwater withdrawal and could result in a soil depression or total sinkhole collapse.

A closed, City-owned landfill is located outside the proposed ROW of Segment 9 (see Section 3.5 and Figure 3-8). The site is currently used for the storage and processing of leaf and tree waste. A *Phase II Site Investigation*, dated January 2, 2009, was conducted on the site in December 2008. The subsurface investigation included the advancement of six soil borings, the collection of soil samples from each boring, the collection of groundwater samples from the soil borings, collection of groundwater samples from two monitoring wells and a water sample collected from a spring issuing from the property adjacent to the subject property. Select metals were detected above the National Primary Maximum Contaminant Levels (MCLs) or the USEPA Region 9 residential soil preliminary remediation goals (PRGs) in groundwater. The elevated metal detections in groundwater are most likely attributable to the highly turbid samples as evidenced by the lower detections in the less turbid and filtered samples. Additionally, the MCL and PRG levels are those for drinking water. Based on the shallow nature of the groundwater, it is not expected that it would be used for that purpose.

3.4.5 Threatened and Endangered Species

According to the database maintained by the Tennessee Department of Environment and Conservation's (TDEC) Division of Natural Areas, three federally-listed plants and animals and 22 state-listed (including the three federally-listed) plants and animals are known to occur in Williamson County. Table 3-4 lists the federal and state-listed plants and animals. A review of TDEC databases on October 21, 2008 revealed that five state-listed species have been observed within four miles of the proposed project: Thicket Parsley (Endangered), Duck River Bladderpod (threatened), Water Stitchwort (threatened), Finescale Darter and Slenderhead Darter (see Table 3-4).

Ecological field surveys conducted in 2001 and 2002 observed none of the threatened or endangered species or critical habitat for the species in the project area. These findings were confirmed for the shifted portion of the Selected Alternative during an April 2008 field review by qualified biologists.

3.4.6 Floodplains

Floodplain encroachment areas associated with the various alternatives are all related to the Harpeth River, which is a tributary to the Cumberland River located in the northern limits of the study area. Flood Hazard Boundary Maps of the project area were obtained through the US Department of Housing and Urban Development, Federal Insurance Administration (HUD-FIA). The Flood Hazard Boundary maps were utilized to illustrate the approximate 100-year floodplain in relation to each alternative under consideration. Figure 3-7 illustrates the general location of the floodplain and floodway associated with the Harpeth River.

3.5 Hazardous Materials

A *Phase I Environmental Site Assessment (ESA)* was performed for the project area, in conformance with American Society of Testing and Materials (ASTM) standards. Information was collected from interviews with individuals familiar with the site and area, employees and/or file information from TDEC. In addition, information was obtained through an environmental property data search and site visits.

This assessment revealed 14 sites with conditions that may indicate environmental impairment of the subject site. Table 3-5 is a summary of the sites that may possess environmental concerns by Build Alternative, and Figure 3-8 shows the locations of those 14 areas. The risk classification included in Table 3-5 is based on the type of contamination and the likelihood of encountering such contamination during project-related activities. The classifications are as follows:

- **No indication** implies that after a review of all available information and a limited site visit, there is no indication of present or past usage of hazardous materials.
- **Low** implies the past or present existence of hazardous materials is unlikely to impact the project.
- **High** implies past or present use or existence of hazardous material and the possibility that soil and/or groundwater contamination may impact the project.

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Table 3-4. Federal and State Listed Plants and Animals

Common Name	Scientific Name	Federal Listing	State Listing
INVERTEBRATES			
Nashville Crayfish	<i>Orconectes shoupi</i>	LE	E
PLANTS			
Price's Potato Bean	<i>Apios Priceana</i>	LT	E
Water Stitchwort*	<i>Arenaria fontinalis</i>		T
Tennessee Milk-Vetch	<i>Astragalus tennesseensis</i>		S
Leafy Prairie-Clover	<i>Dalea foliosa</i>	LE	E
Beaked Trout-Lily	<i>Erythronium rostratum</i>		S
Eggert's Sunflower	<i>Helianthus eggertii</i>		T
Butternut	<i>Juglans cinerea</i>		T
Small-Headed Rush	<i>Juncus brachycephalus</i>		S
Glade-Cress	<i>Leavenworthia exigua var exigua</i>		S
Duck River Bladderpod*	<i>Lesquerella densipila</i>		T
American Ginseng	<i>Panax quinquefolius</i>		S-CE
Large-Leaved Grass-of-Parnassus	<i>Parnassia grandifolia</i>		S
Thicket Parsley*	<i>Perideridia Americana</i>		E
Purple Milkweed	<i>Asclepias purpurascens</i>		T
Hairy Sharp-scaled Sedge	<i>Carex oxylepis var pubescens</i>		S
American Chestnut	<i>Castanea Dentata</i>		S
VERTEBRATES-BIRDS			
Sharp-shinned Hawk	<i>Accipiter striatus</i>		D
Cerulean Warbler	<i>Dendroica cerulea</i>		D
VERTEBRATES-FISH			
Redband Darter	<i>Etheostoma luteovinctum</i>		D
Slenderhead Darter*	<i>Percina phoxocephala</i>		D
Finescale Darter*	<i>Etheostomamicrolepidum</i>		D

*A review of TDEC databases revealed that these five species have been observed within a four-mile radius of the proposed project.

Federal Definition:

LE – Listed Endangered
LT – Listed Threatened

State Definition:

E – Endangered
T – Threatened
S – Special Concern
S-CE – Special Concern, Commercial Exploited
D – Deemed in need of management

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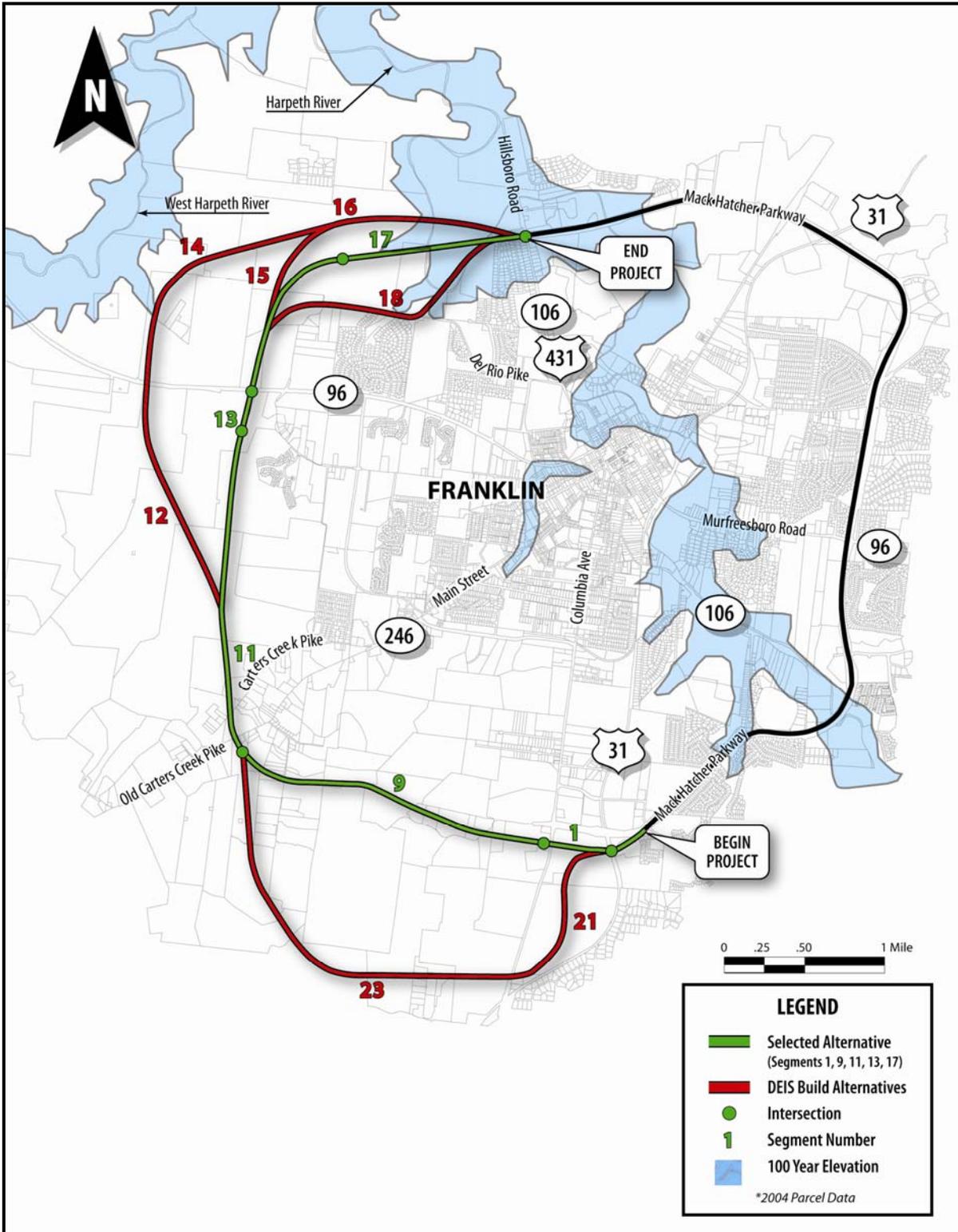


Figure 3-7. Floodplains

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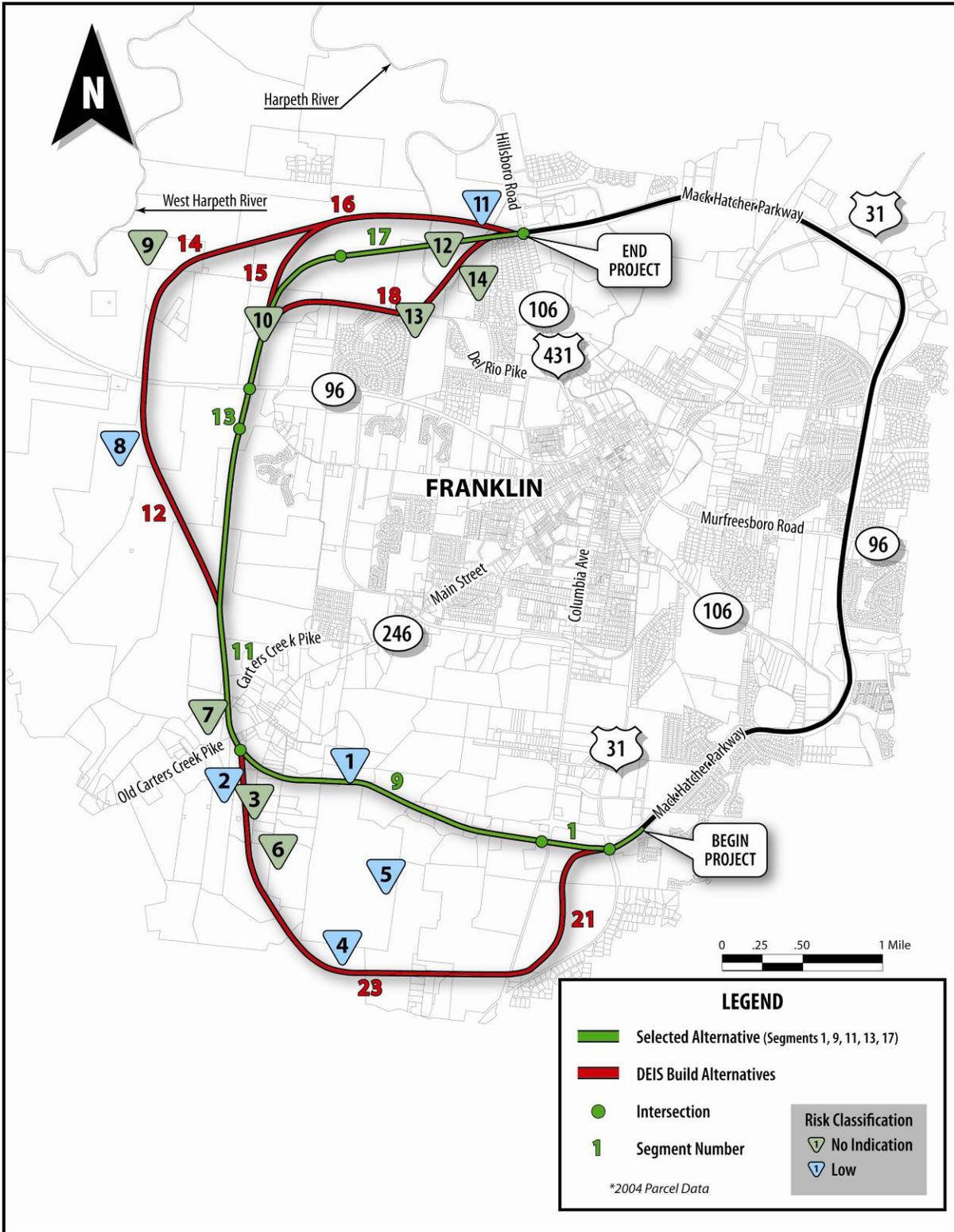


Figure 3-8. Sites with the Potential for Environmental Impairment

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Table 3-5. Summary of Properties with Potential Environmental Concerns

Alt.	Segments	Properties Affected by Alternative*	Potential for Site Impairment	Within ROW
A	1,9,11, 13,18	City of Franklin (Site 1)	Low	No
		Houston Taylor (Site 7)	No Indication	Yes
		Walter O. Cartisle, III (Site 10)	No indication	Yes
		Lyn Voss Ewing (Site 13)	No Indication	Yes
		Solutia, Inc. (Site 14)	No Indication	Yes
B	1,9,11, 13,15, 16	City of Franklin (Site 1)	Low	No
		Houston Taylor (Site 7)	No Indication	Yes
		Walter O. Cartisle, III (Site 10)	No indication	Yes
		Walter M. Glenn (John Deere Landscapes) (Site 11)	Low	No
		Anderton Family Partnership (Site 12)	No Indication	No
C	1,9,11, 12,14,16	City of Franklin (Site 1)	Low	No
		Houston Taylor (Site 7)	No Indication	Yes
		Southern Land Company (Westhaven) (Site 8)	Low	No
		The Gentry Family Limited Partnership (Site 9)	No Indication	Yes
		Walter M. Glenn (John Deere Landscapes) (Site 11)	Low	No
D	21,23,11,13, 15,16	Peter Scruggs, Jr. (Site 2)	Low	Yes
		William Bennett (Site 3)	No Indication	Yes
		Judith Anne Lane Schmidt (Site 6)	No Indication	No
		Houston Taylor (Site 7)	No Indication	Yes
		Walter O. Cartisle, III (Site 10)	No indication	Yes
		Anderton Family Partnership (Site 12)	No Indication	No
		Walter M. Glenn (John Deere Landscapes) (Site 11)	Low	No
E	21,23,11,13, 18	Peter Scruggs, Jr. (Site 2)	Low	Yes
		William Bennett (Site 3)	No Indication	Yes
		Judith Anne Lane Schmidt (Site 6)	No Indication	No
		Houston Taylor (Site 7)	No Indication	Yes
		Walter O. Cartisle, III (Site 10)	No indication	Yes
		Lyn Voss Ewing (Site 13)	No Indication	Yes
		Solutia, Inc. (Site 14)	No Indication	Yes
F	21,23,11,12, 14,16	Peter Scruggs, Jr. (Site 2)	Low	Yes
		William Bennett (Site 3)	No Indication	Yes
		Judith Anne Lane Schmidt (Site 6)	No Indication	No
		Houston Taylor (Site 7)	No Indication	Yes
		The Gentry Family Limited Partnership (Site 9)	No Indication	Yes
		Walter M. Glenn (John Deere Landscapes) (Site 11)	Low	No
		Anderton Family Partnership (Site 12)	No Indication	No
		Southern Land Company (Westhaven) (Site 8)	Low	No

Table 3-5 Summary of Properties with Potential Environmental (continued)

Alt.	Segments	Properties Affected by Alternative*	Potential for Site Impairment	Within ROW
G	1, 9, 11, 13, 17	City of Franklin (Site 1)	Low	No
		Houston Taylor (Site 7)	No Indication	Yes
		Walter O. Cartisle, III (Site 10)	No Indication	Yes
		Anderton Family Partnership (Site 12)	No Indication	No

* Property owners listed above reflect property ownership in 2002 when the *Phase 1 Preliminary Assessment Study, Addendum 1* was conducted.

As previously stated, the *Phase I ESA* revealed 14 sites with conditions that indicate there may have been environmental impairment of the property. These sites are described below and the site numbers are keyed to Table 3-5.

1. Located adjacent to the proposed ROW of Segment 9 is a City-owned closed landfill and former waste incinerator site. The site is currently used for the storage and processing of leaf and tree waste. In the north-central portion of the site are several rock/soil and wood debris piles. The soil cover is inadequate in most areas, specifically, the southern slope is severely eroded and has exposed tires, metal and other miscellaneous debris. Located adjacent to the incinerator is a 55-gallon drum of used oil, several empty drums and other miscellaneous metal debris. Two groundwater monitoring wells are on the southern slope of the landfill. In the *Phase I Preliminary Assessment Study*, the site's potential for site impairment was classified as **High**. As a result, a *Phase II Site Investigation* was conducted on the site in December 2008 (see Section 3.4.4.). The Phase II found that the environmental conditions at the site have a low probability of impacting the project. – **Low**.
2. Located along Segment 23, within the proposed ROW, is a solid waste/farm dump located in and around an abandoned residence. The site contains wood, metal, glass, plastic, used automobile batteries and tires, used oil and other miscellaneous trash debris. – **Low**
3. Located along Segment 23, within the proposed ROW, is a solid waste farm dump that contains mostly metal debris with lesser quantities of wood, glass, plastic and other miscellaneous trash debris. – **No indication**
4. Located along Segment 23, adjacent to the proposed ROW, is a wet weather drainage basin or ravine that contains approximately 75 to 100 used tires, old metal and wood fencing debris, wood, plastic, glass and other miscellaneous trash debris. – **Low**
5. Located between Segment 9 and Segment 23 is a dairy farm. The farm contains a manure holding pond, as well as other associated farm equipment and supplies that include the usage/storage of petroleum products and Above Ground Storage Tanks (ASTs). – **Low**
6. Located along Segment 23, adjacent to the proposed ROW, is an abandoned and empty AST with no odor, staining or residue observed. – **No indication**

7. Located along Segment 11, within the proposed ROW, is a solid waste farm dump that contains mostly roofing shingles and construction debris with lesser quantities of metal, glass, plastic and other miscellaneous trash debris. – **No indication**
8. Located along Segment 12, adjacent to the proposed ROW, are several solid waste/farm dumps located in and around abandoned residences and in the vicinity of the property boundaries. The sites contain wood, metal, glass, plastic, used automobile batteries, tires, used oil, drums of new oil and other miscellaneous trash debris. – **Low**
9. Located along Segment 14, within the proposed ROW, is a brush debris pile that contains several used automobile tires. – **No indication**
10. Located along Segment 15 and 18, within the proposed ROW, is a solid waste farm dump that contains mostly empty one-gallon paint containers, wood, metal, glass, plastic and other miscellaneous trash debris. – **No indication**
11. Located along Segment 16, adjacent to the proposed ROW, is a diesel AST currently used for fueling on-site equipment at a commercial landscaping facility. Slight surficial staining was observed around the dispenser. – **Low**
12. Located along Segment 16, adjacent to the proposed ROW is a sinkhole that contains mostly old metal and wood fencing debris along with brush, large rocks and other miscellaneous metal debris. – **No indication**
13. Located along Segment 18, within the proposed ROW, is a solid waste/farm dump located in the north-central portion of the property that contains mostly wood debris, some metal debris and an abandoned truck bed. The gasoline tank was not visible on the truck bed. – **No indication**
14. Located along Segment 18, within the proposed ROW, is a vacant lot that contains a refrigerator, clothes washing machine, a grill, an abandoned truck bed and construction debris that includes concrete, soil, rock, asphalt and wood debris. The gasoline tank was not visible on the truck bed. – **No indication**

3.6 Cultural Resources

3.6.1 Archaeological Resources

A Phase 1 archaeological survey was performed in compliance with Section 106 of the National Historic Preservation Act (NHPA), as amended. Archaeological sites identified during this study were evaluated for listing in the National Register of Historic Places (NRHP) pursuant to the criteria established in 36 CFR 60.4. The Area of Potential Effect (APE) for the survey included multiple segments that comprise the project build alternatives. The study area of each segment was a 250-foot wide corridor.

The Phase I study included a literature and records review, followed by field reconnaissance. Ten archaeological sites, a historic cemetery and 14 isolated finds of cultural material were identified wholly or partially within the APE. The findings of the Phase I study were coordinated with the Tennessee State Historic Preservation Office (SHPO) pursuant to Section 106. The SHPO concurred with the findings of the study that no NRHP-listed or eligible archaeological sites would be impacted by the project under

Section 106. The SHPO also concurred with the study recommendation that no additional archaeological work is warranted.

In 2008, a Phase I archaeological survey was performed for the Selected Alternative's alignment shift in the vicinity of Westhaven and Franklin Green. One archaeological site and one isolated find of cultural material was identified. The findings of the Phase I study were coordinated with the SHPO pursuant to Section 106. In a letter dated October 22, 2008, the SHPO concurred with the findings of the study that no NRHP-listed or eligible archaeological sites would be impacted under Section 106. The SHPO also concurred with the study recommendation that no additional archaeological work is warranted. Evidence of this coordination can be found in Appendix B.

3.6.2 Historic/Architectural Resources

Pursuant to Section 106, a historical and architectural survey of the APE was undertaken. The APE is defined as one-half (0.5) mile on either side of the proposed alternatives. An important reference consulted was a comprehensive county-wide architectural study that had been completed in 1983. The 1983 study led to a county-wide nomination of 90 properties eligible for the NRHP. The Williamson County Multiple Resource Area (MRA) was subsequently listed in the NRHP in 1988. The survey and research conducted for this project revealed NRHP-listed or previously determined eligible properties in the APE, shown in Figure 3-9 and described as follows:

1. Winstead Hill, SR 6/Columbia Pike (US 431) – NRHP, November 29, 1974 and National Historic Landmark (NHL) designation, 1960, as a section of the Franklin Battlefield;
2. William Harrison House, 4081 SR 6/Columbia Pike (US 431) – NRHP, 1975;
3. James B. Davis House, 2984 Del Rio Pike – Formally determined eligible for the NRHP, 1988;
4. Y.M. Rizer House, 2950 Del Rio Pike – NRHP, 1988;
5. Samuel F. Glass House, 1970 SR 96 West – NRHP, 1988;
6. Knights of Pythias Pavilion, 1015 Carlisle Lane – NRHP, 1988; and
7. Hamilton-Brown House (also known as the Elijah Hamilton House), 845 Old Charlotte Pike – NRHP, 2006.

Through consultation with the SHPO pursuant to Section 106, it was agreed to develop boundaries for two discrete districts that would together include all of the identified listed/eligible resources in the project APE.

Harpeth River Historic District

The first District determined eligible is the Harpeth River Historic District, which meets NRHP Criteria A and C for its significance in settlement, agriculture and architecture. Within this area, there are nine individual NRHP-listed or eligible properties (only # 3, 4, 5, 6 and 7 listed above are in the APE) and one largely unaltered landscape containing some of the most historically-significant agricultural landscapes in the County.

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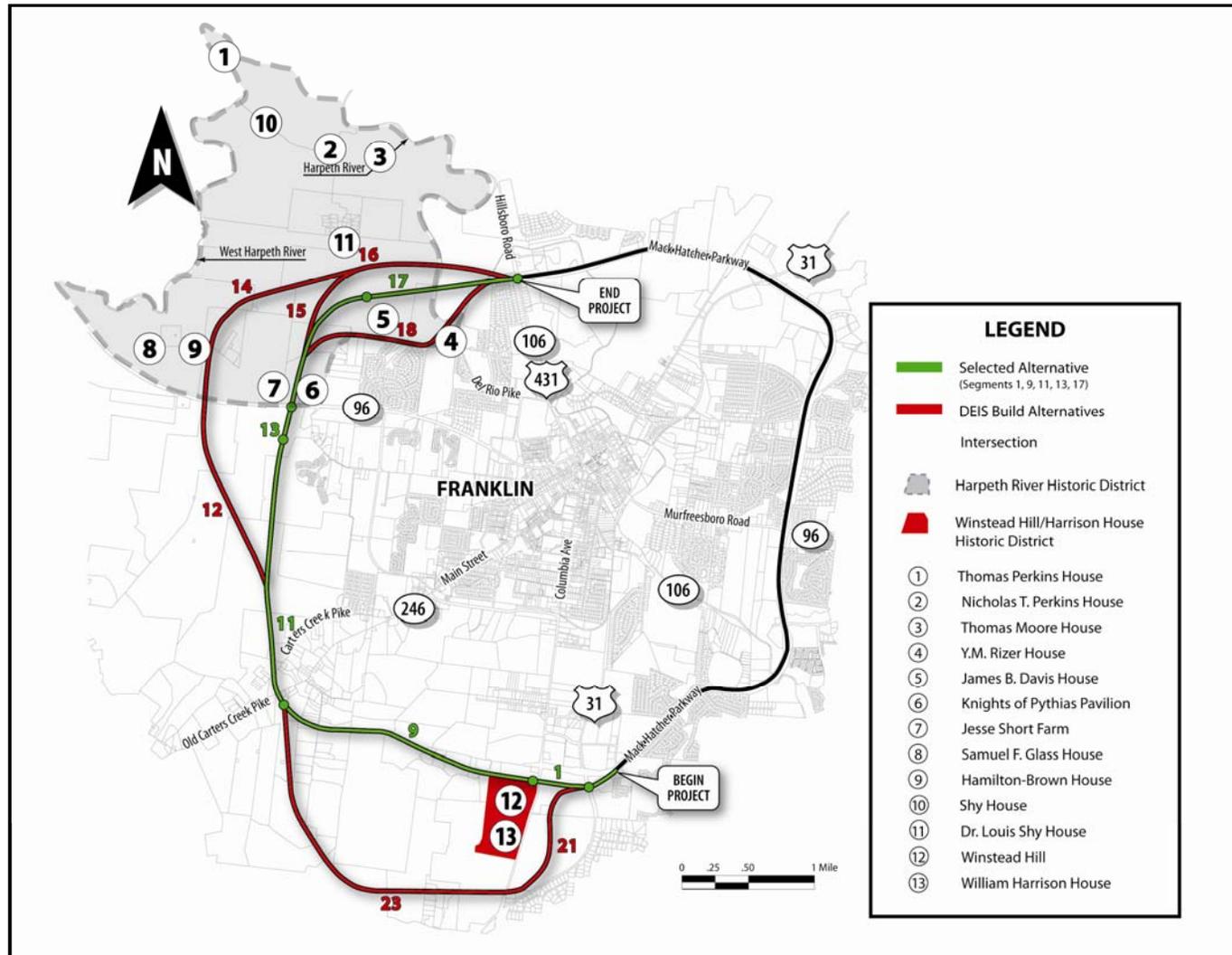


Figure 3-9. Historic Resources

The Harpeth River Historic District, shown in Figure 3-9, is located approximately two miles west of downtown Franklin. The District contains an estimated 2,495 acres and is bounded on the west and north by the tributaries of the West Harpeth and Harpeth rivers. The District is bounded on the northeast and east by the Harpeth River, by SR 96 and Del Rio Pike on the south and by the West Harpeth River on the west. The confluence of these two rivers is along the northern boundary of the District.

Within the District are 77 contributing properties and 31 non-contributing properties, exclusive of the Whitehall Subdivision which is a dense and relatively new residential development. Within the Whitehall Subdivision, there are an additional 68 non-contributing properties.

The fertile soil within the area attracted settlers as early as the 1790s and this area was cleared and farmed during the first quarter of the 19th century. Several of the County's oldest remaining brick dwellings are within the District, such as the Hamilton-Brown House, the Thomas Hardin Perkins House, the Nicholas Tate Perkins House and the Thomas Moore House. These dwellings reflect the wealth and prosperity of the area's early settlers, particularly that of the prominent Perkins family. The majority of the land which comprises the proposed District was originally owned by the Perkins family in the early 1800s.

This agricultural heritage is expressed not only through the large tracts of intact farmland, but also through the notable collection of outbuildings associated with the Thomas Moore House, the Samuel F. Glass House and the Jesse Short Farm. Each of these properties retains over a dozen outbuildings indicative of the prosperity and productivity of the 19th and early 20th centuries. Original outbuildings are also associated with the majority of the other contributing dwellings within the District.

The District is also significant for its collection of notable 19th and early 20th century residential architecture. Within the District are four dwellings reflecting the Federal style of the early 1800s; the Hamilton-Brown House, the Thomas Hardin Perkins House, the Nicholas Tate Perkins House and the Thomas Moore House. All are two-story brick dwellings that retain much of their architectural character. In addition to these properties, the District contains the Italianate-influenced Samuel F. Glass House, the Greek Revival-influenced James B. Davis House and the Second Empire style Y.M. Rizer House. The District also contains the Neo-classical style Knights of Pythias Pavilion, which was originally built in 1897 for the Tennessee Centennial Exposition in Nashville and moved to its present location in 1900.

The cultural landscape of the District is also evidenced through the retention of its historic roads and spatial organization. The earliest roads through the District area were Old Charlotte Pike, Del Rio Pike and Boyd Mill Road. Old Charlotte Pike connected Franklin with the Dickson County seat of Charlotte through the lands of the Perkins family. Following the construction of SR 96, Old Charlotte Pike was abandoned in places. An intact stretch of gravel roadbed is extant on the Samuel F. Glass House property. This property also includes the roadbed leading to circa 1900 stone abutments where the Old Charlotte Pike Bridge crossed the West Harpeth River. Del Rio Pike ran north from Old

Charlotte Pike and connected with the Hillsboro-Nashville Turnpike just west of the Harpeth River. Boyd Mill Pike extended west from Franklin and connected with the Natchez Trace at the community of Bingham: this roadbed was later absorbed into the improved, two-lane SR 96, which follows the original alignment of Boyd Mill Pike for much of the District's southern boundary.

In addition to the road patterns, the 19th century spatial organization of the District also remains largely intact. Since the early 19th century, the District has been characterized by a small number of dwellings and their associated outbuildings facing the major roads, with the majority of the land left in cultivation. In the 1870s, Samuel F. Glass built miles of stone walls to delineate his property and several sections of this landscape feature remain intact along Old Charlotte Pike and Del Rio Pike. The 1878 Beers Map of Williamson County shows only 13 dwellings located within the approximately 2,495 acres that comprise this District. Of these thirteen dwellings, nine are extant. At that time, the largest farms were those of Samuel F. Glass, James B. Davis and Mrs. M.T. Perkins, which together contained over 1,500 acres.

The rural landscape of the District retained its 19th century character well into the late 20th century. With the majority of the land in cultivation, woodlands were located primarily along the riverbeds and tributaries of the Harpeth River. The largest wooded area in the District is the hillside behind the Knights of Pythias Pavilion. The rocky slopes of this hill are ill-suited for cultivation and are the only significant area of woodlands in the District.

Only in the past two decades has there been any substantial increase in residential development within the area. Since the early 1980s several homes have been built facing Del Rio Pike. The Whitehall Subdivision, which is on the west side of Del Rio Pike, was developed in the late 1990s. Despite these modern dwellings, the rural landscape of this area remains largely intact with over 2,000 acres utilized for agricultural purposes. Based upon previous surveys and NRHP-eligibility assessments, the Harpeth River Historic District is the most significant collection of dwellings and agricultural buildings in Williamson County outside of the county seat of Franklin.

It is unlikely that the Harpeth River Historic District will remain primarily agricultural. The District is located within the UGB of the City of Franklin, and it is zoned as a "Suburban Estate District" under the Williamson County Zoning Ordinance. Anticipated residential development in the District will be in line with Westhaven, Founders Point and Whitehall Farms. Williamson County is one of the fastest growing counties in Tennessee and it is unlikely that the demand for residential development will decrease over the next decade, but instead will continue at its current rapid expansion pace.

Winstead Hill/Harrison House Historic District

The second District determined eligible is comprised of two NRHP-listed properties, Winstead Hill and the William Harrison House. This District, shown in Figure 3-9, is south of Franklin in the southeast part of the project area along the west side of SR 6/Columbia Pike. It is bounded by SR 6 on the east, Hillview Lane on the north and property lines on the west and south. The southeast corner of Hillview Lane and SR 6 has been excluded from the approximate 140-acre NRHP-eligible boundary.

Winstead Hill was the staging ground and observation point utilized by Confederate General John B. Hood and his staff during the Civil War Battle of Franklin. This significant Civil War site, which encompasses the crest and northern slope of the hill, is listed on the NRHP and is also an NHL. On the site are historical markers, a parking lot, restrooms and a walking trail.

To the immediate south of Winstead Hill at 4801 Columbia Pike (SR 6/US 31) stands the William Harrison House, built in 1845. Architecturally influenced by the Greek Revival style, the house was used as General Hood's headquarters during the Battle of Franklin. Following the battle, it served as a hospital. The house is significant for its architecture and association with the Battle of Franklin.

3.7 Recreational Resources

As illustrated in Figure 3-10, the project area contains a limited number of recreational resources. The closest recreational resources to the project are Winstead Hill Park and the Franklin Williamson County Recreation Complex/Judge Fulton Creek Park.

Winstead Hill Park, which is located south of the proposed roadway's southern terminus, is primarily a historic site, but it does have park benches, open grass areas, children's playground equipment and a multi-use path that features a number of interpretive exhibits. A greenway is also planned, traveling northwest from Winstead Park; however, the design and exact location are yet to be determined.

The Harpeth River is located in the northern portion of the project area (see Figure 3-10). The Harpeth River has a recreational designated use associated with it and is used for canoeing and fishing. Access to the Harpeth River is provided at the Franklin Williamson County Recreation Complex, which is located on existing SR 397/Mack Hatcher Parkway.

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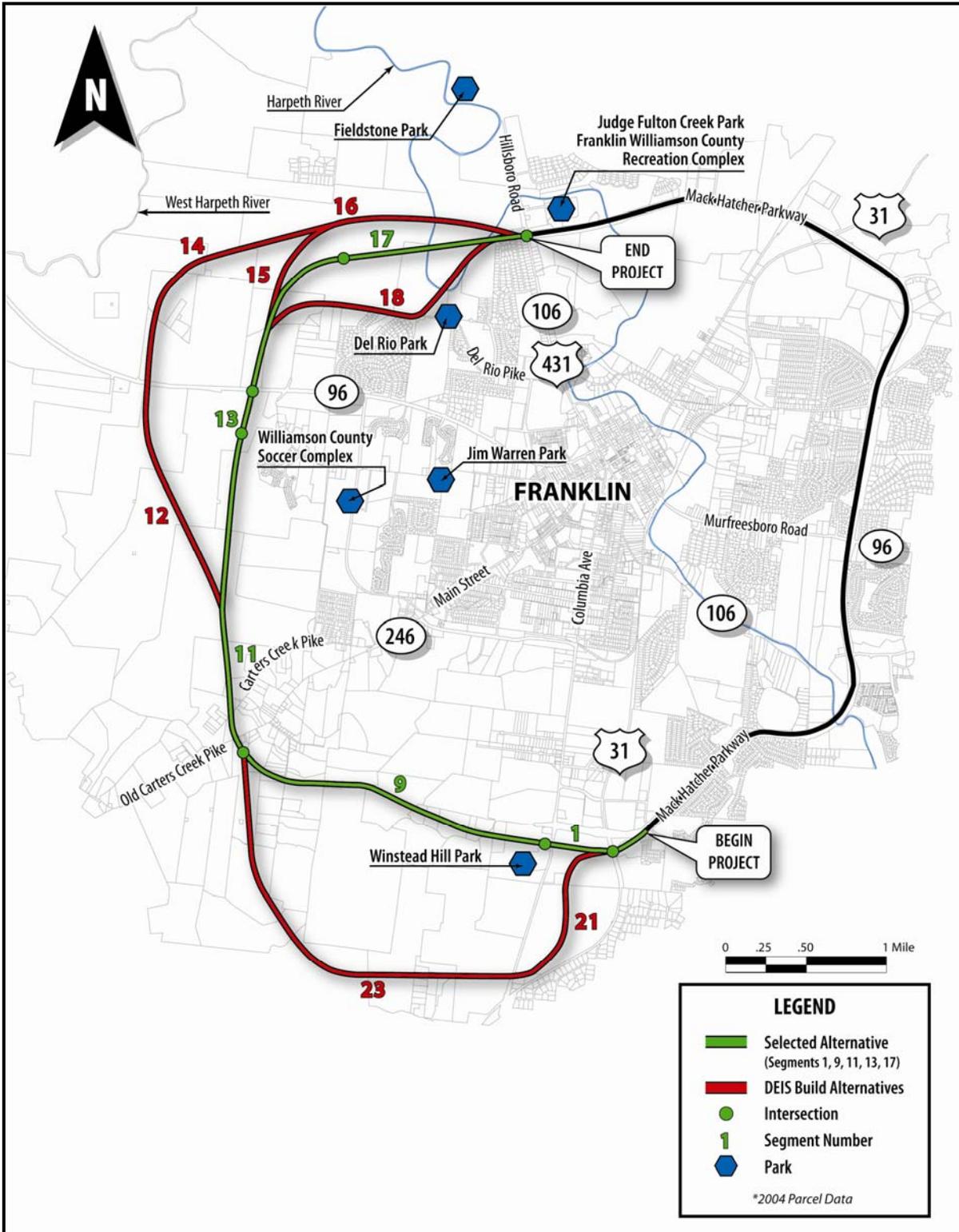


Figure 3-10. Recreational Resources

4.0 Environmental Consequences of the Proposed Action

This chapter describes the potential environmental consequences associated with the No Build Alternative, the Selected Alternative (G) (including the 2008 shift discussed in Chapters 1 and 2 of this document) and the six Build Alternatives that were discussed in the Draft Environmental Impact Statement (DEIS) that was approved in November 2004 (Figure 2-12). As discussed in Chapter 2, the Selected Alternative is a combination of Segments 1, 9, 11 and 13 from the DEIS and Segment 17 from the Supplemental Draft Environmental Impact Statement (SDEIS). The SDEIS was approved in August 2005.

The baseline conditions presented in Chapter 3 are the basis for which potential social, economic and environmental impacts are defined. Three types of impacts are discussed in this chapter: direct, indirect and cumulative. Under 40 CFR 1508, *direct* effects are those that are “caused by the action and occur at the same time and place.” *Indirect* (or *secondary*) effects are “caused by the action and related in time or farther removed in distance, but are still reasonably foreseeable.” A *cumulative* effect is an “impact on the environment which results from the incremental impact of the [proposed] action when added to other past, present and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or persons undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.”

The No Build Alternative implies that the State Route (SR) 397/Mack Hatcher Parkway extension is not constructed and that no major improvements beyond typical maintenance would be undertaken on the existing transportation network. The No Build Alternative would have no direct impacts to the environment, but it would not meet the project purpose and need. It would not improve traffic service in the City of Franklin and, with future increases in traffic, travel conditions would worsen or deteriorate. This would also place a limitation on Franklin’s ability to concentrate its growth within the Urban Growth Boundary (UGB), resulting in a higher burden on the existing poorly-connected roadway network.

The following sections describe the impacts of the Selected Alternative and the six DEIS Build Alternatives. Table 4-17, which begins on page 4-46 at the end of this chapter, summarizes the environmental consequences resulting from the Selected Alternative and the DEIS Build Alternatives.

4.1 Land Use Impacts

Selected Alternative

The Selected Alternative would impact land in both Williamson County and the City of Franklin. Both jurisdictions administer land and transportation development in the project area and have adopted land use and transportation plans, as well as zoning and subdivision regulations. The proposed extension of SR 397/Mack Hatcher Parkway is consistent with the adopted land use and transportation plans for both Williamson County and the City of Franklin. The project impact area that falls within Williamson County is within the City of Franklin’s 20-year UGB (see Chapter 1, Figure 1-4). A major portion of the areas crossed by the Selected Alternative currently consists primarily of farmland or

residential subdivisions. The proposed project is in the vicinity of Franklin's historic downtown commercial district, which consists primarily of medium to heavy-density residential, commercial and business service development.

The construction of a new route through the rural areas of the City and County would increase the potential for residential and commercial development by improving access. This new development would require the loss of wildlife habitat and farmland, but this conversion of land would likely occur independent of the proposed project. The trend of conversion of farmland to residential use has been taking place in the project area, and the City and County as a whole, over the past two decades. Examples include a number of subdivisions, such as Westhaven, Willowsprings, Carlisle, Founders Point, Whitehall Farms, Franklin Green and Sullivan Farms (see Chapter 3, Figure 3-5).

The current land use trends for the area indicate that more farmland will be converted to residential use over the next 20 years with or without the proposed extension of SR 397/Mack Hatcher Parkway. Based on the build-out of approved residential developments alone, the population within the Franklin UGB is expected to increase by 36 percent. (*City of Franklin 2007 Development Report*). As more residential developments are approved, this number will continue to increase. In the *City of Franklin's 2007 Development Report*, the Franklin Planning Department projects a 47 percent increase in the population within the Franklin UGB between 2007 and 2020¹.

The rapid development of this area has been, and will continue to, occur in and around the project area regardless of whether the Selected Alternative is constructed. As discussed in Chapter 1, the existing transportation system is not sufficient to handle the volume of vehicles associated with this type of growth. The construction of a limited access transportation facility would help relieve traffic congestion on the existing transportation system.

DEIS Build Alternatives

Impacts to land use within the project area resulting from implementation of the DEIS Build Alternatives are the same as those of the Selected Alternative. The current development trends in the area would continue to occur regardless of which Build Alternative is constructed.

4.2 Farmland Impacts

As required by the Farmland Protection Policy Act, coordination was undertaken with the National Resource Conservation Service (NRCS). A Farmland Conversion Impact Rating form was prepared for the preliminary study alternatives (see Chapter 2, Figure 2-2) in 2001 and for the DEIS Build Alternatives in 2002². The point values assigned for each

¹ This estimate is based on a 3.2 percent City and 0.7 percent unincorporated UGB growth rates. The estimated growth rate for the entire Unincorporated Williamson County was 1.5 percent between 1990 and 2000.

² Segment 7, which was a segment in the preliminary study alternative, was included in the 2001 coordination with NRCS. As described in Chapter 2 of this document, Segment 7 became Segment 17 of the Selected Alternative.

alternative in the site assessment were added together to determine the total Site Assessment score. When the Land Evaluation and Site Assessment score is 160 points or greater, alternatives to avoid farmland impacts should be considered and discussed. Since the Land Evaluation and Site Assessment score was less than 160 for all of the Build Alternatives, conversion of farmland to highway right-of-way (ROW) is consistent with the Farmland Protection Policy Act and no other alternatives, other than those already discussed in this document, must be considered.

Selected Alternative

Like all of the Build Alternatives considered, the Selected Alternative would impact agricultural land. Figure 3-4 in Chapter 3 illustrates the Selected Alternative in relation to agricultural parcels. These impacts would include direct conversion of farmlands to highway ROW. As outlined in Table 4-1, approximately 173 acres of farmland are required to construct the Selected Alternative. The impacts associated with the Selected Alternative are comparable to those of the DEIS Build Alternatives.

Table 4-1. Total Agricultural Acres Converted to Highway Use

Alternative	Agricultural (Acres)
A	165
B	176
C	189
D	235
E	224
F	248
Selected Alternative (G)	173

As shown in Figure 3-4, several of the large tract farms located in the area between SR 96 and the Harpeth River would be bisected by the Selected Alternative, potentially impacting farming operations in the area. Access, however, would still be provided by existing local roads allowing farming operations to continue.

Brownland Farm, which is located within the horseshoe bend of the Harpeth River, is one of the farms that would be bisected by the Selected Alternative. It is a horse farm with stables, exercise rings and open pastures for grazing. The Selected Alternative's impacts on the Harpeth River area and the Harpeth River crossings were discussed at length during the Context Sensitive Design (CSD) process. To reduce impacts on the Harpeth River and the associated floodplains, the Citizen Design Team (CDT) recommended two parallel bridge structures that are continuous over both river crossings with single column piers whenever possible. Piers associated with the two bridge structures would be located on Brownland Farm property. These structures would not only minimize impacts to the Harpeth River, but they would also minimize the Selected Alternative's visual and operational impacts on Brownland Farm. The pier placement would occur in the open pasture area south of the farm's main operations. Their presence would not restrict the farm's ability to continue to use this land as pastureland. The Selected Alternative would not require acquisition of any of the operational structures associated with the farm, and

provisions will be made to preserve access to the pastures south of the farm's operational structures.

During the ROW phase of the project, the Tennessee Department of Transportation (TDOT) will assess damages to farm properties and will compensate property owners accordingly. This process will include the assessment of fragments of farmland created by the project.

DEIS Build Alternatives

As previously stated, all of the Build Alternatives under consideration would impact agricultural land (Figure 3-4). Impacts to farmlands within the project area resulting from the implementation of the DEIS Build Alternatives are similar to those of the Selected Alternative.

Table 4-1 shows the total acres of farmland required. Like the Selected Alternative, the DEIS Build Alternatives would bisect tract farms; however, access would be provided by existing local roads. DEIS Build Alternatives A and E do not impact Brownland Farm. The impacts of DEIS Build Alternatives B, C, D and F on Brownland Farm are the same as those associated with the Selected Alternative.

4.3 Social Impacts

Selected Alternative

The Selected Alternative would not substantially change the basic social structure of the area, and impacts to the social environment would be minimal. All of the residential developments within the vicinity of the Selected Alternative, with the exception of Westhaven, are located east of the Selected Alternative. The Selected Alternative would not bisect any existing communities, change the manner in which residents interact, or negatively affect access to and from existing communities. The roadway is not anticipated to adversely impact ethnic groups, low-income populations, elderly populations, handicapped persons, non-drivers or transit-dependent individuals.

The Selected Alternative would not adversely impact the Franklin Community Church property, where a church is planned for construction at the corner of the Selected Alternative and SR 96 (see Chapter 3, Figure 3-5). No other religious institutions would be impacted by the proposed project.

The Selected Alternative would impact two residential areas. The project would bisect some low-density residential areas located in the southern portion of the project, but access to these areas will be maintained via SR 246/Carters Creek Pike. The alignment was shifted early in the planning process to reduce adverse impacts to these areas, and residents are expected to benefit from the proposed project through improved access to jobs, shopping, services and the regional transportation system.

It is estimated that the Selected Alternative would result in 17 residential displacements, 11 of which are within Rebel Meadows, an established residential neighborhood. The impacts to Rebel Meadows are direct and specific to those 11 homes located within the proposed alignment of the Selected Alternative. While there would be residential

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displacements, the neighborhood would not be bisected nor would residents be isolated since the Selected Alternative crosses the northern perimeter of the subdivision.

The Selected Alternative travels between Westhaven Development, a mixed-use traditional neighborhood development located south of SR 96 in the vicinity of Old Charlotte Pike, and the Franklin Green Subdivision (see Chapter 3, Figure 3-5). The Selected Alternative would not adversely impact Westhaven or Franklin Green. The Selected Alternative would parallel the east boundary of the Westhaven, where commercial land uses and retention ponds are planned for construction. Since 2003, coordination has occurred with the developers of Westhaven to ensure its site plan was designed to accommodate the Selected Alternative's alignment. Representatives of Westhaven were included in the CSD process, and a representative from the Westhaven development company participated on the CDT.

In 2008, the Selected Alternative's alignment was shifted approximately 130 feet east toward the Franklin Green subdivision to avoid impacts to the Westhaven retention ponds. No additional impacts to the community are anticipated as a result of the alignment shift because the roadway does not shift towards Franklin Green until it passes south of the Nolen Avenue cul-de-sac, where there remains a considerable buffer between the roadway and the Franklin Green subdivision. Coordination with the Franklin Green Homeowners Association (HOA) has taken place throughout the planning process (see Chapter 6, Section 6.5).

The implementation of the proposed extension of SR 397/Mack Hatcher Parkway would improve the overall travel conditions in the area and would improve the distribution of goods and services in the community. Access to community churches, schools, recreational facilities, hospitals, neighborhoods and jobs would improve. Emergency response times for police, medical and fire would be improved as well.

DEIS Build Alternatives

Like the Selected Alternative, the DEIS Build Alternatives would not substantially change the social character of the area.

DEIS Build Alternatives A and E impact Rebel Meadows by requiring the relocation of 18 to 19 homes. The impacts to Rebel Meadows are direct and specific to those homes located within the proposed alignment on the northern end of the subdivision. DEIS Build Alternatives B, C, D and F do not impact Rebel Meadows Subdivision.

DEIS Build Alternatives C and F would have a direct impact on the Westhaven development and would require major modifications and impacts to the development. DEIS Build Alternatives A, B, D, and E would not impact Westhaven.

4.4 Environmental Justice

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations, February 11, 1994, requires that the evaluation of Federal actions identify and address disproportionately high and adverse human health and environmental impacts to minority and low-income populations.

A 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 low-income population.

Based on numerous field reviews, a review of available data, correspondence with local government and citizen groups and the extensive CSD process, it was determined that few, if any, minorities or low-income households would be adversely impacted or displaced by the Build Alternatives. The project would not have a disproportionately high and adverse effect on those population groups. It is intended that all people living in the project area would equally share in the benefits of the proposed project.

In accordance with Title VI of the Civil Rights Act of 1964, the DEIS was sent to TDOT's Civil Rights staff and no comments were received. TDOT will comply with Title VI to ensure that "No person shall be, on the grounds of race, color or national origin, excluded from participation in, denied the benefits of, or subjected to discrimination under any program or activity receiving federal assistance."

Minority Populations

Census block data (2000) was used to determine the number of minorities in the City of Franklin, Williamson County and the study area. The study area was defined as that area that encompassed a two-mile radius from any of the proposed Build Alternatives.

Approximately 16 percent of Franklin's population and eight percent of Williamson County's population considers themselves to be a minority. As would be expected given its location near the City limits, the study area's minority population is smaller than that of the City and larger than that of the County. Approximately 13 percent of the roughly 31,000 people who live within two miles of the project corridor consider themselves to be a minority. The size of these minority populations are considerably smaller than that of the region (Nashville Metropolitan Statistical Area), which is 21 percent.

Selected Alternative

Figure 4-1 illustrates the latest Census block data for the City of Franklin and the project corridor. Approximately 14 percent of the people living in Census blocks adjacent to the Selected Alternative consider themselves to be a minority. Six out of 20 Census blocks adjacent to the Selected Alternative contain a minority population greater than the regional

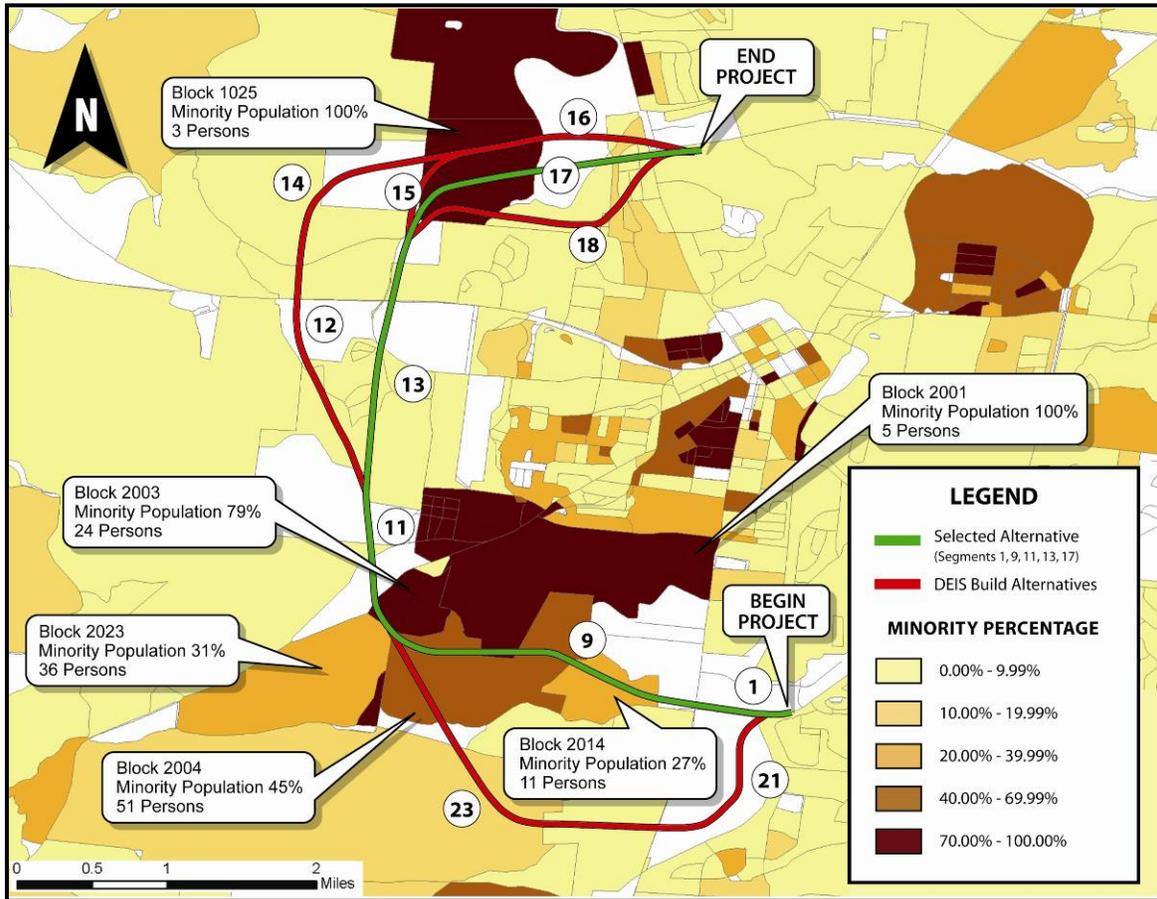


Figure 4-1. Minority Populations

average of 21 percent. Table 4-2 highlights the minority population information for those six Census blocks. The two Census blocks with 100 percent minority population contain only three and five persons, for a total of eight people.

While these five Census blocks' minority populations are greater than that of the City, as a whole, they do not receive a disproportionate portion of the project's impacts. These Census blocks are large and rural in character. The residences are scattered across the Census blocks, and relatively few homes are located in close proximity to the Selected Alternative. Out of the approximately 670 people who live in Census blocks adjacent to the Selected Alternative, very few would be impacted by the proposed project. Table 4-3 summarizes the Selected Alternative's impacts on minority communities. Seventeen homes would be displaced as a result of the Selected Alternative, and the Conceptual Stage Relocation Plan (CSRP) does not indicate that any of these residents are minorities (see Section 4.5).

The project would not have a disproportionately high and adverse effect on minority populations because, as Table 4-3 summarizes, no minority populations are anticipated to be adversely impacted by the project. It is intended that all people living in the project area, regardless of race, would equally share in the benefits of the proposed project.

Table 4-2. Census Blocks with a Minority Population Greater than 16 Percent

Census Block	Total Population	Percent Minority
Census Tract 506, Block Group 1, Block 1025	3	100%
Census Tract 506, Block Group 2, Block 2003	24	79%
Census Tract 506, Block Group 2, Block 2023	36	31%
Census Tract 506, Block Group 2, Block 2004	51	45%
Census Tract 506, Block Group 2, Block 2014	11	27%
Census Tract 506, Block Group 2, Block 2001	5	100%

Source: 2000 Census, Summary File 1

Table 4-3. Summary of the Selected Alternative’s Impacts on Minority Populations

	Selected Alternative
Minority Displacements	None anticipated*
Community Cohesion	No adverse impacts anticipated
Access	No adverse impacts (beneficial impacts)
Noise Impacts	No adverse impacts anticipated
Visual Impacts	Mostly confined to those residences adjacent to the new roadway; development in and around the project area is already rapidly changing the visual landscape of the area.

*Based on CSRPs conducted by TDOT for the DEIS in 2002.

DEIS Build Alternatives

The impacts of the DEIS Build Alternatives on minority populations are comparable with those of the Selected Alternative. The DEIS Build Alternatives would not have a disproportionately high or adverse effect on minority populations because no minority populations are anticipated to be adversely impacted by the project. Like the Selected Alternative, the DEIS Build Alternatives were developed so that community-related impacts were minimized.

Low-Income Populations

The US Census Bureau poverty threshold in 2007 for a family of four with two children under the age of 18 is \$21,027. US Census Bureau Block Group data (2000) was used to evaluate potential impacts to families below the poverty rate. The average median household income for the study area is \$68,636, which is well above the poverty threshold as established by the US Census Bureau (\$20,444). A summary of the median household income for the study area is shown in Figure 4-2.

Early in the planning process, concerns were raised about impacts on the Motor Roll Mobile Home Park (see Figure 3-5, Chapter 3). At the time, Segment 6 was still under consideration and it had direct impacts on Motor Roll Mobile Home Park, including displacements. The community was concerned about the availability of adequate

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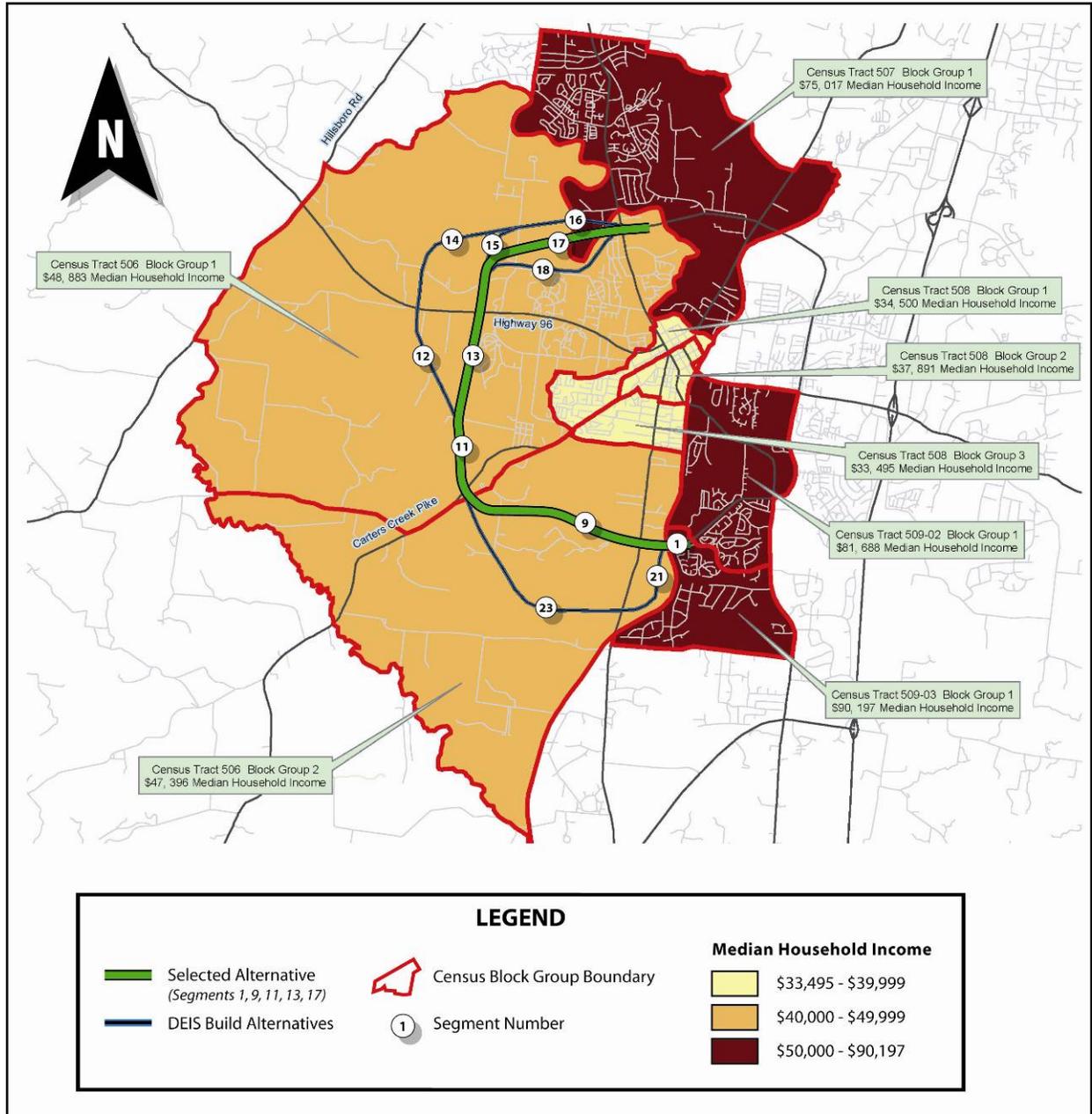


Figure 4-2. Median Household Income for the Study Area

and comparable replacement housing in the area and potential environmental justice issues. In response, TDOT shifted the alignment southwest to avoid the Motor Roll Mobile Home Park. As a result, none of the Build Alternatives adversely impact the mobile home park. Conversely, the residents of Motor Roll Mobile Home Park will benefit from improved pedestrian and bicycle connectivity and improved access to community facilities, shopping, jobs and the regional transportation system.

In summary, there is no evidence that low-income populations would bear any adverse effects as a result of the proposed project. All people living in the project area, regardless of income, would equally share in the benefits of the proposed project.

4.5 Displacements and Relocations

Displacements are a potential adverse effect associated with any proposed transportation project. A CSRPs was prepared in 2002 (and later revised in 2004) to assess the effects of displacements and to determine the probability of successful relocation. All of the Build Alternatives under consideration have relocation impacts associated with their respective alignment. Table 4-4 shows the displacements anticipated for each Build Alternative. Residential homes that may potentially be displaced range in value from \$150,000 to \$500,000.

Table 4-4. Relocations Impacts per Alternative

Alternatives	Residential	Businesses	Non-Profit
A	18	0	0
B	5	1	0
C	4	1	0
D	6	2	0
E	19	1	0
F	5	2	0
Selected Alternative (G)	17	0	0

The residential displacements are believed to be owner-occupied households. According to the Tennessee Statistical Abstract, the average family size in this area is four, and incomes range from lower to upper middle-class. The majority of residences to be displaced by the Build Alternatives appear to have maintained their present occupancy for approximately one to 20 plus years. Based upon the CSRPs, there appear to be no minority displacements.

The supply of available housing will be adequate to meet the needs of all potential residential displacees. It is believed that the local real estate market will provide enough available housing, in addition to building lots and acreage. The CSRPs demonstrates that there is ample, decent, safe and sanitary replacement housing in the project area within the financial means of the families or individuals to be displaced. The CSRPs is on file with TDOT. The price range and availability of houses to rent and buy, which was updated in 2008, are listed in Table 4-5.

Table 4-5. 2008 Updated Price Range and Availability of Housing

Residential Units	Price Range	Number available
Buy/Purchase		
One (1) Bedroom	\$90,000 to \$1,500,000	7
Two (2) Bedroom	\$134,950 to \$25,950,000	52
Three (3) Bedroom	\$99,900 to \$1,650,000	248
Four (4) Bedroom	\$137,000 to \$2,500,000	332
Five (5) or More Bedrooms	\$293,500 to \$29,500,000	92
Rent		
One (1) Bedroom	\$679.00 to \$846.00	11
Two (2) Bedroom	\$890.00 to \$1,800.00	24
Three (3) Bedroom	\$805.00 to \$3,350.00	13
Four (4) Bedroom	\$1,650.00 to \$3,100.00	6
Five (5) or More Bedrooms	\$2,800.00 to \$3,000.00	2

Source: Yahoo Real Estate Data for Franklin, TN as of October 14, 2008; Updated January 6, 2009

In order to minimize the unavoidable effects of ROW acquisition and the displacement of people and businesses, TDOT will carry out a ROW and relocation program in accordance with the Tennessee Uniform Relocation Assistance Act of 1972 and the Uniform Relocation Assistance and Real Property Acquisition Act of 1970 (Public Law 91-646), as amended.

TDOT will provide advance notification of impending ROW acquisition, and before acquiring ROW will have all properties appraised on the basis of comparable sales and land use values in the area. Owners of property to be acquired will be offered and paid fair market value for their property.

No person lawfully occupying real property will be required to move without at least 90 days written notice of the intended vacation date, and no occupant of a residential property will be required to move until decent, safe and sanitary replacement housing is made available. "Made available" means that either the affected person has, by himself, obtained and has the right of possession of replacement housing or TDOT has offered the relocatee decent, safe and sanitary housing, which is within their financial means and the replacement housing is available for immediate occupancy.

At least one relocation agent is assigned to each highway project to carry out the relocation assistance and payments program. A relocation agent will contact each person to be relocated to determine individual needs and desires and to provide information, answer questions, and give help in finding replacement property. Relocation services and payments are provided without regard to race, color, religion, sex or national origin.

Brochures that describe in detail the ROW acquisition program and the relocation assistance and payments program were distributed at the public hearings and are made available by TDOT upon request to any interested persons.

Selected Alternative

The Selected Alternative would displace approximately 17 residences, most of which are in the Rebel Meadows subdivision. No businesses or non-profit organizations would be displaced by the Selected Alternative.

Relocation impacts would include possible loss of neighbors' familiarity, adjustment to new surroundings and moving inconveniences. Although the impacts associated with project displacements are adverse, they would be short-term. The provisions of suitable and acceptable replacement housing, combined with adequate relocation payments, can be expected to minimize relocation impacts. It is anticipated that there would be no difficulty in satisfactorily relocating all persons likely to be displaced.

DEIS Build Alternatives

Table 4-4 outlines the relocation impacts of the DEIS Build Alternatives. None of the DEIS Build Alternatives involve the relocation of non-profit organizations. Residential relocations range from four (Alternative B) to 19 (Alternative E), and business relocations range from none to two. The two businesses potentially relocated along the proposed ROW are a landscaping and garden center business (on Segment 16) and an equine boarding and training operation (on Segment 23). These businesses are small/medium businesses that appear to employ one to 30 employees. There is adequate improved and developable commercial property in Williamson County to successfully relocate these businesses. It does not appear as though any minority employees would be displaced.

4.6 Economic Impacts

The conversion of land to public ROW would result in the temporary loss of local tax revenue due to the removal of land from the county tax rolls. This loss would be more than offset by the anticipated development in the study area and the economic benefits of an efficient transportation system. Table 4-6 shows the required acreage per alignment.

Table 4-6. Right-of-way Requirements per Alternative

Alternatives	Right-of way Requirements
A	210
B	218
C	235
D	263
E	255
F	280
Selected Alternative (G)	206*

*This ROW reflects the 2008 shift of a portion of Segment 13.

Selected Alternative

The overall economic impact of the Selected Alternative on the surrounding area is expected to be beneficial. Local, county and regional governmental officials have emphasized the importance of this proposed transportation improvement as a factor in achieving the economic growth potential of the area. Through its planning efforts, the City of Franklin has identified that the area west of the city will be predominantly residential. The proposed project would help support new development, which in turn should increase the value of property within the corridor area. The new development will result in an increase in the local tax base and productivity of the area. Such development will help create new jobs for local residents resulting in an enhanced local economy.

The Selected Alternative requires 17 residential relocations. It is anticipated that those affected by the project would relocate within the study area. The loss of tax revenues associated with these residential displacements would be minimal and would be offset by the anticipated development within the study area.

The Selected Alternative would involve utility relocation costs. The utility adjustments generally involve local agencies, which would bear a large majority of the cost.

DEIS Build Alternatives

The DEIS Build Alternatives would have similar economic impacts on the study area as the Selected Alternative.

4.7 Pedestrian and Bicyclists Considerations

Both the CSD process and the City of Franklin's *2003 Bicycle and Pedestrian Plan Update* recommend a multi-use path for the entire SR 397/Mack Hatcher Parkway corridor, including the subject extension. As shown in the Selected Alternative's typical section (Chapter 2, Figure 2-13), a 12-foot multi-use path has been incorporated into the project design. It is located within the ROW and would be separated from traffic by a grass strip of varying widths (minimum of six feet). This path would link neighborhoods, provide recreational opportunities for area residents and add connectivity to the existing greenway system.

In the *2003 Bicycle and Pedestrian Plan Update*, the City of Franklin outlines a number of recommended bicycle facilities throughout the City. Major roadways such as SR 96, SR 246/Carters Creek Pike, SR 106/Hillsboro Road and SR 6/Columbia Pike are designated to incorporate future bike lanes or shoulder bike lanes. Other, smaller roadways are also designated to incorporate future bike lanes or shoulder bike lanes (Chapter 3, Figure 3-3). The proposed SR 397/Mack Hatcher Parkway extension would contribute to the multi-modal connectivity between these corridors and within the City of Franklin.

4.8 Air Quality Impacts

4.8.1 National Ambient Air Quality Standards

In December 2002, the Middle Tennessee area entered into an Early Action Compact (EAC) agreement. Based on monitored air quality, it was apparent the area would be designated non-attainment for the 8-hour ozone National Ambient Air Quality Standards (NAAQS) by the United States Environmental Protection Agency (USEPA). The EAC is a voluntary opportunity for an area to achieve cleaner air sooner than traditional non-attainment and without the usual requirements of transportation conformity and non-attainment New Source Review (NSR). Since the area met the milestone requirements, and made progress with the agreed upon measures, the USEPA deferred the effective date of the non-attainment designation until December 31, 2007, when the EAC expired. In mid April, 2008, the USEPA announced that the Nashville area was designated in attainment with the eight-hour ozone NAAQS. The region will, however, still be subject to one-hour ozone transportation conformity requirements for one year beyond the eight-hour attainment designation. The region will remain in attainment until a new standard is put in place.

A micro-scale air quality analysis for carbon monoxide (CO) was performed for the proposed project using the CAL3QHC computer model, which is approved for use by the USEPA. CAL3QHC incorporates the CALINE3 dispersion model along with a queuing model to determine the emissions concentrations at roadway intersections. The predicted measurements are based upon input data that includes the combined effects of the roadway geometry, traffic flows, atmospheric stability and low wind velocities. The emissions levels were determined through the use of the USEPA-approved emission factor model that was in use at the time the DEIS was conducted, MOBILE5b.

The MOBILE5b emissions factors were derived using data for factors specifically determined for Williamson County. These included: vehicle class distribution, local temperatures, effects of the National Low Emission Vehicle Program and the implementation of the lower standards for NO_x for heavy-duty diesel engines, local fuel characteristics and local inspection/maintenance factors.

The CAL3QHC emissions concentrations used the emission factors from the MOBILE5b analysis specifically determined for Williamson County along with project-related data on the vehicle flows and the specific characteristics of the roadway. An examination of the vehicle flow rates revealed that the intersection of SR 106 and SR 397 had the highest flow rates and would have the highest CO concentrations. This intersection was therefore selected for analysis as the worst case that would be encountered along the length of this project. The dispersion analysis was performed for the project base year, 2004, and the project base year plus 20 years, 2024.

The Pasquill stability class E atmospheric condition was used in the analysis. In addition, a one meter/sec wind was applied to the intersection at increments of 22.5 degrees through a range of 0 to 360 degrees to ensure that the receptor sites would experience the highest concentrations regardless of the wind direction. The receptor sites were located 10 feet from the mixing zone (which includes 10 feet on both sides of the roadway) at each corner of the intersection, along with locations 100 feet from the corners.

Background concentrations of 1.00 parts per million (ppm) CO were obtained from TDOT and added to the emissions concentrations to determine the predicted total CO concentrations. These concentrations were then compared to the following NAAQS for CO:

- Maximum one-hour concentration – 35 ppm; and
- Maximum eight-hour concentration – 9 ppm.

The predicted maximum one-hour emissions concentrations of carbon monoxide, including the background levels are shown in Table 4-7.

Table 4-7. Maximum One-Hour Emissions Concentrations

Carbon Monoxide Concentrations (ppm)	
Year	Predicted One-Hour Concentrations
2004	4.1
2024	8.5

The one-hour carbon monoxide concentrations are well below the NAAQS of 35 ppm. These levels are also below the eight-hour standard of 9 ppm.

Selected Alternative

The results of this analysis indicate that the Selected Alternative would not have a significant impact on the air quality of the area. Middle Tennessee is in attainment for the Fine Particle (PM_{2.5}) standard.

The project, with no significant changes in concept and scope, is programmed for 2016 in the Nashville Area MPO's *L RTP* (adopted in October 2005 and amended in June 2006; project #6045). It is also included in the MPO's *2008-2011 Transportation Improvement Program (TIP)* (#2006-418) that was approved by both the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA), on October 1, 2007. Accordingly, the proposed project is in conformance with the *SIP* using USEPA's conformity rule as promulgated on November 24, 1993.

DEIS Build Alternatives

Like the Selected Alternative, the DEIS Build Alternatives would not have a significant impact on the air quality of the area.

4.8.2 Mobile Source Air Toxics

A review of the impact of potential Mobile Sources Air Toxics (MSATs) resulting from this project has been conducted. For both the Selected Alternative and the DEIS Build Alternatives, emissions will likely be lower than present levels in the design year (2029) as a result of USEPA's national control programs that are projected to reduce MSAT emissions by 57 to 87 percent between 2000 and 2020. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates and local control measures. However, the magnitude of USEPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases. See the MSAT discussion in Appendix E for more details.

4.9 Noise Impacts

4.9.1 Applicable Guidelines and Evaluation of Noise Impacts and Abatement

A study was performed in accordance with the current policies of the FHWA and TDOT in effect when the DEIS was approved in order to determine the potential increase in noise levels due to the construction of the proposed project. The FHWA policy is found in Title 23 of the Code of Federal Regulations Part 772 (23 CFR 772), *Procedures for Abatement of Highway Traffic Noise and Construction Noise*. The TDOT policy is consistent with the FHWA policy, and includes information on abatement feasibility and cost effectiveness.

The FHWA policy (found in 23 CFR 772) requires a five-step study procedure:

1. Identification of noise-sensitive receptors (i.e., existing activities, developed lands and undeveloped lands for which development is planned, designed and programmed, which may be affected by noise from the highway);
2. Determination of existing noise levels at those receptors;
3. Prediction of future noise levels at those receptors;
4. Determination of traffic noise impacts (by comparing existing with predicted noise levels, and predicted noise levels with the Noise Abatement Criteria [NAC] from 23 CFR 772); and
5. Examination and evaluation of alternative noise abatement measures for reducing or eliminating the noise impacts.

The FHWA policy found in 23 CFR 772 contains sound levels for various land use activity categories. Table 4-8 indicates the relationship between various land use or activity categories and the upper limits of recommended traffic noise levels of each activity as established by 23 CFR, Part 772. All sensitive receptors identified within the project area are classified as Category B, with a NAC of 67 dBA. TDOT guidelines state that noise mitigation should be considered for any receptor or group of receptors where predicted traffic noise levels, using future traffic volumes and roadway conditions, approach or exceed the NAC. Traffic noise is

**Table 4-8. Noise Abatement Criteria, from 23 CFR, Part 772
(Hourly A-Weighted Sound Level--decibels [dBA]¹)**

Activity Category	L _{eq} (h)	L ₁₀ (h)	Description of activity category
A	57 (Exterior)	60 (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)	70 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries and hospitals.
C	72 (Exterior)	75 (Exterior)	Developed lands, properties or activities not included in Categories A or B above.
D	---	---	Undeveloped lands.
E	52 (Interior)	55 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals and auditoriums.

¹Either L₁₀(h) or L_{eq}(h) (but not both) may be used on a project.

considered to “approach” a criterion at a level of 1 dBA less than the criterion (e.g., 66 dBA for Category B receptors).

Field measurements were taken to determine existing noise levels along the project on May 31, 2001 and April 26, 2002 at a total of ten noise receptor sites. Equipment used was a Larson-Davis Model 812 Type 1 Integrating Sound Level Meter. Measurements were made in accordance with the procedures specified in FHWA-PD-96-046/DOT-VNTC-FHWA-96-5, *Measurement of Highway-Related Noise*. Tolerances for setup, calibration and weather conditions stated in that report were observed. Ten minute measurements were taken at each noise receptor site, with the results analyzed to produce representative background (existing) noise levels in L_{eq}. The locations and descriptions of the existing noise receptor sites are shown in Figure 4-3 and Table 4-9. Each of these sites was used to represent one or more sensitive receptors within the project area.

At the time the noise analysis was conducted, the TDOT guidelines stated that an increase in existing noise levels greater than 15 dBA is a substantial increase, triggering the need for abatement analysis. Therefore, abatement analysis for any receptor with an existing level of 50 dBA or higher is governed by the absolute predicted level of 66 dBA. In other words, if the existing L_{eq} is 50 dBA or more, then impacts only occur (and therefore abatement analysis is needed) when the predicted L_{eq} is at least 66 dBA. When the existing L_{eq} values are below 50 dBA, then the greater than 15 dBA increase governs. The sensitive receptors near the north and south termini of the project are influenced by existing highway noise, and therefore experience levels exceeding 50 dBA (sites 1, 3, 4 and 9). The remaining noise receptor sites have measured levels below 50 dBA.

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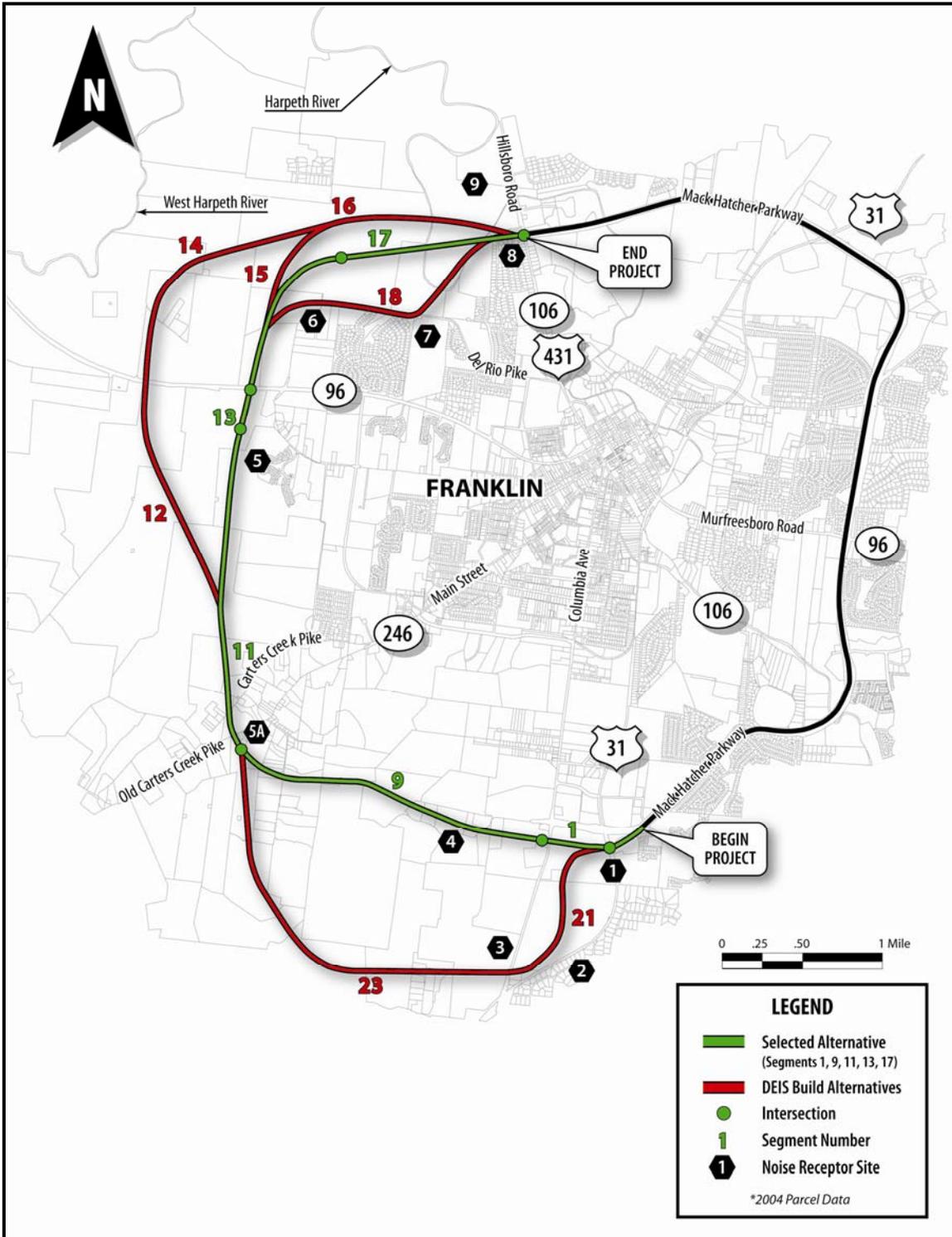


Figure 4-3. Noise Receptor Sites

Table 4-9. Locations of Existing Noise Measurements

Noise Receptor Site Number	Noise Receptor Site Description
1	Wisteria Drive at back building line, house nearest Donelson Creek Parkway
2	2238 Oak Leaf Drive, back building line
3	Winstead Hill Park, 300 feet west of SR 6/Columbia Pike, near walking path
4	Hillview Lane, 50 feet south of existing SR 397/Mack Hatcher Parkway
5	Nolen Lane, west end cul-de-sac, west side of Tristan Lane
5A	Motor Roll Mobile Home Park, west of SR 247/Old Carters Creek Pike
6	House on Del Rio Pike, 500 feet east of Old Charlotte Pike in front yard
7	North terminus of Rutherford Lane, end of cul-de-sac
8	House on Rebel Circle at Crafton Avenue, front yard
9	Brownland Farm, main house, side yard

Predictions were made for future (year 2029) conditions, with the proposed SR 397/Mack Hatcher Parkway extension in place, and 2029 traffic volumes for the worst noise hour. The information available for this project was limited to a horizontal alignment showing the four lanes overlaid on aerial photography. No vertical alignment, cross-section or profile information was available at that time.

Consequently, worst-case simplifying assumptions were made. For example, no account was taken for terrain shielding, except at the southern terminus, where the overpass of the CSX Railroad line was assumed to produce an elevation difference of 20 feet. The predictions were made using the FHWA computer model STAMINA 2.0/OPTIMA, which was the accepted method for calculating future noise levels from highways at the time of this analysis.

Table 4-10 shows the existing and predicted design year (2029) peak-hour levels at the representative noise receptor sites along the various alternatives of the subject project. Table 4-10 indicates those segments that produce the highest L_{eq} values at each noise receptor site.

Based upon the data outlined in Table 4-10, there would be Build Alternative impacts in three areas, which are shown in bolded text: 5, 7 and 8 (refer to Figure 4-3). Areas 5 and 7 show an impact because an increase in excess of 15 dBA is predicted. Area 8 shows an impact because it has an increase in excess of 15 dBA and it approached the NAC of 67.

Table 4-10. Summary and Comparison of the Existing and Design Year (2024) L_{eq} Noise Levels in dBA

Noise Receptor Site Number	Build Alternative	Segment	2002 Existing L _{eq} (dBA)	Design Year Noise Levels <u>with</u> Project	Design Year Noise Levels <u>without</u> Project	Number and Type of Sensitive Receptors Represented
1	A, B, C, G	1	51	65	56	16 residences
2	D, E, F	23	47	57	52	12 residences
3	A, B, C, G	1, 9	54	56	55	1 park
4	A, B, C, G	9	51	59	52	3 residences
5*	A, B, D, E, G	13	43	61/55**	46	11 residences
5A	A, B, C, D, E, F, G	9, 23	48	59	50	5 residences
6	A, E	18	49	62	52	14 residences
7*	A, E	18	47	62	50	5 residences, 1 school
8*	A, E, G	17, 18	48	66	51	7 residences
9	A, B, C, D, E, F, G	16, 17, 18	53	57	55	1 residence, 1 park

* Noise Receptor Sites shown in bold indicate a noise receptor that would experience a noise impact.

** Future L_{eq} is 64 at the west end of Nolen Lane, and 55 for houses on the west side of Tristan Lane.

Selected Alternative

Segment 17 of the Selected Alternative would impact areas 5 and 8. Abatement measures were considered for all of the sensitive receptors that would be subject to noise levels approaching or exceeding the NAC. Each of these receptors was analyzed for possible noise barriers using the TDOT criterion that was in effect at the time the study was prepared and the results are shown in Table 4-11. Using an average barrier construction cost of \$20.00 per square foot, this table shows that the cost of providing protection for these sensitive receptors would be greater than the TDOT criteria level at the time of the noise analysis of \$25,000 or less per benefited receptor; thus a barrier would be considered to be economically unreasonable.

Table 4-11. Noise Barrier Analysis

Location Point	Approximate Length	Average Height	Approximate Cost	Approximate Cost per Receptor	Approximate dBA Reduction	Number of Receptors
5*	2700 ft	11 ft	\$598,000	\$54,400	7 dBA	11
7	1900 ft	11 ft	\$418,000	\$69,667	7 dBA	6
8*	1350 ft	11 ft	\$297,000	\$42,429	7 dBA	7

*The Selected Alternative would impact area 5 and area 8.

Other forms of noise attenuation that were also analyzed included traffic management measures (such as reducing speed limits, prohibition of heavy trucks, etc.) and alteration of horizontal and vertical alignments. The reduction of speed limits and the elimination of truck traffic were determined to be contrary to the major reason for improving the highway, which is to facilitate movement of truck and automobile traffic in the area. Each of these methods seems to be unreasonable and infeasible when compared to any limited noise attenuation they might offer. Alteration of the horizontal and vertical alignment for the Selected Alternative can be evaluated during the design phase of the project to determine the feasibility of this noise attenuation. However, it is unlikely that any form of noise abatement will be incorporated into the design of this project because of the limited noise attenuation each option might offer. During the design phase of the project, TDOT will make a final determination regarding the feasibility of including noise abatement measures in the project design.

In 2008, an additional *Noise Analysis Technical Memorandum* was prepared to determine the noise impacts of the Selected Alternative's alignment shift on residents in the Franklin Green subdivision. Eight noise receptors in Franklin Green were modeled to represent the existing residential development closest to the proposed alignment. The findings were consistent with the original noise study's findings. Three of the eight receptors modeled will experience noise impacts, as defined in the *TDOT Noise Abatement Policy*; however, noise abatement measures are not feasible due to the small number of impacts versus the number of residential sites within the Franklin Green subdivision.

DEIS Build Alternatives

DEIS Build Alternatives A, B, D, and E would impact area 5, while DEIS Build Alternatives A, and E would impact area 7. All the Build Alternatives would impact area 8, since they share the same northern termini near the northern boundary of Rebel Meadows subdivision. As with the Selected Alternative, abatement measures were considered for all of the sensitive receptors represented, but were found to be unreasonable and infeasible.

4.9.2 Mitigation of Construction Noise Impacts

Construction procedures shall be governed by the *Standard Specifications for Road and Bridge Construction* as issued by TDOT and as amended by the most recent applicable supplements. The contractor will be bound by Section 107.01 of the *Standard Specifications* and must observe any noise ordinance in effect within the project limits during construction.

4.9.3 Coordination with Local Officials

Table 4-12 indicates the future predicted noise levels and their critical distances for the proposed project. This information is being included to make local officials and planners aware of anticipated highway noise levels so that future development may be compatible with these levels.

**Table 4-12. Design Year (2029) Predicted L_{eq} ,
Project-Constructed Noise Levels (dBA)**

Distance*	L_{eq}	L_{eq}	L_{eq}
	South of SR 96 East of SR 6	South of SR 96 West of SR 6	North of SR 96
100 Feet	67	63	66
200 Feet	63	59	62
300 Feet	60	56	59
400 Feet	58	54	57
500 Feet	57	53	56

*Perpendicular distance from the center of the proposed near traffic lane for an at-grade situation

The distances in the table are measured perpendicular to the center of the proposed near lane at an at-grade situation. The predicted L_{eq} noise levels displayed are conservative and should be considered to be the maximum (highest) noise levels expected at any location along the entire roadway at the same distance from the roadway. L_{eq} is the energy-averaged decibel level measured on the “A” frequency weighted scale (dBA) during the peak traffic hour of the design year (2024).

4.10 Ecological Impacts

4.10.1 Terrestrial Habitat

The primary habitat types in the study area are wooded communities and agricultural land. These types support a limited variety of wildlife due to the lack of sufficient habitat and agricultural and other development activities that have disrupted the natural habitat. The sections below describe the potential short term and long term terrestrial impacts.

Selected Alternative

Short-term impacts to the area’s habitat would consist of dust and noise. Long term impacts would consist of permanent loss of open space and forest. In addition, construction and earthmoving would create disturbed soil areas that would become susceptible to invasive exotic plant species, further depleting suitable habitat for more desirable native plant species. This project will be constructed with appropriate actions to prevent and control the introduction and spread of invasive species. The project construction contractor will coordinate with a qualified botanist to address invasive species controls prior to construction activities.

As shown in Table 4-13, approximately 67 acres of forest land would be converted to transportation use for the Selected Alternative. This is considered to be a minimal impact due to the poor quality of the second growth forest.

Farmland conversion to transportation use for the Selected Alternative is estimated to be 173 acres. The conversion of farmland to transportation use is also considered to be a minimal impact to terrestrial habitat because agricultural activities have already fragmented the existing natural communities into small patches of forests. For additional information on impacts to farmland, see Chapter 4, Section 4.2.

Table 4-13. Total Forest Converted to Highway Use

Alternative	Forest (Acres)
A	76
B	76
C	73
D	58
E	58
F	55
Selected Alternative (G)	67

DEIS Build Alternatives

The impacts of the DEIS Build Alternatives on terrestrial habitat are similar to those of the Selected Alternative. As outlined in Table 4-13, conversion of forest land to transportation use varies with each DEIS Build Alternative. The acres of forest land converted range from 55 acres (Alternative F) to 76 acres (Alternative A). As with the Selected Alternative, the conversion of forest land to transportation use is considered to be a minimal impact due to the poor quality of the second growth forest.

Farmland conversion to transportation use ranges from 165 acres (Alternative A) to 235 acres (Alternative D). As with the Selected Alternative, the conversion of farmland to transportation use is also considered to be a minimal impact because agricultural activities have already fragmented the existing natural communities. For additional information on impacts to farmland, see Chapter 4, Section 4.2.

4.10.2 Aquatic Resources

Selected Alternative

Figure 4-4 illustrates the location of each waterbody crossing. Table 4-14 outlines the crossings associated with the Selected Alternative and the map ID numbers shown correspond to Figure 4-4. Table 4-14 indicates if stream impacts result from channel relocations, culvert construction or bridge construction. Impacts are expected to be minimal due to the moderately poor quality of the streams in the study area, as described in Chapter 3. The area has been modified due to agricultural cultivation and development.

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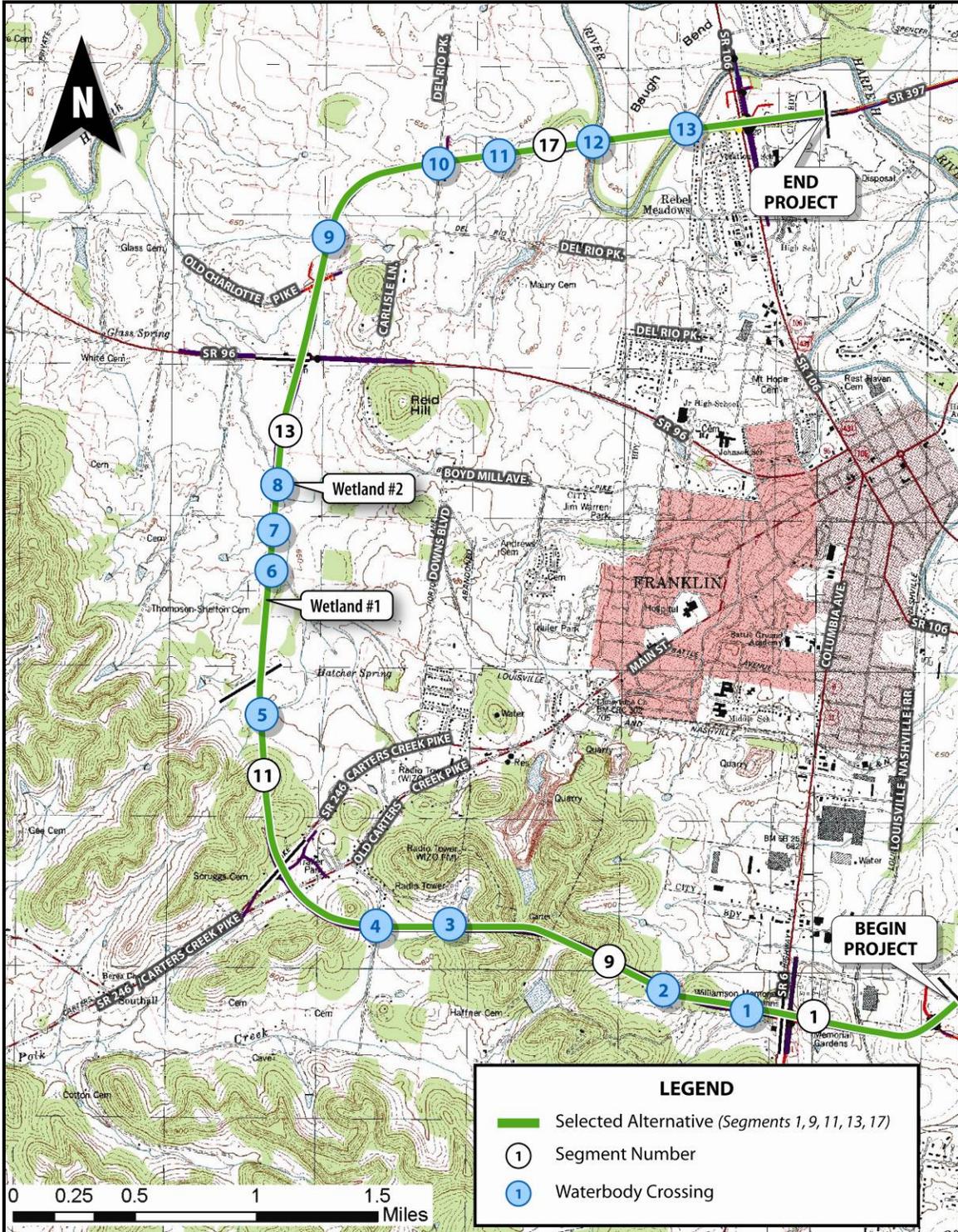


Figure 4-4. Waterbody Crossings Associated with the Selected Alternative

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Table 4-14. Water Crossings Associated with the Selected Alternative

Map ID (Figure 4-4)	Segment	Anticipated Type of Crossing	Channelization?	Additional Information
1	9	Box Culvert	No	Not assessed; Second order unnamed tributary to Harpeth River.
2	9	Box Culvert	No	Not assessed; Third order unnamed tributary to Harpeth River.
3	9	Box Culvert/Pipe	No	Impaired due to sediment/siltation. (TN05130204013_0200); First order unnamed tributary to Polk Creek.
4	9	Box Culvert/Pipe	Possible- 300 ft.	Impaired due to sediment/siltation. (TN05130204013_0200); First order unnamed tributary to Polk Creek.
5	11	Box Culvert/Pipe	No	Not assessed; Fourth order unnamed tributary to West Harpeth River.
6	13	Box Culvert/Pipe	No	Not assessed; Fifth order unnamed tributary to West Harpeth River.
7	13	Box Culvert/Pipe	No	Impaired due to sediment/siltation. (TN05130204013_0100); Fourth order unnamed tributary to West Harpeth River.
8	13	Box Culvert	No	Impaired due to sediment/siltation. (TN05130204013_0100); Second order unnamed tributary to West Harpeth River.
9	17	Box Culvert/Pipe	No	Not assessed; Second order unnamed tributary to West Harpeth River.
10	17	Pipe	No	N/A
11	17	Box Culvert	No	Not assessed; Second order unnamed tributary to West Harpeth River.
12	17	Span Bridge	No	Impaired due to phosphate & dissolved oxygen. (TN05130204016_1000); Harpeth River.
13	17	Span Bridge	No	Impaired due to phosphate & dissolved oxygen. (TN05130204016_1000); Harpeth River.

Best Management Practices (BMPs) will be stringently implemented throughout the construction period to prevent soils, oils or other project-related pollutants from entering streams within the project area. Impacts will also be minimized because the project will be constructed in accordance with all applicable rules and regulations regarding channelization as required in the TDOT's *Standard Specifications for Road and Bridge Construction*. These provisions implement the requirements of Federal Highway Administration's *Federal Aid Policy Guide* – Chapter 1, Subparagraph G, Part 650, Subpart B. Channelization will be minimized to the greatest extent possible. TDOT will work closely with permitting agencies during the design and permitting process to determine whether a span bridge or culvert will be used to cross streams. If in-stream disturbance is

necessary, the stream composition and bottom elevations will be altered to the least extent possible. Tree removal will be minimized to maintain stream characteristics. Work within the stream impact area will be performed in the dry season (summer months) to the greatest extent possible.

DEIS Build Alternatives

Figure 3-6 in Chapter 3 illustrates the perennial streams identified in the 2002 *Ecology Study*. The impacts of the DEIS Build Alternatives to aquatic resources in the project area are expected to be comparable to those of the Selected Alternative. This is due to the fact that a similar number of waterbodies will be crossed and TDOT's *Standard Specifications for Road and Bridge Construction* will be followed to avoid or minimize project impacts.

4.10.3 Groundwater Impacts

Selected Alternative

A groundwater supply well was located near Segment 9 of the Selected Alternative. This water well does not appear to be in use. Water wells could potentially act as direct conduits for the transfer of contaminants to the ground water aquifer. Water wells will be addressed further in the preliminary design phase by a team of engineers, surveyors and geologists. Geotechnical data, including soil and bedrock borings, will be obtained to facilitate the road location. If impacted by construction-related activities, water wells will be properly terminated, sealed and abandoned by a licensed well contractor according to applicable state guidelines.

Sinkholes are present in the Rebel Meadows subdivision located near the intersection of SR 397/Mack Hatcher Parkway and SR 106/Hillsboro Road. Like water wells, sinkholes could potentially act as direct conduits for the transfer of contaminants to the groundwater aquifer. Preventive measures and engineering controls will be implemented to prevent contamination and/or collapse of sinkholes. Sinkholes will be addressed further in the preliminary design phase by a team of engineers, surveyors and geologists.

A Phase 1 visual survey/exploration of a sinkhole feature located in Rebel Meadows (in the vicinity of 925 Rebel Circle) was conducted in November 2008. The cause of the feature appears to be piping by water in the ditch line carrying soil away. Investigators could not find any evidence of rock shelves or a rock roof structure, and no opening into the Harpeth River Area was identified. While this feature does not appear to be a true Karst feature, it could be associated with a joint or fracture in the underlying bedrock. Based on this information, further investigation is recommended as part of the future geotechnical exploration process.

During the survey and design phase, the Geotechnical Section of TDOT or its designee will provide a full geotechnical investigation and report. More detailed site reconnaissance, along with subsurface drilling, will be conducted in the area of the sinkholes to ascertain the extent of the sinkhole issues and to develop remediation plans that may include excavation, filling with rock, bridging over or a

combination of all the above. These recommendations will be provided to the project engineer and the TDOT Environmental Permits Section of the Environmental Division. The Environmental Permits staff will submit information to the Tennessee Department of Environment and Conservation (TDEC) to obtain the proper permits, including a letter of authorization from the Underground Injection Control Program in TDEC's Groundwater Management Section. The Hydraulics Section will get involved if the presence of sinkholes on the project may influence drainage design. If sinkholes are identified in the vicinity of the alignment, TDEC's Division of Water Supply's requirements for erosion control will be followed.

A closed, City-owned landfill is located outside the proposed ROW of Segment 9. The site is currently used for the storage and processing of leaf and tree waste. A *Phase II Site Investigation* was conducted on the site in December 2008. The subsurface investigation included the advancement of six soil borings, the collection of soil samples from each boring, the collection of groundwater samples from the soil borings, collection of groundwater samples from two monitoring wells and a water sample collected from a spring issuing from the property adjacent to the subject property. Select metals were detected above the National Primary Maximum Contaminant Levels (MCLs) or the USEPA Region 9 residential soil preliminary remediation goals (PRGs) in groundwater. The elevated metal detections in groundwater are most likely attributable to the highly turbid samples as evidenced by the lower detections in the less turbid and filtered samples. Additionally, the MCL and PRG levels are those for drinking water. Based on the shallow nature of the groundwater, it is not expected that it would be used for that purpose. In summary, the proposed project is not likely to impact the subject site.

DEIS Build Alternatives

All of the DEIS Build Alternatives contain at least one of the three Segments (i.e., 9, 13 and 16) where groundwater supply wells were located during the Phase I Preliminary Assessment Study. As stated previously, water wells could potentially act as direct conduits for the transfer of contaminants to the ground water aquifer. Water wells will be properly terminated, sealed and abandoned according to applicable state guidelines if impacted by construction-related activities.

All of the DEIS Build Alternatives are also impacted by the sinkholes present in the Rebel Meadows subdivision, located near the intersection of SR 397/Mack Hatcher Parkway and SR 106/Hillsboro Road. Additionally, a sinkhole was located along Section 16 adjacent the proposed ROW of DEIS Build Alternatives B, C, D and F. As previously stated, sinkholes will be addressed further in the preliminary design phase by a team of engineers, surveyors and geologists. Preventive measures and engineering controls will be implemented to prevent contamination and/or collapse of sinkholes.

One Aboveground Storage Tank (AST) was identified along Section 16, adjacent to the proposed ROW of DEIS Build Alternatives B, C, D and F. The AST is used for fueling landscape/farm equipment. Slight surficial staining was observed at the active AST location, however, groundwater is not anticipated to be impacted. Construction is not anticipated to impact the AST site due to the distance of the site from the proposed ROW.

The closed landfill owned by the City of Franklin is located outside the proposed ROW of Section 9 of DEIS Build Alternatives A, B and C.

4.10.4 Wetland Impacts

Selected Alternative

Two wetlands are located within the vicinity of the Selected Alternative (see Figure 4-4); however, only Wetland #1, which is located between Westhaven and Franklin Green, would be impacted by the Selected Alternative.

Wetland #1 is mapped as Dunning Silt Loam on the United States Department of Agriculture (USDA) Agriculture Soil Survey for Williamson County, Tennessee, and it is approximately eight acres in size. Wetland #1 is forested, but not fully mature. A 2008 field assessment revealed that the functions and values of this wetland are low to moderate. The wetland area does provide some beneficial wildlife habitat, but it is limited in its water quality benefits due to its small size.

Construction of the Selected Alternative would require that approximately 1.25 acres of Wetland #1 be filled. Impacts to this wetland cannot be avoided without adversely impacting the Westhaven development (to the west) and the Franklin Green subdivision (to the east); however, TDOT will mitigate the permanent wetland impacts through the use of the Harpeth Wetland Mitigation Bank. Since the project area is within the services of the Harpeth Wetland Mitigation Bank, the mitigation ratio will be two to one. If necessary, TDOT will seek a mitigation site closer to the project area.

DEIS Build Alternatives

DEIS Build Alternatives B, D and E result in the same wetland impacts as those associated with the Selected Alternative. Alternatives C and F would have no wetland involvement.

4.10.5 Threatened and Endangered Species

As outlined in Chapter 3 (Section 3.4.5), there are three federally-listed plants and animals and 22 state-listed plants and animals known to occur in Williamson County. A review of TDEC databases revealed that five state-listed species have been observed within four miles of the proposed project: Thicket Parsley (Endangered), Duck River Bladderpod (threatened), Water Stitchwort (threatened), Finescale Darter and Slenderhead Darter. None of the federally-listed species were observed during field surveys, and no critical habitat was observed. These findings were confirmed for the shifted portion of the Selected Alternative during an April 2008 field review by qualified biologists.

Selected Alternative

The Selected Alternative is not anticipated to impact federally-listed species. In a letter dated September 7, 2005, the US Fish and Wildlife Service (USFWS) concurred with the finding that no impacts to federally threatened and endangered species are anticipated as a result of the proposed project (see Appendix A). Section 7 of the Endangered Species Act has been fulfilled.

Efforts will be taken to minimize potential harm to the state-listed species. TDOT will coordinate with TDEC and Tennessee Wildlife Resource Agency (TWRA) in regard to impacts to state-listed species during the permitting process.

Based on the CSD recommendations, the Harpeth River, and its associated floodways, would be spanned by two parallel bridge structures. These structures would be continuous from the eastern edge of floodway to western edge of floodway, spanning both river crossings and the floodplains in between. These structures, along with the use of a *Sediment Control Plan* and BMPs, will minimize impacts to the aquatic habitat in the project area.

DEIS Build Alternatives

Like the Selected Alternative, the DEIS Build Alternatives are not anticipated to impact federally-listed species. Section 7 of the Endangered Species Act has been fulfilled.

4.10.6 Floodplain Impacts

Executive Order 11988, "Floodplain Management," requires federally funded projects to avoid, to the extent practicable, adverse impacts associated with the development or modification of floodplains. An assessment of impacts to the floodplain associated with the Harpeth River and its tributaries was conducted to determine the level of involvement of the alternatives under consideration.

As Figure 3-6 in Chapter 3 illustrates, impacts associated with the Harpeth River floodplain are in the general area of the horseshoe bend at the northern end of the project in the vicinity of the Brownland Farm and Rebel Meadows. Table 4-15 summarizes the type of potential floodplain encroachments associated with each Build Alternative.

Table 4-15. Summary of Potential Floodplain Encroachments

Alternatives	Type of Encroachment
A	Longitudinal
B	Perpendicular
C	Perpendicular
D	Perpendicular
E	Longitudinal
F	Perpendicular
Selected Alternative (G)	Perpendicular

The floodplains of other streams or conveyances in the project area are considered to be narrow and the project will be designed to adequately convey high water through these areas. Adverse impacts to these areas would be minimal.

Selected Alternative

The Selected Alternative would traverse the floodway/floodplain of the Harpeth River in the vicinity of Brownland Farm. As shown in Table 4-15, the Selected Alternative's encroachment would be perpendicular. The project would not significantly increase 100-year flood elevations and it would not involve any significant encroachment into the floodplain. The water crossing will be designed to convey floodwaters so that there would be no major risk of property damage or loss of life due to the encroachment in the floodplains. Construction will ensure that an evacuation route is provided for local residents and businesses.

Attempts will be made to minimize impacts to the Harpeth River floodplain in project design, and the project will be designed to accommodate projected floodwaters. The Selected Alternative's impacts on the Harpeth River and its floodplain were discussed at length during the CSD process. To minimize impacts on the floodplain, the CDT recommended two parallel bridge structures that are continuous over both river crossings.

Design of the proposed project will utilize current hydrological data to ensure the floodwaters are not impeded. The location and design of the proposed alignments would be adjusted so the existing and projected drainage patterns of the area are not substantially altered and impacts are minimized. Coordination with the US Army Corps of Engineers (USACE) will continue throughout the project development and permitting process in an effort to minimize floodplain impacts.

In summary, the floodplain crossings are not considered a major encroachment on the floodplain because:

- No major potential exists for interruption or termination of the transportation facility, which is needed for emergency vehicles or provides the community's only evacuation route through the construction of the Selected Alternative;
- The floodplain encroachment will be designed so that there is no major risk of property damage or loss of life due to the encroachment; and
- There would be no substantial adverse impact to natural and beneficial floodplain values.

All construction activities will comply with Executive Order 11988, 23 CFR 600, Subpart A and TDOT's *Standard Specifications for Road and Bridge Construction* regarding floodplains.

DEIS Build Alternatives

DEIS Build Alternatives A and E would have longitudinal encroachment on the Harpeth River floodplains. These alternatives parallel the Harpeth River on the south side for approximately 3,000 feet and would require the construction of a bridge structure to cross the floodway of the Harpeth River. The proposed bridge structure would be designed to convey the 100-year flood. A number of the homes within Rebel Meadows Subdivision that are located adjacent to the Harpeth River are also located within the 100-year floodplain.

DEIS Build Alternatives B, C, D and F would have perpendicular encroachment on the Harpeth River floodplains. The proposed bridge structure would traverse the floodway/floodplain and would be designed to convey the 100-year flood.

4.11 Cultural Resources Impacts

Pursuant to the guidelines for Section 106 of the National Historic Preservation Act (NHPA), as outlined in 36 CFR 800, studies were conducted to determine if any resources exist in the project's Area of Potential Effects (APE) that are listed in or eligible for the National Register of Historic Places (NRHP). If such resources exist, a project's effects to such resources must be considered in project planning. Project effects are identified using 36 CFR 800.4, which involves determining if historic properties may be affected; if effects are identified, the Criteria of Adverse Effect outlined in 36 CFR 800.5 are applied. This section discusses the proposed project's effects to archaeological and historic/architectural resources.

4.11.1 Archaeological Resources

Phase I archaeological studies were conducted for the Build Alternatives, including the 2008 alignment shift in the vicinity of Westhaven and Franklin Green. The Phase I archaeological studies and the coordination of such studies with the Tennessee State Historic Preservation Office (SHPO) has revealed that no NRHP-listed or eligible archaeological sites are in the project APE. The SHPO also concurred with the Phase I Study recommendation of no further need for archaeological work.

Cemeteries were located in the APE of four of the Build Alternatives (D, E, F and G/Selected Alternative). These cemeteries are not NRHP-listed or eligible. The cemetery in the APE of the Selected Alternative is a small, historic-era cemetery. As a result of its 2008 shift (see Chapter 2, Section 2.4.6), the Selected Alternative avoids this cemetery.

Native American tribal coordination was conducted pursuant to Section 106 of the National Historic Preservation Act. The following Native American tribes were contacted:

- *Cherokee Nation of Oklahoma*
- Chicksaw Nation
- *Choctaw Nation of Oklahoma*
- Eastern Band of Cherokee Indians
- Eastern Shawnee Tribe of Oklahoma
- Muscogee (Creek Nation)
- *Seminole Nation of Oklahoma*
- United Keetowah Band of Cherokee

The Native American tribes shown in italics responded that they are not presently aware or able to identify any cultural resources affiliated with their tribe within the proposed area of development; however, in the event of the discovery of human remains, burial objects or artifacts, all site activities should cease, the tribes should be notified immediately and, any and all remains, burial objects or artifacts must be properly secured and protected. Evidence of this coordination is in Appendix B. If archaeological resources are uncovered during project construction, all work will cease on the project and the contractor will be required to immediately contact the Tennessee Division of Archaeology and recognized Native American tribes so that a representative will have the opportunity to examine and evaluate the materials.

4.11.2 Historic Resources

As described in Chapter 3, Section 3.6, and illustrated in Figure 3-9, there are two NRHP-eligible resources in the project APE:

1. Harpeth River Historic District, determined eligible through the Section 106 process for this project and containing individually listed properties and other contributing and non-contributing properties; and
2. Winstead Hill/Harrison House Historic District, determined eligible through the Section 106 process for this project and containing two individually listed properties: Winstead Hill (also a National Historic Landmark [NHL]) and the William Harrison House.

Because both resources are in the project APE and the project would result in changes to the setting within or adjacent to the resources, the Section 106 Criteria of Adverse Effect were applied.

Section 106 Effects to Harpeth River Historic District

All of the Build Alternatives were determined to have a Section 106 effect to the Harpeth River Historic District. A summary of the potential adverse effects is included below.

Selected Alternative—Segment 17

The potential adverse effects of the Selected Alternative to the Harpeth River Historic District are as follows:

- Physical destruction or damage to open pasture and hay fields which reflect the traditional agricultural use of the District;
- Alteration of the cultural landscape of this part of the District as land is converted to transportation use;
- Conversion of farmland and change to the physical appearance of the fields; and
- Visual impacts throughout the length of the project through the District and from the vantage point of one contributing dwelling along the route. The project would introduce a visual element that is out of character with the District—the new roadway.

DEIS Build Alternatives

The potential adverse effects of the DEIS Build Alternatives on the Harpeth River Historic District are described in the following section.

Alternatives A and E—Segment 18

- Physical destruction or damage to parts of six contributing properties within the proposed Historic District;
- Alteration of the cultural landscape of this part of the District as land is converted to transportation use;
- Change of farmland and change in the physical appearance of the fields; and
- Visual impacts throughout the length of the project through the District and from the vantage points of three contributing dwellings along the route. The project would introduce a visual element that is out of character with the District—the new roadway.

Alternatives B and E—Segment 15

- Physical destruction or damage to parts of three contributing properties within the proposed Historic District;
- Alteration of the cultural landscape of this part of the District as land is converted to transportation use;
- Conversion of farmland and change in the physical appearance of the fields; and
- Visual impacts throughout the length of the project through the District and from the vantage points of the two contributing dwellings along the route. The project would introduce a visual element that is out of character with the District—the new roadway.

Alternatives B, C, D and F—Segment 16

- Physical destruction or damage to open pasture and hay fields which reflect the traditional agricultural use of the District;
- Alteration of the cultural landscape of this part of the District, as land is converted to transportation use;
- Conversion of farmland and change in the physical appearance of the fields; and
- Visual impacts throughout the length of the project through the District and from the vantage points of one contributing dwelling along the route.

Alternatives C and F—Segment 14

- Physical destruction or damage to parts of three contributing properties within the proposed Historic District;
- Alteration of the cultural landscape of this part of the District;
- Conversion of farmland to transportation use and change in the physical appearance of the fields; and
- Readily visible throughout the length and from the vantage points of the three contributing dwellings along the route. The project would introduce a visual element that is out of character with the District—the new roadway.

Section 106 Effects to Winstead Hill/Harrison House Historic District

Selected Alternative —Segment 9

The SHPO has concurred with the finding of No Adverse Effect to the Winstead Hill/Harrison House Historic District for the Selected Alternative. Segment 9 would be constructed just north of the northern District boundary, but no land would be taken from the property and no noise impacts were identified. The viewshed of the area has already been adversely altered through the introduction of roadways and commercial development, which are out of character with the historic property. In addition, the row of trees along Hillview Lane at the north end of the property will be preserved.

DEIS Build Alternatives

Alternatives A, B and C follow the same alignment in the vicinity of the Winstead Hill/Harrison House Historic District and the SHPO has concurred to a finding of No Adverse Effect under Section 106.

Through consultation with the SHPO, a determination was made that Alternatives D, E and F (Segments 21 and 23) would have an adverse visual impact to the District as the proposed interchange at SR 6 would be clearly visible from the Harrison House.

Section 4(f) Involvement with Cultural Resources

All of the Build Alternatives would acquire land from within the boundaries of the NRHP-eligible Harpeth River Historic District and convert such land to a transportation use. This would constitute a “use” under Section 4(f) of the Department of Transportation Act of 1966, as amended. No Section 4(f) use would occur from the Winstead Hill/Harrison House Historic District. A draft Section 4(f) analysis was incorporated into the DEIS and circulated to agencies and the public. Chapter 5 of this FEIS contains the Final Section 4(f) Evaluation.

Summary of Effects

Table 4-16 presents the Section 106 effect findings that were concurred to by the SHPO. The table also summarizes Section 4(f) involvement with cultural resources.

Evidence of coordination with the SHPO and the public is in Appendix B. In summary, all of the Build Alternatives, including the Selected Alternative, would have a Section 106 Adverse Effect to the Harpeth River Historic District.

Minimization and Mitigation of Adverse Effects to Harpeth River Historic District

Throughout the project development process, TDOT has involved the public. In 2004, TDOT held a public meeting concerning the proposed project and historic resources. TDOT provided information and requested comments about Section 106 impacts and potential minimization and mitigation. The comments and concerns were considered in the development of alternatives and in the CSD process.

In October of 2006, FHWA and the SHPO entered into a Section 106 Memorandum of Agreement (MOA), to which TDOT was a signatory. The MOA committed FHWA and TDOT to design the project using the CSD approach to minimize effects to the District and to consider a number of design and other measures to mitigate the project's adverse effects.

Table 4-16. Summary of Effects to NRHP Listed or Eligible Resources in APE

Alt.	Sections, South to North	Properties Affected	Section 106 Effect	Section 4(f) Use
A	1,9,11,13,18	Winstead Hill/ Harrison House Historic District	No Adverse	No
		Harpeth River Historic District	Adverse	Yes
B	1,9,11,13,15,16	Winstead Hill/ Harrison House Historic District	No Adverse	No
		Harpeth River Historic District	Adverse	Yes
C	1,9,11,12,14,16	Winstead Hill/ Harrison House Historic District	No Adverse	No
		Harpeth River Historic District	Adverse	Yes
D	21,23,11,13,15,16	Winstead Hill/ Harrison House Historic District	No Adverse	No
		Harpeth River Historic District	Adverse	Yes
E	21,23,11,13,18	Winstead Hill/ Harrison House Historic District	No Adverse	No
		Harpeth River Historic District	Adverse	Yes
F	21,23,11,12,14,16	Winstead Hill/ Harrison House Historic District	No Adverse	No
		Harpeth River Historic District	Adverse	Yes
Selected Alternative (G)	1,9,11,13,17	Winstead Hill/Harrison House Historic District	No Adverse	No
		Harpeth River Historic District	Adverse	Yes

The SHPO participated in the CSD process as a member of the Agency Resource Team (ART), which supported the CDT. The process took place in a series of meetings primarily held in 2006. After the last CSD Team Meeting (December 7, 2006), a *Consensus Memo* was created to document the list of consensus decisions of the CDT and the ART (accepted by TDOT in April 2007).

The Consensus Memo contains the goal of maintaining and enhancing Franklin's cultural heritage and the following measures were recommended and accepted to minimize and mitigate the impacts of the Selected Alternative to the Harpeth River Historic District:

- The typical section of the roadway through the District will be a four-lane divided roadway with a vegetated median and grass shoulders to minimize visual intrusion into the District;
- Landscaping appropriate for the area will be included in the project;
- No additional access points will be allowed in the Historic District other than those in the DEIS; and
- The Selected Alternative will involve construction of a roundabout at the intersection of the proposed project and SR 96, in lieu of the grade-separated interchange originally proposed.

Other items in the MOA, such as photographic recordation and the inclusion of roadway pull-offs with historic markers in the project design, will be evaluated as project planning progresses.

4.12 Recreational Resources

Selected Alternative

The recreational resources in the project area are shown in Chapter 3, Figure 3-10. Winstead Hill Park is located close to the southern terminus of the Selected Alternative, and there is a planned greenway running northwest from Winstead Hill Park. The greenway has been planned to work in conjunction with the SR 397/Mack Hatcher Parkway extension. Impacts to the Winstead Hill Park are limited to visual impacts. These impacts are minimal due to the poor visual quality of the area. The views from the park are already degraded due to a new strip retail development located immediately north of the park, adjacent to the proposed SR 397/Mack Hatcher Parkway extension. Hillview Lane, which is approximately 620 feet from the primary viewpoint of Winstead Hill Park, provides a visual buffer between the Winstead Hill Park and the retail development. Based on CSD recommendations, Hillview Lane would be used as a multi-use path. In an effort to minimize the Selected Alternative's visual impacts on Winstead Hill Park, all attempts will be made to preserve the trees lining Hillview Lane so that they can act as a visual buffer between the Park and the roadway.

The Harpeth River is located in the northern portion of the project area, and the Selected Alternative crosses the Harpeth River twice. Access to the Harpeth River is provided at the Williamson County Recreation Complex, which is located on existing SR 397/Mack Hatcher Parkway. The proposed project will be designed to accommodate the river's use as a recreational resource. Thus, the Selected Alternative would have no impacts on the

Harpeth River's use as a recreational resource, nor would it impact public access to the River.

All of the other area recreational resources are outside of the influence area for this project. Access to the recreational resources within the study area would be improved as a result of this proposed action.

DEIS Build Alternatives

The impacts to recreational resources for the DEIS Build Alternatives A, B and C are similar to those of the Selected Alternative. DEIS Build Alternatives D, E and F travel farther south of Winstead Hill Park than the other alternatives and no impacts to this resource are associated with these alignments.

4.13 Hazardous Waste Impacts

Selected Alternative

A closed landfill and former waste incinerator site owned by the City of Franklin were identified in the *Phase 1 ESA* (see Chapter 3, Figure 3-8, site number 1). It is located adjacent to Segment 9 of the Selected Alternative, outside of the proposed ROW. As previously stated, a *Phase II Site Investigation* was conducted on the site in December 2008. The subsurface investigation included the advancement of six soil borings, the collection of soil samples from each boring, the collection of groundwater samples from the soil borings, collection of groundwater samples from two monitoring wells and a water sample collected from a spring issuing from the property adjacent to the subject property. Select metals were detected above the National Primary MCLs or the USEPA Region 9 residential soil PRGs in groundwater. The elevated metal detections in groundwater are most likely attributable to the highly turbid samples as evidenced by the lower detections in the less turbid and filtered samples. Additionally, the MCL and PRG levels are those for drinking water. Based on the shallow nature of the groundwater, it is not expected that it would be used for that purpose. Based on the results of the Phase II Site Investigation, environmental conditions at the site have a low probability of impacting the proposed project. In summary, no impacts to hazardous waste sites are anticipated as a result of the proposed project.

DEIS Build Alternatives

Most of the properties assessed in the *Phase 1 ESA* that are adjacent to the DEIS Build Alternatives have a "no indication" or a "low" risk classification for environmental impact. These sites will not require additional investigation.

Like the Selected Alternative, DEIS Build Alternatives A, B, and C are adjacent to the closed landfill and former waste incinerator site.

4.14 Visual Impacts

Selected Alternative

Development in and around the project area is rapidly changing the visual landscape within the corridor. Examples of visual intrusion attributed to development include Sullivan Farms, Westhaven, Willowsprings, Carlisle, Founders Point, Franklin Green and Whitehall Farms (see Chapter 3, Figure 3-5). These developments have dramatically changed the

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visual character within the once rural study area. Additional planned development, such as the continued build-out of Westhaven, will continue to change the visual quality of the area from a rural environment to a suburban environment.

Visual intrusion of the proposed SR 397/Mack Hatcher Parkway extension is considered to be minor along the southern half of the study corridor, from SR 6/Columbia Pike to SR 246/Carters Creek Pike, because of the current development within the study corridor. Visual impacts to Winstead Hill Park are discussed in Section 4.12. The SHPO has concurred that the Selected Alternative would have no adverse effect, including visual impacts, under Section 106 of the NHPA to the Winstead Hill/Harrison House Historic District.

From SR 246/Carters Creek Pike to SR 96, residential and commercial development is limited and the terrain is steeper, which confines the visual intrusion to only properties located adjacent to the new roadway.

From SR 96 to SR 106/Hillsboro Road, the visual intrusion is higher due to the fact that the area is open, rural farmland. However, the landscape is changing as a result of the subdivisions that have been constructed or planned for the study area, including Founders Point, Whitehall Farms and Carlisle (see Chapter 3, Figure 3-5). All of these subdivisions have contributed to the land use and visual changes in the study corridor.

Visual impacts to this area were discussed extensively during the CSD process, particularly in the area from SR 96 to SR 106/Hillsboro Road. The CSD recommendations include design elements intended to minimize the visual impact of the Selected Alternative. These recommendations include, but are not limited to, the following tools:

- Vegetated medians;
- Context-sensitive landscaping; and
- Grass shoulders in lieu of paved shoulders in some locations.

The City of Franklin and Williamson County have both recognized the project area as having the greatest potential for change in land use over the next 20 years, as evidenced by its inclusion in the Franklin UGB. Based on current land use trends due to development occurring in the area independent of the proposed project, the introduction of a new transportation facility would have minimal visual intrusion within the corridor.

DEIS Build Alternatives

The visual impacts of the DEIS Build Alternatives A, B and C are similar to those of the Selected Alternative.

DEIS Build Alternatives D, E and F travel south of Winstead Hill Park, minimizing the roadway's visual impacts on this resource.

4.15 Energy Impacts

Energy considerations to be taken into account when evaluating the various alternatives in the SR 397/Mack Hatcher Parkway extension include the energy consumed during construction and after construction. Energy consumed during construction includes energy consumed for earthwork and construction activities, as well as energy consumed off-site for the production of materials and equipment. Energy consumed after construction includes energy used to fuel vehicles, as well as energy used for maintenance of the vehicles and roadway.

Substantial amounts of energy are consumed both on and off-site during a construction project. Some of the energy is consumed in the production of the raw and refined materials, which includes mining and quarrying, steel and iron manufacture, concrete and cement, and a wide variety of manufactured items, which include but are not limited to signs, lighting fixtures, guard rails and safety products. Since most of these products are not available on-site, stone, rock and aggregate being notable exceptions, there is an energy cost in transporting the building blocks of a highway project from their point of manufacture or mining to the construction site.

Additional substantial amounts of energy are consumed by the motoring public during the effective life of the transportation project. Much of the operational energy is in the form of motor fuels, but additional energy costs are associated with vehicle operation and maintenance. These maintenance costs include tires, oil and other costs. The amount of energy that is consumed is directly proportional to the amount of traffic that would use the proposed new roadway. This is a continuing cost of energy associated with the proposed project.

Operational energy requirements of the Selected Alternative and the DEIS Build Alternatives would be substantially less than with the No Build Alternative. The savings in operational energy would offset the construction energy requirements and in the long-term result in a net savings in energy usage. Energy impacts are considered to be the same for each Build Alternative under consideration.

4.16 Construction Impacts

A roadway construction project, public or private, is likely to have some level of inconvenience, through disruptions to residents, businesses and travelers. Maintenance of traffic, access to properties adjoining the road and utility relocations are particular construction-related impact issues that must be addressed with this project.

Without proper planning and implementation of controls, traffic disruption, loss of access and utility relocation could adversely affect the comfort and daily life of residents and inconvenience or disrupt the flow of customers, employees and material/supplies to and from businesses. Construction impact controls would be integrated into the project's contract specifications and traffic control plans. The project will be constructed in accordance with all applicable rules and regulations regarding construction impacts, as required in TDOT's *Standard Specifications for Road and Bridge Construction*.

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The Build Alternatives would have physical construction-related impacts, but with the implementation of appropriate controls, no cumulative or secondary construction impacts are foreseeable. The following construction issues are addressed below:

- Maintenance of traffic and access;
- Employment benefits;
- Waste disposal;
- Utility relocation;
- Discovery of unknown archaeological sites;
- Erosion control;
- Air quality; and
- Noise abatement measures.

Maintenance of Traffic and Access: Traffic will be maintained on existing roadways during construction, or detours will be developed. Access to all properties will be maintained during construction.

Employment Benefits: The construction activities may result in short-term economic benefits to the local area that would include increased revenue to local businesses through the sale of construction supplies and materials and retail/service purchases by construction personnel. Construction jobs could be available for persons residing in the area. These short-term revenues and jobs are not expected to be locally or regionally substantial.

Construction could result in adverse economic impacts to local businesses but because the Build Alternatives would be a new roadway and the existing roadway system would remain open, the impacts would be minimal and short-term.

Waste Disposal: Solid waste could be generated by project construction (e.g., through demolition/removal of structures). The quantity of disposed waste would represent a negligible proportion of the total land directed toward local landfills.

Any toxic and hazardous materials will be handled and used in accordance with package labels and manufacturers' directions. Wastes, including asbestos, will be segregated, labeled and stored in a manner that would prevent their release into the environment from an accident or spill. The contractor will dispose of these materials and their containers in accordance with applicable state and federal regulations.

Disposal of excess material will be the responsibility of the contractor who will be contractually required to handle and dispose of the material in accordance with the TDOT *Standard Specifications for Road and Bridge Construction*.

Utility Relocation: The relocation of utilities will be included in final design plans. TDOT will coordinate with the appropriate officials to avoid or minimize damage or disruption of existing service during construction.

Discovery of Unknown Archaeological Sites: If archaeological materials are uncovered during construction, all construction work in the area of the find will cease. The Tennessee Division of Archaeology and recognized Native American tribes will be immediately contacted so that a representative will have the opportunity to examine and evaluate the materials.

Should earth fill be required for this project, the applicable TDOT borrow provisions would be followed.

Erosion Control: All of the Build Alternatives would disturb land that has a tendency to erode when disturbed. The contractor will be required to employ BMPs to minimize the impacts of point and non-point source pollution resulting from increased siltation and highway runoff. A *Sediment Control Plan* will be formulated in accordance with the TDOT *Standard Specifications for Road and Bridge Construction* and will include the following measures:

- Temporary erosion control devices such as silt fences, straw bales, burlap, jute matting, grading, seeding and sodding will be used to minimize erosion and sedimentation;
- Removal of vegetation will be minimized; and
- Fill slopes will be constructed and stabilized during the growing season through the establishment of non-invasive species.

The Build Alternatives pass through the recharge area of the Walker Dam (south of Segment 9) and the Gentry Dam (west of Segment 14). The owners of Walker Dam and Gentry Dam will be notified of any blasting to take place in and/or around their facilities.

Air Quality: Even though the NAAQS are not exceeded in the design year, all phases of construction operations could temporarily contribute to air pollution. Particulates could increase slightly in the corridor as dust from construction activities collects in the air surrounding the project. The construction equipment could temporarily produce slight amounts of exhaust emissions. The emission of air pollutants will be reduced by the use of properly maintained equipment and the use of tarp covers on trucks transporting refuse and construction waste products.

Prior to the demolition of any structure during the course of construction, an inspection for asbestos will take place. Should asbestos be present in the structure, TDEC's Division of Air Pollution Control will be notified 10 days prior to its removal.

Construction Noise Abatement: Temporary noise impacts would occur within the immediate vicinity of the construction activities. The exact noise levels cannot be predicted because the specific types of construction equipment, methods and schedule are unknown at this time.

The construction contractor will be required to provide such equipment (sound deadening devices, shields, physical barriers) and take such noise abatement measures that may be necessary to restrict the transmission of noise to sensitive sites such as homes and churches in the immediate vicinity of the project. These measures may include, but are not necessarily limited to, the following:

- Provide sound-proofing housing or enclosures for stationary noise-producing machinery such as drills and augers, cranes, derricks, compactors and pile drivers;
- Provide efficient intake and exhaust mufflers on internal combustion machines;
- Perform proper maintenance on all noise producing equipment to prevent excessive rattling and vibration of metal surfaces; and
- Restrict construction operations in the vicinity of noise sensitive locations to the periods of the day when excessive noise would be least harmful.

The following noise abatement measures will be incorporated into the contract plans and specifications in order to prevent adverse construction noise impact 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; and
- 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.

4.17 Secondary/Indirect and Cumulative Impacts

As described in Title 40, Code of Federal Regulations, Section 11508.8, secondary (indirect) impacts are those that are "...caused by an action and are later in time or further removed in distance but are still reasonably foreseeable." Cumulative impacts are those "...impacts which result from the incremental consequences of an action when added to other past and reasonably foreseeable future action" (Title 40, Code of Federal Regulations, Section 1508.7).

One secondary/indirect effect of the proposed project would be changes in land use. The project area is predominantly rural, but, as was discussed in Section 4.1 (Land Use Impacts), many subdivisions and commercial developments are being constructed or are planned for construction in the area. The proposed roadway would be a catalyst for additional land use change in the corridor because the new roadway would improve access to the area by providing transportation infrastructure. The conversion of farmland and forestland to residential and commercial developments results in decreased wildlife habitat and less usable agricultural land in Williamson County; however, these changes in land use along the corridor are in accordance with the City of Franklin's local planning documents, zoning ordinance and UGB.

There are four major intersections along the project corridor: SR 6/Columbia Pike, SR 246/Carters Creek Pike, SR 96 and SR 106/Hillsboro Road. Commercial and residential developments are already situated around the SR 6/Columbia Pike and SR 106/Hillsboro Road intersections. At the other two intersections (SR 246/Carters Creek Pike and SR 96), land uses could take on a commercial character due to the type of demands users

would place upon the roadway. Additional services such as restaurants and gas stations/convenience stores may occur. These additional services would support the local economy while supporting the growing number of residents in this part of the City and County. Again, this change is consistent with the City of Franklin and Williamson County land use plans and zoning ordinances.

Secondary/indirect and cumulative impacts resulting from the construction of the SR 397/Mack Hatcher Parkway extension into the Harpeth River Historic District are considered to be minimal. The City of Franklin's Land Use Plan addresses the Harpeth River Historic District as the "West Harpeth Special Area". The portion of the West Harpeth Special Area that contains the SR 397/Mack Hatcher Parkway extension is designated rural, where Conservation Subdivisions and Traditional Neighborhood Developments (TND) are appropriate. TNDs and Conservation Subdivisions are tools for accommodating growth in an area, but guiding the growth in a way that preserves open space and/or the environmentally sensitive resources of the area (at least 50 percent of the area should be preserved as open space).

Although increased development pressure in and around the project area is a potential cumulative impact of the proposed project, this development would occur regardless of whether the project is built, as is evidenced by the already dramatic growth rate in the area. Between 1990 and 2000, Williamson County grew by 56 percent and the City of Franklin grew by 108 percent. Large developments, such as Westhaven, are being constructed independent of the proposed project. The proposed SR 397/Mack Hatcher Parkway extension is a result of the current and projected need for additional capacity and connectivity in the area's transportation network due to existing and planned development. If the project is not built, development would continue to occur and traffic congestion would increase, resulting in poor levels of service (LOS).

The proposed extension of SR 397/Mack Hatcher Parkway would have secondary and cumulative impacts to the visual quality of the environment as increased development and traffic volumes occur as a result of the new roadway. New development and increased traffic volumes would contribute to a decline in the visual quality of the environment as open or natural areas become built up. Visual impacts due to increased development in the project area are discussed in greater detail in Section 4.14.

4.18 Short-Term Uses of the Environment versus Long-Term Productivity

Short-term impacts related to the proposed project would occur in the immediate vicinity of the construction activities. Interruptions to the movement of vehicles in the project area would likely occur. However, these interruptions would be temporary, and maintenance of traffic plans will be implemented to minimize any inconveniences to motorists. As with any construction project, short-term disturbances would consist of construction noise and visual impacts.

Additional short-term impacts involve residential relocations and land use impacts. While displacees would experience temporary inconveniences due to their displacement, it is anticipated that they would be able to relocate within the study area. Residential and commercial developments will likely occur in the project area, regardless of whether the proposed project is built.

The negative short-term impacts discussed above are necessary to achieve the positive effects of the proposed project. The long-term effects would result in a safe and efficient means of travel for residents who currently reside in the area and those residents anticipated to be living in the area over the next 20 years. Additionally, the construction of any of the Build Alternatives would enhance long-term productivity by reducing delay and excess fuel consumption. The long-term benefits of the proposed project are consistent with the use of resources.

4.19 Any Irreversible and Irretrievable Commitments of Resources Which Would Be Involved In the Proposed Action

The construction of any of the proposed Build Alternatives would result in the irreversible and irretrievable commitment of resources such as natural resources, in the form of materials and energy, human resources and financial resources. These resources cannot be recovered once they have been expended for the construction of the proposed extension. The man-hours expended for the design and construction cannot be reclaimed, nor can the energy required for construction. The materials used in the construction may be in some cases, recycled, but not without incurring additional and substantial cost. Natural resources, such as fossil fuels, sands and gravels, and man-made resources, such as steel, iron and construction equipment, are expended in the construction of the project.

Energy, labor and materials are not considered to be in short supply and their use would not have an adverse effect upon continued availability of these resources. Although there seems to be a reduced supply of some construction materials on world markets and prices may somewhat be inflated, it is not anticipated that the proposed project would have an adverse effect on product availability in the local construction marketplace. Labor and funds are not retrievable; once spent, they are gone regardless of their magnitude.

Construction of any of the Build Alternatives would require conversion of land from its present use to roadway ROW. This conversion of existing resources from a known tax base to public use is an irretrievable commitment associated with the proposed project. The conversion of private lands to public use resulting in a loss of taxable lands would be more than offset by the taxed generated by the anticipated growth and development within the study corridor.

The commitment of all these resources is, in large part, predicated on the basic concept that the efficient transportation systems contribute to health, safety and welfare of local, county and state residents, as well as those traveling from other parts of the country.

4.20 Permits Needed

It is anticipated that the proposed action will require the following permits:

- A Nationwide Section 404 Permit issued by the USACE;
- An Aquatic Resource Alteration Permit (ARAP) issued by TDEC;
- A National Pollutant Discharge Elimination System Permit (NPDES) also issued by TDEC; and
- A Notice of Intent issued by the TDEC, Division of Water Pollution Control.

4.21 Summary of Impacts

Table 4-17 provides a comparison of the potential impacts of the Selected Alternative and the six DEIS Build Alternatives. As discussed at the beginning of this Chapter, the No Build Alternative would have minimal to no environmental impacts.

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Table 4-17. Summary of Impacts

		DEIS Build Alternative						Selected Alternative
Alternatives		A	B	C	D	E	F	G
Segments		1-9-11-13-18	1-9-11-13-15-16	1-9-11-12-14-16	21-23-11-13-15-16	21-23-11-13-18	21-23-11-12-14-16	1-9-11-13-17
Engineering Considerations								
Length of Alternative	Miles	7.86	7.97	8.55	9.11	9.00	9.69	7.51
ROW	Acres	210	218	235	263	255	280	206
Construction Cost plus Engineering*	\$ (Millions)	53.93	44.59	45.56	49.71	59.05	50.68	42.26**
Utility Cost*	\$ (Millions)	1.50	1.46	1.54	1.16	1.19	1.23	1.36**
ROW Cost*	\$ (Millions)	12.60	9.98	9.33	14.73	17.35	14.08	9.15 **
Total Project Cost*	\$ (Millions)	68.03	56.03	56.42	65.59	77.59	65.99	52.77**
Projected Traffic (2029)	ADT	19,100	19,000	19,000	19,000	19,100	19,000	18,500
LOS (2029)	LOS	C	C	C	C	C	C	C
Socio/Economic Considerations								
Residential Displacements	Number	18	5	4	6	19	5	17
Business Displacements	Number	0	1	1	2	1	2	0
Community Impacts (including Environmental Justice)	Impact?	No	No	No	No	No	No	No
Impact on Current Land Use***	Rating	High	Med	Med	Med	High	Med	Med
Impact on Future Land Use	Rating	Med	Med	High	Med	Med	High	Med

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Table 4-17. Summary of Impacts (continued)

		DEIS Build Alternative						Selected Alternative
Alternatives		A	B	C	D	E	F	G
Segments		1-9-11-13-18	1-9-11-13-15-16	1-9-11-12-14-16	21-23-11-13-15-16	21-23-11-13-18	21-23-11-12-14-16	1-9-11-13-17
Environmental Considerations								
Public Lands (Parks and Wildlife Areas)	Number	0	0	0	0	0	0	0
Waterbody Crossings	Number	13	13	13	14	14	14	13
Wetlands	Acres	1.25	1.25	0	1.25	0	0	1.25
Floodplain Impacts	Type	Longitudinal	Perpendicular	Perpendicular	Perpendicular	Longitudinal	Perpendicular	Perpendicular
Threatened and Endangered Species	Impact?	No	No	No	No	No	No	No
Forest	Acres	76	76	73	58	58	55	67
Farmlands	Acres	165	176	189	235	224	248	173
Hazardous Waste Sites	Number	0	0	0	0	0	0	0
Noise ****	Impact?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Section 4(f) Involvement	Impact?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Section 106 Adverse Effects	Impact?	Yes	Yes	Yes	Yes	Yes	Yes	Yes

* Costs for DEIS Build Alternatives A through G were calculated in 2005 dollars.

** Costs for the Selected Alternative (G) were updated during the CSD process. These costs, which are in 2007 dollars, can be found in Table 2-4.

*** Current Land Use: High - High number of displacements, land use is disturbed
Medium - Few displacements, moderate change in land use
Low - No displacements, no change in land use

**** Based on analysis completed pursuant to the TDOT Noise Policy at the time of the DEIS and SDEIS (for details, see Chapter 4, Section 4.9.2).

5.0 Final Section 4(f) Evaluation

5.1 Section 4(f) Determination

Section 4(f) of the U.S. Department of Transportation Act of 1966 (as amended) gives special consideration to the use of park and recreational lands, wildlife and waterfowl refuges and historic sites by federally assisted transportation projects. Section 4(f) applies only to those projects using federal funds from the U.S. Department of Transportation (USDOT).

Section 4(f) states that the Secretary of the USDOT may approve the use of land from a Section 4(f) resource only if:

1. there is no prudent or feasible alternative to using that land, and
2. the program or project includes all possible planning to minimize harm to the historic site resulting from the use.

The SR 397/Mack Hatcher Parkway extension will involve a Section 4(f) use, as land from a Section 4(f) resource (a historic site) would be acquired and converted from a non-roadway use to a highway use. To be considered “historic,” a property must be either listed in the National Register of Historic Places (NRHP) or determined eligible for such listing by the Keeper of the Register or the State Historic Preservation Office (SHPO).

5.2 Section 4(f) Properties

5.2.1 Historic and Archaeological Properties

Surveys completed between 2000 and May of 2005 identified resources within the project’s Area of Potential Effect (APE) that were listed in or eligible for the NRHP. Five historic properties within the APE were listed in the NRHP:

1. Winstead Hill—also a National Historic Landmark (NHL);
2. William Harrison House;
3. Knights of Pythias Pavilion;
4. Y.M. Rizer House; and
5. Samuel F. Glass House.

In 2006, a sixth property in the APE was listed in the NRHP, the Hamilton-Brown House (also known as the Elijah Hamilton House). The locations of these NRHP-listed properties are shown in Figure 5-1.

Through consultation with the SHPO pursuant to Section 106 of the National Historic Preservation Act (NHPA), it was determined that two of the properties, Winstead Hill and the William Harrison House, and land around these resources should be combined to form one NRHP-eligible Historic District, the Winstead Hill/Harrison House Historic District. This District is located on the west side of State Route (SR) 6 south of Franklin and south of Hillview Lane.

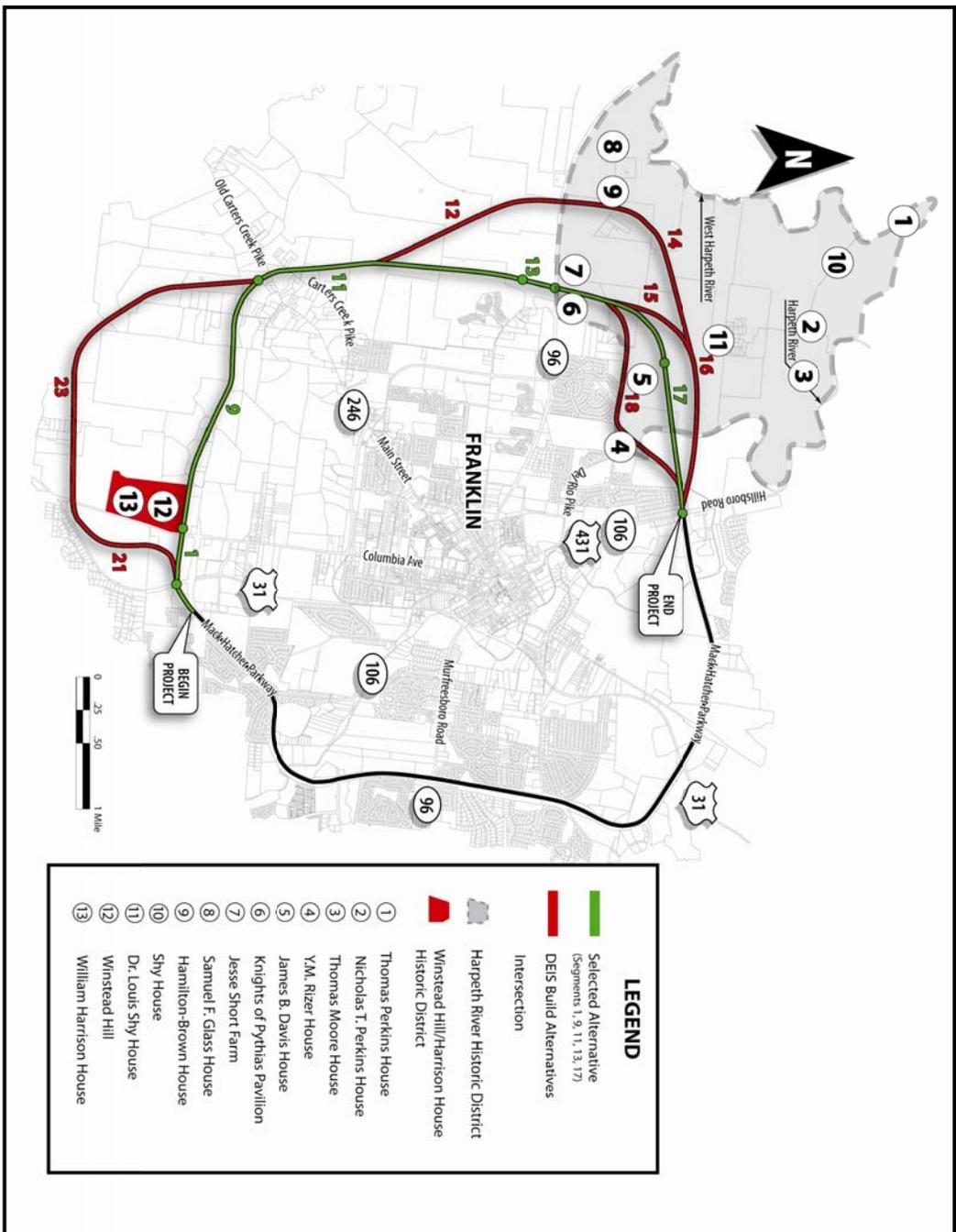


Figure 5-1. Location of Section 4(f) Resources

Winstead Hill was the staging ground and observation point utilized by Confederate General John B. Hood and his staff during the Civil War Battle of Franklin. This significant Civil War site, which encompasses the crest and northern slope of the hill, is listed on the NRHP and is also an NHL. On the site are historical markers, a parking lot, restrooms and a walking trail. To the immediate south of Winstead Hill at 4801 Columbia Pike (SR 6/US 31) is the William Harrison House, built in 1845. Architecturally influenced by the Greek Revival style, the house was used as General Hood's headquarters during the Battle of Franklin. Following the battle, it served as a hospital. The house is significant for its architecture and association with the Battle of Franklin.

Also through consultation with the SHPO, a second NRHP-eligible District was delineated northwest of Franklin between the Harpeth River and the West Harpeth River, north of SR 96 (see Figure 5-1). This area had been identified as potentially NRHP-eligible in 1988 by the Tennessee Historical Commission (THC), Tennessee's SHPO. A NRHP nomination for this District did not proceed due to the known opposition of at least two landowners. Since 1988, the area has not been extensively altered and the only significant development since 1988 has been the Whitehall Farms subdivision of less than 100 acres on Del Rio Pike. In November of 2001, the area was again reviewed by representatives of the THC through the Section 106 process for the SR 397/Mack Hatcher Parkway extension. THC staff stated that the District remained NRHP eligible in the areas of history and architecture.

This District, the Harpeth River Historic District, contains the remaining four NRHP-listed resources that are in the APE:

- Knights of Pythias Pavilion;
- Y.M. Rizer House;
- Samuel F. Glass House; and
- Hamilton-Brown House.

A number of other NRHP-listed properties and other potentially historic properties were identified in the historic building survey in the general vicinity of the four NRHP-listed properties (but not in the APE) and were included in the NRHP-eligible Harpeth River Historic District boundaries. Those properties include:

- Thomas Perkins House/Meeting of the Waters—NRHP-listed;
- Nicholas T. Perkins House/Two Rivers—NRHP-listed;
- Thomas Moore House—Formal NRHP Determination of Eligibility (DOE);
- James B. Davis House—Formal DOE;
- Shy House—Contributing to District;
- Dr. Louis Shy House—Contributing to District; and

The District contains the primary structures associated with the properties, as well as numerous outbuildings and other structures and land associated with the history and

agricultural heritage of the area. Figure 5-1 illustrates the District boundaries and the location of properties within the District.

The Harpeth River Historic District is located approximately two miles west of downtown Franklin. The District contains an estimated 2,495 acres. It is bound on the northwest and northeast by the West Harpeth River and the Harpeth River, and it is bound by SR 96 on the south. Within the District are 77 contributing parcels and 31 non-contributing parcels (exclusive of the Whitehall Subdivision, which is a dense residential development built within the last 10 years. Within the Whitehall Subdivision are an additional 68 non-contributing parcels). The name of the proposed District reflects its location with its north, west and east boundaries defined largely by the West Harpeth and Harpeth rivers. The confluence of these two rivers is along the northern boundary of the District.

The proposed Harpeth River Historic District is significant in the areas of settlement, agriculture and architecture. The fertile soil within the area attracted settlers as early as the 1790s and this area was cleared and farmed during the first quarter of the 19th century. Several of the county's oldest remaining brick dwellings are within the District and reflect the wealth and prosperity of the area's early settlers.

The District is also significant for its collection of notable 19th and early 20th century residential architecture. Within the District are four dwellings reflecting the Federal style of the early 1800s: the Hamilton-Brown House; the Thomas Hardin Perkins House; the Nicholas T. Perkins House; and the Thomas Moore House. All are two-story brick dwellings that retain much of their architectural character. In addition to these properties, the District contains the Italianate-influenced Samuel F. Glass House, the Greek Revival-influenced James B. Davis House and the Second Empire style Y.M. Rizer House. The District also contains the Neo-classical style Knights of Pythias Pavilion, which was originally built in 1897 for the Tennessee Centennial Exposition in Nashville and moved to its present location in 1900.

The cultural landscape of the District retains many of its historic roads, as well as its spatial organization. An intact stretch of gravel roadbed is extant on the Samuel F. Glass property. This property also includes the roadbed leading to ca. 1900 stone abutments where the Old Charlotte Pike Bridge crossed the West Harpeth River. Regarding the District's spatial organization, since the early 19th century, the District has been characterized by a small number of dwellings and their associated outbuildings facing the major roads, and with the majority of the land left in cultivation. In the 1870s, Samuel F. Glass built miles of stone walls to delineate his property and several sections of this landscape feature remain intact along Old Charlotte Pike and Del Rio Pike. The 1878 Beers Map of Williamson County shows only 13 dwellings located within the 2,495 acres that comprise this District. Of these 13 dwellings, nine are extant.

The rural landscape of the District retained its 19th century character well into the late 20th century. With the majority of the land in cultivation, woodlands were located primarily along the riverbeds and tributaries of the Harpeth River. The largest wooded area in the District is the hillside behind the Knights of Pythias Pavilion on SR 96. The rocky slopes of this hill are ill-suited for cultivation and are the only significant area of woodlands in the District.

Only in the past three decades has there been any significant increase in residential development within the area. Since the early 1980s, several homes have been built facing Del Rio Pike, and the Whitehall Subdivision on the west side of Del Rio Pike was developed in the late 1990s. Despite these modern dwellings, the rural landscape of this area remains largely intact with over 2,000 acres utilized for agricultural purposes. Based upon previous surveys and NRHP-eligibility assessments, the Harpeth River Historic District is the most significant collection of dwellings and agricultural buildings in Williamson County outside of the county seat of Franklin.

The Harpeth River Historic District is located within the Urban Growth Boundary (UGB) of the City of Franklin. The City of Franklin has designated the area as a “Suburban Estate District.” This designation denotes large tract residential units in a suburban development. Anticipated residential development in the District will be in line with the Westhaven, Founders Point and Whitehall Farms developments. The long-term viability of the Harpeth River Historic District to remain in its current condition, open pasture/farm land, is unlikely considering the development pressures the City of Franklin and Williamson County are facing. Williamson County is one of the fastest growing counties in Tennessee and it is unlikely that the demand for residential development will decrease over the next decade, but instead will continue at its current rapid pace (see Chapter 1, Section 1.4.2).

5.3 Section 4(f) Use

This section identifies the Section 4(f) use by the six Build Alternatives presented in the Draft Environmental Impact Statement (DEIS) and the single Build Alternative presented in the Supplemental Draft Environmental Impact Statement (SDEIS).

5.3.1 Winstead Hill/Harrison House Historic District

Neither the Selected Alternative (Build Alternative G) nor the six DEIS Build Alternatives (A through F) would use land from within the boundary of the Winstead Hill/Harrison House Historic District. The SHPO has concurred that the Selected Alternative would have No Adverse Effect under Section 106 of the NHPA to the Winstead Hill/Harrison House Historic District. Three of the six DEIS alternatives (D, E and F) would have had an adverse visual effect but not to a level of magnitude that it would constitute a Section 4(f) use.

The Selected Alternative would not incorporate any land from the Winstead Hill/Harrison House Historic District into a transportation facility nor would it have an adverse effect while temporarily occupying land within the District. In addition, it would not substantially impair any activities, features or attributes that qualify the District as NRHP-eligible. For these reasons, the Selected Alternative would have no Section 4(f) use from the Winstead Hill/Harrison House Historic District.

5.3.2 Harpeth River Historic District

A Draft Section 4(f) Evaluation was presented for the six Build Alternatives (A, B, C, D, E and F) as Chapter 8 in the DEIS. In the SDEIS, Alternative G was added to Chapter 8, Section 4(f) Evaluation.

The Build Alternatives were formed by different combinations of 12 roadway segments. Additional information regarding the development of Build Alternatives can be found in Chapter 2, Alternatives, and should be reviewed for more information.

All of the Build Alternatives (Alternative A, B, C, D, E, F and the Selected Alternative G) would use land from within the Harpeth River Historic District through converting land not presently in transportation use to transportation use. This would constitute a Section 4(f) use. The seven Build Alternatives would convert less than three percent of the total land within the District from agricultural use to transportation use.

The bold numbers shown in Table 5-1 indicate that the segment has a Section 4(f) use and is located within the boundaries of the Harpeth River Historic District. The Section 4(f) use of a historic resource is associated with Segments 14, 15, 16, 17 and 18 of the Build Alternatives (Figure 5-2).

Table 5-1. Section 4(f) Use by Project Segments/Alternatives

Alternatives	Combination of Segments
A	1, 9, 11, 13, 18
B	1, 9, 11, 13, 15, 16
C	1, 9, 11, 12, 14, 16
D	21, 23, 11, 13, 15, 16
E	21, 23, 11, 13, 18
F	21, 23, 11, 12, 14, 16
Selected Alternative (G)	1, 9, 11, 13, 17

Bolded Segments = Section 4(f) Use

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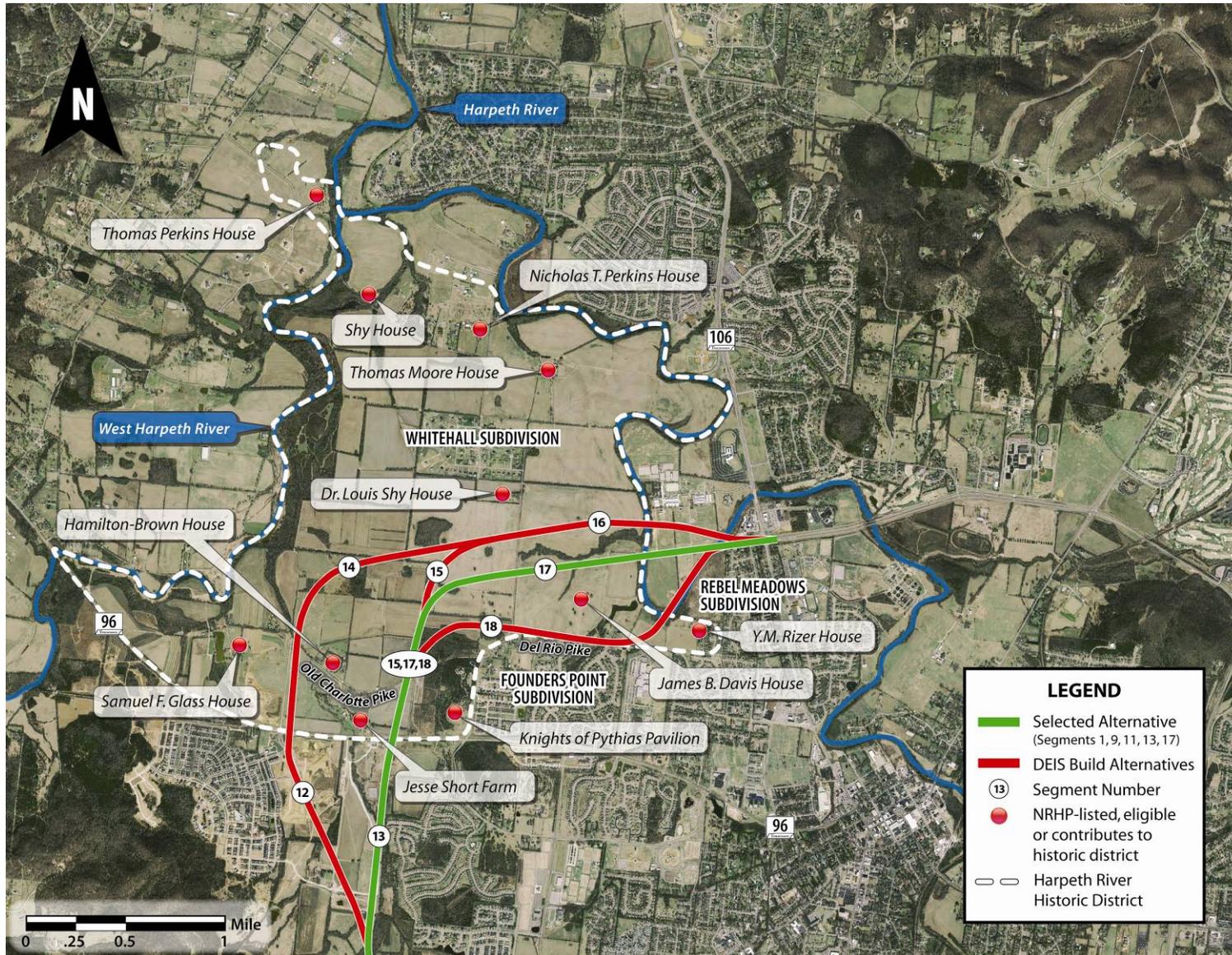


Figure 5-2.
 Build Alternatives
 through Harpeth
 River Historic
 District

Table 5-2 shows the land used from the Historic District by each Build Alternative. The percentages of the land used from the total District acreage range from a low of 2.1 percent (Alternative G) to a high of 2.6 percent (Alternatives C and F).

Table 5-2. Section 4(f) Use by Build Alternative

Build Alternative	Build Alternative						Selected Alternative (G)
	A	B	C	D	E	F	
Acres Used (of total 2,495 acres in District)	60	57	66	57	60	66	54*

*The acreage of 4(f) use for Alternative G is based on the 2007 CSD alignment and typical section.

Alternative A and Alternative E (Segment 18) have identical Section 4(f) impacts as they share the alignment of Segment 18 through the Harpeth River Historic District. This alignment would convert 60 acres of land to transportation use through the construction of a new roadway within a 250-foot right-of-way (ROW). This would constitute a Section 4(f) use of 60 acres. Some of the land that would be taken is from the front yard of the NRHP-eligible James B. Davis House and other land is from the contributing Jesse Short Farm. A number of other contributing parcels would be affected that contain open pasture and hay and corn fields. The alternatives cannot be moved any farther south in the vicinity of the Davis House because a large modern subdivision is across Del Rio Pike from the house.

The alternative would have an Adverse Effect under Section 106 of the NHPA. The effect would result from physically converting farmland to a roadway through the District. The roadway would also adversely affect the Historic District from a visual standpoint by introducing a roadway between the Jesse Short Farm and the Knights of Pythias Pavilion, both of which contribute to the Historic District. The alignment through the District also passes adjacent to the Y.M. Rizer House. The District would be adversely affected under Section 106 from a visual standpoint, as a modern roadway, which is out of character with the rural setting, is introduced into the District.

Alternatives B and D (Segments 15 and 16) share the same alignment through the Historic District. These alignments would convert 57 acres of land within the District to a transportation use. This would constitute a Section 4(f) use of 57 acres. Some of the land that would be taken is from the side of the contributing Jesse Short Farm and a number of other contributing parcels would be affected that contain open pasture, along with hay and corn fields.

These alternatives would have an Adverse Effect under Section 106 of the NHPA. The effect would result from physically converting farmland to a roadway through the District. The roadway would also adversely affect the Historic District from a visual standpoint by introducing a roadway between the Jesse Short Farm and the Knights of Pythias Pavilion, both of which contribute to the Historic District. The District would be adversely affected under Section 106 from a visual standpoint, as a modern roadway, which is out of character with the rural setting, is introduced into the District.

Alternatives C and F (Segments 14 and 16) share the same alignment through the District. These alternatives would convert 66 acres of land within the District to a transportation use. This would constitute a Section 4(f) use of 66 acres. The land that would be taken is adjacent to the Samuel F. Glass House, a contributing property in the District. Several affected contributing parcels have open pasture and cultivated fields.

The alternative would have an Adverse Effect under Section 106 of the NHPA. The effect would result from physically converting farmland to a roadway through the District. The roadway would also adversely affect the District from a visual standpoint by constructing a roadway next to the Samuel F. Glass House and into the farmlands in the District. A modern roadway is considered out of character with the District's rural setting. Alternatives C and F have the greatest visual intrusion into the District due to their greater length and central location through the District.

Selected Alternative G (Segment 17) would convert 54 acres of land within the District to a transportation use. This would constitute a Section 4(f) use of 54 acres. Some of the land that would be taken is from the side of the contributing Jesse Short Farm and a number of contributing parcels would be affected that contain open pasture, along with hay and corn fields.

The alternative would have an Adverse Effect under Section 106 of the NHPA. The effect would result from physically converting farmland to a roadway through the District. The roadway would also adversely affect the Historic District from a visual standpoint by introducing a roadway between the Jesse Short Farm and the Knights of Pythias Pavilion, both of which contribute to the Historic District. The District would be adversely affected under Section 106 from a visual standpoint, as a modern roadway, which is out of character with the rural setting, is introduced into the District.

5.3.3 Summary of Section 4(f) Use

Alternatives C and F would use the most land from within the Harpeth River Historic District (66 acres) and have the greatest impacts to the District because they would basically split the District.

Alternatives A and E would use 60 acres from the Historic District. These alternatives would have the greatest number of residential displacements of the seven alternatives considered and had the highest estimated costs. In addition, these alternatives would take land from the front yard of the NRHP-listed James B. Davis House within the District. The alignment could not be shifted to the south away from the historic property because of the existence of a large subdivision (Founders Point).

Alternatives B and D would use 57 acres of land from the Historic District. This alignment also has a greater visual effect and effect to the setting of the Historic District than Alternatives A, E and G because of the way that the alignment bisects the District.

Selected Alternative G would use 54 acres of land from the District, the least of all of the Build Alternatives considered. It has a lesser effect to the setting of the District than Alternatives B, C, E and F. It also has less of a bisecting effect to the District than some of the other alternatives. Lastly, it is well placed in relation to contributing buildings within the District.

5.4 Avoidance Alternatives

As previously discussed in this chapter, a project cannot use land from a “historic site” unless the applicant demonstrates that there are no prudent and feasible alternatives that avoid the identified resource. Avoidance alternatives must meet the project purpose and need.

Since all of the Build Alternatives considered in the DEIS and SDEIS would have a Section 4(f) use from the Harpeth River Historic District, alternatives were examined in the DEIS and SDEIS that would avoid a Section 4(f) use.

A prudent and feasible alternative would need to:

- Avoid compromising the project to a degree that it is unreasonable to proceed in light of the stated project purpose and need (Chapter 1);
- Be acceptable from a safety and operational perspective; and
- Avoid additional costs of an extraordinary magnitude.

The following section discusses the alternatives evaluated to avoid a Section 4(f) use of the Harpeth River Historic District and whether they are prudent and feasible avoidance alternatives.

5.4.1 No Build Alternative

The No Build Alternative implies that the SR 397/Mack Hatcher Parkway extension will not be constructed and that no major improvements beyond typical maintenance would be undertaken on the existing transportation network. This alternative would result in no improvement to traffic service in the project area and, with future increases in traffic, travel conditions would worsen or deteriorate. This would place a limitation on development in the study area and result in a higher burden on the existing poorly-connected roadway network. The No Build Alternative would have positive and negative effects as outlined below.

Positive Effects:

- No expenditure of capital funds;
- No business or residential displacements; and
- No Section 4(f) use of the Harpeth River Historic District.

Negative Effects:

- Does not meet Purpose and Need;
- Does not address existing and future traffic demands;
- Congestion will continue to result in longer delays and travel time; and
- Does not support the City of Franklin's Major Thoroughfare Plan (MTP).

The No Build Alternative was determined to be imprudent because it does not meet the project purpose and need.

5.4.2 Improvement to Existing Roadway System

Improving the existing roadway network to meet the project purpose and need is not feasible as described in Chapter 2. The existing roads are primarily through heavily developed areas and combining existing roads to create a western parkway loop would have both major social and environmental impacts. It would provide a roadway with substandard alignment and travel speeds because the roads in the study area are circuitous and disconnected. The option of improving the existing roadways to meet the project purpose and need was eliminated from further consideration because of the potential magnitude of adverse impacts to the community and the likely infeasibility that such a solution could be implemented.

The alternative to improve the existing roadway system would have positive and negative effects as outlined below.

Positive Effects:

- No Section 4(f) use of the Harpeth River Historic District.

Negative Effects:

- Does not meet Purpose and Need;
- Does not address existing and future traffic demands;
- Would have substantial community impacts;
- Congestion will continue to result in longer delays and travel time; and
- Does not support the City of Franklin's *MTP*.

The Alternative to improve the existing roadway network was determined to be imprudent because it does not meet the project purpose and need. In addition, it is infeasible because it is highly unlikely that the existing roadway network could be configured to form a western loop around Franklin, as such a loop would have substantial community impacts. Because it was clearly infeasible, costs and a conceptual potential alignment were not developed.

5.4.3 Northern Avoidance Alternative

A Northern Alternative that would avoid a Section 4(f) use of the Harpeth River Historic District was developed and evaluated. This would require a major alignment shift to the north, as shown in Figure 5-3. Avoidance would be achieved by rerouting the proposed extension of SR 397/Mack Hatcher Parkway to the north and west of the District, connecting back at SR 96 west of the District. This alternative would increase the project length by approximately 7.5 miles.

The Northern Avoidance Alternative would begin on SR 106/Hillsboro Road and would follow the existing roadway north for approximately 2.5 miles. Just north of the existing Berry's Chapel Road intersection, it would leave the SR 106/Hillsboro Road alignment and run west along an existing property boundary continuing west across the Harpeth River. After it crosses the river, it turns to the southwest on new location paralleling Old Hillsboro Road. The alignment would be built along the rear of several residential properties that front on Old Hillsboro Road. The alignment would cross Charlotte Pike and would intersect with SR 96 approximately 1,600 feet to the east of the existing Old Hillsboro Road.

The intersection of the Northern Alternative with SR 96 would be 1.0 mile to the west of the intersection of the segment of the parkway south of SR 96 under Alternatives C, E and F to avoid a Section 4(f) use of the District. The intersection with SR 96 would be 2.5 miles to the west of the intersection of the southern parkway segment with SR 96 under Alternatives A, B, D and G. The length of the Northern Avoidance Alternative is approximately double that of the other alternatives, including the Selected Alternative G. The segment of each Build Alternative that passes through the District is 3.34 miles for Alternatives C and F, 2.74 miles for Alternatives B and D, 2.63 miles for Alternatives A and E and approximately 2.5 miles for the Selected Alternative.

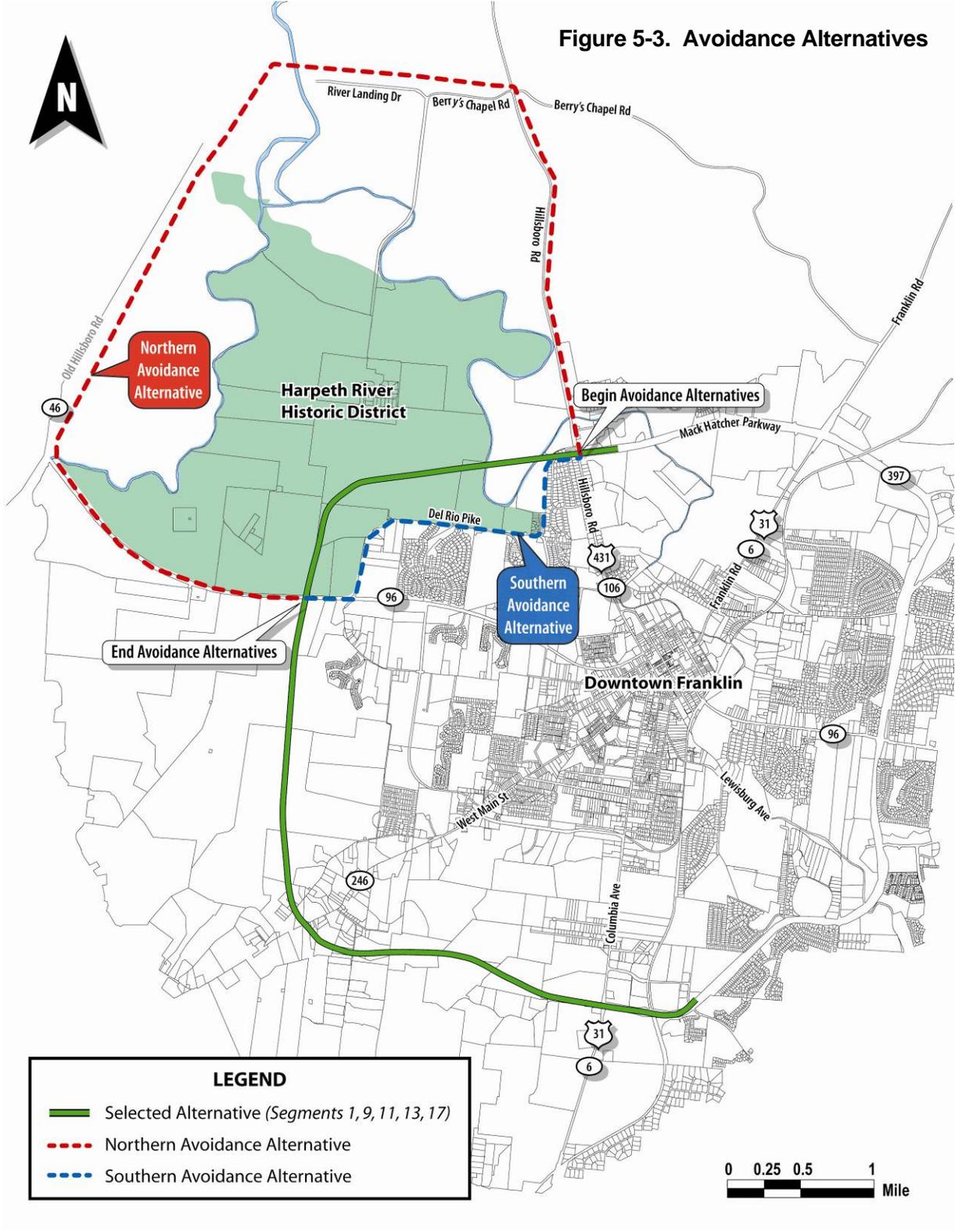
The construction cost is estimated in 2005 dollars to be approximately \$30 million dollars for the Northern Avoidance Alternative (refer to Figure 5-3), as compared to the 2005 construction cost of the Build Alternatives within the limits of the District, which range from one-third to one-half of the cost of the Northern Avoidance Alternative.

Approximately 155 acres of ROW would be needed to construct this avoidance alternative, as compared to 66 acres within the limits of the District for Alternatives C and F, 57 acres for Alternatives B and D, 60 acres for Alternatives A and E, and 54 acres for Selected Alternative G.

Bridging of the Harpeth River and spanning of its floodplain is proposed under the Northern Avoidance Alternative, the Selected Alternative and Build Alternatives B, C, D, F and G. Alternatives A and E do not require the construction of bridges over the Harpeth River, but would have longitudinal encroachment into the 100-year floodplain.

As previously described, the Northern Avoidance Alternative requires the use of SR 96 for between 1.0 and 2.5 miles (depending on the location of the intersection of the south of SR 96 segment of the parkway with SR 96) and SR 106/Hillsboro Road for

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approximately 2.6 miles. The additional traffic would require that these roadways be upgraded and/or widened. Shifting the alignment onto SR 106/Hillsboro Road to avoid the Historic District to the north, would create an indirect and circuitous route along the SR 397/Mack Hatcher Parkway, limiting its effectiveness in reducing existing and future traffic congestion in the City of Franklin. The Northern Avoidance Alternative would not address traffic demands that are projected as a result of potential development in the City's UGB. None of the Build Alternatives require the use of either SR 96 or SR 106/Hillsboro Road. All Build Alternatives would relieve traffic congestion in the City of Franklin and support planned development along the SR 96 corridor.

The extension of SR 397/Mack Hatcher Parkway to the west is being proposed as a facility to serve existing and future traffic demands based upon projected residential and commercial growth that is currently under construction or is expected to occur in the growth boundary area of the City of Franklin. For example, the Westhaven Development, a 3,000 unit residential community with planned commercial development, is under construction south of SR 96 in the project area. Westhaven is currently under a limited development order until transportation improvements are made within the study area. The Northern Avoidance Alternative does not provide the improved access needed for the developing areas to the southwest, west and northwest of Franklin.

The Northern Avoidance Alternative would have positive and negative effects as outlined below.

Positive Effects:

- No Section 4(f) use of the Harpeth River Historic District; and
- Can traverse the Harpeth River 100-year floodplain with a shorter bridge than that of the bridges under the other Build Alternatives that cross the river.

Negative Effects:

- Does not meet Purpose and Need (e.g., reducing existing and anticipated traffic congestion, improving access to areas west of downtown and improving emergency response times);
- Will not service traffic projected to occur in the UGB. The construction of the proposed roadway farther to the north and west than the proposed SR 397/Mack Hatcher route (Build Alternatives A through G) would not service the traffic that is projected for this potential growth area;
- Would result in an indirect and circuitous route for parkway traffic requiring the use of two long segments of the local road network;
- Would not reduce traffic demands currently experienced along SR 96 and SR 106/Hillsboro Road and within the City of Franklin, but instead would add to the congestion currently exhibited on the local transportation system;

- Longest segment length;
- Requires greater conversion of land from private property to a transportation use;
- Has at least 10 residential displacements;
- Potentially greater change to future land use in the area; and
- High total cost of \$47 to \$50 million, up to double the cost of the Build Alternatives.

In summary, the Northern Avoidance Alternative is feasible, but it is not prudent because:

1. it results in unacceptable operational problems along the segments of SR 106/Hillsboro Road and SR 96 that would be incorporated into this alternative;
2. it results in additional construction, maintenance, or operational costs of an extraordinary magnitude; and
3. it does not meet the project Purpose and Need.

5.4.4 Southern Avoidance Alternative

A second avoidance alternative developed and evaluated considered an alignment south of the Harpeth River Historic District (Figure 5-3). The Southern Avoidance Alternative would begin at the intersection of existing SR 397/Mack Hatcher Parkway and SR 106/Hillsboro Road and would travel west along the northern end of the Rebel Meadows subdivision, turning south along the west side of the subdivision and continuing south until it meets Del Rio Pike at the southeast corner of the Harpeth River Historic District. There, the alignment would turn west and parallel Del Rio Pike on the south side. Existing Del Rio Pike could remain in place and function as a frontage road and buffer to serve homes and a school at that location. At the intersection of Del Rio Pike and Carlisle Lane the alignment would turn south and utilize the existing Carlisle Lane ROW. At this point, a reverse curve would be used to align the Southern Avoidance Alternative with the proposed SR 397/Mack Hatcher Parkway segment south of SR 96 (Segment 13). The Southern Avoidance Alternative is approximately 2.6 miles in length.

The Southern Avoidance Alternative would meet the purpose and need of the project; however, social and economic impacts to the community are substantially greater. It is estimated that approximately 156 homes would be displaced in the Rebel Meadows and Founders Point subdivisions, as compared to no displacements for Alternatives C and F, 1 for Alternatives B and D, 18 for Build Alternative G, and 19 for Alternatives A and E. This represents a major disruption to the residential areas located along the alignment within the Rebel Meadows and Founders Point subdivisions. A reduced ROW width was considered, but resulted in only 10 to 12 fewer residential displacements.

These 156 homes that would potentially be displaced under the Southern Avoidance Alternative ranged in value in 2005 from \$160,000 per unit to \$500,000 per unit and represent ROW costs ranging from \$24.5 million to \$78 million. This escalates the ROW costs of the Build Alternatives fourfold or more.

This alternative would impact Poplar Grove Elementary School located off of Del Rio Pike. Access to the school complex would have to be modified and ROW for the roadway would have to be acquired from the school grounds.

The Southern Avoidance Alternative would have positive and negative effects as outlined below.

Positive Effects:

- Meets Purpose and Need;
- No Section 4(f) use of the Harpeth River Historic District; and
- Has the second shortest segment length between SR 96 and SR 106/Hillsboro Road—only Alternative G, the Selected Alternative, is shorter.

Negative Effects:

- Has the greatest number of residential displacements at 156 and the greatest disruption to the communities within the study area;
- Highest construction cost of \$38.5 to \$91 million;
- Has longitudinal encroachment into the Harpeth River 100-year floodplain; and
- Requires use of school property at Del Rio Pike and modification to existing traffic circulation associated with school campus.

The Southern Avoidance Alternative does meet the purpose and need. The disruption to existing residential development along the proposed alignment, however, would be of an extraordinary magnitude and would result in substantial displacements. As previously stated, an estimated 156 residences would be displaced. This represents an estimated \$24.5 million to \$78 million in ROW cost, substantially higher than any of the Build Alternatives (A through G). The Southern Avoidance Alternative is not feasible and prudent because of the extensive residential displacements and the disruption to residential communities. For these reasons, the Southern Avoidance Alternative has been eliminated from further consideration.

5.4.5 Summary of Avoidance Alternatives

None of the avoidance alternatives were determined to be prudent and feasible alternatives to avoid a Section 4(f) use of the Harpeth River Historic District for reasons such as community disruption of extraordinary magnitude and the inability of the alternatives to meet the project purpose and need.

5.5 Selected Alternative and Measures to Minimize/Mitigate Harm

Table 5-3 provides a summary of the Section 4(f) impacts and other relevant data associated with constructing the DEIS and SDEIS Build Alternatives through the Harpeth River Historic District. As previously stated, all of the SDEIS and DEIS alternatives would involve a Section 4(f) use from the Historic District.

Table 5-3. Comparative Data of DEIS and SDEIS Alternatives

	Units	Alternatives*			Selected Alternative (G) Segment 17
		C and F Segments 14, 16	B and D Segments 15, 16	A and E Segment 18	
Length of Segment	Miles	3.34	2.74	2.63	1.7
Total Segment Cost	Millions	\$21.24	\$19.95	\$18.0	\$17.64
Section 4(f) Use (of total 2,495 acres)	Acres	66	57	60	54
Impact on current land use	Rating	Medium	Medium	High	Medium
Impact on future land use	Rating	Medium	Medium	Low	Medium

*The information presented in this table is based upon segment length through the Harpeth River Historic District and is for comparison purposes only. The above costs were calculated in 2005 dollars. The costs of the minimization/mitigation elements developed through the Context Sensitive Design process for the Selected Alternative are not included.

In December 2005, after considering all public and agency comments, the Tennessee Department of Transportation (TDOT) announced Alternative G as the Selected Alternative for the proposed project. Shown in Figure 5-1, Alternative G includes Segments 1, 9, 11, 13 and 17.

Alternative G was selected for the following reasons:

- It is preferred by the City of Franklin. In February of 2005, the Board of Mayor and Aldermen issued a resolution identifying this alternative as their preferred route;
- It reflected the best compromise when coordinated with the Tennessee Valley Authority’s (TVA) Aspen Grove Transmission Line, Southern Alternative (under construction in 2005 and completed today);
- The SHPO concurred that it provides the fewest impacts to the Harpeth River Historic District and the Winstead Hill/Harrison House Historic District;
- It avoids bisecting the Westhaven development (under construction in 2005); and
- It costs less than other alternatives (it was close in cost to Alternative C, but that original cost estimate of Alternative C would have increased because of its impacts to the Westhaven development).

In December of 2005, TDOT also announced its intention to utilize the Context Sensitive Design (CSD) process to develop the design of the Selected Alternative. TDOT began the CSD process in March 2006. The SHPO had a representative on the Agency Resource Team (ART), which worked with the Citizen Design Team (CDT) over a period of approximately one year to develop a transportation facility that fit in with the physical setting of the project area and preserved its scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility. Representatives of the historic preservation community of Franklin and Williamson County served on the CDT. The CSD alignment of the Selected Alternative through the Historic District is shown in Figure 5-4.

In October of 2006, the Federal Highway Administration (FHWA) and the SHPO entered into a Section 106 Memorandum of Agreement (MOA) containing measures to minimize and mitigate the potential adverse effects of the Selected Alternative to the District. TDOT was an invited signatory to the agreement. The MOA stipulated that the SHPO staff and other historic preservation community representatives would be invited to participate in the CSD process and that the SHPO would have the opportunity to review and comment on all proposed mitigation through its role on the ART. The MOA also outlined design elements recommended to mitigate the project's adverse effects. Many of these elements were adopted through the CSD process.

In early 2007, the CSD process resulted in a report and a consensus memo, outlining the design recommendations for the Selected Alternative. The CSD recommendations were approved by TDOT on April 10, 2007. Elements adopted to minimize and mitigate the Section 106 Adverse Effects to the Harpeth River Historic District include:

- The portion of Segment 17 within the Harpeth River Historic District (from SR 96 to the west of the Harpeth River crossing) would have a rural typical section, which is different than the section proposed in the DEIS and SDEIS. The section through the District is categorized as a "rural" section and consists of a four-lane roadway with a raised grass median with curb and gutter on the inside and a grass stabilized outside shoulder. This grass shoulder is intended to minimize visual impacts in the Historic District;
- Through the CSD process, all of the grade-separated interchanges have been eliminated and replaced by at-grade intersections. At SR 96 and at Del Rio Pike in the Historic District, a double-lane roundabout has been proposed to replace the grade-separated interchange; and
- Other elements listed in the MOA as recommended to mitigate the project's effects (e.g., recordation, historical markers, landscaped median) will be considered for incorporation into the design of the Selected Alternative as project planning progresses.

In summary, Alternative G, the Selected Alternative, takes the least amount of land from the Historic District of any of the other Build Alternatives considered. The SHPO has also stated that this alternative has the least harm to the Historic District of the Build Alternatives studied in the DEIS and SDEIS when mitigation measures developed through the CSD process are considered.

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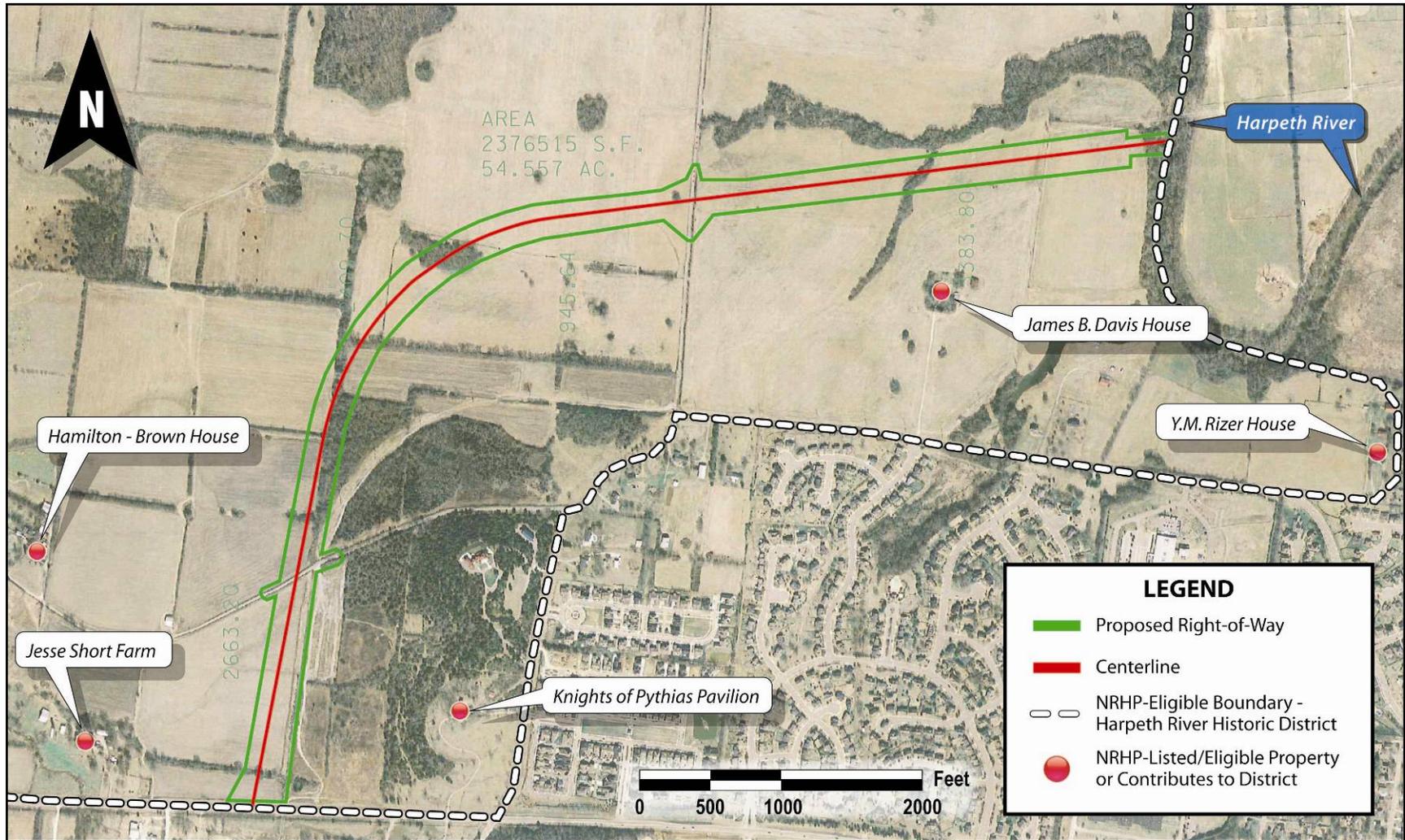


Figure 5-4. Selected Alternative, Section 4(f) Use, Harpeth River Historic District

5.6 Coordination

In November of 2004, the DEIS, which contained a Section 4(f) Evaluation, was circulated to federal and state agencies, including the US Environmental Protection Agency (USEPA), the US Department of Interior (DOI) and the Planning and Compliance Division of the National Park Service (NPS). The NPS did not comment, but the EPA and DOI commented. Their comments and the Section 106 coordination are described below. The Section 106 coordination with the SHPO supported the Section 4(f) analysis. This Final Section 4(f) Evaluation will be coordinated with the DOI, EPA and the NPS.

5.6.1 US Environmental Protection Agency

The EPA commented in February of 2005 that TDOT should work with the SHPO regarding development of measures to mitigate the project's adverse effects to historic resources. The agency added that "the list of mitigation measures contained in the Section 4(f) evaluation seemed like a good start. However, given the concerns about future development in the project vicinity, it would also seem appropriate to consider some preservation actions, as well as access control options, to save these important resources before they are permanently destroyed."

In response to the EPA comments, close coordination with the SHPO through the CSD and Section 106 processes resulted in a Section 106 MOA and participation by the SHPO in development of the CSD *Consensus Memo*. Both documents contain measures to minimize and mitigate the project effects. In addition, the roadway will be access controlled through the District. At the southern boundary of the District, SR 397/Mack Hatcher will have an intersection with SR 96. The only access point within the District will be at Del Rio Road. Both will be at-grade, double lane roundabouts. No regulatory preservation actions were considered as this area is rapidly developing and is within the City of Franklin's UGB.

5.6.2 US Department of Interior

The DOI Office of Environmental Policy and Compliance was sent a copy of the DEIS, but they provided no comments. The US Fish and Wildlife Service (USFWS) within the DOI was also sent a copy and commented in a September 7, 2005 letter that "The Section 4(f) properties involved in this project are historical properties and involve no natural resources of concern to our agency."

5.6.3 SHPO and Parties with Historic Preservation Interests

The project was coordinated with parties having historic preservation interests through the Section 106 process, including local historic preservation organizations and the SHPO. Both reviewed the cultural resource study findings and were afforded the opportunity to comment regarding NRHP eligibility and project effects. Comments received were considered in project planning. Both local historic preservation organizations and the SHPO participated in the CSD process and in the development of a CDT *Consensus Memo* that outlined the CDT and ART design recommendations for the Selected Alternative.

5.7 Final Section 4(f) Statement

Based upon the above considerations, there is no feasible and prudent alternative to the use of land from the Harpeth River Historic District and the proposed action includes all possible planning to minimize harm to the Harpeth River Historic District resulting from such use. The SHPO and parties with historic preservation interests participated in development of minimization and mitigation measures, which were included in a Section 106 MOA between FHWA and the SHPO and to which TDOT was an invited signatory. Considering minimization and mitigation developed through the CSD process, the Selected Alternative (G) is the Build Alternative that causes the least harm to the Historic District.

6.0 Interagency Review and Public Involvement

6.1 Initial Coordination and Disposition

6.1.1 Initial Coordination

In a letter dated June 20, 2001, the Tennessee Department of Transportation (TDOT) through its Initial Coordination process contacted the appropriate federal, state, and local planning and resource management agencies and interested organizations regarding the proposed action. Each was given available information concerning the project and asked to comment, within their special area of expertise or authority, upon any possible environmental, economic or social impacts, in order that specific areas of concern could be addressed during the development of location and environmental studies.

The agencies contacted through the Initial Coordination process are shown in Table 6-1. Those agencies, organizations or interested parties that responded are shown in italics. A summary of the comments received and the disposition thereof is included in Section 6.1.2. Letters of reply are available in Appendix A.

Table 6-1. Agencies, Organizations and Interested Parties Contacted During Initial Coordination (*Italicized Agencies Responded*)

FEDERAL AGENCIES
<i>Department of Agriculture – Natural Resources Conservation Service</i>
Department of Commerce – National Oceanic and Atmospheric Administration
Department of Housing and Urban Development – Environmental Office
<i>Department of the Army – Corps of Engineers</i>
Department of the Interior <ul style="list-style-type: none"> • <i>Fish and Wildlife Service</i> • Geological Survey – Office of Environmental Affairs • Geological Survey – Water Resources Office • National Park Service • Office of Surface Mining
Environmental Protection Agency – Environmental Assessment Office
Federal Emergency Management Agency - Mitigation Division
Federal Railroad Administration – Office of Economic Analysis
Federal Energy Regulatory Commission – Office of Energy Projects, Division of Environmental and Engineering Review
Tennessee Valley Authority – Environmental Policy and Planning

Table 6-1. Agencies, Organizations and Interested Parties Contacted During Initial Coordination (*Italicized Agencies Responded*), *continued*

STATE AGENCIES
Tennessee Department of Agriculture
Tennessee Department of Economic and Community Development – Special Projects Office
<i>Tennessee Department of Education</i>
Tennessee Department of Environment and Conservation – Commissioner <ul style="list-style-type: none"> • Commission on Indian Affairs • <i>Division of Air Pollution Control</i> • <i>Division of Ground Water Protection</i> • Division of Natural Heritage • <i>Division of Solid/Hazardous Waste Management</i> • Division of Water Pollution Control • Division of Water Supply • <i>Tennessee Historical Commission</i>
Tennessee Wildlife Resource Agency
REGIONAL AGENCIES
Greater Nashville Regional Council
Nashville Area Metropolitan Planning Organization
Middle Tennessee Region Department of Economic and Community Development – Local Planning Assistance Office
LOCAL AGENCIES AND OFFICIALS
City of Franklin <ul style="list-style-type: none"> • Administration Department • Codes Department • Engineering Department • Fire Department • Historic Zoning Commission • Planning Department • Police Department • Street Department
Nashville Metropolitan Transit Authority
Williamson County <ul style="list-style-type: none"> • <i>Williamson County Executive</i> • Williamson County Highway Department
OTHER ORGANIZATIONS AND INTERESTED PARTIES
Heritage Foundation of Franklin and Williamson County
Ms. Thelma Battle

Table 6-1. Agencies, Organizations and Interested Parties Contacted During Initial Coordination (*Italicized Agencies Responded*), *continued*

Tennessee Conservation League
Tennessee Environmental Council
Tennessee Scenic Rivers Association
Tennessee State Chapter of the Sierra Club
Tennessee Trails Association
Williamson County Historian and Williamson County Historical Society
NATIVE AMERICANS (Section 106 Coordination)
<i>Cherokee Nation of Oklahoma</i>
Chicksaw Nation
<i>Chocktaw Nation of Oklahoma</i>
Eastern Band of Cherokee Indians
Eastern Shawnee Tribe of Oklahoma
Muscogee (Creek Nation)
<i>Seminole Nation of Oklahoma</i>
United Keetowah Band of Cherokee

6.1.2 Summary of Comments Received from Initial Coordination and Responses

The comments and responses summarized below were included in the DEIS.

Federal Agencies

- **United States Department of Agriculture, Natural Resource Conservation Service (NRCS) (letter dated July 30, 2001)** – Submitted Form AD-1006 Farmland Conversion Impact Rating. The agency determined that of 228 acres of farmland to be converted in Site A [Alternative A], 228 acres of said farmland is rated prime. Of the 314 acres to be converted in Site B [Alternative B], 237 acres of said farmland is rated as prime.

Response: *None is required. As outlined in Chapter 4, Section 4.2 of the Final Environmental Impact Statement (FEIS), additional coordination occurred with the NRCS during the development of the Draft Environmental Impact Statement (DEIS) Build Alternatives.*

- **United States Army Corps of Engineers (USACE) (letter dated July 24, 2001)**
– Based on an initial impact inspection, the proposed work could impact several streams, such as unnamed tributaries, Polk Creek and the Harpeth River, which are considered waters of the United States. Any fill material placed in these streams would be subject to the Department of the Army (DA) permit authorities. In addition, any construction activities impacting the Harpeth River would be subject to DA permit authorization. The USACE's preferred alignment would be to follow any existing roads/highways as much as possible. This action usually minimizes the impacts to aquatic and wildlife habitat to the extent possible.

Response: *TDOT will address the request/permit requirements at the appropriate time in the project development process. TDOT will give full consideration to the selection of an alternative that minimizes impacts to the existing streams within the study area. TDOT has determined that it is not reasonable to improve the existing roads without sustaining greater impacts to the community. See Chapter 2, Section 2.3 of the DEIS.*

- **Department of the Interior (DOI), United States Fish and Wildlife Service (USFWS) (letter dated July 26, 2001)** – USFWS expressed concern that highway projects accelerate erosion and sedimentation in streams, adversely affecting the aquatic wildlife, brought on by the use of heavy equipment and the disruption of existing vegetation. Best Management Practices (BMPs) will need to be utilized during construction activity. They stated that USACE permits will most likely be necessary. A brief list of erosion and sediment control measures were listed. The USFWS endangered species collection records did not indicate that any federally-listed or proposed endangered or threatened species occur within the impact areas of the project. However, they noted that the collection records may not be all-inclusive. They included a list of rare species that potentially occur in Williamson County.

Response: *The construction contractor will be required to comply with all applicable rules and provisions of the TDOT's Standard Specifications for Road and Bridge Construction. Ecology surveys will be done to identify endangered species or potential habitat in the project area.*

State Agencies

- **Tennessee Department of Education (memorandum dated June 29, 2001)** – Stated that the Department of Education had no proposed projects in the subject area.

Response: *No response is required.*

- **TDEC, Division of Ground Water Protection (letter dated July 11, 2001)** – They anticipate that it is possible that the project will impact existing subsurface sewage disposal (SSD). They asked to be given adequate prior notice to allow for scheduling staff assistance should SSD systems become an issue during construction. They indicated that all work of this nature done in Williamson County must receive direct oversight from the staff of the County Health Department and not from the state.

Response: *Prior to beginning construction, TDOT will require the contractor to contact the County Health Department to coordinate oversight from their staff.*

- **TDEC, Division of Solid/Hazardous Waste Management (letter dated August 10, 2001)** – They stated that a review of the submitted information does not indicate that the proposal will involve any sites or problems known to the Division. They asked to be kept apprised of any hazardous waste issues that arise during the course of soil testing. The Office does not see any aspect that will impact projects or programs currently being considered or implemented by the agency.

Response: *No response is required. Please see Chapter 4, Section 4.13 of the DEIS.*

- **Tennessee Historical Commission (THC) (letter dated June 28, 2001)** – After reviewing the information submitted, the THC stated that the project, as currently proposed, “may affect properties that are eligible for listing in the National Register of Historic Places,” and that ongoing consultation with the office is encouraged.

Response: *TDOT has continued to coordinate with the THC regarding cultural resources within the project area. Please see Chapter 4, Section 4.11 and Chapter 5 of the DEIS.*

Local Agencies and Officials

- **Williamson County Executive (letter dated July 6, 2001)** – The County Executive will participate as a consulting party.

Response: *None is required.*

Native Americans

- **Cherokee Nation of Oklahoma (letter dated July 10, 2001)** – They stated that the Nation is not presently aware or able to identify any cultural resources affiliated with the Cherokee Nation within the proposed area of development. However, in the event of the discovery of human remains, burial objects or artifacts, all site activities should cease pending notification of the Nation and, any and all remains, burial objects or artifacts must be properly secured and protected.

Response: *Upon discovery of human remains, burial objects, or artifacts, TDOT will cease all site activities pending notification of the Nation and, any and all remains, burial objects or artifacts will be properly secured and protected.*

- **Chocktaw Nation of Oklahoma (letter dated July 12, 2001)** – After reviewing the project, the Nation determined that to the best of their knowledge it will have no adverse affect on any Native American properties, including ceremonial or burial grounds. However, should construction expose any buried archaeological materials, the Nation is to be contacted immediately.

Response: *Upon discovery of human remains, burial objects, or artifacts, TDOT will cease all site activities pending notification of the Nation and, any and all remains, burial objects or artifacts will be properly secured and protected.*

- **Seminole Nation of Oklahoma (letter dated August 9, 2001)** – The Nation stated that they are not aware of any Seminole-affiliated cultural properties or resources within the proposed project area. The policy of the Seminole Nation is that, in the event of inadvertent discoveries of ancestral remains or buried artifacts that all site activities cease pending notification of the Nation and, any and all remains, burial objects or artifacts must be properly secured and protected.

Response: *Upon discovery of human remains, burial objects, or artifacts, TDOT will cease all site activities pending notification of the Nation and, any and all remains, burial objects or artifacts will be properly secured and protected.*

6.2 DEIS Coordination

6.2.1 Cooperating Agency Coordination

As cooperating agencies, both the USACE and the Tennessee Valley Authority (TVA) received copies of the Preliminary Draft Environmental Impact Statement (PDEIS) and the DEIS. In a letter dated July 10, 2005, the USACE provided a number of comments on the DEIS, which are outlined and addressed in Table 6-2. In a letter dated June 2, 2004, the TVA commented on the PDEIS, and their comments were addressed in the DEIS. Finally, in a letter dated March 4, 2005, the TVA provided five comments on the DEIS. These comments are outlined and addressed in Table 6-2.

Additional coordination with the TVA occurred in 2002 regarding the location of new TVA transmission lines in Williamson County.

6.2.2 Other Agency Coordination

Table 6-2 outlines the agencies that commented on the DEIS, summarizes their comments and provides a comment disposition.

Table 6-2. Summary of Comments Received Regarding DEIS

Agency	Date	Comment	Disposition
Federal Agencies			
USACE - Nashville District	2/10/05	<ul style="list-style-type: none"> USACE prefers an alignment that follows existing roads. They would like the Preferred Alternative selection to be based upon the least environmentally damaging alternative, especially upon waters of the United States. 	<ul style="list-style-type: none"> The existing roads in the area are primarily through heavily developed areas. Combining existing roads to create a western parkway loop would have both major environmental impacts and would provide a roadway with substandard alignment and travel speeds because the roads in the study area are circuitous and disconnected. The option of improving the existing roadways to meet the project purpose and need was eliminated from further consideration because of the potential magnitude of adverse impacts to the community. The Selected Alternative was chosen based on public involvement, agency coordination and environmental impacts.
		<ul style="list-style-type: none"> List the waters of the US that would be impacted by each Build Alternative. If known prior to the FEIS, indicate if stream impacts are from channel relocations, bridge and/or culvert construction. Avoid and/or minimize the environmental impacts to the extent possible. 	<ul style="list-style-type: none"> In response to the USACE's request, Table 4-14 was added to Chapter 4 of the FEIS. Table 4-14 lists the waterbodies crossed by the Selected Alternative. Stream determinations will be confirmed during the permitting process. As stated in Chapter 4, Section 4.10.2 of the FEIS, this project will be constructed in accordance with all applicable rules and regulations regarding sediment and erosion control and siltation as required in TDOT's <i>Standard Specifications for Road and Bridge Construction</i> and BMPs will be utilized. The Harpeth River, and its associated floodplains, will be spanned by two parallel bridge structures. These structures will be continuous from the eastern edge of floodway to the western edge of floodway, spanning both river crossings and the floodplains in between.

Table 6-2. Summary of Comments Received Regarding DEIS (continued)

Agency	Date	Comment	Disposition
USACE - Nashville District (continued)	12/10/05	<ul style="list-style-type: none"> The DEIS text identified 18 streams based on the Leiper's Fork 7.5 minute quadrangle. This is not always conclusive of all streams and wetlands that are present in the field and requiring a permit. Also, the ten streams labeled as ephemeral are not verified by the USACE. Stream verification will need to be performed by the permitting agencies to finalize this jurisdictional determination. 	<ul style="list-style-type: none"> Stream verification will be conducted during the permitting process.
		<ul style="list-style-type: none"> Page 4-25 of the DEIS says no wetlands would be impacted, but page 4-27 of the DEIS states that wetlands were located in some sections. Needs to be clarified. Wetland delineation forms should be made available for this jurisdictional determination. Also, wetland determination needs to be verified by the permitting agencies prior to processing a DA permit. 	<ul style="list-style-type: none"> The text in Chapter 3, Section 3.4.3 and Chapter 4, Section 4.10.4 was clarified. One wetland will be impacted by the Selected Alternative.
		<ul style="list-style-type: none"> Include pictures of the streams/wetlands areas in an appendix of the DEIS. 	<ul style="list-style-type: none"> The two ecology studies conducted for the proposed project (dated June 28, 2001 and June 28, 2002) contain pictures of the study area. These studies are on file at TDOT's Environmental Division in Nashville.
		<ul style="list-style-type: none"> Need to discuss mitigation for the stream and/or wetland impacts. 	<ul style="list-style-type: none"> Chapter 4, Section 4.10.2 of the FEIS was updated to include more information on stream impacts. As previously stated, this project will be constructed in accordance with all applicable rules and regulations regarding sediment and erosion control and siltation, and a <i>Sediment Control Plan</i> will be formulated in accordance with TDOT standards. The Harpeth River, and its associated floodplains, will be spanned by two parallel bridge structures in an effort to minimize impacts. One wetland will be impacted by the Selected Alternative.

Table 6-2. Summary of Comments Received Regarding DEIS (continued)

Agency	Date	Comment	Disposition
USACE - Nashville District (continued)	2/10/05	<ul style="list-style-type: none"> Statement in Section 3.4.4 of the DEIS that the floodway is confined to the rim of the riverbank is not accurate. Federal Emergency Management Agency (FEMA) regulations prohibit encroachments, including fill, new construction, substantial improvements, and other development with the adopted regulatory floodway unless it has been demonstrated through hydrologic and proposed encroachment would not result in any increase in flood levels within the community during the occurrence of the base flood discharge. This “no-rise” certification must be completed and approved by the local government responsible for administering the National Flood Insurance Program (NFIP) regulations. 	<ul style="list-style-type: none"> The discussion on floodplains has been changed to Chapter 3, Section 3.4.6 of the FEIS. The text was corrected to accurately depict the floodway boundary. The Harpeth River will be spanned by two parallel bridge structures that are continuous from the eastern edge of the floodway to the western edge of the floodway, spanning both river crossings and the floodplain in between. All reasonable options will be used to try to achieve a “no-rise” certification. Should this be determined impractical, a Conditional Letter of Map Revision will be performed in accordance with FEMA regulations.
		<ul style="list-style-type: none"> The proposed project does not conflict with any projects that the Nashville District Planning Office is currently studying or that have been recommended for approval. 	<ul style="list-style-type: none"> No response necessary.
United States Environmental Protection Agency (USEPA)	2/25/05	<ul style="list-style-type: none"> The USEPA stated the document does not contain sufficient information for USEPA to fully assess the environmental impacts of the proposed action. 	<ul style="list-style-type: none"> The comments provided by the USEPA were considered and, in response to their comments, additional information was added to the FEIS.
		Page 1-7 through 1-9 (Traffic Volumes) of the DEIS <ul style="list-style-type: none"> Discrepancies shown in Table 1-3 and Figures 1-3 and 1-4. Should be corrected along with Level of Service (LOS) in FEIS. 	<ul style="list-style-type: none"> Discrepancies in this portion of the DEIS were corrected in the preparation of the FEIS.
		Page 4-3 through 4-12 (Environmental Justice) of the DEIS <ul style="list-style-type: none"> Difficult to compare impacts of each alternative due to data not summarized appropriately for each build alternative. Recommend reformatting section to include summary tables of impacts for each alternative not by segment. 	<ul style="list-style-type: none"> The Environmental Justice assessment was reformatted and simplified. A summary table of impacts was added to Chapter 4, Section 4.4.

Table 6-2. Summary of Comments Received Regarding DEIS (continued)

Agency	Date	Comment	Disposition
USEPA (continued)	2/25/05	<p>Page 4-18, Section 4.7 (Pedestrian and Bicyclists Considerations, 1st full paragraph) of the DEIS</p> <ul style="list-style-type: none"> Future sidewalks/bicycle portions of the proposed facility should be reflected as part of the typical section identified in Chapter 2. Context Sensitive Design (CSD) process should be completed prior to completion of the Final EIS and Record of Decision (ROD). 	<ul style="list-style-type: none"> As described in this chapter, the CSD process was completed prior to the completion of the FEIS. Based on recommendations from the CSD process and the City of Franklin's <i>2003 Bicycle and Pedestrian Plan Update (Draft)</i>, a multi-use path has been incorporated into the project design (as described in Chapter 2 and shown in the Selected Alternative's typical section, Figure 2-13).
		<p>Page 4-18, Section 4.8 (Air Quality Impacts) of the DEIS</p> <ul style="list-style-type: none"> No mention of current air quality status for Williamson County with regards to the one-hour and eight-hour ozone standard as well as the Early Action Compact (EAC). The FEIS should include discussion of how the preferred alternative will meet air quality conformity standards. 	<ul style="list-style-type: none"> Information on the area's air quality status was updated for the FEIS. The updated text includes information on Middle Tennessee's attainment status, its EAC and how the Selected Alternative meets air conformity standards.
		<ul style="list-style-type: none"> Emissions analysis should use USEPA's MOBILE 6 factor model. 	<ul style="list-style-type: none"> Since the proposed project, with no significant changes in concept and scope, is included in the Nashville Area Metropolitan Planning Organization's (MPO) <i>Long Range Transportation Plan (LRTP)</i> and also in the <i>Transportation Improvement Program (TIP)</i> for years 2008-2011, it is found to be in conformance to the <i>State Implementation Plan (SIP)</i> using USEPA's conformity rule as promulgated on November 24, 1993. MOBILE5b was the factor model in use at the time the study was conducted.
		<p>Page 4-25 and 4-26, Section 4.10.2 (Streams) of the DEIS</p> <ul style="list-style-type: none"> No mention in DEIS of existing water quality in study area in this section. 	<ul style="list-style-type: none"> Information on existing water quality was added to Chapter 3, section 3.4.3 of the FEIS.

Table 6-2. Summary of Comments Received Regarding DEIS (continued)

Agency	Date	Comment	Disposition
USEPA (continued)	2/25/05	<ul style="list-style-type: none"> No mention of proposed mitigation for impacts to jurisdictional waters in the DEIS. Concerned about further degradation of the water quality as a result of project implementation. Proper control of stormwater runoff will be critical. Effective compliance monitoring of all requirements specified in the permit is critical. TDOT should identify specific BMPs to be applied to attain reduction in sediment loads, including opportunities to expand riparian buffers adjacent to the Harpeth River and smaller tributaries to mitigate for water quality impacts. Recommend inclusion of the following requirements to address potential storm water impacts: more frequent inspections of erosion and sediment controls, condition and inspection of controls reported to Division of Water Pollution Control (DWPC) and storm water pollution prevention plan submitted to DWPC prior to disturbing soil at the site. All storm water runoff from the proposed roadway should be collected and treated prior to being discharged to surface waters. 	<ul style="list-style-type: none"> As previously stated, Chapter 4, Section 4.10.2 of the FEIS was updated to address these concerns.
		<p>Page 4-26, Section 4.10.3 (Groundwater Impacts) of the DEIS</p> <ul style="list-style-type: none"> The FEIS should identify specific measures and controls to prevent the contamination and/or collapse of sinkholes. Identification of recharge zone buffers around sinkholes to be used during selection of preferred alternative and the final road location. 	<ul style="list-style-type: none"> Chapter 4, Section 4.10.3 of the FEIS was updated to include additional information on groundwater impacts. Sinkholes will be addressed in the preliminary design phase by a team of engineers, surveyors and geologists. At that time, the Geotechnical Section of TDOT (or a designated consultant) will provide a full geotechnical investigation and report. More detailed site reconnaissance, along with subsurface drilling if warranted, will be conducted in the area of the sinkholes to ascertain the extent of the sinkhole problem and to develop remediation plans which may include excavation, filling with rock, bridging over or a combination of all of the above.

Table 6-2. Summary of Comments Received Regarding DEIS (continued)

Agency	Date	Comment	Disposition
USEPA (continued)	2/25/05	Page 4-27 and 4-28, Section 4.10.4 (Wetland Impacts) of the DEIS <ul style="list-style-type: none"> Text on page 4-27 of the DEIS does not match information shown in Figure 4-4 of the DEIS. Number of other features are identified on Figure 4-4 but not discussed in the text. “Field survey” methods used for wetland analysis not adequately explained in the DEIS. Need to provide information to support the conclusion that the areas adjacent to the alignments are “farm ponds.” 	<ul style="list-style-type: none"> The text and the figure were corrected and updated in the FEIS. Chapter 3, Section 3.4.3 of the FEIS was updated to include more information on the methodology used for the ecology studies. The full Ecology Reports are available for review at TDOT Environmental Division.
		Page 4-30, Section 4.10.6 (Floodplain Impacts) of the DEIS <ul style="list-style-type: none"> USEPA supports the use of bridging structures for Segment 16 and 18 to minimize impacts. 	<ul style="list-style-type: none"> The design of the Harpeth River crossings will be consistent with the CSD recommendations as outlined in Chapter 2 of this document. The two Harpeth River crossings will be spanned by two parallel bridge structures. These structures will be continuous from the eastern edge of floodway to the western edge of floodway, spanning both river crossings and the floodplains in between.

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Table 6-2. Summary of Comments Received Regarding DEIS (continued)

Agency	Date	Comment	Disposition
USEPA (continued)	2/25/05	<p>Page 4-42, Section 4.16, (Secondary and Cumulative Project Impacts) of the DEIS</p> <ul style="list-style-type: none"> Concerned about the secondary and cumulative impacts in the project study area. TDOT should consider additional mitigation measures to protect the Harpeth River watershed and the Harpeth River Historic District. USEPA will defer to the Tennessee State Historic Preservation Office (SHPO). Should consider some preservation actions, as well as access control options to save these resources. 	<ul style="list-style-type: none"> Close coordination with the SHPO through the CSD and Section 106 processes resulted in a Section 106 <i>Memorandum of Agreement (MOA)</i> and participation by the SHPO in development of the CSD <i>Consensus Memo</i>. Both documents contain measures to minimize and mitigate the project effects. In addition, the roadway will be access controlled through the District. At the southern boundary of the District, SR 397/Mack Hatcher will have an intersection with State Route (SR) 96. The only access point within the District will be at Del Rio Pike. No regulatory preservation actions were considered as this area is rapidly developing and is within the City of Franklin's Urban Growth Boundary (UGB). As previously stated, the Harpeth River, and its associated floodways, will be spanned by two parallel bridge structures in an effort to minimize impacts to this resource.
US Department of Transportation – Federal Aviation Administration (FAA)	2/16/05	<ul style="list-style-type: none"> Provided construction activities do not exceed 200 feet in height above ground level, there will be no impacts on FAA programs and no Notice of Proposed Construction will be required. 	<ul style="list-style-type: none"> Construction activities associated with the proposed project will not exceed 200 feet in height above ground level.
TVA	3/4/05	<p>Summary, page 3, Other Issues of the DEIS</p> <ul style="list-style-type: none"> Consider replacing text regarding TVA and Middle Tennessee Electric Corporation's (MTEMC) coordination with location of transmission line. 	<ul style="list-style-type: none"> It is no longer necessary to replace the document text as requested by TVA. All text concerning transmission line coordination has been removed from the FEIS since the transmission lines have since been constructed. Coordination in relation to the transmission lines is no longer a pertinent issue.
		<p>Summary, page 4, Permits of the DEIS</p> <ul style="list-style-type: none"> Remove following bullet: "A Section 26A Permit issued by the Tennessee Valley Authority." 	<ul style="list-style-type: none"> The bullet was removed.

Table 6-2. Summary of Comments Received Regarding DEIS (continued)

Agency	Date	Comment	Disposition
TVA (continued)	3/4/05	Section 2.5, Tennessee Valley Authority Coordination, page 2-27 of the DEIS <ul style="list-style-type: none"> Replace text regarding location of TVA transmission line and the proposed location of the transmission line. 	<ul style="list-style-type: none"> These changes are no longer necessary. Section 2.5 of the DEIS was removed in the FEIS since the transmission line coordination is no longer relevant (see above).
		Page 2-28 of the DEIS <ul style="list-style-type: none"> Delete table. 	<ul style="list-style-type: none"> The table has been deleted.
		Section 3.4.3, Threatened and Endangered Species, page 3-10 and Section 4.10.5, page 4-29 of the DEIS <ul style="list-style-type: none"> Change Egger's to Eggert's. Change Bendorica to Dendroica. Change Luteovinctum to luteovinctum. 	<ul style="list-style-type: none"> The requested changes were made.
State Agencies			
TDEC - Division of Natural Heritage	2/16/05	Section 3.4.3 of the DEIS <ul style="list-style-type: none"> A portion of the DEIS incorrectly said a records review returned 'no species of concern'. What parameters were used in TDOT review of records database? Is TDOT considering only federally listed species? Four state listed species are known to occur within a 2-mile radius of the Build Alternatives. TDEC encourages TDOT to choose alignment that will minimize impact to rare state listed species, should they be found in project area. 	<ul style="list-style-type: none"> This statement was corrected. Table 3-4 of the FEIS outlines the corrected and updated results of the records review. While no formal protection is available for state-listed species, efforts will be taken to minimize potential harm to these species. The structures crossing the Harpeth River will be continuous from the eastern edge of floodway to the western edge of floodway, spanning both river crossings and the floodplains in between. This structure, along with the use of a Sediment Control Plan and BMPs, will help minimize impacts to the aquatic habitat in the project area.

Table 6-2. Summary of Comments Received Regarding DEIS (continued)

Agency	Date	Comment	Disposition
TDEC - Division of Water Supply	1/31/05	Safe Dams Program: <ul style="list-style-type: none"> Sediment and erosion control measures should be incorporated. The owners of Walker Dam and Gentry Dam should be notified of any blasting to take place in and/or around their facilities. 	Safe Dams Program: <ul style="list-style-type: none"> As previously stated, this project will be constructed in accordance with TDOT's <i>Standard Specifications for Road and Bridge Construction</i>, and a <i>Sediment Control Plan</i> will be formulated. The owners of Walker Dam and Gentry Dam will be notified if any blasting is slated to take place in and/or around their facilities.
		Wellhead Protection Program: <ul style="list-style-type: none"> Proposed routes do not intersect any wellhead or source water protection areas. 	Wellhead Protection Program: <ul style="list-style-type: none"> No response necessary.
		Water Well Program: <ul style="list-style-type: none"> Private water wells may be located along the proposed route. There are several springs in the area that may be used as private water supplies. All water wells that are encountered should be plugged and abandoned by a licensed well contractor. 	Water Well Program: <ul style="list-style-type: none"> Wells will be addressed further in the preliminary design phase by a team of engineers, surveyors and geologists. All water wells that are encountered will be plugged and abandoned by a licensed well contractor.
		Additional Comments: <ul style="list-style-type: none"> Found no comments on construction and drainage around/through sinkholes. Will need letter of authorization from Underground Injection Control Program (Groundwater Management Section) to modify any found sinkholes. TDEC Division of Water Supply requirements for erosion control in the vicinity of sinkholes will need to be followed. If any businesses along the route are being relocated or are connecting to the system that are currently using a Subsurface Fluid Disposal System, then they should be properly plugged and abandoned. 	Additional Comments: <ul style="list-style-type: none"> Chapter 4, Section 4.10.3 was updated to include additional information on groundwater impacts. Sinkholes will be addressed in the preliminary design phase by a team of engineers, surveyors and geologists. Should sinkholes need to be modified during the construction of the proposed project, a letter of authorization will need to be obtained from the Underground Injection Control Program in TDEC's Groundwater Management Section. TDEC's Division of Water Supply's requirements for erosion control will be followed if sinkholes are identified in the vicinity of the alignment. No businesses are being relocated as a result of the proposed project.

Table 6-2. Summary of Comments Received Regarding DEIS (continued)

Agency	Date	Comment	Disposition
TDEC - Division of Solid Waste Management	1/19/05	<ul style="list-style-type: none"> No concerns 	<ul style="list-style-type: none"> No response necessary.
Tennessee Wildlife Resources Agency (TWRA)	10/28/05	<ul style="list-style-type: none"> Prefer that Alternative Alignment G be selected if the proposal includes an elevated roadway to traverse the Harpeth River 100-year floodplain and bridges that span the Harpeth River. 	<ul style="list-style-type: none"> TDOT has chosen Build Alternative G as the Selected Alternative. The Harpeth River will be spanned by two parallel bridge structures. These structures will be continuous from the eastern edge of floodway to the western edge of floodway, spanning both river crossings and the floodplains in between.
		<ul style="list-style-type: none"> Encourage consultation with the agency as the project continues to move forward to reduce potential impacts. 	<ul style="list-style-type: none"> Coordination with TWRA has occurred throughout the National Environmental Policy Act (NEPA) process, and it will continue in future phases of project development.
TDEC - Division of Air Pollution Control	9/2/05	<ul style="list-style-type: none"> The requirements of 1200-3-34 are met. 	<ul style="list-style-type: none"> No response necessary.
		<ul style="list-style-type: none"> Concerns about the control of fugitive dust and equipment exhaust emissions during construction phase. 	<ul style="list-style-type: none"> The emission of air pollutants will be reduced by the use of properly maintained equipment and the use of tarp covers on trucks transporting refuse and construction waste products.
		<ul style="list-style-type: none"> Want assurance that any structures requiring demolition are asbestos free. 	<ul style="list-style-type: none"> Prior to the demolition of any structure during the course of construction, an inspection for asbestos will take place. Should asbestos be present in the structure, TDEC Division of Air Pollution Control will be notified 10 days prior to its removal.

Table 6-2. Summary of Comments Received Regarding DEIS (continued)

Agency	Date	Comment	Disposition
Local Government			
City of Franklin	2/9/05	<ul style="list-style-type: none"> The City of Franklin submitted a letter, containing a series of requests, which included issues pertaining to their desired Build Alternative, the CSD process, the roadway design and funding issues (among other things). 	<ul style="list-style-type: none"> In a letter dated February 18, 2005, TDOT responded to the City of Franklin's letter. A meeting was scheduled to discuss the City's requests, and the City's preferred route was chosen as the Selected Alternative. The City of Franklin played an active role in the CSD process. Coordination with the City of Franklin has taken place throughout the project development process, and TDOT will continue to work with the City on the development of the project.
Other			
Harpeth River Watershed Association	2/17/05	TVA line and Riparian Buffer <ul style="list-style-type: none"> The final alignment will need to consider where the TVA line crossings of the Harpeth River are located and how to rebuild as much of the 100-foot forested buffer along the mainstream of the Harpeth as possible. 	TVA line and Riparian Buffer <ul style="list-style-type: none"> The Selected Alternative is designed to cross the Harpeth River in the locations that were decided upon based on coordination with local government, state and federal agencies, and a lengthy public involvement process. Many potential alignments were considered over the course of the planning and NEPA process. The Harpeth River crossings will be built in a way that is consistent with the CSD recommendations. This will help to reduce impacts on the Harpeth River, its streambanks and its floodplains.
		Section 4.10.2 of the DEIS <ul style="list-style-type: none"> Reassess the statement "impacts are considered to be minimal due to the moderately poor quality of the streams in the study area". 	<ul style="list-style-type: none"> As detailed in Chapter 4, Section 4.10.2 of the FEIS, impacts to water quality will be minimized though the use of TDOT's <i>Standard Specifications for Road and Bridge Construction</i> and the implementation of BMPs. Additionally, the Harpeth River crossings will be built in a way that reduces impacts on the Harpeth River. Additional information on the water quality of the streams in the study area was added to Chapter 3, Section 3.4.3 of the FEIS.

Table 6-2. Summary of Comments Received Regarding DEIS (continued)

Agency	Date	Comment	Disposition
Harpeth River Watershed Association (continued)	2/17/08	<p>Road Design to address stormwater, stream crossings and floodplain encroachments</p> <ul style="list-style-type: none"> Road will need to be designed to address stormwater runoff, stream crossings and the bridging of the mainstream and its floodplain, with minimization of water quality impacts as the express purpose. Stream crossings need to avoid altering the stream flow conditions that cause erosion downstream, and maintain a 100-foot stream buffer as much as possible. 	<p>Road Design to address stormwater, stream crossings and floodplain encroachments</p> <ul style="list-style-type: none"> As previously stated, this project will be constructed in accordance with TDOT's <i>Standard Specifications for Road and Bridge Construction</i>, and a <i>Sediment Control Plan</i> will be formulated. BMPs will be stringently implemented throughout the construction period to prevent soils, oils or other project-related pollutants from entering streams within the project area. The design of the Harpeth River crossings will be consistent with the CSD recommendations as outlined in Chapter 2 of this document. The Harpeth River, and its associated floodplains, will be spanned by two parallel bridge structures that are continuous from the eastern edge of floodway to the western edge of floodway.

Table 6-2. Summary of Comments Received Regarding DEIS (continued)

Agency	Date	Comment	Disposition
Harpeth River Watershed Association (continued)	2/17/05	<p>Crossing the Main Harpeth</p> <ul style="list-style-type: none"> • DEIS does not contain information on the type and extent of the bridging structures across the Harpeth River. • Discrepancy to find the cost information from the hand out at the public meeting in the DEIS. • DEIS does not mention the use of the Harpeth River for recreational purposes. 	<p>Crossing the Main Harpeth</p> <ul style="list-style-type: none"> • As previously stated, the Harpeth River, and its associated floodplains, will be spanned by two parallel bridge structures. • New costs were developed for the Selected Alternative in 2007 during the CSD process. These costs, which are based on the TDOT planning level cost estimate spreadsheet, are presented in Chapter 2, Table 2-4. The Selected Alternative cost presented in Chapter 4, Table 4-17, differs from the cost shown in Table 2-4 because the costs in Table 4-17 are in 2005 dollars. This was done so that the cost of Selected Alternative can be compared to the cost of the other DEIS Build Alternatives. The 2005 costs for the Selected Alternative in Table 4-17 do not include the CSD design elements that are incorporated into the cost presented in Table 2-4. Text has been added to the table and the text to clarify this fact. • Chapter 3, Section 3.7 and Chapter 4, Section 4.12 have been updated to address how the Harpeth River is used as a recreational resource. The project will be designed to accommodate the river's use as a recreational resource.

6.2.3 DEIS Public Meeting

On the evening of July 31, 2001, an informal open house public meeting was held at the Franklin High School in Williamson County. Representatives of TDOT and TDOT’s environmental consultants were present during the scheduled two hours to answer questions regarding the proposed project.

The public meeting attendance record shows 156 people signed-in at the meeting. Of the 156 attendees, 26 attendees provided comments to the court reporter and 107 attendees mailed comment cards to TDOT. A summary of the public comments follows.

Project Support

The comment card question “Do you support this project?” implies support for the overall concept of the extension of SR 397/Mack Hatcher Parkway. The answers to this question were grouped into five categories. The results are listed by popularity of response.

NO – Oppose the project	48
YES – Support the project	40
NO RESPONSE	11
CONDITIONAL SUPPORT	4
NOT SURE	4

Segment Preferences

Attendees were given a handout, which included a map of the segments under consideration at that time. The map is shown in Figure 6-1, and the segments are described in detail in Chapter 2, Section 2.4.2. The comment card asked attendees to indicate their preferred segment. For those that responded to this question, the following results were tallied in order of preference (some individuals chose multiple segments):

Segment 8	37
No Preference	30
Segment 7	21
Segment 1	18
Segment 4	14
Segment 6	8
Segment 2	6
Segment 5	1
Segment 3	0

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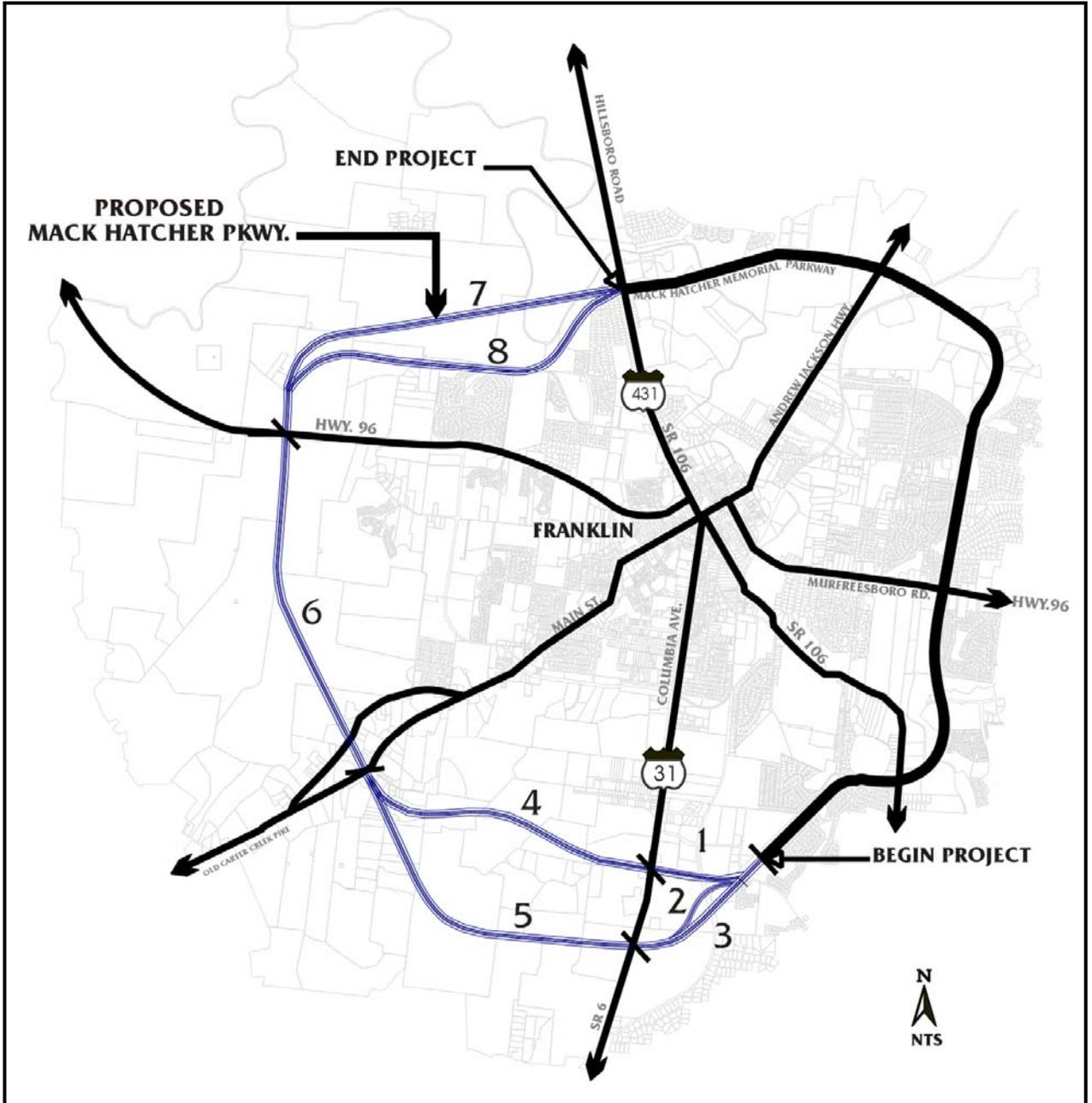


Figure 6-1. Segments Presented in the DEIS Public Meeting

Segment Opposition

For those who opposed a segment as part of the general comments section, the following results were tallied, listed in order of objection to segment(s); keeping in mind that, again, some individuals chose multiple segments:

No Specific Segment Opposition.....	80
Oppose Segment 8	11
Oppose Segment 7	9
Oppose Segment 3	7
Oppose Segment 1	2
Oppose Segment 2	2
Oppose Segment 5	2
Oppose Segment 4	1
Oppose Segment 6	0

General Consensus

Overall, most of the area citizens recognize the need for this project. The greatest controversy surrounds Segments 7 and 8. Concern was expressed over homes being taken, particularly homes that are a part of the newer subdivisions; most of which have much higher-than-average appraised value. Some claim that housing values are already being adversely affected by the proposed project.

Quality of life issues were expressed by those residing in the homes that will remain. Noise pollution is a concern, as is the future safety of children in the area. Some question the validity of the project at all, while others are understandably frustrated at the prospect of losing homes they have been in for over 30 years. Those in and around the Motor Roll Mobile Home Park are doubtful they can find comparable housing should they be displaced.

Not all concerns are about personal property. Unrestricted growth and the continued decline of Franklin's character as a small, southern town are also major considerations. Some individuals are calling for the preservation and inclusion of greenways, while others feel that waterways and historical resources may be in jeopardy if certain segments are completed as planned. Others objected to the roadway potentially bisecting a Century Farm in the area. (A Century Farm is a farm that has been in operation for over a hundred years and has been recognized by the state for its significance to the community.)

Finally, much confusion was expressed as to why TDOT seemed unaware of the passing of Approved Realignment, Segment 7 and 8, by Mayor Sharber and the Franklin Board of Aldermen, and the Rebel Meadows Neighborhood Association.

6.2.4 DEIS Public Hearing

The objective of the two NEPA public hearings held for the proposed project was to gather public comments on the proposed alignments and the DEIS prepared for the subject project. The public hearings were held on January 18 and January 20, 2005 at the Liberty Elementary School. Both meetings began at 6:00 p.m. and ended at 8:00 p.m. TDOT staff and their consultant staff team were on hand at the hearing prior to the formal presentation to informally discuss the project with the general public.

All those in attendance received instructions on the four ways to submit comments:

1. Talk with a court reporter;
2. Supply verbal comments during the hearing;
3. Submit written comments the night of the meeting; and
4. Submit a mail-in letter or comment card any time prior to February 17, 2005.

The public was informed that comments about the DEIS would be received until February 17, 2005. All comments and suggestions received prior to the cut-off date would be considered in the development of the Selected Alternative.

The two public hearings had a combined attendance of approximately 430 people. Six Build Alternatives and one No Build Alternative were presented at the hearings. Over the two nights of the scheduled hearings, 93 attendees either provided comments to the court reporter or provided written statements through comment forms available at the hearing. A total of 292 written comments were submitted during the open suggestion and comment period.

During the public hearings, the public was asked to identify their Preferred Alternative. The results are shown in Table 6-3.

Table 6-3. Preferred Alternative for Public Hearing Participants

	Alternatives					
	A	B	C	D	E	F
Number of Times Selected *	79	85	90	39	43	50

*Some responders chose more than one alternative.

Key issues identified include:

- Reduced property values;
- Noise impacts;
- Impacts on the existing neighborhoods;
- Design issues (design speed, at-grade interchange at the intersection of SR 96 and SR 397/Mack Hatcher Parkway and roundabout at SR 96);
- Impacts to farmland/open space;
- Time constraints (too much time being taken, projected timeline is too long and too many decisions to choose from);
- Continued coordination with TVA and TDOT;
- Landscaping;
- Impacts to Rebel Meadows and other environmental impacts (air/pollution, historic resources);
- Impacts to Harpeth River; and
- Pedestrian and bicycle considerations.

Immediately following the public hearing, the Board of Mayor and Aldermen of the City of Franklin passed a resolution outlining five issues that the City wanted to have addressed as a part of their review of the DEIS, including a request that TDOT give full consideration to incorporating Segment 17 into the evaluation of Alternatives. Segment 17 had been developed early in the planning process, but was eliminated from further consideration because of impacts to Rebel Meadows and the Harpeth River Historic District.

Since Segment 17 had not been fully developed and evaluated to the same level of environmental analysis as the other alternatives carried forward as DEIS Build Alternatives, TDOT prepared a Supplemental Draft Environmental Impact Statement (SDEIS). In it, Segment 17 was added to Segments 1, 9, 11 and 13 from the DEIS to form Alternative G.

6.3 SDEIS Coordination

6.3.1 Cooperating Agency Coordination

Copies of the SDEIS were sent to the USACE and the TVA as cooperating agencies. Their respective comments were received in letters dated September 23 and October 21, 2005. Their comments are outlined and addressed in Table 6-4.

6.3.2 Other Agency Coordination

Table 6-4 outlines the agencies that received the SDEIS, summarizes their comments, and provides a comment disposition.

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Table 6-4. Summary of Comments Received on SDEIS

Agency	Date	Comment	Disposition
Federal Agencies			
TVA	10/31/05	<ul style="list-style-type: none"> No comment 	<ul style="list-style-type: none"> N/A
USACE - Nashville District	9/23/05	<ul style="list-style-type: none"> DOA permit for any discharge of fill material into jurisdictional water, including wetlands, pursuant to Section 404 of the Clean Water Act would be required. 	<ul style="list-style-type: none"> This permit is included in Chapter 4, Section 4.20 of the FEIS, which lists permits required. All necessary permits will be obtained prior to construction of the proposed project.
US Department of the Interior (DOI)- Fish and Wildlife Service	9/7/05	<ul style="list-style-type: none"> The SDEIS is accurate and adequate in regard to the description of fish and wildlife resources in the project area and potential impacts to these resources. Impacts to fish and wildlife would be temporary and minor. No federally endangered or threatened species occur in project area. Preferred alignment should follow as much existing road as possible. 	<ul style="list-style-type: none"> No response necessary.
			<ul style="list-style-type: none"> There are no existing roads in the project area that the Selected Alternative can follow. The existing roads are primarily through heavily developed areas and, combining existing roads to create a western parkway loop would have both major environmental impacts and would provide a roadway with substandard alignment and travel speeds because the roads in the study area are circuitous and disconnected. The option of improving the existing roadways to meet the project purpose and need was eliminated from further consideration because of the potential magnitude of adverse impacts to the community.

Table 6-4. Summary of Comments Received on SDEIS (continued)

Agency	Date	Comment	Disposition
State Agencies			
TDEC - Division of Solid Waste Management	9/26/05	<ul style="list-style-type: none"> Area along segment 9 identified as "high" risk area is a non-permitted waste disposal site that was used by the City of Franklin. Although they are unaware of any adverse environmental impacts from any sites in the region, they recommend evaluation of the site as part of the project. TDOT can work with the Division of Solid Waste Management to make an assessment of the site, or TDOT can assess the site on its own and then seek the Division's concurrence. 	<ul style="list-style-type: none"> The site of this former landfill is located along the Selected Alternative's alignment. In December 2008, a <i>Phase II Site Investigation</i> was conducted. It found that the environmental conditions at the site have a low probability of impacting the proposed project. TDOT will seek TDEC concurrence during the design and permitting process.
TDEC - Division of Ground Water Protection	9/8/05	<ul style="list-style-type: none"> Likely that the project may impact existing subsurface sewage disposal systems that are located along the route. 	<ul style="list-style-type: none"> Subsurface sewage disposal systems will be identified and addressed in the preliminary design phase by a team of surveyors and engineers.
TDEC - Environmental Policy Office	8/31/05	<ul style="list-style-type: none"> Department will review the document and comment as appropriate. 	<ul style="list-style-type: none"> No comments have been received.
Local Agencies			
Greater Nashville Regional Council	9/22/05	<ul style="list-style-type: none"> No conflict with existing or proposed planning activities and the proposal is deemed acceptable based on the information available at this time. May wish to comment at a later time. 	<ul style="list-style-type: none"> No additional comments have been received.

6.3.3 SDEIS Public Meeting

The purpose of the SDEIS public meeting was to receive public comments on the addition of Alternative G as a feasible build alternative to be considered for the SR 397/Mack Hatcher Parkway extension. The SDEIS was prepared to document the specific location, design, socioeconomic effects and environmental impacts associated with Alternative G.

The public meeting was held on July 7, 2005 at the Centennial High School in Franklin. The meeting began at 6:00 p.m. and ended at 8:00 p.m. TDOT staff and their consultant staff team were on hand at the meeting prior to the formal proceedings to informally discuss the project with the general public.

Those in attendance received instructions on the four ways to submit their comments. The public could:

- Talk with a court reporter;
- Supply verbal comments during the hearing;
- Submit written comments the night of the meeting; and
- Submit a mail-in letter any time prior to July 21, 2005.

All comments and suggestions received prior to the cut-off date (July 21, 2005) would be considered in the development of the Selected Alternative.

Approximately 104 people attended the public meeting. A total of 29 individuals provided comments or statements while at the public meeting. Approximately 40 written comments were received before the closing date of October 31, 2005. Exhibits and functional design plans were on display during the public meeting. Following introductory remarks, an oral presentation was conducted, which summarized the need for the project and provided a general overview of Alternative G. Comments and questions followed the presentation.

Specific questions and comments raised during the public meeting were answered at the meeting or during informal discussions before and after the public meeting.

Table 6-5 summarizes the public support expressed for the various Build Alternatives during the public meeting and the subsequent comment period.

Table 6-5. Build Alternatives Selected

	Alternatives						
	A	B	C	D	E	F	G
Number of Times Selected *	3	14	17	16	5	16	5

*Some responders chose more than one alternative.

Key issues identified include:

- Noise impacts (noise barriers and buffering neighborhoods);
- Design issues (design speed, roundabout at intersection with SR 96 and closure of SR 246/Old Carter Creek Pike);
- Impact and access to Rebel Meadows;
- Impacts to farmland;
- Continued coordination with TVA and TDOT;
- Request Use of Context Sensitive Solutions/Context Sensitive Design; and
- Flooding in neighborhoods.

In December 2005, after considering all public and agency comments, TDOT announced Alternative G as the Selected Alternative for the proposed project. Alternative G was selected for the following reasons:

- It is preferred by the City of Franklin. In February of 2005, the Board of Mayor and Aldermen issued a resolution identifying this alternative as their preferred route;
- It reflected the best compromise when coordinated with the TVA's Aspen Grove Transmission Line, Southern Alternative (under construction in 2005 and completed today);
- The SHPO concurred that it provides the fewest impacts to the Harpeth River Historic District and the Winstead Hill/Harrison House Historic District;
- It avoids bisecting the Westhaven Town Center (under construction in 2005); and
- It costs less than other alternatives (it was close in cost to Alternative C, but that original cost estimate would have increased because of impacts to Westhaven).

In December of 2005, TDOT also announced its intention to utilize the CSD process to develop the design of the Selected Alternative. TDOT began the CSD process in March 2006.

6.4 Context Sensitive Design Process

CSD is an interdisciplinary approach to transportation planning that merges design requirements with the surrounding community's preferences in a way that is sensitive to the surrounding natural, social and built environment. TDOT uses the CSD process to plan, design, construct and maintain its transportation system to achieve its transportation, community and environmental goals. CSD balances safety and mobility with the preservation of scenic, aesthetic, historic, environmental and community values.

A Citizen Design Team (CDT) was created to provide local perspective on the community's character. CDT members were nominated by the City of Franklin to represent the community. An Agency Resource Team (ART) was also created, and it consisted of individuals from key agencies. ART members facilitated the sharing of information and provided technical expertise. Throughout the design process, the CDT, ART, TDOT and the City of Franklin (and any other individual stakeholders and agencies affected by the project) continuously met in Resource Team Meetings to discuss the project.

The Resource Team Meetings took place on the following dates:

- March 2, 2006 – CDT Team Kickoff Meeting
- March 21, 2006 – Mobile Workshop
- April 6, 2006 – CDT / ART Team Meeting
- April 18, 2006 – CDT / ART Team Meeting
- May 10, 2006 – CDT / ART Team Meeting
- May 30, 2006 – CDT / ART Team Meeting
- June 13, 2006 – CDT / ART Team Meeting
- June 27, 2006 – CDT / ART Team Meeting
- July 25, 2006 – CDT / ART Team Meeting
- August 31, 2006 – CDT / ART Team Meeting
- September 12, 2006 – CDT / ART Team Meeting
- September 27, 2006 – CDT / ART Team Meeting
- November 6, 2006 – CDT / ART Team Meeting
- November 27, 2006 – CDT / ART Team Meeting
- December 7, 2006 – CDT / ART Team Meeting

Two public meetings were held during the CSD process to present the project to the community and receive feedback on the proposed project. With guidance from TDOT, the CDT hosted the two meetings. Simulations, photos, computer renderings and other graphic tools were utilized in the public meeting process to help the community visualize the before and after simulation of the proposed project.

The first meeting took place October 19, 2006 at Freedom Middle School from 6:00 p.m. to 8:00 p.m., with approximately 140 individuals in attendance. Members of the CDT, TDOT and the consulting team were present to answer any questions. A court reporter was provided for those who wished to make an official statement about the project.

The second meeting took place on January 25, 2007 at Freedom Middle School from 6:30 p.m. to 8:30 p.m., with approximately 100 individuals in attendance. This meeting presented the final CSD concepts for the proposed project. The meeting consisted of a PowerPoint presentation with changes since the previous CSD meeting (October 19, 2006) and a question and answer session.

After the last Resource Team Meeting (December 7, 2006), a *Consensus Memo* was created to document the list of consensus decisions between the CDT and the ART. Figure 6-2 is taken directly from the *Consensus Memo* and outlines the list of CSD recommendations. TDOT approved all CSD recommendations on April 10, 2007. These recommendations have been incorporated into the Selected Alternative's design, and will be fully evaluated for feasibility during the project design phase.

As described in Chapter 2, the proposed typical sections for the Selected Alternative were developed through the CSD process to fit into the context of the various segments of the project. The entire project consists of a four-lane roadway with a raised grass median and a multi-use path.

Two urban sections of roadway are proposed. Reduced from the section proposed in the DEIS and SDEIS to lower speed through these areas, the urban sections include: 1) the segment of the roadway on the south end of the project from SR 106/Columbia Pike north to Davidson Drive (past Carters Creek); 2) the roadway segment from the east end of the Harpeth River crossings eastward to SR 106/Hillsboro Road; and 3) approaches to intersections. These segments will feature an urban curb-and-gutter section built within a minimum right-of-way (ROW) of approximately 133 feet (refer to Figure 2-13).

A rural section is proposed for the majority of the roadway in the middle of the project, between Davidson Drive and the west end of the Harpeth River Bridge crossings. It features inside curbs and outside stabilized grass shoulders within a maximum ROW of approximately 250 feet (refer to Figure 2-14). Segment 17 within the Harpeth River Historic District (from SR 96 to west of the Harpeth River crossings) will feature this typical section, which is intended to minimize visual impacts in the historic area. Urban, curbed sections will be utilized near the intersections along the corridor in the rural section, such as at the Del Rio Pike and SR 96 traffic circles.

Lastly, through the CSD process, it was also determined that two parallel bridge structures would be continuous from the eastern edge of the floodway to the western end of the floodway, spanning both the floodway and the two Harpeth River crossings. This segment of the project consists of two, two-lane bridges, shoulders and a bike and pedestrian path, within a minimum ROW of approximately 133 feet.

Figure 6-2. CSD Consensus Memo taken Directly from the CSD Report



5.1 :: consensus memo

The following is a list of consensus decisions reached by the CDT / ART in the Mack Hatcher Parkway CSD process:

- **DESIGNATION AND DESCRIPTION OF THE FOUR CHARACTER SEGMENTS:**
Existing Corridor, Southall Hills, West Harpeth, and Harpeth River Crossings. This description includes the beginning and ending limits and the title of each character segment (see Final Report, Figure 2-A)
- **THE FINAL VISION STATEMENT:**
“The Citizen Design Team will recommend Mack Hatcher Parkway solutions that strive to preserve and enhance not only safety and mobility, but also the natural and historic character, community, and environmental assets that contribute to Franklin’s quality of life. The recommended design elements will utilize an appropriate sense of scale; provide for an enjoyable experience for MHP users; be harmonious with the contextual surroundings; and be scenic, efficient, unique, and a source of pride for the community for many years.”
- **OPPORTUNITIES AND CONSTRAINTS FOR EACH CHARACTER SEGMENT**
For more information, see Final Report, Chapter 2
- **FIVE GOALS LISTED BELOW, EACH WITH RESPECTIVE OBJECTIVES FOR EACH CHARACTER SEGMENT:**
 - To be environmentally sensitive to the native landscape of Franklin, and employ solutions compatible with known ecological systems
 - Provide adequate capacity for safe and improved mobility throughout the corridor for multiple modes of transportation, while considering access management
 - Maintain and enhance Franklin’s cultural heritage
 - Contribute to the community’s greater “Sense of Place” with a strong identity that is consistent with Franklin, Tennessee
 - Respect and integrate into land use patterns / community fabric, while facilitating appropriate future uses
 - See Final Report, Chapter 2, for a complete list of objectives
- **CONTEXTUAL UNDERSTANDING REPORT**
See Final Report, Appendix for more information
- **FACILITY TYPE:**
MHP will be a 4-lane, limited access facility for its full alignment

Figure 6-2. CSD Consensus Memo taken Directly from the CSD Report (continued)

- **ACCESS POINTS:**
 - Those access points defined in the Draft Environmental Impact Statement (DEIS) were the only ones to be considered in the CSD process
 - The group decided that future analysis of additional access points would be recommended between Highway 96 West and Carters Creek Pike and in the Hillview Lane area
 - The defined access points were as follows: Hillsboro Road, Spencer Creek Road, Franklin Road, Cool Springs Boulevard, Liberty Pike, Highway 96 East, Royal Oaks Boulevard, Lewisburg Pike, Polk Place, Southeast Parkway, Columbia Avenue, Carters Creek Pike, Highway 96 West, and Del Rio Pike
- **CROSS SECTION CONSENSUS:**
 - Existing Segment – curb and gutter with the consideration of additional landscaping in the buffer area where feasible
 - Southall Hills – since no survey has been conducted, MHP should be minimally invasive by maintaining as tight a cross section as possible
 - West Harpeth – narrow road with curb and gutter, and to slide the alignment as far away from existing neighborhoods as possible
After revisiting the cross section type for this character segment, the CDT decided that a grass shoulder from Highway 96 West to the Harpeth River bridges would be a better fit for the historic context in this area and was recommended
 - Harpeth River Crossings – match the improved existing corridor, which is proposed curb and gutter, with a raised median
- **BICYCLE / PEDESTRIAN FACILITIES (MULTI-USE PATH) CONSENSUS:**
 - Existing Corridor – multi-use path with the understanding that there may be instances when it is not feasible and bikes and pedestrians will need to be accommodated by bike lanes and sidewalks
 - Hillview Lane – the multi-use path will be on the outside of the roadway, but should cross back over to the inside of MHP at the closest intersection.
 - Southall Hills – multi-use path
 - West Harpeth – multi-use path
 - Harpeth River Crossings: Hillsboro Road to Spencer Creek Road – multi-use path
There was also consensus that the section from Hillsboro Road through both river crossings should have a multi-use path on the eastbound bridge and a sidewalk on the westbound bridge. The section from the end of the bridges to Del Rio Pike should be multi-use path only to match the West Harpeth character segment
 - Sidewalks are only to be used on the bridges or in those areas where multi-use paths are not feasible

Figure 6-2. CSD Consensus Memo taken Directly from the CSD Report (continued)

• INTERSECTION TYPES CONSENSUS:

Based on projected traffic volumes and an attempt to balance local priorities, MHP will have a mix of at grade signalized intersections and roundabouts:

- *Hillsboro Road – signalized intersection*
- *Spencer Creek Road – roundabout at this intersection*
- *Franklin Road – While the initial consensus was for a signalized intersection with further analysis of grade separation with Franklin Road passing over MHP, after further consideration, the group consensus was to recommend a Single Point Urban Interchange (SPUI) at this intersection.*
- *Cool Springs Boulevard – signalized intersection with only 3 legs*
- *Liberty Pike – signalized intersection*
- *Highway 96 East – signalized intersection*
- *Royal Oaks Boulevard – signalized intersection*
- *Lewisburg Pike – signalized intersection*
- *Polk Place – stop controlled*
- *Southeast Parkway – signalized intersection*
- *Columbia Avenue – signalized intersection with existing Hillview Lane operating as a multi-use path*
- *Carters Creek Pike – five-leg roundabout at this intersection, pending the topographic findings in this area once the survey is completed for design purposes*
- *Highway 96 West – roundabout with the understanding that based on projected traffic volumes, the intersection is likely to operate at a Level of Service "F" by the year 2030*
- *Del Rio Pike – roundabout at this intersection*

• ADDITIONAL ACCESS POINTS AND CROSSINGS:

Any additional access points to the MHP facility should be located to serve the transportation needs of the residents and development in the community and be consistent with the State and City of Franklin's Major Thoroughfare Plans. The group recommended consideration of additional access points not previously identified in the DEIS, at the following locations:

Figure 6-2. CSD Consensus Memo taken Directly from the CSD Report (continued)

- *Between Highway 96 West and Carters Creek Pike*
- *Hillview Lane Area*

- **MHP CROSSINGS:**
 - Lula Lane and Old Charlotte Pike should remain functional, consistent with the City's MTP, and continue to be accessible to residents while addressing each crossing in the following order of preference:
 1. *Cul-de-sac each end of Old Charlotte Pike at the intersection of MHP*
 2. *Lula Lane or Old Charlotte Pike could go under MHP*
 3. *Lula Lane or Old Charlotte Pike could go over MHP*

- **BRIDGE TYPES:**
 - Two parallel bridge structures that are continuous over both river crossings
 - Steel Girder – Both bridge structures are to be steel structures with a single column pier whenever possible; concrete girder sections could be utilized between the river crossings if necessary but should be designed to be consistent in appearance with the steel girder sections
 - When bridge width requires multiple column piers, they should be designed to be consistent in appearance with the single column piers*
 - The typical section of the west bound bridge should include a sidewalk and the east bound bridge should include a multi-use path

- **LANDSCAPE TREATMENT:**
 - The group consensus was to accept the landscape recommendations for each character segment as presented in Final Report, Section 3.6
 - The CDT also reached consensus to recommend the consideration of additional landscape buffering and noise walls where deemed appropriate by TDOT during design; if noise walls are required, they should be of an aesthetic design type

Through the CSD process, the grade-separated interchanges considered in the DEIS and SEIS have been eliminated and replaced by at-grade intersections at SR 6/Columbia Pike and SR 106/Hillsboro Road (US 431) and, by double-lane roundabouts at SR 246/Carters Creek Pike, SR 96 West and Del Rio Pike. The CSD consensus memo also recommended the consideration of an additional access points between SR 96 and Carters Creek Pike and in the Hillview Lane area. Since the CSD process concluded, an access point at Townsend Boulevard was added to the project design. Townsend Boulevard is a roadway planned for construction that is located approximately 1,300 feet south of SR 96 West. It will travel east from the Westhaven development across SR 397/Mack Hatcher Boulevard.

6.5 2008 Coordination for Alignment Shift at Westhaven/Franklin Green

As discussed in Chapter 2 of this document, the Selected Alternative's alignment was shifted approximately 130 feet east in the vicinity of Westhaven and Franklin Green in 2008. This shift was coordinated with the public as an agenda item at two Special Work Sessions of the Franklin Board of Mayor and Aldermen on August 12, 2008 and August 26, 2008. The agendas for the two meetings were advertised in *The Herald* newspaper, on the City of Franklin's website and on the City of Franklin's cable station. The City also notified the Homeowners Associations (HOA) for the Franklin Green, Willowsprings and Westhaven subdivisions by email.

Representatives of the Franklin Green HOA were present at both meetings. After the August 12 Franklin Board of Mayor and Aldermen Work Session, representatives of the City of Franklin and its consultant met with three Franklin Green residents to review the proposed alignment shift because several questions were still unanswered. The City also met with a representative of the Franklin Green HOA in a meeting on August 25, 2008 and with representatives of Westhaven and the Franklin Green HOA in a meeting on September 8, 2008.

The Franklin Green HOA representatives were primarily concerned with the loss of a buffer between the proposed roadway and the Franklin Green Subdivision. The City explained that, although the ROW shifts closer to Franklin Green at the Nolen Avenue cul-de-sac, the roadway does not. The roadway shifts closer to Franklin Green south of the Nolen Avenue cul-de-sac, where there remains a considerable buffer between the roadway and the Franklin Green subdivision (see Figure 2-13, page 2-27)

The alignment shift of the Selected Alternative was unanimously approved by the Board of Mayor and Aldermen on September 9, 2008.

6.6 FEIS Coordination

This FEIS will be circulated to NEPA cooperating agencies and parties that provided substantive comments on the DEIS or SDEIS. The DOI will also receive a copy of the FEIS.

7.0 List of Preparers

This document was prepared by the Tennessee Department of Transportation (TDOT) for the Federal Highway Administration (FHWA) under a consultant agreement with Gresham, Smith and Partners. The following individuals contributed to the preparation of the Draft Environmental Impact Statement (DEIS), the Supplemental Draft Environmental Impact Statement (SDEIS) and the Final Environmental Impact Statement (FEIS).

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Tennessee Department of Transportation

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8.0 Selected Sources

City of Franklin

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- 2003 *City of Franklin's Long Range Bicycle Facilities Plan.*
- 2004 *Franklin, Tennessee Land Use Plan.*
- 2004 *Final Report, City of Franklin Major Thoroughfare Plan Update.*
- 2004 *Central Franklin Area Plan.*
- 2003 *City of Franklin 2003 Bicycle and Pedestrian Plan Update.*
- 2006 *Franklin Land Use Inventory 2006 Development Report.*
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- 2009 *Phase II Site Investigation Report, State Route 397/Mack Hatcher Parkway West Property Adjacent to Former City of Franklin Dump, Franklin, Williamson County, Tennessee.*

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- 2007 *Memorandum on Existing Water Quality.* Prepared by Keith Barnhill, November 9, 2007.

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The Technology Group

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Thomason and Associates – Preservation Planners

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- 2007 *US Census Bureau Population Estimates.*

Wilbur Smith Associates

- 2008 *Phase 1 Archaeological Survey of a Portion of State Route 397 (Mack Hatcher Parkway Extension), Williamson County, Tennessee.*
- 2008 *Mack Hatcher Parkway – Northwest, Southern Extension from Highway 96 West, Noise Analysis Technical Memorandum*

Williamson County

- 1988 *Williamson County Zoning Ordinance.*
- 1988 *Williamson County Tennessee Comprehensive Plan Update.*
- 1996 *Williamson County Major Thoroughfare Plan Update.*
- 2001 *Major Thoroughfare/Bikeway Plan.*
- 2007 *Williamson County Comprehensive Land Use Plan.*

APPENDIX A

Initial Coordination



TENNESSEE HISTORICAL COMMISSION
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
2941 LEBANON ROAD
NASHVILLE, TN 37243-0442
(615) 532-1550

*rec'd
7/5/01
[Signature]*

June 28, 2001

Ms. Teresa Estes
Gresham Smith and Partners
511 Union Street/1400
Nashville, Tennessee 37219

RE: FHWA, SR-397 EXTENSION/MACK HATCHER PKWY, UNINCORPORATED, WILLIAMSON COUNTY

Dear Ms. Estes:

Pursuant to your request for initial coordination, this office has reviewed documentation concerning the above-referenced undertaking received Wednesday, June 27, 2001. This is a requirement of Section 106 of the National Historic Preservation Act for compliance by the participating federal agency or applicant for federal assistance. Procedures for implementing Section 106 of the Act are codified at 36 CFR 800 (64 FR 27044, May 18, 1999).

Considering available information, we find that the project as currently proposed MAY AFFECT PROPERTIES THAT ARE ELIGIBLE FOR LISTING IN THE NATIONAL REGISTER OF HISTORIC PLACES. You should continue consultation with our office, designated consulting parties and invite them to participate in consultation, and provide us with appropriate survey documentation for review and comment. Please direct questions and comments to Joe Garrison (615)532-1559. We appreciate your cooperation.

Sincerely,

Herbert L. Harper

Herbert L. Harper
Executive Director and
Deputy State Historic
Preservation Officer

HLH/jyg



DEPARTMENT OF THE ARMY
NASHVILLE DISTRICT, CORPS OF ENGINEERS
Regulatory Branch
3701 Bell RD
Nashville, TN 37214

July 24, 2001

RECEIVED

Regulatory Branch

SUBJECT: File No. 200101273; Proposed State Route 397
Extension (Mack Hatcher Parkway) in Franklin, Williamson
County, Tennessee

JUL 27 2001

ENVIRONMENTAL PLANNING
AND PERMITS

Mr. Charles E. Bush
State of Tennessee
Department of Transportation
Environmental Planning & Permits Division
Suite 900 - James K. Polk Building
505 Deadrick Street
Nashville, Tennessee 37243-0334

Dear Mr. Bush:

This is in response to your June 20, 2001, letter requesting Corps of Engineers comments concerning the subject work. Please refer to File No. 200101273 in any future correspondence with us concerning this project.

Based on an initial onsite inspection, the proposed work could impact several streams, such as unnamed tributaries, Polk Creek, and the Harpeth River, which would be considered waters of the United States. Any fill material placed in these streams would be subject to Department of the Army (DA) permit authorities pursuant to Section 404 of the Clean Water Act (CWA). In addition, any construction activities impacting the Harpeth River would be subject to review pursuant to Section 10 of the Harbors and Rivers Act. Therefore, any construction activities that would occur within those resources would be subject to DA permit authorization.

Our preferred alignment would be to follow any existing roads/highways as much as possible. This action usually minimizes the impacts to aquatic and wildlife habitat to the extend possible.

To the extend possible, your design scheme and consideration of alternatives, should avoid impacts or adverse modification to these waters, consistent with DA permit evaluation requirements for mitigation (i.e., impact avoidance, impact minimization, and compensatory mitigation in sequential order). Therefore, we encourage a construction plan that would avoid stream impacts if possible. If DA permits are required, you should submit applications, plans of the work, locations of the crossings,

any stream relocations, mitigation measures, and any supporting environmental documentation in a timely manner.

In addition, the Nashville District would participate as a cooperating agency in the preparation of the Environmental Impact Statement for this project.

This office is available to participate in any onsite inspections of the construction corridor to discuss aquatic resource impact avoidance and minimization.

Thank you for including this office in your review process. If we can be of further assistance or if you have any questions regarding DA permit requirements, please contact me at the above address, telephone 615-369-7509.

Sincerely,

A handwritten signature in black ink, appearing to read "Amy M. Robinson", with a long horizontal flourish extending to the right.

Amy M. Robinson
Project Manager
Operations Division

Copy Furnished:

Ms. Teresa Estes
Gresham Smith and Partners
1400 Nashville City Center
511 Union Street
Nashville, Tennessee 37219



United States Department of the Interior

FISH AND WILDLIFE SERVICE

446 Neal Street
Cookeville, TN 38501

RECEIVED

July 26, 2001

JUL 30 2001
ENVIRONMENTAL PLANNING
AND PERMITS

Mr. Charles Bush
Tennessee Department of Transportation
Environmental Planning and Permits Division
James K. Polk Building, Suite 900
505 Deaderick Street
Nashville, Tennessee 37243-0334

Dear Mr. Bush:

Thank you for your letter and enclosures of June 20, 2001, concerning the construction of the proposed State Route 397 Extension (Mack Hatcher Parkway) in Williamson County, Tennessee. Fish and Wildlife Service (Service) personnel have reviewed the information submitted and we provide the following comments in accordance with the provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.) and the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.).

The Service is concerned that highway projects accelerate erosion and sedimentation in streams, resulting in adverse effects to the aquatic environment. The use of heavy equipment to move earth and existing vegetation disrupts natural drainage patterns and exposes large areas of disturbed soil to erosion. Lack of suitable sediment and erosion controls and/or infrequent maintenance of sediment control structures can lead to excessive sedimentation and impact fish habitat, degrade water quality, and increase flooding.

Prevention of excessive sedimentation can occur only through application of Best Management Practices during daily construction activities. Rigid application of the Department's erosion control standards can preclude most sedimentation problems; however, in some cases additional measures will need to be taken by on-site inspectors and construction representatives.

Because streams and wetlands are present along the project corridor, U.S. Army Corps of Engineers permits will likely be required. Since permit applications could more thoroughly reveal the extent of construction activities affecting aquatic resources, we will provide additional comments during the 404 review process should the project necessitate Corps' permits. However, we would likely have no objection to the issuance of permits if any necessary stream channel work is held to a

minimum; if wetland impacts are mitigated; and if Best Management Practices are utilized and enforced, effectively controlling erosion, sedimentation, and other potential hazards. The following conditions are specifically recommended:

1. Erosion and sediment control measures, including but not limited to the following, should be implemented on all vegetatively denuded areas:
 - a. Preventive planning: A well-developed erosion control plan which entails a preliminary investigation, detailed contract plans and specifications, and final erosion and sediment control contingency measures should be formulated and made a part of the contract.
 - b. Diversion channels: Channels should be constructed around the construction site to keep the work site free of flow-through water, and should be lined with plastic or plastic filter fabric to minimize soil erosion.
 - c. Silt barriers: Appropriate use should be made of silt fences, hay bale and brush barriers, and silt basins in areas susceptible to erosion. These structures should be regularly maintained (sediment removal) to prevent undermining.
 - d. Temporary seeding and mulching: All cuts and fill slopes, including those in waste sites and borrow pits, should be seeded and mulched as soon as possible.
 - e. Limitation of instream activities: Instream activities, including temporary fills and equipment crossings, should be limited to those absolutely necessary.
2. Concrete box culverts or other drainage structures should be placed in a manner that prevents any impediment to low flows or to movement of indigenous aquatic species (e.g., native fish) and should be appropriately sized for the drainage area. We recommend that drainage structures be designed to accommodate bankfull discharge and that overflow or "equalizer" pipes be placed in the floodplain to accommodate flood events.
3. Channel excavations required for pier placement should be restricted to the minimum necessary for that purpose. Overflow channel excavations should be confined to one side of the channel, leaving the opposite bank and its riparian vegetation intact.
4. All fill should be stabilized immediately upon placement.
5. Streambanks should be stabilized with riprap or other accepted bioengineering technique(s).

6. Existing transportation corridors should be used in lieu of temporary crossings where possible.

Efficient management practices can minimize adverse impacts associated with construction. It is important that these and other erosion and sedimentation control measures be monitored and stringently enforced. This will aid in preserving the quality of the natural environment.

Endangered species collection records available to the Service do not indicate that federally listed or proposed endangered or threatened species occur within the impact areas of the project. We note, however, that collection records available to the Service may not be all-inclusive. Our data base is a compilation of collection records made available by various individuals and resource agencies. This information is seldom based on comprehensive surveys of all potential habitat and thus does not necessarily provide conclusive evidence that protected species are present or absent at a specific locality. However, based on the best information available at this time, we believe that the requirements of Section 7 of the Endangered Species Act of 1973, as amended, are fulfilled. Obligations under Section 7 of the Act must be reconsidered if (1) new information reveals impacts of the proposed action that may affect listed species or critical habitat in a manner not previously considered, (2) the proposed action is subsequently modified to include activities which were not considered during this consultation, or (3) new species are listed or critical habitat designated that might be affected by the proposed action. We have attached a list of rare species that potentially occur in Williamson County for your use during environmental surveys.

Thank you for giving us the opportunity to comment on this action. If you have any questions, please contact Rob Tawes of my staff at 931/528-6481, ext. 213.

Sincerely,



Lee A. Barclay, Ph.D.
Field Supervisor

Attachment

Rare Species List
Williamson County, Tennessee

Federally Listed Species

- Nashville crayfish - *Orconectes shoupi* (E)
- Price's potato bean - *Apios priceana* (T)
- Leafy prairie clover - *Dalea foliosa* (E)
- Eggert's sunflower - *Helianthus eggertii* (T)
- Short's bladderpod - *Lesquerella globosa* (Candidate)

Species of Management Concern (SOC)

These species have the potential to be listed as endangered or threatened but currently have no legal protection under the Endangered Species Act.

- Water stitchwort - *Arenaria fontinalis* (SOC)
- Duck River bladderpod - *Lesquerella densipila* (SOC)
- Tennessee snaketail dragonfly - *Ophiogomphus acuminatus* (SOC)



TENNESSEE
STATE DEPARTMENT OF EDUCATION
OFFICE OF COMMISSIONER
NASHVILLE, TENNESSEE 37243-0375

RECEIVED

JUL 02 2001

ENVIRONMENTAL PLANNING
AND PERMITS

MEMORANDUM

TO: Charles E. Bush
Transportation Manger II
Department of Transportation

FROM: Sam Cameron *SC*
Executive Administrative Assistant
Department of Education

DATE: June 29, 2001

SUBJECT: Proposed State Route 397 Extension (Mack Hatcher Parkway)
From U.S. 31 (SR 6) South Franklin to U.S. 431 (SR 106)
North of Franklin, Williamson County, Tennessee

The Department of Education has no proposed projects in this area (Proposed State Route 397 Extension - Mack Hatcher Parkway from U.S. 31 (SR 6) South of Franklin to U.S. 431 (SR 106) North of Franklin, Williamson County, Tennessee) which are being planned or executed by our agency.

If you need additional information, please let us know.

SC:cm



RECEIVED

AUG 16 2001

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
Division of Ground Water Protection
10th Floor, L & C Tower
401 Church Street
Nashville, Tennessee 37243-1540

ENVIRONMENTAL PLANNING
AND PERMITS

August 13, 2001

Mr. Charles E. Bush
Environmental Planning and Permits Division
Suite 900, James K. Polk Building
505 Deaderick Street
Nashville, Tennessee 37243-0334

Re: Proposed construction of an extension to State Route 397 (Mack Hatcher Parkway) between U.S. 31 (SR 6) and U.S. 431 (SR 106) in Franklin, Williamson County, Tennessee

Dear Mr. Bush:

The Division of Ground Water Protection regulates all aspects of the subsurface sewage disposal (SSD) program in the State of Tennessee. In this regard, division staff has worked closely with TDOT on those construction projects where it is anticipated that the project will potentially impact existing SSD systems.

Regarding the above referenced project, the Division of Ground Water Protection anticipates that it is possible the project will impact existing SSD systems that are within areas planned for the roadway construction. If it becomes apparent that staff assistance will be requested on this project, we ask that they be given adequate prior notice to allow for scheduling of the additional workload.

It is important to note that Williamson County is considered as one of eight contract counties in the state. This means that all work of this nature done in Williamson County must receive direct oversight from staff of the county health department and not from the state.

If you have any questions or think that assistance will be requested on this project, you should contact Mr. Larry Robinson at (615) 790-5717.

Sincerely,

Kent D. Taylor, Director
Division of Ground Water Protection

KDT/gau

cc: Mr. Larry Robinson, Williamson County Health Department, Franklin, TN

TDOTresponse34doc



RECEIVED

ENVIRONMENTAL ASSISTANCE CENTER
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
711 R. S. GASS BOULEVARD
NASHVILLE, TENNESSEE 37243
PHONE (615) 687-7000 STATEWIDE 1-888-891-8332 FAX (615) 687-7078

AUG 14 2001

ENVIRONMENTAL PLANNING
AND PERMITS

August 10, 2001

Mr. Charles E. Bush
Transportation Manager II
Department of Transportation
Environmental Planning and Permits Division
Suite 900 - James K. Polk Building
606 Deaderick Street
Nashville, Tennessee 37243-0334

Subject: Proposed State Route 397 Extension (Mack Hatcher Parkway)
From U.S. 31 (SR 6) South of Franklin to U.S. 431 (SR 106)
North of Franklin, Williamson County, Tennessee

Dear Mr. Bush:

Your letter requesting comments from Mike Apple (Director, Tennessee Division of Solid Waste Management) regarding the proposed extension to State Route 397 was forwarded to the Nashville Environmental Assistance Center for consideration. A review of the submitted information does not indicate that the proposal will involve any sites or problems known to this Division as far as we can determine. It was noticed that your report states that you have detected four sites that may have subsoil contaminants; one of these sites is an abandoned landfill. The report also provides that a complete assessment of these sites will be conducted to determine if any hazardous waste issues are involved. Please keep us apprised of the results of the assessment for these sites and feel free to contact us if you feel we may be of any assistance.

Regarding the proposed extension project, this office does not see any aspect that will impact projects or programs currently being considered or implemented by this agency.

If you have additional questions that we might be able to help you with, please feel free to contact this office by telephone at (615) 687-7000.

Sincerely,

Al Majors, EFOM

Division of Solid Waste Management/Nashville Environmental Assistance Center

Cc: Mike Apple, Director, Division of Solid Waste Management
Glenn Birdwell, DSWM/Central Office
Files: Williamson County General Correspondence



WILLIAMSON COUNTY

Clint Callicott, County Executive
1320 West Main Street, Suite 125
Franklin, Tennessee 37064
(615) 790-5700, Fax (615) 790-5818

RECEIVED

July 6, 2001

JUL 13 2001

ENVIRONMENTAL PLANNING
AND PERMITS

Mr. Charles E. Bush
Transportation Manager II
TN Department of Transportation
505 Deaderick Street, Suite 900
Nashville, TN 37243-0334

RE: Historic Preservation Issues, Initial Coordination, Proposed Improvements
to SR 397 from US 31 (SR 6) South of Franklin US 431 (SR 106)
North of Franklin, Williamson County, Tennessee

Dear Mr. Bush:

In response to your June 28 letter on the above referenced project, I will participate as a consulting party. I look forward to working with you on this project.

Sincerely,

Clint Callicott
County Executive

/jhw



United States
Department of
Agriculture

Natural
Resources
Conservation
Service

Sparta Field Service Center
751 Millers Pt Road
Sparta TN 38583

July 30, 2001

Mr. Charles E. Bush
Transportation Manager II
Department of Transportation
Office of Environmental Planning and Permits
Suite 900, James K. Polk Building
505 Deaderick Street
Nashville, Tennessee 37243-0334

Dear Mr. Bush:

I have reviewed the documents submitted by your agency regarding identification of prime farmland along the proposed location of the Mack Hatcher Parkway Extension in Williamson County, Tennessee.

The determinations were made from maps your agency submitted, additional information provided by Gresham, Smith and Partners, and soil atlas sheets and data of Williamson County, Tennessee. The data for Site A and Site B was obtained by plotting the proposed alignments on soil atlas sheets and computing the values of soil map units encountered along the transect. The acres of prime farmland and relative value of farmland is based upon the total acres in the sites presented on Form AD-1006. Prime farmland is land that has the best combination of physical and chemical characteristics for producing agricultural crops. It is currently being used or is available to produce crops, forage for livestock, and timber.

The completed Farmland Conversion Impact Rating Form is enclosed.

Sincerely,

JERRY L. PRATER
Soil Scientist

Enclosures

U.S. DEPARTMENT OF AGRICULTURE Form AD-1006
FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency)	1. Date of Land Evaluation Request July 2, 2001	2. Sheet 1 of 1
---	---	-----------------

3. Name of Project Mack Hatcher Pkwy Extension	4. Federal Agency Involved Federal Highway Administration
--	---

5. Proposed Land Use Residential	6. County and State Williamson County, Tennessee	7. Type of Project: Corridor <input type="checkbox"/> Other <input type="checkbox"/>
--	--	---

PART II (To be completed by NRCS)	1. Date Request Received by NRCS	2. Person Completing the NRCS parts of this form JERRY L. PRATER
--	----------------------------------	--

3. Does the site or corridor contain prime, unique, statewide or local important farmland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (If no, the FPPA does not apply - Do not complete additional parts of this form)	4. Acres Irrigated NA	5. Average Farm Size 158 AC.
--	---------------------------------	--

6. Major Crop(s) CORN	7. Farmable Land in Government Jurisdiction Acres: 230261 % 60.7	8. Amount of Farmland As Defined in FPPA Acres: 125760 % 33
---------------------------------	---	--

9. Name of Land Evaluation System Used WILLIAMSON COUNTY	10. Name of Local Site Assessment System	11. Date Land Evaluation Returned by NRCS JULY 30, 2001
--	--	---

PART III (To be completed by Federal Agency)	Alternative Site Rating			
	Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	274	314		
B. Total Acres To Be Converted Indirectly, Or To Receive Services	180	160		
C. Total Acres in Site	298	474		

PART IV (To be completed by NRCS) Land Evaluation Information	Site A	Site B	Site C	Site D
A. Total Acres Prime and Unique Farmland	228	237		
B. Total Acres Statewide and Local Important Farmland	NA	NA		
C. Percentage of Farmland in County or Local Govt. Unit to be Converted	0.002	0.002		
D. Percentage of Farmland in Govt. Jurisdiction with Same or Higher Relative Value	74	74		

PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland to be Serviced or Converted (Scale of 0 - 100 Points)	Site A	Site B	Site C	Site D
	46	48		

PART VI (To be completed by Federal Agency) Corridor or Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b & c))	Max. Points					
	Corridor	Other				
1. Area in Nonurban Use	15	15	12	12		
2. Perimeter in Nonurban Use	10	10	8	7		
3. Percent of Site Being Farmed	20	20	4	2		
4. Protection Provided by State and Local Government	20	20	0	0		
5. Distance from Urban Built-up area	0	15				
6. Distance to Urban Support Services	0	15				
7. Size of Present Farm Unit Compared to Average	10	10	10	10		
8. Creation of Non-Farmable Farmland	25	10	18	16		
9. Availability of Farm Support Services	5	5	5	5		
10. On-Farm Investments	20	20	9	9		
11. Effects of Conversion on Farm Support Services	25	10	10	10		
12. Compatibility with Existing Agricultural Use	10	10	2	2		
TOTAL CORRIDOR OR SITE ASSESSMENT POINTS	160		78	73		

PART VII (To be completed by Federal Agency)					
Relative Value of Farmland (from Part V above)	100				
Total Corridor or Site Assessment (From Part VI above or a local site assessment)	160	78	73		
TOTAL POINTS (Total of above 2 lines)	260				

PART VIII (To be completed by Federal Agency after final alternative is chosen)	1. Corridor or Site Selected:	2. Date of Selection:	3. Was A Local Site Assessment Used? Yes <input type="checkbox"/> No <input type="checkbox"/>
--	-------------------------------	-----------------------	--

4. Reason For Selection:

Signature of person completing the Federal Agency parts of this form:	DATE
---	------

FARMLAND CONVERSION IMPACT RATING
FOR CORRIDOR TYPE PROJECTS

PART I (To be completed by Federal Agency)

1. Name of Project: **SH 397 (Mack Hatcher Parkway) Extension**

2. Type of Project: **Roadway**

3. Date of Land Evaluation Request: **12/16/02**

4. Sheet 1 of **3**

5. Federal Agency Involved: **Federal Highway Administration**

6. County and State: **Williamson County, Tennessee**

PART II (To be completed by NRCS)

1. Date Request Received by NRCS: **11-23-02**

2. Person Completing Form: **Ray Bowers**

3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply. Do not complete additional parts of this form): YES NO

4. Acres Irrigated: **158 AC** Average Farm Size: **33**

5. Major Crop(s): **Corn, Soybeans, Tobacco**

6. Farmable Land in Government Jurisdiction: Acres: **230,261** %: **60.7**

7. Amount of Farmland As Defined in FPPA: Acres: **125,760** %: **33**

8. Name of Land Evaluation System Used: **Williamson County**

9. Name of Local Site Assessment System:

10. Date Land Evaluation Returned by NRCS: **11-04-2003**

PART III (To be completed by Federal Agency)

	Alternative Corridor For Segment			
	Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly	185	176	189	210
B. Total Acres To Be Converted Indirectly, Or To Receive Services	128	77	88	128
C. Total Acres In Corridor	293	253	277	338

PART IV (To be completed by NRCS) Land Evaluation Information

A. Total Acres Prime And Unique Farmland	106	131	141
B. Total Acres Statewide And Local Important Farmland	21	14	25
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	.001	.001	.001
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	74	74	59

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

	46	48	60
--	----	----	----

PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))

Assessment Criteria	Maximum Points	Corridor A	Corridor B	Corridor C	Corridor D
1. Area in Nonurban Use	15	8	8	10	
2. Perimeter in Nonurban Use	10	5	5	7	
3. Percent Of Corridor Being Farmed	20	10	10	10	
4. Protection Provided By State And Local Government	20	0	0	0	
5. Size of Present Farm Unit Compared To Average	10	10	10	10	
6. Creation Of Nonfarmable Farmland	25	10	10	10	
7. Availability Of Farm Support Services	5	5	5	5	
8. On-Farm Investments	20	9	9	9	
9. Effects Of Conversion On Farm Support Services	25	8	8	8	
10. Compatibility With Existing Agricultural Use	10	2	2	2	
TOTAL CORRIDOR ASSESSMENT POINTS	160	67	67	71	0

PART VII (To be completed by Federal Agency)

Relative Value Of Farmland (From Part V)	100	46	48	60	
Total Corridor Assessment (From Part VI above or a local site assessment)	160	67	67	71	0
TOTAL POINTS (Total of above 2 lines)	260	113	115	131	0

1. Corridor Selected:

2. Total Acres of Farmlands to be Converted by Project:

3. Date Of Selection:

4. Was A Local Site Assessment Used? YES NO

5. Reason For Selection:

Signature of Person Completing this Part: _____ DATE _____

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

FARMLAND CONVERSION IMPACT RATING
FOR CORRIDOR TYPE PROJECTS

PART I (To be completed by Federal Agency)

1. Name of Project: **SH 397 (Mack Hatcher Parkway) Extension**

2. Type of Project: **Roadway**

3. Date of Land Evaluation Request: **12/16/02**

4. Sheet **2** of **3**

5. Federal Agency Involved: **Federal Highway Administration**

6. County and State: **Williamson County, Tennessee**

PART II (To be completed by NRCS)

1. Date Request Received by NRCS: _____

2. Person Completing Form: _____

3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form) YES NO

4. Acres Irrigated: _____ Average Farm Size: _____

5. Major Crop(s): _____

6. Farmable Land in Government Jurisdiction: _____ Acres: _____ %: _____

7. Amount of Farmland As Defined in FPPA: _____ Acres: _____ %: _____

8. Name Of Land Evaluation System Used: _____

9. Name of Local Site Assessment System: _____

10. Date Land Evaluation Returned by NRCS: _____

PART III (To be completed by Federal Agency)

	Alternative Corridor For Segment D E			
	Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly	221	233	235	224
B. Total Acres To Be Converted Indirectly, Or To Receive Services	77	88	125	74
C. Total Acres In Corridor	298	321	360	298

PART IV (To be completed by NRCS) Land Evaluation Information

A. Total Acres Prime And Unique Farmland			121	145
B. Total Acres Statewide And Local Important Farmland			18	25
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted			.001	.001
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value			74	74

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

			48	46
--	--	--	----	----

PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))

	Maximum Points				
1. Area in Nonurban Use	15			8	8
2. Perimeter in Nonurban Use	10			5	5
3. Percent Of Corridor Being Farmed	20			10	10
4. Protection Provided By State And Local Government	20			0	0
5. Size of Present Farm Unit Compared To Average	10			10	10
6. Creation Of Nonfarmable Farmland	25			10	10
7. Availability Of Farm Support Services	5			5	5
8. On-Farm Investments	20			9	9
9. Effects Of Conversion On Farm Support Services	25			8	8
10. Compatibility With Existing Agricultural Use	10			2	2
TOTAL CORRIDOR ASSESSMENT POINTS	160	.0	0	167	167

PART VII (To be completed by Federal Agency)

Relative Value Of Farmland (From Part V)	100			48	46
Total Corridor Assessment (From Part VI above or a local site assessment)	160	0	0	167 167	167
TOTAL POINTS (Total of above 2 lines)	260	0	0	115	113

1. Corridor Selected: _____

2. Total Acres of Farmlands to be Converted by Project: _____

3. Date Of Selection: _____

4. Was A Local Site Assessment Used? YES NO

5. Reason For Selection: _____

Signature of Person Completing this Part: _____ DATE: _____

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

FARMLAND CONVERSION IMPACT RATING
FOR CORRIDOR TYPE PROJECTS

PART I (To be completed by Federal Agency)		3. Date of Land Evaluation Request	12/16/02	4. Sheet <u>3</u> of <u>3</u>
1. Name of Project	SH 397 (Mack Hatcher Parkway) Extension	5. Federal Agency Involved	Federal Highway Administration	
2. Type of Project	Roadway	6. County and State	Williamson County, Tennessee	

PART II (To be completed by NRCS)		1. Date Request Received by NRCS	2. Person Completing Form
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FRPA does not apply - Do not complete additional parts of this form)		YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	4. Acres Irrigated Average Farm Size
5. Major Crop(s)	6. Farmable Land in Government Jurisdiction Acres: _____ %	7. Amount of Farmland As Defined in FRPA Acres: _____ %	
8. Name of Land Evaluation System Used	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS	

PART III (To be completed by Federal Agency)	Alternative Corridor For Segment _____			
	Corridor A F	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly	248	0	0	0
B. Total Acres To Be Converted Indirectly, Or To Receive Services	85	0	0	0
C. Total Acres In Corridor	333	0	0	0

PART IV (To be completed by NRCS) Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	177			
B. Total Acres Statewide And Local Important Farmland	29			
C. Percentage Of Farmland In County Or Local Govt Unit To Be Converted	0.03			
D. Percentage Of Farmland In Govt Jurisdiction With Same Or Higher Relative Value	74			

PART V (To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)				
	45			

PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))	Maximum Points				
1. Area in Nonurban Use	15	10			
2. Perimeter in Nonurban Use	10	7			
3. Percent Of Corridor Being Farmed	20	10			
4. Protection Provided By State And Local Government	20	0			
5. Size of Present Farm Unit Compared To Average	10	10			
6. Creation Of Nonfarmable Farmland	25	10			
7. Availability Of Farm Support Services	5	5			
8. On-Farm Investments	20	9			
9. Effects Of Conversion On Farm Support Services	25	8			
10. Compatibility With Existing Agricultural Use	10	2			
TOTAL CORRIDOR ASSESSMENT POINTS	160	87	0	0	0

PART VII (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)	100	45			
Total Corridor Assessment (From Part VI above or a local site assessment)	160	87	0	0	0
TOTAL POINTS (Total of above 2 lines)	260	132	0	0	0

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

5. Reason For Selection:

Signature of Person Completing this Part: _____ DATE _____

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

APPENDIX B

Section 106 Coordination

Semvnole Etulwa Vculvke Vcvyecułke
Seminole Nation of Oklahoma
Historic Preservation Office

August 9, 2001

State of Tennessee
Department of Transportation
Environmental Planning and Permits Division
Suite 900 – James K. Polk Building
505 Deaderick Street
Nashville, Tennessee 37243-0334

RE : Proposed State Route 397 Extension from U.S. 31(S.R.6) South of Franklin to U.S. 431 (S.R. 106) North of Franklin, Williamson County.

Dear Sir,

While we are not currently aware of any Seminole affiliated cultural properties or resources within the proposed project areas, inadvertent discoveries may occur even in areas of prior or existing development. Archaeological testing, construction activities, and looting can destroy, damage or otherwise diminish the integrity of Seminole cultural resources, please be advised of the following:

It is the policy of the Seminole Nation of Oklahoma in the event of inadvertent discoveries of ancestral remains or burial artifacts, that all site surveys and/or other site activities cease pending immediate notification of this office and until such remains and artifacts have been properly secured. Further, we oppose any laboratory testing, data retrieval, non-biodegradable shrouding, photographic documentation, public display, or unauthorized removal of ancestral remains or burial artifacts. Sites which are known to possess or that are discovered to possess our ancestral remains or burial artifacts, or which are of historical, cultural or religious significance to the Seminole people should be avoided..

Please be advised that Section 106 of the National Historic Preservation Act does not mandate notification of nor consultation with either state recognized or self identified entities purporting to be Native American regarding proposed undertakings. Any request for project reviews addressed to such entities within the context of government-to-government relationship between the United States and Federally recognized tribal nations is inappropriate, and constitutes a breach of the authority and intent of Federal law, as well as the inherent sovereign propriety of valid tribal governments.

Furthermore we request to be kept informed as your project continues. Should you require further commentary, review, or additional information concerning this matter, please contact us at 405-257-2036.

Sincerely,



Emman Spain
Historic Preservation Officer
Seminole Nation of Oklahoma



CHEROKEE NATION

P.O. Box 948
Tahlequah, OK 74465-0948
918-456-0671

Chad "Cornassel" Smith
ᎠᎵᎠᎵ
Principal Chief

Hastings Shade
ᎠᎵᎠᎵ
Deputy Principal Chief

July 10, 2001

RECEIVED

JUL 18 2001

ENVIRONMENTAL PLANNING
AND PERMITS

Mr. Charles E. Bush
State of Tennessee
Department of Transportation
Environmental Planning & Permits Division
Suite 900 - James K. Polk Building
505 Deaderick Street
Nashville, TN 37243-0334

Dear Mr. Bush :

The Cherokee Nation has received your letter dated July 5, 2001 wherein you requested assistance with your site review pursuant to Section 106 of the National Historic Preservation Act as amended regarding the proposed State Route 397 Extension North of Franklin, Williamson County, Tennessee.

The Cherokee Nation is not presently aware of or able to identify any cultural resources affiliated with the Cherokee Nation within the proposed area of development. However, we are aware that inadvertent discovery may occur as a result of development, archaeological testing, or as project construction activities progress. Such activity has the potential to destroy, damage, or diminish the integrity of any Cherokee resources. Also, any such discovery may result in looting if not adequately protected. Therefore, the Cherokee Nation requests that:

1. In the event of inadvertent discovery of human remains, burial objects, or artifacts that all site surveys or other site activities cease pending notification of the Cherokee Nation;
2. Any and all remains, burial objects or artifacts must be properly secured and protected;
3. The Cherokee Nation opposes any laboratory testing, data retrieval, non-biodegradable shrouding, photographic documentation, public display, or unauthorized removal of ancestral remains or burial objects;
4. Sites known to possess or are discovered to possess ancestral remains or burial objects, or that have historical, cultural, or religious significance to the Cherokee people should be avoided.

There are three federally acknowledged Cherokee entities: the Cherokee Nation; the United Keetoowah Band of Cherokee Indians, and the Eastern Band of Cherokee Indians. Section 106 mandates tribal commentary, review or consultation with federally recognized tribal entities. Therefore, any consultation, commentary or review addressed to state recognized groups, entities, or self-identified individuals purporting to be American Indian representatives does not constitute valid tribal consultation in accordance with the authority and intent of federal legislation.

Should you desire to communicate with the designated tribal representative, you may contact me at (918) 456-0671, extension 2466.

Sincerely,

Dr. Richard Allen
NAGPRA Representative



CHOCTAW NATION OF OKLAHOMA

Cultural Resources

P.O. Drawer 1210 • Durant, OK 74702-1210
1-580-924-8280 • 1-800-522-6170 • Fax: 580-920-3102

RECEIVED

JUL 29 2001

ENVIRONMENTAL PLANNING
AND PERMITS

July 12, 2001

State of Tennessee Department of Transportation
Attn: Charles E. Bush
Suit 900-James K. Polk building
505 Deaderick Street
Nashville, Tennessee 37243-0334

Dear Mr. Bush:

We have reviewed the following proposed project as to its effect on any Native American concerns regarding properties, ceremonial or burial grounds.

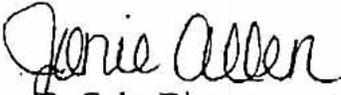
ENTITY REQUESTING SERVICE: State of Tennessee Department of Transportation.

PROJECT: Proposed State Route 397 extension (Mack Hatcher Parkway) From U.S.31 (S.R. 6) South of Franklin to U.S. 431 (S.R. 106) North of Franklin.

COUNTY: Williamson County, Tennessee

COMMENTS: After further review of the above mentioned project to the best of our knowledge it will have no adverse effect on any Native American properties, ceremonial or burial grounds. However, should construction activities expose buried archaeological materials such as chipped stone tools, pottery, bone, historic crockery, glass, metal items or building materials, this office should be contacted immediately at (580) 924-8280. A member of our staff will be sent to evaluate the significance of these remains.

Sincerely,


for **Ferry D. Cole, Director**
Cultural Resources
Choctaw Nation of Oklahoma



July 14, 2004

TENNESSEE HISTORICAL COMMISSION
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
2941 LEBANON ROAD
NASHVILLE, TN 37243-0442
(615) 532-1550

Ms. Martha Carver
Tennessee Department of Transportation
505 Deaderick St/900
Nashville, Tennessee, 37243-0349

RE: FHWA, ARCHITECTURAL SURVEY REPORT, SR-397 EXT. (MACK HATCHER PARKWAY)/SR-6 TO SR-106, FRANKLIN, WILLIAMSON COUNTY

Dear Ms. Carver:

In response to your request, received on Thursday, July 8, 2004, we have reviewed the documents you submitted regarding your proposed undertaking. Our review of and comment on your proposed undertaking are among the requirements of Section 106 of the National Historic Preservation Act. This Act requires federal agencies or applicant for federal assistance to consult with the appropriate State Historic Preservation Office before they carry out their proposed undertakings. The Advisory Council on Historic Preservation has codified procedures for carrying out Section 106 review in 36 CFR 800. You may wish to familiarize yourself with these procedures (Federal Register, December 12, 2000, pages 77698-77739) if you are unsure about the Section 106 process.

Considering the information provided, we find that the area of potential effect contains numerous architectural resources eligible for listing in the National Register of Historic Places affected by this undertaking. They include: Winstead Hill, the William Harrison House, the James B. Davis House, the Y. M. Rizer House, the Samuel F. Glass House, the Knights of Pythias Pavilion, the Harpeth River Historic District, and the Winstead Hill/Harrison House Historic District. We further find that the project as currently proposed will adversely affect Historic Properties eligible for listing in the National Register of Historic Places. You should notify the Advisory Council on Historic Preservation of our joint determination of National Register eligibility and project effect. You should also notify interested persons and make the documentation associated with this finding available to the public.

We appreciate your continuing consultation on this undertaking, and trust that your agency will review comments made by various consulting parties during your overall review of the prudence and feasibility of alternatives that could avoid or minimize project effect. We also wish to commend you and your agency for the diligence you have demonstrated in identifying and evaluating Historic Properties, and for your praiseworthy attempts to resolve project effects.

All borrow areas outside proposed rights-of-way will require separate certification as specified under Section 107.06-Federal Aid Provisions. If your agency proposes any modifications in current project plans or discovers any archaeological remains during the ground disturbance or construction phase, please contact us to determine what further action, if any, will be necessary to comply with Section 106 of the National Historic Preservation Act.

This office appreciates your cooperation.

Sincerely,

Herbert L. Harper
Executive Director and
Deputy State Historic
Preservation Officer

HLH/jyg



**STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL PLANNING AND PERMITS OFFICE**

SUITE 900, JAMES K. POLK BUILDING
505 DEADERICK STREET
NASHVILLE, TENNESSEE 37243-0334
(615) 741-3653

GERALD R. NICELY,
COMMISSIONER

PHIL BREDESEN
GOVERNOR

July 19, 2004

Mr. Bobby Blackmon
Division Administrator
Tennessee Division Office
Federal Highway Administration
640 Grassmere Park, Suite 112
Nashville, TN 37211

SUBJECT: Documentation for Adverse Effect for Submission to the Advisory Council on Historic Preservation, for the Proposed Improvements to State Route 397 (Mack Hatcher Parkway) from US 31 (SR 6) South of Franklin to US 431 (SR 106) North of Franklin, Williamson County, Tennessee

Dear Mr. Blackmon:

Enclosed are two copies of the report cited above prepared by a consultant pursuant to 36 CFR 800 regulations. Also enclosed are two copies of the comments received from the public. Please send one copy of the enclosed report and comments to the Advisory Council on Historic Preservation notifying that agency of the adverse effect to a historic resource pursuant to 36 CFR 800.6. An additional copy of each is included for your files. A copy of the TN-SHPO letter concurring with our findings is enclosed.

Due to the complex nature of this project as it relates to a National Historic Landmark and a large rural historic district, TDOT along with mailing the document to available property owners, interested historic groups, and the public and requesting comments, held a meeting June 1, 2004 to explain the Section 106 process and the project in more detail. Affected property owners and historic groups were invited and members of the public attended. We feel that this meeting facilitated greater understanding of the project and participation from the public. A summary of comments from property owners, historic groups, and elected officials follows.

- In response to TDOT's consulting party coordination, in July and August 2001, the Seminole Nation of Oklahoma and Choctaw Nation of Oklahoma responded that they were not aware of any cultural resources but requested to be notified in the event of accidental discoveries.
- TDOT's commissioner received comments concerning historic issues regarding the project in August 2001. Mr. David Ingram objected to the entire parkway project which endangered the Harrison House and other areas of historic significance. He felt that the "project is an unnecessary intrusion into an area that could be better served by alternate planning" and urged TDOT to consider "options that will not encroach, intrude or destroy the area's cultural and historical integrity."

- Ralph Comer, James Hatmaker, and Martha Carver received an August 5, 2002 letter from Mr. George H. Nolan, representing Mr. Livingfield More as a follow up to a meeting to discuss the project. Mr. More owns the contributing Thomas Moore House, which is contributing to the Harpeth River Historic District. Mr. Nolan expects that “Mr. More would be willing to cooperate with the Department of Transportation in any way possible if such will result in the selection of a route that does not go through the middle of his farm.”
- Pastor Kevin Riggs of the Franklin Community Church, owner of vacant, contributing, land within the historic district, wrote in a July 16, 2002 letter that his congregation was strongly opposed to the Mack Hatcher project coming across their property and asked that “serious consideration” be given to locating the project further west of their property.
- Mr. Robert Rogers, whose family owns land in the historic district, commented by email June 2, 2004 that he did not want his property added to the National Register. He added that “it is unwarranted and indefensible to try to restrict what we do with our property.”
- Mr. Tomlinson Fort, owner of the National Register listed and contributing to the district, Knights of Pythias Pavillion noted in a June 8, 2004 letter that he is opposed to an overpass at the intersection of the parkway and State Route 96 and suggests that the overpass be replaced by a traffic light because traffic lights currently regulate travel at all of the other intersections on the present Mack Hatcher Parkway. He also requests that the design speed be lowered. He says that while traffic may not move quite as fast, it will preserve the quality of life and character of historic Franklin. He also requests that TDOT consider these options as well as other alternate routes when planning the road. Included for submittal to the ACHP are comments Mr. Fort presented at the June 1, 2004 meeting.
- Ms. Mary Anne Short Warren, as owner of the contributing Short Farm, reiterated Mr. Tomlinson Fort’s request for at grade separation and reduced speed in a June 14, 2004 letter. She also notes vegetation loss. Ms. Warren comments on the loss of greenspace on their farm due to gas easements for development and now potential TDOT and TVA encroachment.
- Mr. James E. Warren, owner of the contributing Short Farm, raised concern about the location of the road resulting in a loss of vegetation screening from his farm in a June 16, 2004 letter. Mr. Warren is also concerned about TDOT taking into consideration plans for a proposed church building and the Westhaven development.
- The Heritage Foundation of Franklin and Williamson County responded to TDOT with June 17, 2004 letter and an email. Along with expressing appreciation for holding the meeting for historic issues, Mary Pearce and Tree Diffendal expressed concern about the large scale of the proposed interchanges and overpasses, proximity of the proposed roadway to the National Historic Landmark Winstead Hill, 60 mile per hour speed, and requested that roadway construction complement the existing character of Franklin and Williamson County’s historic roads.
- In a June 23, 2004 letter to Mr. Ed Cole, TDOT Chief of Environment and Planning, Ms. Mary Brockman supported the southern route as it would “have the least impact on this historic valley and fragile Harpeth River watershed.” As County Commissioner for the district she says that the selection of segment 18 “would avoid crossing the river twice at Baugh Bend and keep from cutting through the heart of a fertile agricultural landscape.”
- In a June 25, 2004 letter, Mr. Jesse Edelin Short, owner of the contributing Short Farm, noted his concern about the proposed overpass at the intersection of Mack Hatcher Parkway and State Route 96. He says that at grade signalization at this intersection is “reasonable, progressive, and

- acceptable to those whose immediate occupancy are affected as well as to all of us who are committed to the best for all citizens of Franklin.”
- In a joint June 25, 2004 letter Franklin Mayor Thomas Miller and Alderman Daniel Klatt, endorsed context sensitive design measures suggested as possible mitigation. Concerns include the exclusion of “alternative design criteria” requested by the Board of Mayor and Alderman in 2001 and a lack of coordination with the Tennessee Valley Authority for a transmission line project within the study area. Also questioned are the size of the historic district, owner objections to the district, and the value of combining the Harrison House property with Winstead Hill as one district. The two men reiterated that the project “is the top roadway improvement project of the Board of Mayor and Aldermen.”
- In a June 28, 2004 letter, David Parker, Director of the City of Franklin Engineering Department, agreed with Mayor Tom Miller and Alderman Daniel Klatt’s June 25 letter but had several questions and comments about the project. Mr. Parker believes that it would be better for National Register listed properties to place the roadway on the vacant farmland (part of the eligible district) rather than along Del Rio Pike (Segment 16 rather than Segment 18). He also had questions about owner objections to the district, implications for development with Century Farm and National Register eligibility, and floodplain encroachment.
- In a June 30, 2004 letter, Alderman Daniel Klatt added comments to his previous letter with the Mayor. He feels that SR 397, although planned as a high-speed bypass now is an important part of their local road network with traffic counts that are “now such that higher speeds are no longer desirable, and at most times of the day are not even possible.” He believes that the principles of context sensitive design should be utilized specifically using the least amount of right-of-way possible to construct a limited access four lane roadway with landscaped median with a design speed of no more than 50 mph. Intersections should be at-grade with the incorporation of traffic calming devices (rotarys or signalization) rather than interchanges and the roadway should follow the topography rather than blasting. He also feels that the entire Mack Hatcher Parkway loop should be consistent, lowering speeds of the existing sections to improve capacity and safety.
- The Gentry family submitted two June 30, 2004 letters one requesting that “TDOT consider the historic integrity of the Gentry’s Farm when deciding the path of the Mack Hatcher extension” and another agreeing with Mr. Fort’s letter about the proposed interchange at SR 96 and speed limit. One letter states that the Gentry Farm is an important part of the community that promotes history and agriculture.

A response that addressed the questions and concerns as completely as possible was mailed to each of the respondents. A copy of each response is also included.

The archaeological section requested the TN-SHPO to review an archaeological survey for the Mack Hatcher Parkway extension pursuant to 36 CFR 800 regulations. On February 25, 2004, the TN-SHPO agreed that there are no archaeological historic properties within the APE of the proposed project.

Please send this material via registered or certified mail to document our compliance. Thank you for your assistance.

Sincerely,



Martha Carver
Historic Preservation Manager

Enclosures

cc: Mr. Tom Love, TDOT
Mr. Darrell Moore, TDOT
Mr. Gerald Kline, TDOT
Mr. Herbert Harper, TN-SHPO



U.S. Department
of Transportation

**Federal Highway
Administration**

File: Env 94-397 thru ~~Blackmon~~, Schroeder, McGuire, Fottrell

Tennessee Division Office
640 Grassmere Park Road
Suite 112
Nashville, TN 37211

July 23, 2004

Mr. Dan Scheidt
Cultural Resources Division
National Park Service
Atlanta Federal Center, Building 1924
100 Alabama Street, SW
Atlanta, GA 30303

Subject: Finding of Adverse Effect
Proposed State Route 397 (Mack Hatcher Parkway)
Williamson County, Tennessee

Dear Mr. Scheidt:

The Tennessee Department of Transportation (TDOT), with funding through the Federal Highway Administration (FHWA), proposes to build a circumferential route on new alignment around the City of Franklin in Williamson County, Tennessee.

Through the Section 106 process of the National Historic Preservation Act, it has been determined that the proposed project will have an adverse effect on historic properties listed on the National Register and possibly a National Historic Landmark (Winstead Hill). Enclosed is a July 14, 2004 letter from the Deputy State Historic Preservation Officer concurring in this determination.

Several avoidance alternatives and mitigation measures were considered and are discussed in the enclosed documentation. The avoidance alternatives are not believed to be prudent.

There is some known opposition to certain alternatives that have been developed for this project. All possible planning to minimize harm to the properties will be carried out through project mitigation measures to be outlined in the Memorandum of Agreement that will be executed through the Section 106 process. In accordance with 36 CFR 800.10, this correspondence is to notify the Secretary that the proposed project may adversely affect a National Historic Landmark.

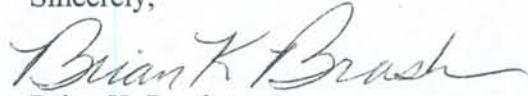
Please advise if the Secretary wishes to participate in the consultation to resolve the adverse effects



Providing Transportation Solutions for Tennessee

from this project. If you have any questions, you may contact me by e-mail at Brian.Brasher@fhwa.dot.gov or by phone at (615) 781-5763.

Sincerely,

A handwritten signature in cursive script that reads "Brian K. Brasher". The signature is written in dark ink and is positioned above the printed name and title.

Brian K. Brasher
Mega Project Engineer

Enclosure

cc: Ed Cole, TDOT



United States Department of the Interior



NATIONAL PARK SERVICE

Southeast Regional Office
Atlanta Federal Center
1924 Building
100 Alabama St., S.W.
Atlanta, Georgia 30303

H3417 (SERO-CRD)

AUG 2 2004

Mr. Brian K. Brasher
Mega Project Engineer
Federal Highway Administration
Tennessee Division Office
650 Grassmere Park Road
Suite 112
Nashville, TN 37211

Dear Mr. Brasher:

Thank you for your letter of July 23, 2004, concerning proposed state route 397, a continuation of the bypass road around the west side of the City of Franklin, Tennessee. We agree with the assessment of the Tennessee Historical Commission that this project has the potential to adversely affect the Winstead Hill property, which is part of the Franklin Battlefield National Historic Landmark (NHL).

We would like to participate in the consultation to mitigate the effects of this project to the extent of being copied on relevant correspondence and having the opportunity to comment on the draft Memorandum of Agreement before it is executed. We urge you to continue with your noteworthy efforts to accomplish this transportation improvement with the least possible impact to the historic character of the area. In particular, every effort should be made to protect the views from the Winstead Hill NHL and otherwise minimize impacts on the NHL.

Sincerely,

Dan Scheidt
Chief, Cultural Resources Division
Southeast Region



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL PLANNING AND PERMITS DIVISION
SUITE 900, JAMES K. POLK BUILDING
505 DEADERICK STREET
NASHVILLE, TENNESSEE 37243-0334
(615) 741-3653
www.state.tn.us/transport

GERALD F. NICELY
COMMISSIONER

PHIL BREDESEN
GOVERNOR

TO: Gary Fottrell, FHWA Area Engineer, Region 3

FROM: Martha Carver, TDOT
Historic Preservation Program Manager

DATE: August 5, 2004

RE: Mack Hatcher Historic Report for the Advisory Council on Historic Preservation, Williamson County

Enclosed is an additional copy of the Mack Hatcher Historic Report prepared by Thomason and Associates to be sent to the Advisory Council on Historic Preservation. Also enclosed to be forwarded to the Advisory Council is an additional copy of the packet of comments we received from the public concerning historic issues and a letter summarizing the comments.

Thank you for your assistance. If you have any further questions, please contact me at 253-2461 or Holly Barnett (Regions 3 & 4) at 253-2467.



TENNESSEE HISTORICAL COMMISSION
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
2941 LEBANON ROAD
NASHVILLE, TN 37243-0442
(615) 532-1550

August 2, 2004

Mr. Gerald Kline
Tennessee Department of Transportation
Environmental Planning and Permits Division
Suite 900, James K. Polk Building
505 Deaderick Street
Nashville, Tennessee 37243-0334

RE: FHWA, PHASE I ARCHAEOLOGICAL ASSESSMENT, SR-397 MACK HATCHER PKWY
WEST/REVD, FRANKLIN, WILLIAMSON COUNTY,

Dear Mr. Kline:

At your request, our office has reviewed the above-referenced archaeological survey report in accordance with regulations codified at 36 CFR 800 (Federal Register, December 12, 2000, 77698-77739). Based on the information provided, we concur that the project area contains archaeological resources potentially eligible for listing in the National Register of Historic Places. As delineated in the survey report, the main occupation areas of archaeological sites 40WM277 and 40WM312 should either be avoided by all ground-disturbing activities or subjected to Phase II archaeological testing. In addition all cemeteries within the undertaking's APE should be avoided by all ground-disturbing activities.

As noted in your correspondence, the report requires editorial attention. In particular, the projectile point identifications need to be revisited.

Upon receipt of the Phase II testing report or avoidance strategy and revised report, we will complete our review of this undertaking as expeditiously as possible. Please submit a minimum of two copies of each final report to this office in accordance with the Tennessee Historical Commission Review and Compliance Section Reporting Standards and Guidelines. Complete and/or updated Tennessee Site Survey Forms should be submitted to the Tennessee Division of Archaeology. Until such time as this office has rendered a final comment on this project, your Section 106 obligation under federal law has not been met. Please inform this office if this project is canceled or not funded by the federal agency. Questions and comments may be directed to Jennifer M. Barnett (615) 741-1588, ext. 17.

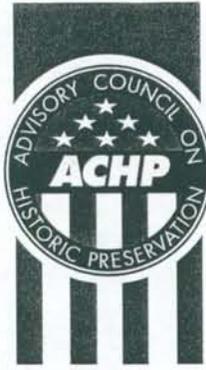
Your cooperation is appreciated.

Sincerely,

Herbert L. Harper
Executive Director and
Deputy State Historic
Preservation Officer

HLH/jmb

ENV 94-397



Preserving America's Heritage

December 13, 2004

Mr. Brian K. Brasher
Mega Project Engineer
Federal Highway Administration
Tennessee Division Office
640 Grassmere Business Park, Suite 112
Nashville, TN 37211

REF: Proposed State Route 397 (Mack Hatcher Parkway) Realignment Project
Williamson County, Tennessee

Dear Mr. Brasher:

The ACHP received your notification and supporting documentation regarding the adverse effects of the referenced project on properties listed on and eligible for listing on the National Register of Historic Places. Based upon the information you provided, we do not believe that our participation in consultation to resolve adverse effects is needed. However, should circumstances change and you determine that our participation is required, please notify us. Pursuant to 36 CFR 800.6(b)(iv), you will need to file the final Memorandum of Agreement and related documentation at the conclusion of the consultation process. The filing of the Agreement with us is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with your notification of adverse effect. If you have any questions or require further assistance, please contact Carol Legard, FHWA Liaison, at 202-606-8505.

Sincerely,

Raymond V. Wallace

Raymond V. Wallace
Historic Preservation Technician
Office of Federal Agency Programs

ADVISORY COUNCIL ON HISTORIC PRESERVATION

1100 Pennsylvania Avenue NW, Suite 809 • Washington, DC 20004

Phone: 202-606-8500 • Fax: 202-606-8447 • achp@nps.gov • www.achp.gov



TENNESSEE HISTORICAL COMMISSION
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
2941 LEBANON ROAD
NASHVILLE, TN 37243-0442
(615) 532-1550

June 8, 2005

Ms. Martha Carver
Tennessee Department of Transportation
505 Deaderick St/900
Nashville, Tennessee, 37243-0349

**RE: FHWA, DOCUMENTATION OF EFFECT, SR-397/MACK HATCHER PKWAY/SEG 17,
FRANKLIN, WILLIAMSON COUNTY**

Dear Ms. Carver:

In response to your request, received on Wednesday, June 1, 2005, we have reviewed the documents you submitted regarding your proposed undertaking. Our review of and comment on your proposed undertaking are among the requirements of Section 106 of the National Historic Preservation Act. This Act requires federal agencies or applicant for federal assistance to consult with the appropriate State Historic Preservation Office before they carry out their proposed undertakings

Based on the information provided, we concur with your determination that the project area of potential effects contains a number of properties eligible for and listed in the National Register of Historic Places.

This office further concurs with TDOT's finding of project adverse impact on these Historic Properties for proposed Segment 17. You should notify interested persons and make the documentation associated with this finding available to the public as defined at 36 CFR 800 and seek the comments of the Advisory Council on Historic Preservation.

If project plans are changed or archaeological remains are discovered during construction, please contact this office to determine what further action, if any, will be necessary to comply with Section 106 of the National Historic Preservation Act.

Your cooperation is appreciated.

Sincerely,

Herbert L. Harper
Executive Director and
Deputy State Historic
Preservation Officer

MEMORANDUM OF AGREEMENT

PROPOSED EXTENSION OF STATE ROUTE 397 (MACK HATCHER PARKWAY) FROM U.S. 31 (STATE ROUTE 6, COLUMBIA AVENUE) SOUTH OF FRANKLIN TO U.S. 431 (STATE ROUTE 106, HILLSBORO ROAD) NORTH OF THE CITY OF FRANKLIN

Submitted to the Advisory Council on Historic Preservation Pursuant to 36 CFR 800

WHEREAS, the Federal Highway Administration (FHWA) has determined that the construction of the Proposed Extension of State Route 397 (Mack Hatcher Parkway) from US 31 (State Route 6, Columbia Avenue) south of Franklin to US 431 (State Route 106, Hillsboro Road) north of Franklin in Williamson County will have an adverse effect upon the Harpeth River Historic District, eligible for inclusion in the National Register of Historic Places, which contains the National Register listed Thomas H. Perkins House, Nicholas T. Perkins House, Samuel F. Glass House, Knights of Pythias Pavilion and the formally determined eligible James B. Davis House.¹ FHWA has consulted the Tennessee State Historic Preservation Officer (TN-SHPO) pursuant to 36 CFR 800, regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C 470f); and

WHEREAS, the Tennessee Department of Transportation (TDOT) has participated in the consultation, and TDOT has been invited to be an invited signatory to this Memorandum of Agreement;

NOW THEREFORE, the FHWA and the TN-SHPO agree that the project shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on the historic properties.

STIPULATIONS

FHWA will ensure that the following measures are carried out:

1. **CONTEXT SENSITIVE DESIGN, MACK HATCHER PARKWAY:** To minimize the adverse effects of the introduction of the Mack Hatcher Parkway into the currently rural and residential Harpeth River Historic District in the City of Franklin and Williamson County, TDOT will design the Mack Hatcher Parkway utilizing a context sensitive design (CSD) process. The context sensitive approach involves all Consulting Parties and stakeholders in developing a transportation facility that fits its physical setting and preserves the scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility.

Through this process a Citizen Design Team (CDT), assisted by an Agency Resource Team (ART), will be responsible for making recommendations for the final design of this project. The design will be developed in consultation with the TN-SHPO, who will have a representative staff member on the ART and will be involved throughout the CSD

¹ Other properties within the district could eventually be formally determined individually eligible or listed in the National Register, such as the Hamilton-Brown House recently approved by Tennessee's State Review Board.

process. TDOT also will ensure that the CDT has representation from the historic preservation community of the City of Franklin and Williamson County, assigning two CDT team members to represent historic preservation interests.

2. MITIGATION, HARPETH RIVER HISTORIC DISTRICT: In order to mitigate the effects of the construction of this project, TDOT's CDT will consider design elements such as the following:

- Interchanges at State Route 96, such as at grade intersections instead of elevated or the utilization of a roundabout instead of an Urban Diamond type interchange design
- Divided highway with independent horizontal and vertical alignments
- Landscaped median and right-of-way lines
- Native landscaping, such as berms, specific plantings, and stabilized grass shoulders
- Bridge/Culvert Details, such as stone facing on the bridges and retaining walls
- Guardrail, such as Core Ten steel backed timber guardrail
- Fencing, such as epoxy coated
- Pull-offs with historical markers or exhibits describing the history of the area
- Recordation, such as archival photography to be housed at TDOT or the TN-SHPO

All proposed mitigation should reflect the rural nature of the Historic District. Again, the TN-SHPO will have an opportunity to review and comment on all proposed mitigation as a part of the ART.

3. DURATION OF THE AGREEMENT DOCUMENT: If any of the stipulations contained within the agreement document have not been implemented within ten (10) calendar years after execution of the Agreement Document, the parties to the Agreement Document shall review the Agreement Document to determine whether revisions are needed. If revisions are needed, the parties to the Agreement Document will consult in accordance with 36 CFR 800, Subpart B, to make such revisions.

4. TERMINATION: If any signatory determines that the terms of the Agreement Document cannot be carried out, the signatories shall consult to seek amendment of the Agreement Document. If the agreement is not amended, any signatory may terminate it. If the Agreement Document is terminated, the Agency Official shall either execute another Memorandum of Agreement with signatories under Sec. 800.6(c)(1) or request the comments of the Advisory Council under Sec. 800.7(a).

5. DISPUTE RESOLUTION: The final CDT recommendations will be submitted to the TN-SHPO for review and comment and the TN-SHPO will be involved throughout the CSD process. Should the TN-SHPO object within thirty days to any plans or specifications provided pursuant to this Agreement, FHWA will consult with the TN-SHPO to resolve the objection. If FHWA determines that the objections cannot be resolved, FHWA will forward all documentation relevant to the dispute to the Council, and request the further comments of the Council pursuant to 36 CFR 800.6(b).

6. COPIES: The Agency Official shall provide each signatory with a copy of any Memorandum of Agreement executed pursuant to this subpart.

Execution of this Memorandum of Agreement by the FHWA and the TN-SHPO and implementation of its terms, evidence that the FHWA has afforded the TN-SHPO an opportunity to comment on improvements to the Proposed Extension of State Route 397 (Mack Hatcher Parkway) from US 31 (State Route 6, Columbia Avenue) south of Franklin to US 431 (State Route 106, Hillsboro Road) north of Franklin in Williamson County, Tennessee, and its effects on historic properties, and that the FHWA has taken into account the effects of the undertaking on historic properties.

SIGNATORIES:

FEDERAL HIGHWAY ADMINISTRATION

BY: Bobby W. Slackton DATE: 10/19/06

TENNESSEE STATE HISTORIC PRESERVATION OFFICER

BY: Herbert R. Hayden, DSHPO DATE: 10/11/06

INVITED SIGNATORY:

TENNESSEE DEPARTMENT OF TRANSPORTATION

BY: Gerald F. Nicely / Gese DATE: 10/2/06



TENNESSEE HISTORICAL COMMISSION
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
2941 LEBANON ROAD
NASHVILLE, TN 37243-0442
(615) 532-1550

October 22, 2008

Mr. Gerald Kline
Tennessee Department of Transportation
Environmental Division
Suite 900, James K. Polk Building
505 Deaderick Street
Nashville, Tennessee 37243-0334

RE: FHWA, ARCHAEOLOGICAL ASSESSMENT, SR-397/WESTERN EXT. ALT.G/REVISED,
FRANKLIN, WILLIAMSON COUNTY, TN

Dear Mr. Kline:

At your request, our office has reviewed the above-referenced archaeological survey report in accordance with regulations codified at 36 CFR 800 (Federal Register, December 12, 2000, 77698-77739). Based on the information provided, we find that the project area contains no archaeological resources eligible for listing in the National Register of Historic Places.

If project plans are changed or archaeological remains are discovered during construction, please contact this office to determine what further action, if any, will be necessary to comply with Section 106 of the National Historic Preservation Act.

Your cooperation is appreciated.

Sincerely,

EP
E. Patrick McIntyre, Jr.
Executive Director and
State Historic Preservation Officer

EPM/jmb

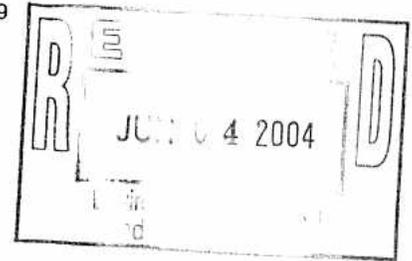
APPENDIX C

Comment Letters Received Regarding DEIS



Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, Tennessee 37902-1499

June 2, 2004



Mr. Charles E. Bush
Transportation Manager II
Tennessee Department of Transportation
Environmental Planning and Permits Division
Suite 900, James K. Polk Building
505 Deaderick Street
Nashville, Tennessee 37243-0334

Dear Mr. Bush:

PRELIMINARY DRAFT ENVIRONMENTAL IMPACT STATEMENT (PDEIS) – STATE ROUTE (SR) 397 (MACK HATCHER PARKWAY EXTENSION) FROM US 31 (SR 6, COLUMBIA AVENUE) SOUTH OF FRANKLIN TO US 431 (SR 106, HILLSBORO ROAD) NORTH OF FRANKLIN, FRANKLIN, WILLIAMSON COUNTY, TENNESSEE

Thank you for the opportunity to review the PDEIS for the proposed construction of. It appears that the major environmental issues have been addressed. We look forward to public review of the project. The following comment is offered:

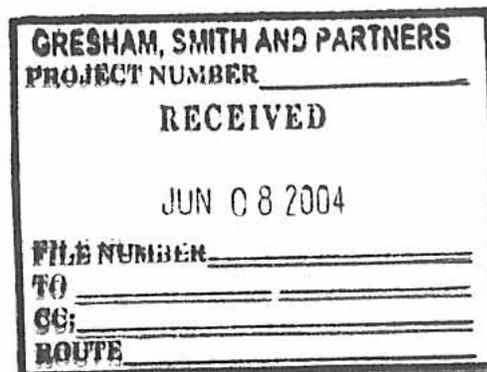
- Summary, page 4, Permits. Delete "Section 26a permit issued by TVA." The project area is outside of the Tennessee River watershed and no Section 26a approvals are required. The TVA action related to this project is construction of transmission lines, which would use one of the alternatives.
- Section 4.16, Secondary and Cumulative Impacts. The proposed TVA transmission line also has the potential to cumulatively affect resources that would be impacted by the SR 397 project. These resources, and the relative contribution of each project to the impacts on these resources, could be discussed.

TVA appreciates the opportunity to serve as a cooperating agency on this project. Should you have any questions, please contact Harold M. Draper at (865) 632-6889 or hmdraper@tva.gov.

Sincerely,

Jon M. Loney, Manager
NEPA Administration
Environmental Policy and Planning

cc: Bobby W. Blackmon
Division Administrator
Federal Highway Administration
640 Grassmere Park, Suite 112
Nashville, Tennessee 37211





REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
NASHVILLE DISTRICT, CORPS OF ENGINEERS
3701 Bell Road
NASHVILLE, TENNESSEE 37214

February 10, 2005

Regulatory Branch

SUBJECT: File No. 200101273; Proposed Mack Hatcher Parkway Extension (State Route 397),
in Franklin, Williamson County, Tennessee

Mr. Charles E. Bush
Tennessee Department of Transportation
Environmental Planning and Permits Division
Suite 900 – James K. Polk Building
505 Deaderick Sreet
Nashville, Tennessee 37243-0334

Dear Mr. Bush:

This is in response to your request for Corps of Engineers comments on the Draft Environmental Impact Statement (EIS) prepared for the SR-397 highway project in Williamson County, Tennessee. Please refer to File No. 200101273 in any future correspondence to this office concerning the subject project.

It appears jurisdictional waters would be impacted from any of the build alternatives listed in the draft EIS; thus, a Department of the Army (DA) permit would be required for any discharge of fill material into jurisdictional waters, including wetlands, pursuant to Section 404 of the Clean Water Act (CWA).

Usually this office would prefer the new road alignment to follow any existing roads to the extent possible in order to minimize the environmental impacts. This office is particularly concerned with the preferred alternative selection based upon the least environmental damaging alternative, especially upon waters of the U.S. This office makes the following recommendations to the draft EIS:

1. It is recommended that the EIS list the waters of the U.S. that would be impacted with each build alternative. Also, if known prior to finalizing the EIS, it would be helpful for permit evaluation to indicate if the stream impacts are from channel relocations, bridge and/or culvert construction. This office does recommend to avoid and/or minimize the environmental impacts from the alignment selection to the extent possible.
2. The draft EIS mentioned that 18 streams are located within the proposed alignments, that are represented by blue-lines on the Leipers Fork 7.5 minute quadrangle. However, this is not always conclusive of all streams and wetlands that are present in the field and that would require a DA permit, if discharge of fill material is required. Also, the mention that

-2-

18 streams, with ten streams labeled as ephemeral and the remaining eight streams were determined to be perennial, has not been verified by this office. Sometimes, dry stream beds are not always ephemeral, but can also be intermittent streams. A stream verification would need to be performed by the permitting agencies to finalize this jurisdictional determination.

3. Page 4-25 mentions that no wetlands would be impacted by the build alternatives, however, page 4-27, states that wetland were located along some sections of the alternatives. This should be clarified, such as if wetlands were located within the alignments, but would not be impacted and/or filled. Wetland delineation forms should be made available for this jurisdictional determination. Also, the wetland determination needs to be verified by the permitting agencies prior to processing a DA permit.
4. If pictures are available of the streams and/or wetland areas that would potentially be impacted from the highway, it would be helpful to attach these pictures in an appendix.
5. Mitigation for the stream and/or wetland impacts is not discussed in the draft EIS. It would be helpful for the reader to know that mitigation would be proposed for any stream and/or wetland impacts. List any details of the mitigation plans, if known at this time.
6. Section 3.4.4 describes the floodplain information as it relates to this project. This section states that the floodway is confined to the rim of the riverbank. This statement is not accurate. Nowhere along the reach of the Harpeth River is the floodway confined to the rim of the riverbank. In many areas the floodway width is as much or more than half of the floodplain width.
7. Federal Emergency Management Agency (FEMA) regulations prohibit encroachments, including fill, new construction, substantial improvements, and other development with the adopted regulatory floodway unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels within the community during the occurrence of the base flood discharge. This "no-rise" certification must be completed and approved by the local government responsible for administering the NFIP regulations.
8. After review of the project site, the proposed highway project does not conflict with any projects that the Nashville District Planning Division is currently studying or that have been recommended for approval.

As mentioned in a previous letter, the stream crossings and wetland fill activities would be subject to DA permit authorization prior to construction of the work. To the extent possible, your design scheme should avoid impacts or adverse modification to these waters, consistent with DA permit evaluation requirements for mitigation (i.e., impact avoidance, impact minimization, and compensatory mitigation in sequential order). Therefore, we encourage a construction plan that would avoid wetland and stream impacts to the extent possible. You should submit applications, plans of the work, locations of the crossings, wetland impacts, mitigation, and any supporting environmental documentation in a timely manner to obtain the necessary permits for the work.

-3-

I am available to participate in any onsite inspections of the construction corridor in an effort to identify waters of the United States that would be subject to Corps regulatory authority. We are also available to attend preapplication meetings to discuss aquatic resource impact avoidance and minimization.

Thank you for coordinating the draft EIS with this office for our comments. If we can be of further assistance or if you have any questions, please contact me at the above address, telephone number 615-369-7509.

Sincerely,

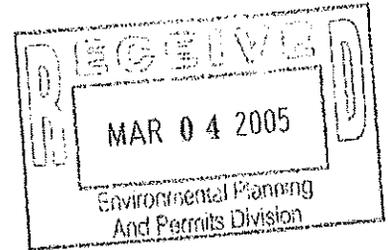
A handwritten signature in black ink, appearing to read "Amy Robinson", with a large, sweeping flourish extending to the right.

Amy M. Robinson
Project Manager
Operations Division



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

FEB 25 2005



Charles Bush
Transportation Manager II
Tennessee Department of Transportation
Environmental Planning and Permits Division
James K. Polk Building, Suite 900
505 Deaderick Street
Nashville, Tennessee 37243-0334

SUBJECT: Draft Environmental Impact Statement for State Route 397 (Mack Hatcher Parkway Extension) from U.S. 31 south of Franklin to U.S. 431 north of Franklin in Williamson County, Tennessee; CEQ Number 040559

Dear Mr. Bush:

The U.S. Environmental Protection Agency (EPA) has reviewed the referenced Draft Environmental Impact Statement (EIS) in accordance with its responsibilities under Section 309 of the Clean Air Act and Section 102(2)(C) of the National Environmental Policy Act. The Tennessee Department of Transportation (TDOT) and the Federal Highway Administration (FHWA) propose to complete State Route 397, Mack Hatcher Parkway, around the west side of the City of Franklin from U.S. 31 to U.S. 431 in Williamson County, Tennessee.

The proposed action includes construction of a four-lane divided, limited access facility on primarily new alignment approximately eight to ten miles in length, depending upon which alternative is selected. When combined with the existing Mack Hatcher Parkway, this project would create a complete loop around the City of Franklin and provide improved connectivity throughout the region. A total of seven alternatives were considered, including six build alternative alignments and the no action alternative. No preferred alternative was identified.

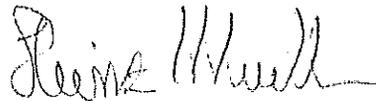
Based on our review of the Draft EIS, EPA has several concerns related to the potential for significant impacts to water quality of the proposed action. The Harpeth River, West Fork Harpeth River, and other waterbodies in the project area do not currently meet state water quality standards. In particular, the overall Harpeth River watershed has received quite a bit of attention related to development of total maximum daily loads (TMDL) for sediment and nutrient problems. The Draft EIS does not contain sufficient information for EPA to fully assess environmental impacts of the proposed project. A number of specific comments related to the adequacy of the Draft EIS and the need for additional information are attached for your consideration.

Based on the information provided in the Draft EIS, EPA recommends selection of

Alternative A as the preferred alternative as it appears to accomplish the overall purpose and need with less overall environmental impacts, as compared to the other build alternatives. EPA has concerns about greater direct and indirect impacts to the Harpeth River Historic District and other sensitive resources from the other alternatives.

We rate this document and all alternatives as EC - 2 (enclosed is a summary of definitions for EPA ratings). We have identified environmental impacts that should be avoided in order to adequately protect the environment. Corrective measures may require changes to the alternatives or application of additional mitigation measures that can reduce the environmental impact. The identified additional information, data, analyses, or discussion should be included in the Final EIS to justify selection of a preferred alternative. We recommend selection of Alternative A as the preferred alternative. We appreciate the opportunity to review the proposed action. Please contact Ben West at (404) 562-9643 if you want to discuss our comments.

Sincerely,

A handwritten signature in cursive script, appearing to read "Heinz Mueller".

Heinz J. Mueller, Chief
NEPA Program Office
Office of Policy and Management

Enclosures

cc: Federal Highway Administration - Tennessee Division

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL IMPACT STATEMENT (EIS) RATING SYSTEM CRITERIA

EPA has developed a set of criteria for rating Draft EISs. The rating system provides a basis upon which EPA makes recommendations to the lead agency for improving the draft.

RATING THE ENVIRONMENTAL IMPACT OF THE ACTION

- LO (Lack of Objections) The review has not identified any potential environmental impacts requiring substantive changes to the preferred alternative. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposed action.
- EC (Environmental Concerns) The review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact.
- EO (Environmental Objections) The review has identified significant environmental impacts that should be avoided in order to adequately protect the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). The basis for environmental Objections can include situations:
 1. Where an action might violate or be inconsistent with achievement or maintenance of a national environmental standard;
 2. Where the Federal agency violates its own substantive environmental requirements that relate to EPA's areas of jurisdiction or expertise;
 3. Where there is a violation of an EPA policy declaration;
 4. Where there are no applicable standards or where applicable standards will not be violated but there is potential for significant environmental degradation that could be corrected by project modification or other feasible alternatives; or
 5. Where proceeding with the proposed action would set a precedent for future actions that collectively could result in significant environmental impacts.
- EU (Environmentally Unsatisfactory) The review has identified adverse environmental impacts that are of sufficient magnitude that EPA believes the proposed action must not proceed as proposed. The basis for an environmentally unsatisfactory determination consists of identification of environmentally objectionable impacts as defined above and one or more of the following conditions:
 1. The potential violation of or inconsistency with a national environmental standard is substantive and/or will occur on a long-term basis;
 2. There are no applicable standards but the severity, duration, or geographical scope of the impacts associated with the proposed action warrant special attention; or
 3. The potential environmental impacts resulting from the proposed action are of national importance because of the threat to national environmental resources or to environmental policies.

RATING THE ADEQUACY OF THE ENVIRONMENTAL IMPACT STATEMENT (EIS)

- 1 (Adequate) The draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.
- 2 (Insufficient Information) The draft EIS does not contain sufficient information to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the proposal. The identified additional information, data, analyses, or discussion should be included in the final EIS.
- 3 (Inadequate) The draft EIS does not adequately assess the potentially significant environmental impacts of the proposal, or the reviewer has identified new, reasonably available, alternatives, that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. The identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. This rating indicates EPA's belief that the draft EIS does not meet the purposes of NEPA and/or the Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS.

**Draft Environmental Impact Statement for
State Route 397 (Mack Hatcher Parkway Extension) from
U.S. 31 south of Franklin to U.S. 431 north of Franklin in
Williamson County, Tennessee**

SPECIFIC EPA REVIEW COMMENTS

Pages 1-7 through 1-9 (Traffic Volumes) – There appear to be a number of discrepancies between the projected traffic volumes shown in Table 1-3 and Figures 1-3 and 1-4. These should be corrected, along with any changes to Level of Service calculations, in the Final EIS.

Page 4-3 through 4-12 (Environmental Justice) – EPA appreciates the level of analysis that was conducted to determine the extent to which the project disproportionately impacts low-income and minority communities. However, it was difficult to compare the relative impacts of each alternative because the data was not summarized appropriately for each build alternative. EPA recommends reformatting this section to include summary tables of impacts (relocations, noise, etc.) to low-income and minority communities for each alternative (not by individual segment).

Page 4-18, Section 4.7 (Pedestrian and Bicyclists Considerations), 1st Full Paragraph – The Mack Hatcher Parkway has been identified as a corridor to contain a multi-use path (Figure 3-3 shows a future bicycle route as part of this facility). The Draft EIS states that additional coordination is required to implement this concept in the right-of-way. EPA supports development of a multi-use facility to include bicycle and pedestrian considerations and using a Context Sensitive Design (CSD) process to assist in the design of these aspects of the project. However, the future sidewalks and/or bicycle portions of the proposed facility should be reflected as part of the typical section identified in Chapter 2. In addition, EPA recommends completion of the CSD process before completion of the Final EIS and Record of Decision (ROD). These elements should be considered equal parts of the overall project, and the design of the facility should reflect this process in the ROD.

Page 4-18, Section 4.8 (Air Quality Impacts) – There is no mention in the Draft EIS of the current air quality status for Williamson County with regards to the one-hour and eight-hour ozone standard, as well as the Early Action Compact activities for the Nashville metropolitan area. The Final EIS should include a discussion of how the preferred alternative will meet air quality conformity objectives for the Nashville metropolitan region based on the new designations. In addition, the emissions analysis should utilize EPA's MOBILE 6 mobile source emissions factor model, not MOBILE 5b. MOBILE 6 is EPA's most up-to-date vehicle emissions modeling software and should be used for all mobile source air quality modeling efforts.

Pages 4-25 and 4-26, Section 4.10.2 (Streams) – There is no mention in the Draft EIS of the existing water quality of waterbodies in the study area (Chapter 3 – Affected Environment) or in this section describing the impacts of the project on water quality. In addition, there is no

mention of any proposed mitigation for impacts to jurisdictional waters in the study area. The Final EIS needs significant improvement in this category as there are several waterbodies in the project study area that do not meet state water quality standards. In particular, the Harpeth River mainstem and overall watershed has received quite a bit of attention related to development of total maximum daily loads (TMDL) for sediment and nutrient problems. The EPA-approved sediment TMDL identifies necessary sediment load reductions of 66 percent in the mainstem Harpeth River and 33 percent in the West Fork Harpeth River and other tributaries in the study area. The EPA-approved organic enrichment/low dissolved oxygen TMDL identifies the need for even greater reductions in nitrogen and phosphorus loadings in the same waterbodies.

EPA is concerned about further degradation of water quality as a result of project implementation (construction and operation). Proper control of stormwater runoff during construction will be critical. While nutrient loadings are not necessarily associated with road construction, much of the land in the project area is farmland with existing high sediment nutrient loads. Construction activities have the potential to introduce sediments in adjacent waterbodies that could exacerbate problems relative to increasing sediment oxygen demand which affects dissolved oxygen levels.

As identified in the TMDLs, the primary challenge for the reduction of sediment loading from construction sites is effective compliance monitoring of all requirements specified in the permit and timely enforcement against construction sites not found to be in compliance with the permit. In the Final EIS, TDOT should identify the specific Best Management Practices (BMPs) to be applied to attain appropriate reductions in sediment loads and what additional monitoring will be conducted to achieve pollutant reductions. To mitigate for water quality impacts associated with construction of road crossings and bridges, EPA recommends identifying opportunities in the project vicinity to expand riparian buffers adjacent to the mainstem Harpeth River and smaller tributaries. Also in accordance with the established Sediment TMDL for the Harpeth River Watershed, EPA recommends inclusion of the following requirements to address potential stormwater impacts:

- More frequent (weekly) inspections of erosion and sediment controls.
- Inspections and the condition of erosion and sediment controls must be reported to the Division of Water Pollution Control (DWPC).
- The Storm Water Pollution Prevention Plan must be submitted to DWPC prior to disturbing soil at the construction site

To further assist in the long-term reduction of pollutant loadings to impaired surface water resources in the project area, EPA recommends that all storm water runoff from the proposed roadway be collected and treated before being discharged to surface waters.

Page 4-26, Section 4.10.3 (Groundwater Impacts) -- The Draft EIS identifies a number of sinkholes in the project area due to the presence of karst topography. The Draft EIS states that, "Preventive measures and engineering controls will be implemented to prevent contamination and/or collapse." EPA recommends identification of the specific measures and controls in the

Final EIS. Clearly, avoidance of sinkholes is the most important step that can be taken to minimize impacts to groundwater. EPA recommends identification of appropriate recharge zone buffers around identified sinkholes to be used during selection of the preferred alternative and in final road location.

Pages 4-27 and 4-28, Section 4.10.4 (Wetland Impacts) – The text on Page 4-27 does not match the information shown in Figure 4-4. A number of other “wetland” or “ecological” features are identified on Figure 4-4, but not discussed in the text. This should be corrected in the Final EIS. In addition, there is not an adequate discussion of the “field survey” methods used for the wetlands analysis. For example, the Draft EIS identifies a number of areas adjacent to the proposed alignments as “farm ponds”, presumably not jurisdictional waters. However, there is no information provided to support this conclusion. This should also be corrected in the Final EIS.

Page 4-30, Section 4.10.6 (Floodplain Impacts) – EPA supports use of bridging structures for Segments 16 and 18 to minimize impacts of the project to the Harpeth River and designated 100-year floodplain. EPA also recommends

Page 4-42, Section 4.16 (Secondary and Cumulative Project Impacts) – The Draft EIS states that the proposed roadway will be a catalyst for land use change in the corridor. EPA is concerned about the environmental effects of secondary development in the project study area that would come about as an indirect result of the new roadway. The surrounding land obviously has important historical significance (e.g., Harpeth River and Winstead Hill/Harrison Historic Districts). In addition, we have concerns about further degradation of water quality from continued development in the Harpeth River watershed. Therefore, EPA recommends that TDOT consider additional mitigation measures to protect these sensitive resources. EPA defers to the Tennessee State Historic Preservation Office with regards to necessary actions that would serve to mitigate the adverse effects of this project on eligible historic properties in the project area. The list of mitigation measures contained in the Section 4(f) evaluation seem like a good start. However, given the concerns about future development in the project vicinity, it would also seem appropriate to consider some preservation actions, as well as access control options, to save these important resources before they are permanently destroyed.

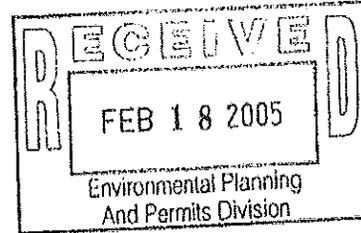


U.S. Department
of Transportation
Federal Aviation
Administration

Airports District Office, FAA
2862 Business Park Drive, Building G
Memphis, Tennessee 38118-1555
(901) 322-8180 FAX: (901) 322-8195

February 16, 2005

Mr. Charles E. Bush, Transportation Manager II
Environmental Planning and Permits Division
Tennessee Department of Transportation
900 James K. Polk Building
505 Deaderick Street
Nashville, TN 37243-0034



Dear Mr. Bush:

This is in response to your request for review of a draft environmental impact statement to Ms. LaVerne Reid State Highway 397 (Mark Hatcher Parkway Extension) in the vicinity of Franklin, TN.

There does not appear to be any public use airports within the proposed project area. As long as construction activities do not exceed 200 feet in height above ground level, there will be no impacts on Federal Aviation Administration programs and no Notice of Proposed Construction will be required.

Thank you for the opportunity to review the proposal.

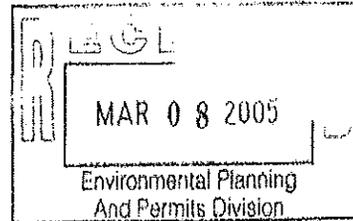
Sincerely,

Michael L. Thompson
Program Manager



Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, Tennessee 37902-1499

March 4, 2005



Mr. Charles E. Bush
Transportation Manager II
Tennessee Department of Transportation
Environmental Planning and Permits Division
Suite 900, James K. Polk Building
505 Deaderick Street
Nashville, Tennessee 37243-0334

Dear Mr. Bush:

DRAFT ENVIRONMENTAL IMPACT STATEMENT (PDEIS) – STATE ROUTE (SR) 397 (MACK HATCHER PARKWAY EXTENSION) FROM US 31 (SR 6, COLUMBIA AVENUE) SOUTH OF FRANKLIN TO US 431 (SR 106, HILLSBORO ROAD) NORTH OF FRANKLIN, FRANKLIN, WILLIAMSON COUNTY, TENNESSEE

Thank you for the opportunity to review the DEIS for the proposed construction of the Mack Hatcher Parkway Extension in Williamson County. It appears that the major environmental issues have been addressed. The following improvements are suggested:

Summary, page 3, Other Issues. Consider replacing the section with the following text:

The Tennessee Valley Authority (TVA) is planning to locate a new transmission line within the study area to connect to Middle Tennessee Electric Corporation's (MTEMC) planned substation. Coordination has been ongoing between TVA and TDOT to co-locate the transmission line and transportation corridor to the maximum extent possible in an effort to reduce environmental impacts to the study area. TVA identified their South Mack Hatcher Alternative as the preferred transmission line route and issued a Final Environmental Assessment (FEA) and Finding of No Significant Impact (FONSI) on October 18, 2004.

Summary, page 4, Permits. Delete the following bullet:

- A Section 26A Permit issued by the Tennessee Valley Authority, and

Section 2.5, Tennessee Valley Authority Coordination, page 2-27. Consider replacing the section with the following text:

TVA plans to construct a new 161-kV transmission line from Middle Tennessee Electric Corporation's (MTEMC) existing Aspen Grove Substation to MTEMC's planned Westhaven Substation in the West Franklin area. TDOT has coordinated the planned efforts of the Mack Hatcher Parkway Extension with the planned transmission line. TVA issued a Final Environmental Assessment and Finding Of No Significant Impact on October 18, 2004, which identified their South Mack Hatcher Parkway Alternative as their preferred route. The preferred route would share portions of each of Mack Hatcher Parkway Extension

Mr. Charles E. Bush
Page 2
March 4, 2005

Segments 15, 16, and 18. TVA's transmission line would parallel Mack Hatcher Parkway from the Aspen Grove Substation to Hillsboro Road (US 431) and would extend across Hillsboro Road continuing over Baugh Bend and into the Harpeth River Historic District parallel to Segment 16. After crossing the Harpeth River, the transmission line would then turn south until it neared Del Rio Pike, where it would turn west parallel and just north of Del Rio Pike and adjacent to Segment 18. The transmission line would continue to parallel Segment 18 until turning south and paralleling Segment 15 and 13 ending at the planned Westhaven Substation. TDOT will continue coordination efforts with TVA throughout the project development phase of this study.

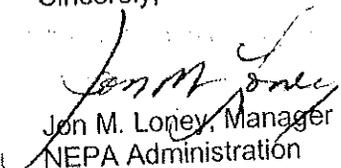
On **page 2-28**, TVA recommends deleting the table. TVA has identified the South Mack Hatcher Parkway Alternative as the preferred transmission line route. In addition, the description of the two draft northern and southern routes as described in this table no longer reflect the final TVA North and South Mack Hatcher Parkway Alternatives which were considered in our Environmental Assessment of the transmission line.

Section 3.4.3 Threatened and Endangered Species, page 3-10, and **Section 4.10.5, page 4-29**, Table of Endangered and Threatened Species.

Change "Egger's" to "Eggert's"
Change "Bendroica" to "Dendroica"
Change "luteovinctum" to "luteovinctum"

TVA appreciates the opportunity to serve as a cooperating agency on this project. Should you have any questions, please contact Harold M. Draper at (865) 632-6889 or hmdraper@tva.gov.

Sincerely,



Jon M. Loney, Manager
NEPA Administration
Environmental Policy and Planning

cc: Mr. Bobby W. Blackmon
Division Administrator
Federal Highway Administration
640 Grassmere Park, Suite 112
Nashville, Tennessee 37211



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

Division of Natural Heritage
14th Floor L&C Tower
401 Church Street
Nashville, Tennessee 37243-0447
Phone 615/532-0431 Fax 615/532-0231

February 16, 2005

Mr. Charles Bush
Transportation Manager II
Environmental Planning & Permits Division
Tennessee Department of Transportation
505 Deaderick Street, Suite 900
Nashville, TN 37243

**SUBJECT: Draft Environmental Impact Statement, State Highway 397
Williamson County, Tennessee
Project # FHWA TN-EIS-04-01-D**

Dear Mr. Bush:

Thank you for your letter and enclosures of December 6, 2004 regarding the above-referenced proposed highway improvement. This project would involve the completion of State Highway 397 (Mark Hatcher Parkway) around the City of Franklin, from US 31 south of Franklin to US 431 north of Franklin in Williamson County, Tennessee. This project is approximately 8 to 10 miles long, depending upon which alternative is selected as the preferred Build Alternative. We have reviewed the information submitted and offer the following comments for consideration.

Table 4-20 documents the Federal and State listed plant and animal species known from Williamson County, and accurately represents the data which the Division of Natural Heritage (DNH) currently has in our rare species database. We are, however, unclear why a review of our database by TDOT on November 10, 2004 returned 'no species of concern' (Section 3.4.3). What parameters/buffers did TDOT use when reviewing the database? Is TDOT only considering federally listed species? An in-house review of the same database indicates that four state listed species documented in Table 4-20 are known to occur within a 2-mile radius of the proposed highway alignments:

Scientific Name	Common Name	Federal Listing	State Listing
<i>Arenaria fontinalis</i>	Water stitchwort	--	T

Lesquerella densipila	Duck River bladderpod	--	T
Perideridia Americana	Thicket parsley	--	E
Percina phoxocephala	Slenderhead darter	--	D

The DNH encourages TDOT to choose a highway alignment which will minimize impacts to these rare species, should they be found in the immediate project area. Our review did not return any documented conservation sites, natural areas, or scenic rivers within the project area. Please keep in mind, however, that not all areas of Tennessee have been surveyed and that a lack of records for any particular area is not a statement that rare species or unique features are absent from that area.

We thank you for considering Tennessee's rare species throughout the planning and implementation of this project. Should you have any questions, please do not hesitate to contact me at (615)532-0440.

Sincerely,

Kirstin Condict
Data Manager



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
WATER SUPPLY

9th Floor, 401 Church Street
Nashville, Tennessee 37243-1549
Phone: (615) 532-0191; Fax: (615) 532-0503

January 31, 2005

Mr. Charles E. Bush
Transportation Manager II
Tennessee Department of Transportation
Environmental Division
Suite 900 James K. Polk Building
505 Deaderick Street
Nashville, Tennessee 37243-0334

RE: Request for Comments, Draft Environmental Impact Statement, State Highway 397 (Mack Hatcher Parkway Extension) From US 31 (State Route 6, Columbia Avenue) south of Franklin to US 431 (State Route 106, Hillsboro Road) north of Franklin, Williamson County Tennessee
Project No. #FHWA-TN-EIS-04-01-D

Mr. Bush:

The Division of Water Supply has received and reviewed the draft Environmental Impact Statement for the Mack Hatcher Parkway Extension project and would like to thank the Department of Transportation for the opportunity to comment on this plan.

Safe Dams Program:

A file review was conducted of all registered sites in the Safe dam program. The project will be in the passing through the recharge area of Walker Dam (south of segment 9) and Gentry Dam (west of segment 14). Sediment and erosion control measures should be incorporated in these areas to maintain the quality of the waters contained with in these water bodies. The owners of these dams should be notified if any blasting is to take place in the area around these facilities. The contact information can be obtained from Mr. Lyle Bentley Manger of the Safe Dams Section in the Division of Water Supply. Mr. Bentley may be reached by e-mail Lyle.Bentley@state.tn.us reached at (615) 532-0154. See Attachment A.

Mr. Bush
Comments on Draft Environmental
Impact Statement, State Highway 397
(Mack Hatcher Parkway Extension)
January 31, 2005
Page 2

Wellhead Protection Program:

A review of the community and non-community water supplies in the area show that the proposed routes do not intersect any wellhead or source water protection areas. Please note the proposed route section 16 does cross the Harpeth River. The next surface water system is located several miles from the crossings. Any information on the Source Water/Wellhead Protection areas can be directed to Mr. Thomas A. Moss Manager Groundwater Management Section. Mr. Moss may be reached by e-mail Tom.Moss@state.tn.us or by telephone at (615) 532-0170.

Water Well Program:

A file review was conducted of all the registered private water wells within this proposed route. A copy of the file is attached to this letter. Please be advised that not all the water wells that are in existence are on this database and that there may be older wells that we have no record of as well as hand dug wells whose existence we would not have recorded. Please be advised that there are several springs in the area that may also be used as private water supplies. Please see Attachment B for a list of wells in the area. All water wells that are encountered should be plugged and abandoned by a licensed well contractor. Any information related to the Water Well Program can be directed to Mr. Luke Ewing Manager Water Well Program. Mr. Ewing can be reached by e-mail Luke.Ewing@state.tn.us or by telephone at (615) 532-0176.

The plan for the proposed project locates the project in a karst area; the county you are working in is in mature karst terrain and has abundant sinkholes and other karst features. I did not find anywhere in the plan that addressed construction and drainage around/through sinkholes.

In Tennessee the modification of sinkholes is regulated under the Underground Injection Control (UIC) Program, which is housed in the Ground Water Management Section. If there is to be a modification of any sinkhole on this project it will be necessary for you to have a letter of authorization from the UIC program to proceed. You will need to contact Scotty Sorrells of my staff to file the application and obtain the authorization.

Our requirements for erosion control in the vicinity of sinkholes is basically the same as erosion control plan around streams required by, the Division of Water Pollution Control. The erosion control plan for sinkholes will need to show a similar work way corridor as for streams. The following are what we require for those entities we regulate:

- 1) If at any time during the clearing or construction of the property a karst feature is discovered then all work around the area is to stop. Erosion control devices straw bales and silt fence are to be placed and this Division is to be notified within twenty-four (24) hours of the discovery.
- 2) Install silt fence and straw bales along the entire edge of the sinkhole and around any potential conduit that the water may use to enter the ground water prior to any construction.
- 3) Note that silt fences are used as a temporary diversion features and generally have a life expectancy of three (3) months.
- 4) All straw bales shall be placed in a single row, with ends of adjacent bales tightly abutting on another. The barrier shall be entrenched and back filled. A trench shall be excavated the width of a bale and the length of the proposed barrier to a minimum depth of four (4) inches. After the bales are staked and chinked, the excavated soil shall conform to the ground level on the down gradient side and shall be built up to four (4) inches against the up gradient side of the barrier.
- 5) After every storm event the entire silt fence must be inspected and any needed repairs done at that time. Should any damage occur due to traffic or any other activity the fence must be repaired before the end of each work day.
- 6) Straw bale barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Necessary repairs to barriers or replacement of bales shall be accomplished promptly. Sediment deposits must be removed when the level of deposition reaches approximately one-half the height of the barrier. Any sediment deposits remaining in place after the straw bale barrier is no longer required shall be dressed to conform to the existing grade, prepared and seeded.
- 7) The silt fence and straw bales must remain in place and in good working condition throughout the entire development of the property, and until the disturbed area has been stabilized.

Once the final route of the project has been determined, we will also need a map(s) showing the sinkholes identified before construction that will be modified. At the completion of construction we will also need a map with all the sinkholes that have been modified showing notations with latitudes and longitudes as to the modification performed on the sinkhole. Note that the sinkholes which show on a 7 ½ minute quadrangle topographic map are by no means a complete representation (they typically represent about 5 - 20% of the actual sinkholes).

Mr. Bush
Comments on Draft Environmental
Impact Statement, State Highway 397
(Mack Hatcher Parkway Extension)
January 31, 2005
Page 4

Please be advised that the sinkhole is considered the entire closed depression whether there is an open throat or not and not just the area near an open throat.

Extreme caution should be used in the filling and construction on or in a sinkhole. It may be necessary to add extra support over the expanse of a sinkhole, even after the sinkhole has been filled. A sinkhole by nature is an unstable geologic area, which has no permanent means of stabilization and is subject to times of movement and settling. This uncontrollable movement may cause some damage to any permanent structure placed on or around the karst feature. The State of Tennessee assumes no responsibility in potential consequences of building on filled depressions of any kind at any time.

Please note also that you may encounter other Class V systems in the form of Large Capacity Subsurface Fluid Disposal Systems (SFDS) at various commercial businesses you may encounter. If any business along the route are being relocated or are connecting to the system that are currently using a SFDS then they should be properly plugged and abandoned.

If you have any questions, feel free to call me at (615) 532-0152 or Scotty Sorrells at (615) 532-9224.

Sincerely,



Thomas A. Moss
Manager Ground Water Management Section
Source Water Protection Coordinator
Division of Water Supply

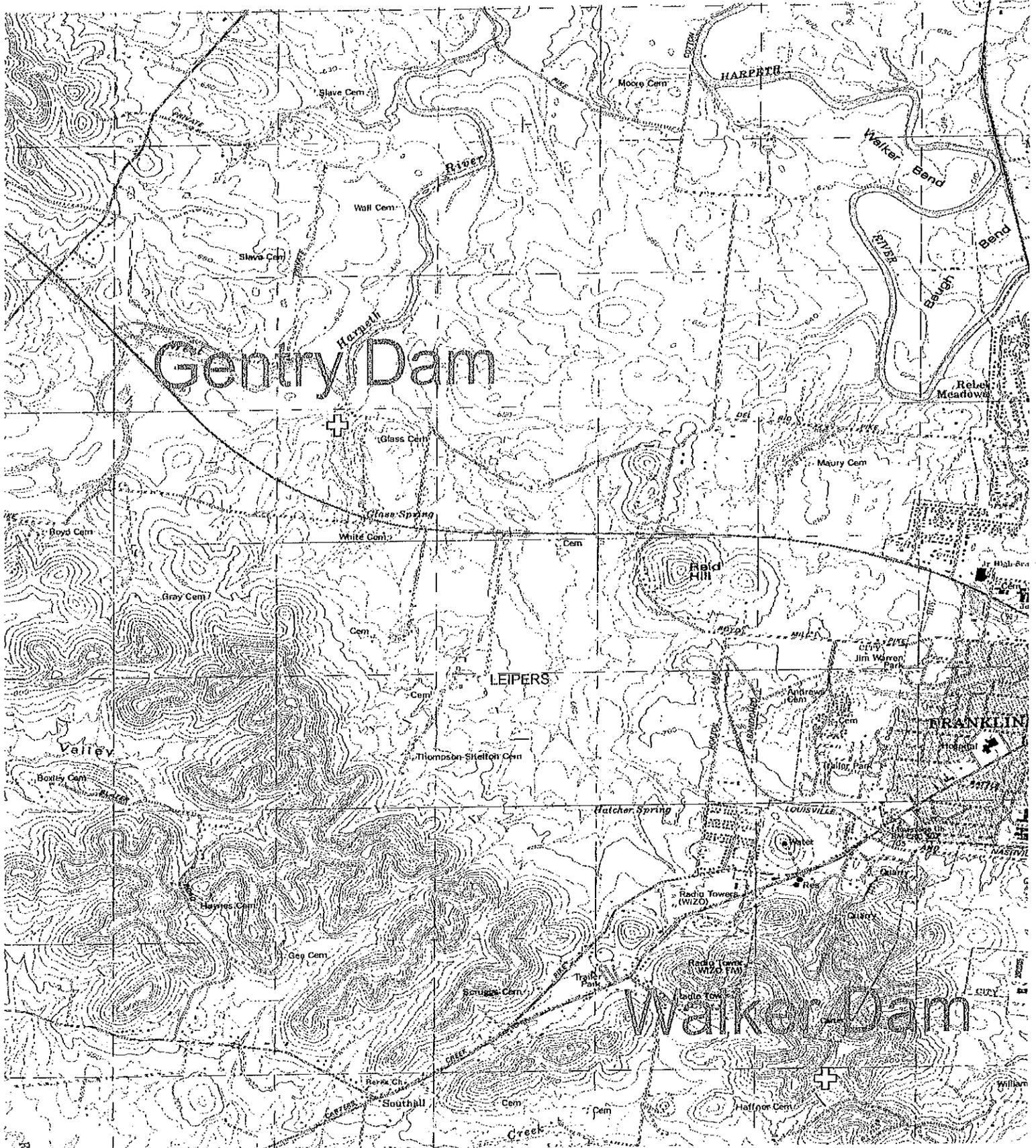
c: Scotty Sorrells, DWS-GWMS UIC Coordinator
Lukc Ewing, DWS Manager Water Well Program
Lyle Bentley, DWS Manager Safe Dams Program

ATTACHMENT A

Registered Dams with the State Safe Dams Program

PROPOSED ROUTE

Leipers Fork Quadrant Dams Program

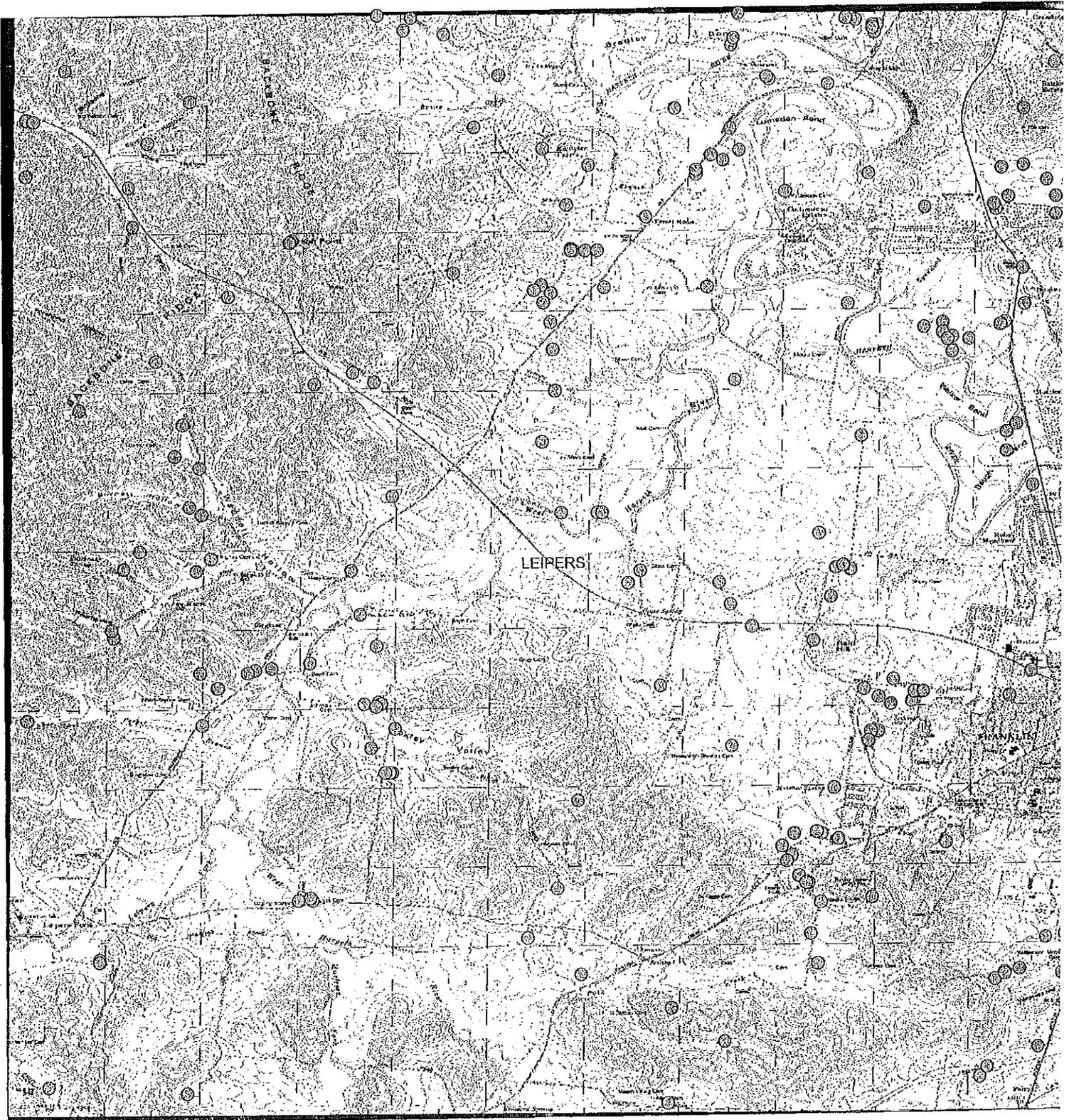


ATTACHMENT B

WELL LOCATIONS ALONG

PROPOSED ROUTE

Leipers Fork Quadrat Water Wells





STATE OF TENNESSEE
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
ENVIRONMENTAL ASSISTANCE CENTER
711 R. S. GASS BOULEVARD
NASHVILLE, TENNESSEE 37216
PHONE (615) 687-7000 STATEWIDE 1-888-891-8332 FAX (615) 687-7078

January 19, 2005

Mr. Charles E. Bush
Transportation Manager II
Department of Transportation
Environmental Division
Suite 900, James K. Polk Building
505 Deaderick Street
Nashville, Tennessee 37243-0334

Subject: Draft Environmental Impact Statement, State Highway 397 (Mack Hatcher Parkway Extension) From US 31 (State Route 6, Columbia Avenue) south of Franklin to US 431 (State Route 106, Hillsboro Road) north of Franklin, Williamson County, Tennessee, Project # FHWA-TN-EIS-04-010D

Dear Mr. Bush:

You recently wrote a letter, dated December 3, 2004, to Mr. Mike Apple, Director of the Tennessee Department of Environment and Conservation's Division of Solid Waste Management regarding a Draft Environmental Impact Statement for the subject project and requested comments from this Division. Your letter and the draft impact statement were forwarded to this office for a response. Members of our staff have evaluated the proposal and found no issues that are of concern to the projects and programs of this Division.

If you have any questions about our determination or if we may be of assistance to you, feel free to contact me by telephone at 615-687-7019.

Sincerely,

Al Majors
Al Majors

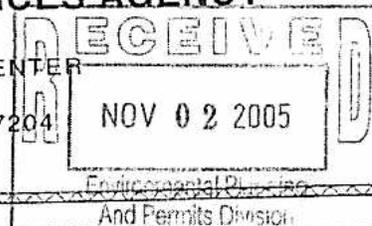
Division of Solid Waste Management, Nashville Field Office

cc: Mike Apple, DSWM/CO
Frank Padovich, DSWM/NFO



TENNESSEE WILDLIFE RESOURCES AGENCY

ELLINGTON AGRICULTURAL CENTER
P. O. BOX 40747
NASHVILLE, TENNESSEE 37204



October 28, 2005

Charles Bush
State of Tennessee
Department of Transportation
Suite 700, James K. Polk Building
Nashville, TN 37243-0349

Re: Comments Concerning the Draft Environmental Impact Statement – State Highway 397 (Mack Hatcher Parkway Extension) From US 31 (State Route 6, Columbia Avenue) south of Franklin to US 431 (State Route 106, Hillsboro Road) north of Franklin, Williamson County Tennessee, Project #FHWA-TN-EIS-04-01-D

Dear Mr. Bush:

The Tennessee Wildlife Resource Agency would prefer that Alternative Alignment G be selected if the proposal includes an elevated roadway to traverse the Harpeth River 100-year floodplain and bridges that would span the Harpeth River. In our opinion Alternative G with the above conditions would provide, in general, the least environmental impacts of any alternatives. We encourage the consideration of an elevated roadway to traverse Harpeth River 100-year floodplain and bridges that would span the Harpeth River to reduce floodplain impacts. We encourage continued consultation with our agency in future phases of this project to further reduce impacts to fish and wildlife resources.

We thank you for the opportunity to comment on this supplemental draft environmental impact statement and look forward to working with TDOT personnel in the future to reduce the impact to fish and wildlife resources associated with this project.

Sincerely,

Robert M. Todd
Fish and Wildlife Environmentalist

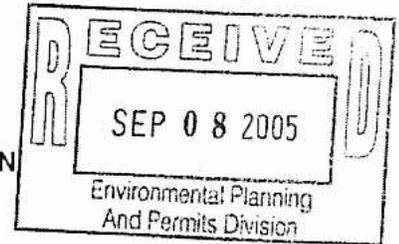
cc: David Sims, Region II Habitat Biologist
Steve Patrick, Region II Manager
USFWS, EPA, WPC

The State of Tennessee

AN EQUAL OPPORTUNITY EMPLOYER



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
9th Floor L&C Annex, 401 Church Street
Nashville, Tennessee 37243-1531



September 2, 2005

Mr. Charles E. Bush
Department of Transportation
Environmental Division
Suite 900, James K. Polk Building
505 Deaderick Street
Nashville, TN 37243-0334

Dear Mr. Bush:

The Division of Air Pollution Control has reviewed your project summary for the proposed extension of State Route 397 (Mack Hatcher Parkway) in Williamson County. This project is in an ozone maintenance area and is therefore subject to Chapter 1200-3-34, Transportation Conformity. My staff has verified that the project is included in the Nashville Area Metropolitan Planning Organization's latest approved Long Range Transportation Plan, so the requirements of 1200-3-34 are met.

Appendix A of the Draft EIS, *Initial Coordination Letter Responses*, contains a letter from me regarding a different project. Our records indicate we sent a letter to you in July of 2001 regarding the Mack Hatcher Parkway Extension. Our comments in that letter remain the same.

This agency's only other interest, above what would be addressed through the standard NEPA process, concerns the control of fugitive dust and equipment exhaust emissions during the construction phase, and the assurance that any structures requiring demolition are asbestos free, as per the requirements of Chapter 1200-3-11, Hazardous Materials.

We appreciate the opportunity to comment. If you have any questions or comments, please feel free to call me at (615) 532-0554.

Sincerely,

A handwritten signature in black ink, appearing to read "Barry R. Stephens".

Barry R. Stephens
Director

cc: Dana Coleman



**STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION**

SUITE 700, JAMES K. POLK BUILDING
NASHVILLE, TENNESSEE 37243-0349
(615) 741-2848

GERALD F. NICELY
COMMISSIONER

PHIL BREDESEN
GOVERNOR

February 18, 2005

The Honorable
Thomas R. Miller
Mayor, City of Franklin
109 3rd Avenue South
Franklin, TN 37065

Mr. Jay R. Johnson
City Administrator
City of Franklin
109 3rd Avenue South
Franklin, TN 37065

Mr. Dan Klatt
Alderman
City of Franklin
109 3rd Avenue South
Franklin, TN 37065

Re: SR- 397 Mack Hatcher Parkway

Dear Mayor Miller, Messrs Johnson and Klatt:

This letter is written in response to the requests submitted by you, on behalf of the City of Franklin, regarding the Mack Hatcher Parkway extension project. On behalf of Commissioner Nicely and all of us at TDOT, I appreciate your leadership and the willingness of the City of Franklin to help expedite this important project.

Regarding the Resolution of the Board of Mayor and Aldermen endorsing a route for the western loop of the Mack Hatcher Extension, I have asked our project manager, Mr. Darrell Moore, to immediately set up a joint meeting of City and TDOT technical staff to clearly delineate this recommendation. As you know, we are currently compiling public responses to the Draft Environmental Impact Statement for this project. We are very interested in including the recommendation contained in the Resolution as a part of the record for the project. As soon as this has happened, we will begin the process of

City of Franklin
Page 2
February 18, 2005

determining a formal route recommendation. We will continue to work with the City as this review takes place.

Your letter also contained nine specific requests regarding management and funding of the Mack Hatcher Extension project. We are presently reviewing each of these. The willingness of the City of Franklin to assume a major role in completion of this project not only reflects the importance of this project to the City but is also consistent with our commitment to seek new partnerships with local governments whenever such a partnership would expedite completion of critical projects. In order to be clear about the implications of each request, I will be requesting a meeting with you and key TDOT staff. This will be scheduled as soon as we have had the joint review of the route recommendation mentioned above.

Thank you again for your interest and willingness to partner with TDOT on this project.

Sincerely,



Edward H. Cole
Chief of Environment and Planning

EHC:mtd

Cc: Commissioner Gerald Nicely, TDOT
✓ Darrell Moore, TDOT Project Manager
Board of Mayor and Alderman
Senator Jim Bryson
Representative Charles Sargent
Representative Glen Casada
Representative Phillip Johnson

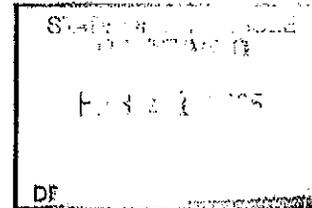
Thomas R. Miller
Mayor

James R. Johnson
Administrator
Randy A. Wetmore
Assistant City Administrator

CITY OF FRANKLIN
TENNESSEE

February 9, 2005

Mr. Ed Cole
Deputy Commissioner
Tennessee Department of Transportation
Suite 700 James K. Polk Building
505 Deaderick Street
Nashville, TN 37243-0349



RE: SR-397 Mack Hatcher Parkway

Dear Deputy Commissioner Cole,

On behalf of the community, we want to express our appreciation to TDOT for the two (2) community public hearings held January 18th and 20th on the Mack Hatcher Parkway extension. The presentation was excellent, and the opportunity for broad based input recognized by the citizens of this community, which was evident in the turnout both evenings.

With the Board of Aldermen's prior correspondence emphasizing the priority need for this project, the aldermen wish to go on record providing input to the Commissioner on the final alignment decisions. Enclosed please find the City of Franklin's Resolution identifying the City's preferred route for SR397 extension (Mack Hatcher Parkway) and stating additional recommendations that we encourage TDOT to consider. This resolution was adopted unanimously at the regular meeting of the Board of Mayor and Aldermen on February 8, 2005.

We appreciate the effort put forth in developing the EIS and understand the sensitive environmental issues that must be considered and addressed. Due to these and other factors, we seek to partner with TDOT to help ensure a timely completion of this important project.

The City of Franklin is willing to contribute local funds toward the engineering and context sensitive design of SR397 extension. We will also work with and obtain from the private sector within the community, including developers such as Southern Land Company, additional funding toward this project. Our desire is, with your permission, to take the lead and begin work immediately on those tasks that can be done concurrently with the final state and federal approval processes. We want to assist TDOT in every way possible to facilitate and expedite this project.

The City of Franklin respectfully and specifically requests the following:

- 1) That TDOT allow the City of Franklin to take the lead and contract for the engineering design of SR397 extension in its entirety, under the guidance and oversight of TDOT. We believe this is consistent with the Initiatives your office has announced on local partnerships.
- 2) That TDOT allow the City of Franklin to take the lead and contract for the Context Sensitive Design for SR397 extension and for the improvements to the existing sections of SR397 that are currently slated for improvement, under the guidance and oversight of TDOT.

109 3RD AVENUE SOUTH P.O. BOX 305 FRANKLIN, TENNESSEE 37065-0305
(615) 791-3217 TELEPHONE (615) 790-0469 FAX

3) That TDOT allow the City of Franklin to manage the Right of Way (ROW) acquisition process for SR397 extension, under the guidance and oversight of TDOT.

4) That TDOT budget in fiscal year 2006 funding toward engineering design of SR397 extension, from Hillsboro Road to SR96W.

5) That TDOT budget in fiscal year 2006 funding toward Context Sensitive Design for both the extension and improvements to existing sections.

6) That TDOT budget in fiscal year 2007 \$7,000,000 (or appropriate amount identified) toward ROW acquisition for SR397 extension; however, we would also seek and encourage TDOT authorization for "pre-emptive right of way acquisition" as allowed under Federal procedures to provide for the most efficient use of tax payer dollars as development activity continues to occur in this corridor.

7) That TDOT continue to allocate budget funds through the General Assembly for expansion of existing SR-397 (east segment) which is already proposed and scheduled.

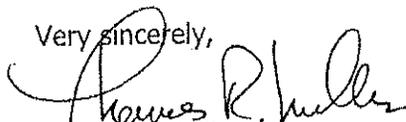
8) That TDOT seek authorization through the General Assembly in fiscal year 2008 budget for the necessary funds to begin construction of the first leg of SR-397 extension, from Hillsboro Road to SR96W.

9) That TDOT continue the appropriate design and funding processes in future budget years after 2008 for the balance of SR-397, west side segment.

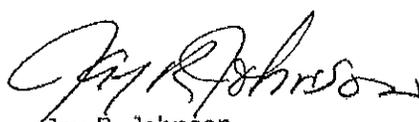
To further assist TDOT and the State of Tennessee in the budgeting process for the entirety of this project, the City of Franklin is willing to consider an innovative financing alternative, but one which has been utilized in other states. Franklin currently enjoys a Aaa bond rating due to our consistent high standards for fiscal responsibility. Franklin may be in a position to issue local bond proceeds for the construction of SR-397 extension in exchange for a guaranteed annual payment from TDOT that will retire the debt in a reasonable time. If such a program has merit, given the experience in other states, it must be consistent with any rules established in Tennessee, and in no way negatively impact the City of Franklin's Aaa bond rating.

Thank you for your service to the State of Tennessee, and your willingness to partner with local communities. We look forward to your consideration of our requests, and to a successful partnership on this and other transportation projects within Franklin and Williamson County. We will be available to meet at your convenience to further discuss this project.

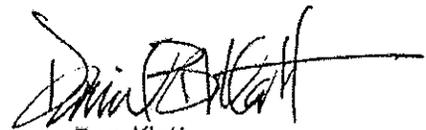
Very sincerely,



Thomas R. Miller
Mayor



Jay R. Johnson
City Administrator



Dan Klatt
Alderman

c: Board of Mayor and Aldermen
Senator Jim Bryson
Representative Charles Sargent
Representative Glen Casada
Representative Phillip Johnson

RESOLUTION

TO BE ENTITLED: "A Resolution of the Board of Mayor and Aldermen of the City of Franklin, Tennessee, Endorsing a Route for the Western Loop of the Mack Hatcher Parkway."

WHEREAS, the Board of Mayor and Aldermen for the City of Franklin have identified the completion of the western extension of the Mack Hatcher Parkway as the City's top transportation planning priority, and

WHEREAS, the Tennessee Department of Transportation has completed a report entitled "Draft Environmental Impact Statement, dated November 24, 2004, and

WHEREAS, the Tennessee Department of Transportation has held a series of public hearings to solicit input on this project, and

WHEREAS, the Board of Mayor and Aldermen of the City of Franklin previously adopted a Resolution on May 15, 2001.

NOW, THEREFORE, BE IT RESOLVED, by the Board of Mayor and Aldermen:

Section 1.

That the Board endorses the position set forth in the Resolution dated May 15, 2001 and encourages and requests TDOT to select:

1. Sections 1, 9, 11, 13, 15, and the northern leg as designated in 2001 resolution.

Section 2.

That the Board again encourages and requests the following from TDOT:

- a. Design speed of 55 mph.
- b. Establish a right-of-way cross section of 160 feet rather than the 250 feet shown, be designated for this project.
- c. Provision stipulating that there be no access from Rebel Meadows Subdivision onto Mack Hatcher Parkway.
- d. Intersection of SR 96W and SR 397 be at grade roundabout.

Section 3.

That the City encourages and requests TDOT to engage a context sensitive design alternative for the entire length of the project.

Section 4.

That the City also offers to partner TDOT on the detail design and alignment of the roadway.

Section 5.

That the City encourages and requests TDOT coordinate with TVA to the maximum extent possible.

APPROVED AND ADOPTED this 8th Day of February, 2005.

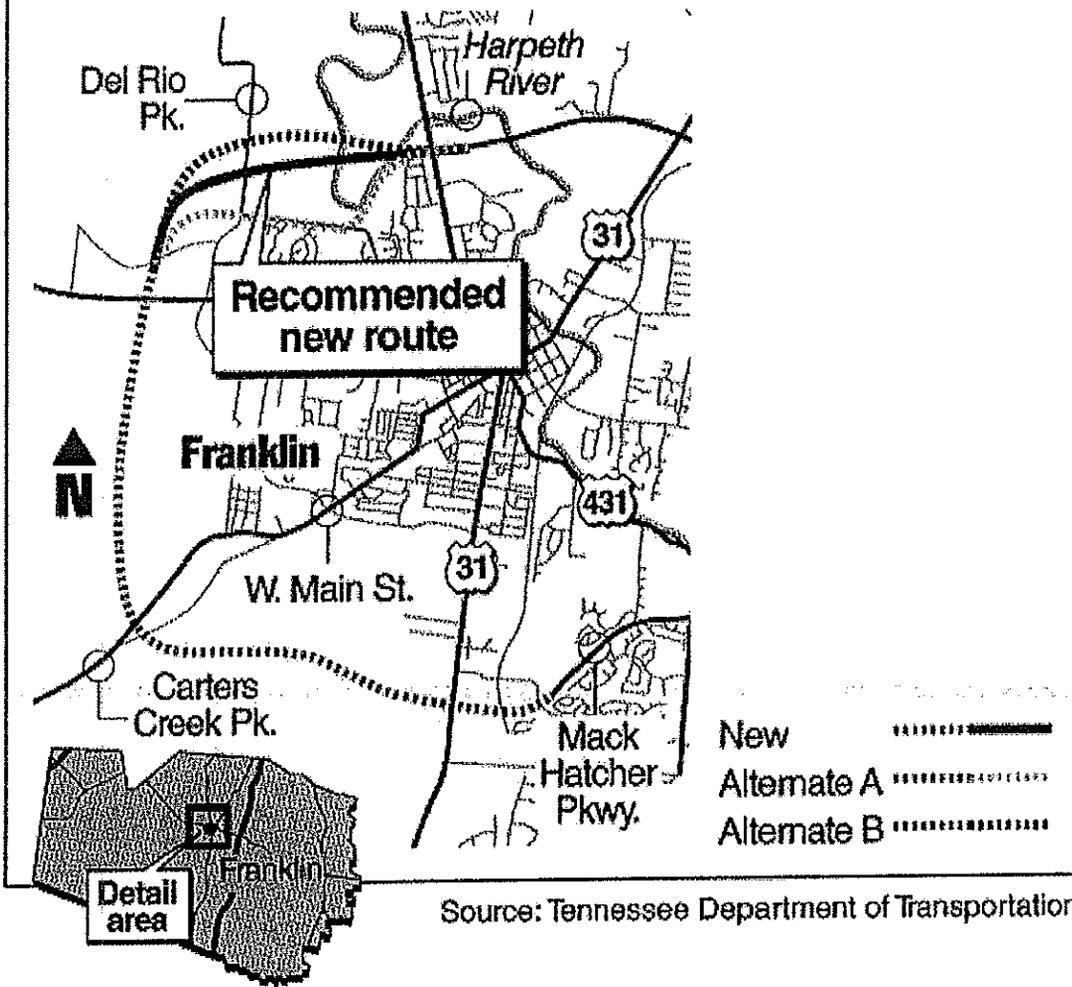


James R. Johnson
City Administrator



Thomas R. Miller
Mayor

Recommended Mack Hatcher Parkway route



Source: Tennessee Department of Transportation



HARPETH RIVER
WATERSHED ASSOCIATION

February 17, 2005

Ed Cole
Chief of Environmental Planning
Tennessee Department of Transportation

Charles Bush
Transportation Manager II
Environmental Planning and Permits Division

Darrell Moore
Project Management Office
Tennessee Department of Transportation
900 James K. Polk Building
505 Deaderick Street
Nashville, TN 37243

RE: Comments on the Draft Environmental Impact Statement for State Highway 397 (Mack Hatcher Parkway Extension).

Dear Ed Cole, Charles Bush and Darrell Moore:

The Harpeth River Watershed Association would like to provide the following comments on the draft environmental impact statement for the proposed extension of Mack Hatcher Bypass in Franklin, TN. HRWA provides scientific and technical expertise related to how to protect and maintain water quality and the health of the Harpeth River. Over the past five years, we have conducted several studies and surveys of stream habitat and water quality in the Harpeth, begun a variety of restoration projects, are working with landowners and homeowners on land management options, and provide input on land use planning and stormwater management that can protect water quality. HRWA is interested in addressing how to best design roads to minimize the impact on streams and rivers and as you know, I sit on the 840 resource team. Specifically with regard to Mack Hatcher, HRWA has been working with TVA, the city of Franklin, Heritage Foundation, MTEMC, and others on the routing of the TVA line that is also going in the same area as the road.

The upper third of the Harpeth River watershed which is mostly in Williamson County is experiencing rapid growth and development which is affecting water quality. Nonetheless, the Harpeth River, the lower half, is specifically identified as one of 69 priority biological areas for the Cumberland and Tennessee River Systems by a 2002 study of The Nature Conservancy (*Priority Areas for Freshwater Conservation Action: A Biodiversity Assessment of the Southeastern US*). Thus, the design and construction of TDOT projects in the Harpeth need to meet standards that maintain this biological health.

These written comments are very similar to the ones I presented during the public hearing, but with some more specific information that might be helpful to TDOT in addressing the process for designing Mack Hatcher and finalizing the EIS. As you know and is presented in the voluminous DEIS, there are many complex issues in routing and designing the Mack Hatcher bypass completion. As noted below, the most appropriate way to minimize how the road affects the main Harpeth in crossing the floodplain whether across the river twice or alongside it in the floodplain determines how the route affects many other important socioeconomic issues, private property, noise, safety, and historic resources. As a result, HRWA is supportive of TDOT's decision to use the context sensitive design team approach to finalize the many details and design issues for this road. Since a core aspect of this approach is to enable stakeholder process to weigh and balance the many complex issues, TDOT should consider whether it needs to select a preferred alternative among the sections proposed in the DEIS, or provide these as parameters or boundaries for the context sensitive design team to work within. As the design team considers various road width designs, stormwater design, noise abatement, bridging structures, and the like, it will be able to find a route that balances the many issues.

TVA line, Mack Hatcher Bypass, and a needed 100-Foot Riparian buffer along the Harpeth

HRWA, the city of Franklin, and others have worked hard to try to have both the TVA transmission line and the Mack Hatcher route follow similar if not parallel routes in an attempt to minimize the many effects of these infrastructures. In October 2004, TVA issued a Finding of No Significant Impact (FONSI) as a result of its Environmental Assessment of the route and proposed a route that crosses the main Harpeth River twice that is south of the current proposed section 18 of the road. According to the FONSI, TVA and TDOT engineers met and TVA determined that both the road and TVA line could not fit in the area south of the Harpeth River without requiring the removal of the trees along the Harpeth River streambank under the TVA line (p. 24).

One of the most important things that maintains stream and river health is a forested streamside corridor, known as riparian habitat. According to field research and literature review, this natural forested buffer along rivers and streams needs to be about 100 feet wide from top of both banks and extended 2 feet for each 1 degree of slope. A stream buffer provides vital filtration for stormwater, slows down runoff, and the tree canopy provides shade to the stream. Based on our visual habitat assessment study of many of the impaired streams in the Harpeth, the main reason these streams are listed by TDEC on the 303d lists is the lack of or presence of only minimal stream buffer. Along the mainstem of the Harpeth, specifically in the area of the road, the forested buffer is only one tree width, consisting primarily of mature trees growing at the top of the river bank. Though the rest of the floodplain on the main stem is pasture or grassy vegetation, this is a much less effective buffer and there are not other trees to replace ones on the river bank when they eventually fall. We will send a copy of the above mentioned literature review to you by Wenger of the Institute of Ecology at the University of GA.

Thus, determining the final route of Mack Hatcher will need to consider where the TVA line crossings of the Harpeth will be and how to rebuild as much of a 100-foot forested buffer along the mainstem of the Harpeth as possible. HRWA met with TVA and as part of the final FONIS TVA has set a bank stabilization plan for the 3 main stem river crossings. These will prevent the TVA crossings and corridors from creating sheer eroding banks as has happened on other main stem river crossings such as near Old Hillsboro Road. However, these designs will not provide much

tree canopy shade in these 100 foot stretches along the river because TVA does not permit vegetation under the power lines that grows too tall.

Section 4.10.2—Streams

We would like to provide some more information regarding the nature of the water quality of the streams in the area of the proposed route and statements in this one paragraph section of the DEIS. There are quite a few small tributaries to the main Harpeth and West Harpeth in the study area, but more have names that indicated in the DEIS. Specifically, the statement that the “impacts are considered to be minimal due to the moderately poor quality of the streams in the study area” needs to be reassessed. There are several tributaries in the road study area listed by TDEC on the 303d list which identifies stream segments that are impaired and not meeting all water quality standards. Polk Creek and Hatcher Springs that both drain into the West Harpeth are listed because of minimal streamside habitat from agricultural use. From a field study HRWA conducted on two similar tributaries in the study area near section 12, we found that the studied unnamed tributaries to have only “slightly impaired” conditions using standard metrics. In these land use conditions there is a high potential for restoration. Donelson Creek near the southern terminus is listed as impaired because of land development activities that have created runoff conditions that are causing sedimentation. In this creek, it is possible that the stormwater design of Mack Hatcher could help address some of the current conditions.

Fundamentally, the statement in this section implies that the road will have minimal impacts because the streams are currently in poor condition. From our Visual Habitat Assessment survey that we performed in 2002 on most all of the 303d listed streams in the Harpeth, we have sites on many of these tributaries and the main steam. This work was funded by the Department of Agriculture’s Nonpoint Source Program. We can provide these studies to TDOT for use in the final EIS and for use in the design of the road. From this field work, we know that most of these tributaries present good to high potential for restoration opportunities such as planting to rebuild the stream riparian corridor and targeted bank stabilization efforts. However, typical road design and construction activities usually result in degradation to streams and rivers that are much harder and much costlier to address in retrospect. From a look just in the Harpeth and at the series of 303d lists that TDEC prepares, there have been new stream segments listed for sedimentation from road construction with each section of SR840.

Road design to address stormwater, stream crossings, and floodplain encroachment

For Mack Hatcher to have minimal impacts to the streams and the mainstem of the Harpeth, the road will need to be designed to address stormwater runoff, stream crossings, and the bridging of the mainstem and its floodplain, with minimization of water quality impacts as the express purpose. TDOT will be designing its stormwater regulations this year, and it would be appropriate for the design of Mack Hatcher to incorporate these new approaches that would meet the regulations. Since a number of the streams and the mainstem of the Harpeth are on the 303d list, it will also be necessary for the road to be designed such that it does not cause further impairment to these streams and the mainstem. Though there are many specific designs, the general goals for Mack Hatcher will be to maximize the infiltration of stormwater and diffuse the flow so that the oils and other pollutants from the road are filtered and streams are not receiving so much stormwater that the streams suffer from bank erosion. HRWA has been involved in the design of Williamson

County's stormwater regulations and would be interested in participating in TDOT's stormwater regulation development if that is appropriate.

Additionally, the crossing of the streams needs to avoid altering the stream flow conditions that end up causing erosion downstream and maintain a 100-foot stream buffer as much as possible. The box culvert crossings which have been typical designs that were used to cross the tributaries to Turnbull Creek in Dickson with 840 are now causing erosion on some tributaries. River and stream road crossings need to avoid altering the flow and function of the aquatic system. The specific stream crossings and stormwater design would be relevant to the permits ultimately needed for the road project.

Crossing the main Harpeth—Section 16 versus 18

The floodplain of the main Harpeth was specifically addressed in the DEIS (section 4.10) since it is a significant issue for the northern terminus of the road. Whether the road follows section 18 to the south and does not cross the river, or crosses the Harpeth twice with section 16, or some route in between, there is a significant amount of floodplain that the road redesign has to address. While the DEIS notes that there will be bridging structures whether the road crosses the river or parallels it inside the floodplain, there is not enough information in this DEIS to know what type and the extent of bridging structures. Also, if a route is chosen that crosses the river twice, will this also entail a bridge through the floodplain between the river crossings? It is critical to the road design through this floodplain region that the bank full conditions and floodplain functions not be altered. Just around the bend from the proposed route, the river bends right up to the edge of the widened Hillsboro road, for example.

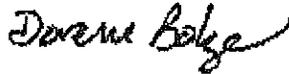
We would like to note that there is some discrepancy or it was not easy to find the cost information from the hand out at the public meeting in the DEIS. Table 2 from the hand-out implies that the cost of the bridging structure of section 18 (south of the river and not across it) appears to increase the overall cost about \$12 million (comparing Alternative A of \$68.3 million to Alternative B at \$56.03 million). However, this same figure of \$68.3 million could not be found in the draft EIS. In the DEIS, there seemed to be no more than a \$2 million difference in cost between these 2 segments, but it just could be that it was not clear. As pointed out above, the routing of Mack Hatcher in the northern section hinges on whether it crosses or parallels the Harpeth all within the floodplain and how it will then affect existing neighborhoods, historic structures and historic districts and businesses.

Recreation—section 4.11.3

The draft EIS does not mention in the recreation section the use of the Harpeth River for canoeing and fishing recreational purposes. Until quite recently a commercial canoe company operated along a section of the river along downtown Franklin and there are several canoe put-ins in this section of the Harpeth. Though there have been no official studies, we know of many people who enjoy canoeing on the Harpeth along this section that the road will possibly cross. Thus, any bridging structures and related designs need to consider maintaining a treed stream corridor for the recreational value of the main stem. Also, the main Harpeth was designated a state scenic river in Williamson County when the law was first passed, though this designation was removed later though not related to the recreational and scenic merits of the river. As part of Mack Hatcher design, it should be considered having a public access point for canoes if it makes sense during the consideration of all the other issues.

HRWA would be very willing to participate in the context sensitive design team process for Mack Hatcher and any other discussions related to this project. Please do not hesitate to contact me with any questions.

Sincerely,



Dorene Bolze
Executive Director

Cc: Tom Miller, Mayor City of Franklin
Jay Johnson, Franklin City Administrator
City of Franklin Aldermen
Rogers Anderson, Williamson County Mayor
John Sparry, TVA Power Supply
Betsy Child, TDEC Commissioner
John McClurkan, Department of Agriculture Nonpoint Source Program
Ben West, EPA Region IV
Steve Alexander, US Fish and Wildlife Service
Dave McKinney, TWRA
Charles Sargent, State representative
Jim Bryson, State Senator

APPENDIX D

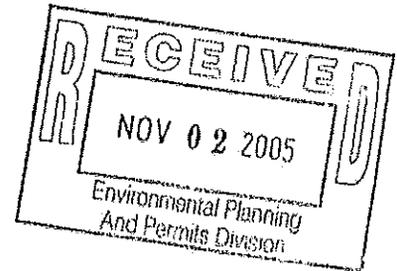
Comment Letters Received Regarding SDEIS



Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, Tennessee 37902-1401

October 31, 2005

Mr. Charles E. Bush
Transportation Manager II
Tennessee Department of Transportation
Environmental Planning and Permits Division
Suite 900, James K. Polk Building
505 Deaderick Street
Nashville, Tennessee 37243-0334



Dear Mr. Bush:

SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT (SDEIS) – STATE ROUTE (SR) 397 (MACK HATCHER PARKWAY EXTENSION) FROM US 31 (SR 6, COLUMBIA AVENUE) SOUTH OF FRANKLIN TO US 431 (SR 106, HILLSBORO ROAD) NORTH OF FRANKLIN, FRANKLIN, WILLIAMSON COUNTY, TENNESSEE

Thank you for the opportunity to review the SDEIS to present Alternative Segment 17 as a viable alignment for the proposed construction of the Mack Hatcher Parkway Extension in Williamson County. It appears that the major environmental issues have been addressed.

TVA appreciates the opportunity to serve as a cooperating agency on this project. Should you have any questions, please contact Anita E. Masters at (423) 751-8697 or aemasters@tva.gov.

Sincerely,

Jon M. Loney, Manager
NEPA Administration
Environmental Policy and Planning

cc: Bobby W. Blackmon
Division Administrator
Federal Highway Administration
640 Grassmere Park, Suite 112
Nashville, Tennessee 37211



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
NASHVILLE DISTRICT, CORPS OF ENGINEERS
3701 Bell Road
NASHVILLE, TENNESSEE 37214

September 23, 2005

RECEIVED

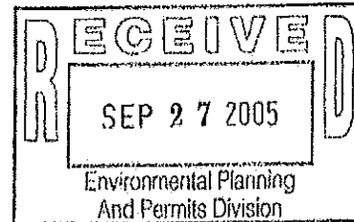
SEP 27 2005

TDOT
Environmental Permits Section

Regulatory Branch

SUBJECT: File No. 200101273; Proposed Mack Hatcher Parkway Extension (State Route 397),
in Franklin, Williamson County, Tennessee

Mr. Charles E. Bush
Tennessee Department of Transportation
Environmental Planning and Permits Division
Suite 900 – James K. Polk Building
505 Deaderick Sreet
Nashville, Tennessee 37243-0334



Dear Mr. Bush:

This is in response to your request for Corps of Engineers comments on the Supplemental Draft Environmental Impact Statement (EIS) prepared for the SR-397 extension project in Williamson County, Tennessee. Please refer to File No. 200101273 in any future correspondence to this office concerning the subject project.

This office commented on the Draft EIS on February 10, 2005 (copy enclosed). The comments made in this February 2005 letter still remain valid and express the concerns of the proposed work detailed in the Supplemental Draft EIS.

It appears jurisdictional waters would be impacted from the project; thus, a Department of the Army (DA) permit would be required for any discharge of fill material into jurisdictional waters, including wetlands, pursuant to Section 404 of the Clean Water Act (CWA).

I am available to participate in any onsite inspections of the construction corridor in an effort to identify waters of the United States that would be subject to Corps regulatory authority. We are also available to attend preapplication meetings to discuss aquatic resource impact avoidance and minimization.

Thank you for coordinating the EIS with this office for our comments. If we can be of further assistance or if you have any questions regarding DA permit requirements, please contact me at the above address, telephone number 615-369-7509.

Sincerely,

A handwritten signature in black ink, appearing to read "Amy M. Robinson", with a long horizontal line extending to the right from the end of the signature.

Amy M. Robinson
Project Manager
Operations Division

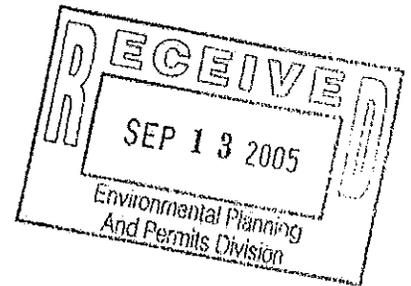


United States Department of the Interior

FISH AND WILDLIFE SERVICE

446 Neal Street
Cookeville, TN 38501

September 7, 2005



Mr. Charles Bush
Transportation Manager II, Environmental
Tennessee Department of Transportation
James K. Polk Building, Suite 900
505 Deaderick Street
Nashville, Tennessee 37243-0334

Re: FWS #05-0437A

Dear Mr. Bush:

Thank you for your correspondence of August 26, 2005, regarding the Supplemental Draft Environmental Impact Statement (SDEIS) and Supplemental Draft Section 4(f) Statement, State Highway 397 (Mack Hatcher Parkway Extension) from US Highway 31 (State Route 6, Columbia Avenue) south of Franklin to US Highway 431 (State Route 106, Hillsboro Road) (Project Number FHWA-TN-EIS-01-D, PIN Number 101454.00) north of Franklin, Williamson County, Tennessee. Fish and Wildlife Service personnel have reviewed the information submitted and we offer the following comments.

The SDEIS is accurate and adequate in regard to the description of fish and wildlife resources in the project area and potential impacts to these resources as a result of an additional Build Alternative (Alternative G) for the proposed highway project. Impacts to fish and wildlife would be temporary and minor. No federally endangered or threatened species occur in the project area. On further review, our preferred alignment would be to follow any existing roads/highways as much as possible. This action would minimize the impacts to aquatic and wildlife habitat. The Section 4(f) properties involved in this project are historical properties and involve no natural resources of concern to our agency.

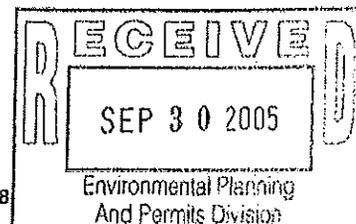
Thank you for the opportunity to comment further on this proposed action. If you have any questions regarding the information which we have provided, please contact Wally Brines of my staff at 931/528-6481, extension 222.

Sincerely,

Lee A. Barclay, Ph.D.
Field Supervisor



STATE OF TENNESSEE
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
ENVIRONMENTAL ASSISTANCE CENTER
711 R. S. GASS BOULEVARD
NASHVILLE, TENNESSEE 37216
PHONE (615) 687-7000 STATEWIDE 1-888-891-8332 FAX (615) 687-7078



September 26, 2005

Mr. Charles Bush
Transportation Manager II
Environmental Division
Tennessee Department of Transportation
900 James K. Polk Bldg.
505 Deaderick Street
Nashville, TN 37243-0034

Subject: Supplemental Draft Environmental Impact Statement and
Supplemental Draft Section 4(f) Statement, State Highway 397
(Mack Hatcher Parkway Extension) From US 31 (State Route 6,
Columbia Ave) south of Franklin to US 431 (State Route 106,
Hillsboro Road) north of Franklin, Williamson County, Tennessee,
Project # FHWA-TN-EIS-04-01-D; PIN: 101454.00

Dear Mr. Bush:

A copy of the subject Draft Environmental Impact Statement (DEIS) was forwarded to the Division of Solid Waste Management's Nashville Environmental Field Office for review on behalf of the Division. The purpose of this review was to determine if there were any comments about the proposed project that should be considered from the standpoint of the Solid Waste Division. After reviewing the DEIS, only one issue of concern was noted. The DEIS made referenced to an area along Segment 9 that was identified as "high" risk. The Division agrees with the statement in the DEIS that this area should be investigated and fully delineated.

Frank Padovich of this office has informed me that the "high" risk area is a former unpermitted waste disposal site that was used by the City of Franklin. While it is not clear to me where this area is, I am not aware of any adverse environmental impact from any sites in this region. However, it would be prudent to evaluate the site as a part of this project. The Division of Solid Waste Management is willing to work with TDOT on making an assessment of the site and deciding the degree to which remediation is warranted, if any. Alternatively, TDOT may wish to further assess the site on its own, make recommendations for remediation and then seek the Division's concurrence.

Please let us know how you wish to proceed and if we can be of assistance. You can reach Frank Padovich or me by telephone at 615/687-7000.

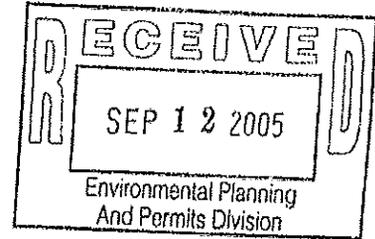
Sincerely,

Al Majors

Al Majors

Division of Solid Waste Management/NEFO

cc: Robin Cathcart, TDEC
Mike Apple, Director Division of Solid Waste Management
Frank Padovich, DSWM/NEFO



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
Ground Water Protection
10th Floor, 401 Church Street
Nashville, Tennessee 37243-1540

September 8, 2005

Mr. Charles E. Bush
Environmental Planning and Permits Division
Suite 900, James K. Polk Building
505 Deaderick Street
Nashville, Tennessee 37243-0334

Re: Supplemental Draft Environmental Impact Statement and Supplemental Draft Section 4(F) Statement, State Highway 397 (Mack Hatcher Parkway Extension) From US 31 (State Route 6, Columbia Ave) south of Franklin to US 431 (State Route 106, Hillsboro Road) north of Franklin, Williamson County, Tennessee, Project # FHWA-TN-EIS-04-01-D; PIN: 101454.00

Dear Mr. Bush:

The Division of Ground Water Protection regulates all aspects of the subsurface sewage disposal (SSD) program in the State of Tennessee. Williamson County operates their own SSD program through a contract/agreement with the State. In this regard, Williamson County staff has worked closely with TDOT on those construction projects where it is anticipated that the project will potentially impact existing SSD systems.

Regarding the above referenced project, the Division of Ground Water Protection (GWP) anticipates that it is likely the project may impact existing SSD systems that are located along the route proposed for the above referenced project.

If you have any questions or think that assistance will be requested on this project, you should contact Mr. Larry Robinson with the Williamson County Department of Sewage Disposal Management at (615) 790-5717, when assistance is needed.

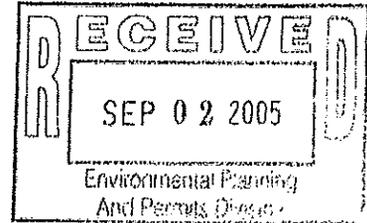
Sincerely,

Kent D. Taylor
Director
Division of Ground Water Protection

KDT/deh

cc: Mr. Larry Robinson

TDOTresponse66



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
NASHVILLE, TENNESSEE 37243-0435

JAMES H. FYKE
COMMISSIONER

PHIL BREDESEN
GOVERNOR

August 31, 2005

Mr. Charles Bush
Transportation Manager II
Tennessee Department of Transportation
Suite 900 James K. Polk Building
505 Deaderick Street
Nashville, TN 37243

RE: Supplemental Draft EIS and Supplemental Draft Section 4(f) Statement for the
Mack Hatcher Parkway Extension in Williamson County, Tennessee.

Dear Mr. Bush,

The Department of Environment and Conservation received information on the above-referenced project dated August 26, 2005 (received August 31, 2005). The Department will review this material and comment as appropriate.

If you have any questions, please contact our Environmental Policy Office at (615) 532-0929.

Sincerely,

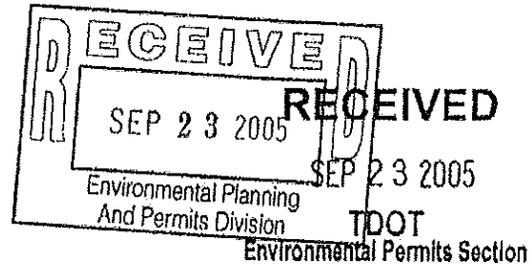
A handwritten signature in black ink, appearing to read "Robin Cathcart".

Robin Cathcart
Environmental Policy Office

cc: File 05-092

September 22, 2005

Charles Bush, Trans. Manager II
Tennessee Dept Of Transportation
Environmental Division
505 Deaderick Street, Suite 900
Nashville, Tennessee 37243-0334



Re: Sr 397 (Mack Hatcher Parkway Extension) Supplemental Draft Environmental
Impact Statement
GNRC #2006-22

Dear Mr. Bush:

In accordance with the Project Review Process (approved by the Executive Committee at the April 1995 Executive Board Meeting), the Greater Nashville Regional Council has reviewed the above referenced project.

Our evaluation reveals no conflict with existing or proposed planning activities. We are notifying you that your proposal is deemed acceptable on the basis of information now available to this office.

We may wish to comment further at a later time. This letter should be attached to your application. If we can be of further assistance, please do not hesitate to contact us.

Sincerely,

Sam H. Edwards
Executive Director

SHE/pyc



APPENDIX E

Mobile Source Air Toxics (MSAT)

APPENDIX E MOBILE SOURCE AIR TOXICS (MSAT)

In addition to the criteria air pollutants for which there are NAAQS, the USEPA also regulates air toxics. Most air toxics originate from human-made sources, including on-road mobile sources (e.g., automobiles), non-road mobile sources (e.g., airplanes), area sources (e.g., dry cleaners) and stationary sources (e.g., factories or refineries).

Mobile Sources Air Toxics (MSATs) are a subset of the 188 air toxics defined by the Clean Air Act (CAA). MSATs are compounds emitted from highway vehicles and non-road equipment. Some toxic compounds are present in fuel and are emitted to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline.

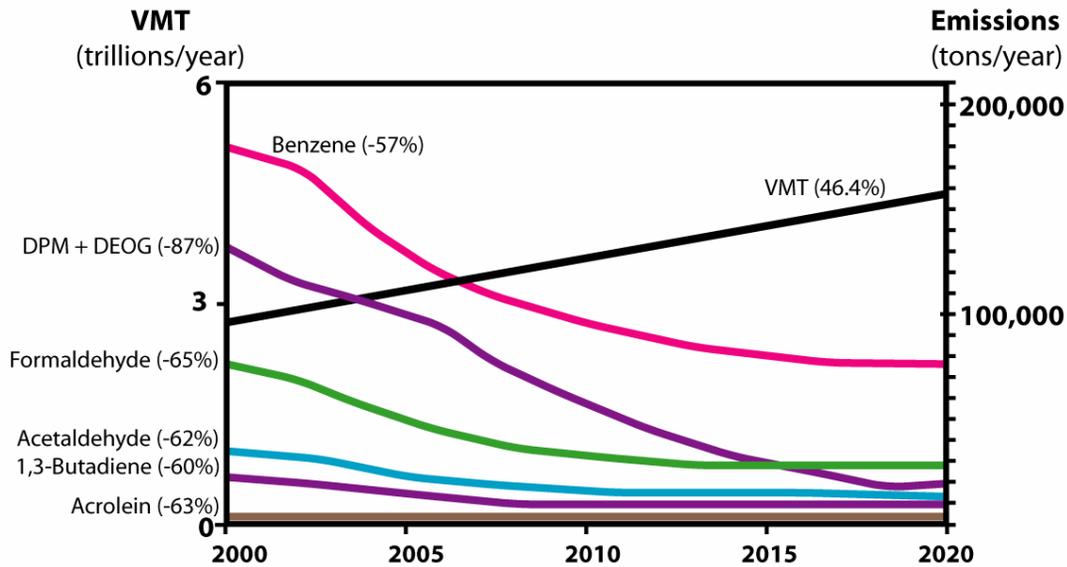
The USEPA is the lead Federal Agency for administering the Clean Air Act and has certain responsibilities regarding the health effects of MSATs. The USEPA issued a Final Rule on Controlling Emissions of Hazardous Air Pollutants from Mobile Sources (66FR 17229, March 29, 2001). This rule was issued under the authority in Section 202 of the Clean Air Act. In its rule, USEPA examined the impacts of existing and newly promulgated mobile source control programs, including its reformulated gasoline (RFG) program, its national low emission vehicle (NLEV) standards, its Tier 2 motor vehicle emissions standards and gasoline sulfur control requirements, and its proposed heavy duty engine and vehicle standards and on-highway diesel fuel sulfur control requirements. Even with a 64 percent increase in Vehicle Miles Traveled (VMT) for FHWA projects between 2000 and 2020, these programs will reduce on-highway emissions of benzene, formaldehyde, 1,3-butadiene, and acetaldehyde by 57 percent to 65 percent, and will reduce on-highway diesel PM emissions by 87 percent, as shown in the Figure C-1.

As a result, USEPA concluded that no further motor vehicle emission standards or fuel standards were necessary to further control MSATs. The agency is preparing another rule under authority of CAA Section 202 (I) that will address these issues and could make adjustments to the full 21 and the primary six MSATs.

Unavailable Information for Project Specific MSAT Impact Analysis

This FEIS includes a basic analysis of the likely MSAT emission impacts of this project. However, available technical tools do not allow for the prediction of the project-specific health impacts of the emission changes associated with the alternatives in this FEIS. Due to these limitations, the following discussion is included in accordance with the Council on Environmental Quality (CEQ) regulations (40 CFR 1502.22 (b)) regarding incomplete or unavailable information.

Figure C-1. U.S. Annual VMT vs. MSATs Emissions, 2000-2020



Notes: For on-road mobile sources. Emissions factors were generated using MOBILE6.2. MTBE proportion of market for oxygenates is held constant, at 50%. Gasoline RVP and oxygenate content are held constant. VMT: Highway Statistics 2000, Table VM-2 for 2000, analysis assumes annual growth rate of 2.5%. "DPM + DEOG" is based on MOBILE6.2-generated factors for elemental carbon, organic carbon and SO₄ from diesel-powered vehicles, with the particle size cutoff set at 10.0 microns.

Information that is Unavailable or Incomplete. Evaluating the environmental and health impacts from MSATs on a proposed highway project would involve several key elements, including emissions modeling, dispersion modeling in order to estimate ambient concentrations resulting from the estimated emissions, exposure modeling in order to estimate human exposure to the estimated concentrations, and then final determination of health impacts based on the estimated exposure. Each of these steps is encumbered by technical shortcomings or uncertain science that prevents a more complete determination of the MSAT health impacts of this project.

Emissions: The USEPA tools to estimate MSAT emissions from motor vehicles are not sensitive to key variables determining emissions of MSATs in the context of highway projects. While MOBILE 6.2¹ is used to predict emissions at a regional level, it has limited applicability at the project level. MOBILE 6.2 is a trip-based model, in which emission factors are projected based on a typical trip of 7.5 miles, and on average speeds for this typical trip. This means that MOBILE 6.2 does not have the ability to predict emission factors for a specific vehicle operation condition at a specific location at a specific time. Because of this limitation, MOBILE 6.2 can only approximate the operating speeds and levels of congestion likely to be present on the largest-scale projects, and cannot adequately capture emissions effects of smaller projects. For

¹ In the case of this project, emissions levels were determined through the use of the USEPA-approved emission factor model that was in use at the time the DEIS was conducted, MOBILE5b.

particulate matter, the model results are not sensitive to average trip speed, although the other MSAT emission rates do change with changes in trip speed. Also, the emissions rates used in MOBILE 6.2 for both particulate matter and MSATs are based on a limited number of tests of mostly older-technology vehicles. Lastly, in its discussions of particulate matter under the conformity rule, USEPA has identified problems with MOBILE 6.2 as an obstacle to quantitative analysis.

These deficiencies compromise the capability of MOBILE 6.2 to estimate MSAT emissions. MOBILE 6.2 is an adequate tool for projecting emissions trends, and performing relative analyses between alternatives for very large projects, but it is not sensitive enough to capture the effects of travel changes tied to smaller projects or to predict emissions near specific roadside locations.

Dispersion: The tools to predict how MSATs disperse are also limited. The USEPA's current regulatory models, CALINE3 and CAL3QHC, were developed and validated more than a decade ago for the purpose of predicting episodic concentrations of carbon monoxide to determine compliance with the NAAQS. The performance of dispersion models is more accurate for predicting maximum concentrations that occur at some time at some location within a geographic area. This limitation makes it difficult to predict accurate exposure patterns at specific times at specific highway project locations across an urban area to assess potential health risks. The National Cooperative Highway Research Program (NCHRP) is conducting research on best practices in applying models and other technical methods in the analysis of MSATs. This work also will focus on identifying appropriate methods of documenting and communicating MSAT impacts in the National Environmental Policy Act (NEPA) process and to the general public. Along with these general limitations of dispersion models, FHWA is also faced with a lack of monitoring data in most areas for use in establishing project-specific MSAT background concentrations.

Exposure Levels and Health Effects: Finally, even if emission levels and concentrations of MSATs could be accurately predicted, shortcomings in current techniques for exposure assessment and risk analysis preclude FHWA from reaching meaningful conclusions about project-specific health impacts. Exposure assessments are difficult because it is difficult to accurately calculate annual concentrations of MSATs near roadways, and to determine the portion of a year that people are actually exposed to those concentrations at a specific location. These difficulties are magnified for 70-year cancer assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over a 70-year period. There are also considerable uncertainties associated with the existing estimates of toxicity of the various MSATs, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population. Because of these shortcomings, any calculated difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with calculating the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against other project impacts that are better suited for quantitative analysis.

Summary of Existing Credible Scientific Evidence Relevant to Evaluating the Impacts of MSATs. Research into the health impacts of MSATs is ongoing. For different emission types, there are a variety of studies that show that some either are statistically associated with adverse health outcomes through epidemiological studies (frequently based on emissions levels found in occupational settings) or that animals demonstrate adverse health outcomes when exposed to large doses.

Exposure to toxics has been a focus of a number of USEPA efforts. Most notably, the agency conducted the National Air Toxics Assessment (NATA) in 1996 to evaluate modeled estimates of human exposure applicable to the county level. While not intended for use as a measure of or benchmark for local exposure, the modeled estimates in the NATA database best illustrate the levels of various toxics when aggregated to a national or State level.

The USEPA is in the process of assessing the risks of various kinds of exposures to these pollutants. The USEPA Integrated Risk Information System (IRIS) is a database of human health effects that may result from exposure to various substances found in the environment. The IRIS database is located at <http://www.epa.gov/iris>. The following toxicity information for the six prioritized MSATs was taken from the IRIS database *Weight of Evidence Characterization* summaries. This information is taken verbatim from EPA's IRIS database and represents the Agency's most current evaluations of the potential hazards and toxicology of these chemicals or mixtures.

- **Benzene** is characterized as a known human carcinogen.
- The potential carcinogenicity of **acrolein** cannot be determined because the existing data are inadequate for an assessment of human carcinogenic potential for either the oral or inhalation route of exposure.
- **Formaldehyde** is a probable human carcinogen, based on limited evidence in humans, and sufficient evidence in animals.
- **1,3-butadiene** is characterized as carcinogenic to humans by inhalation.
- **Acetaldehyde** is a probable human carcinogen based on increased incidence of nasal tumors in male and female rats and laryngeal tumors in male and female hamsters after inhalation exposure.
- **Diesel exhaust** is likely to be carcinogenic to humans by inhalation from environmental exposures. Diesel exhaust as reviewed in this document is the combination of diesel particulate matter and diesel exhaust organic gases.
- **Diesel exhaust** also represents chronic respiratory effects, possibly the primary non-cancer hazard from MSATs. Prolonged exposures may impair pulmonary function and could produce symptoms, such as cough, phlegm, and chronic bronchitis. Exposure relationships have not been developed from these studies.

There have been other studies that address MSAT health impacts in proximity to roadways. The Health Effects Institute, a non-profit organization funded by USEPA, FHWA, and industry, has undertaken a major series of studies to research near-roadway MSAT hot spots, the health implications of the entire mix of mobile source

pollutants, and other topics. The final summary of the series is not expected for several years.

Some recent studies have reported that proximity to roadways is related to adverse health outcomes -- particularly respiratory problems². Much of this research is not specific to MSATs, instead surveying the full spectrum of both criteria and other pollutants. The FHWA cannot evaluate the validity of these studies, but more importantly, they do not provide information that would be useful to alleviate the uncertainties listed above and enable us to perform a more comprehensive evaluation of the health impacts specific to this project.

Relevance of Unavailable or Incomplete Information to Evaluating Reasonably Foreseeable Significant Adverse Impacts on the Environment, and Evaluation of impacts based upon theoretical approaches or research methods generally accepted in the scientific community. Because of the uncertainties outlined above, a quantitative assessment of the effects of air toxic emissions impacts on human health cannot be made at the project level. While available tools do allow us to reasonably predict relative emissions changes between alternatives for larger projects, the amount of MSAT emissions from each of the project alternatives and MSAT concentrations or exposures created by each of the project alternatives cannot be predicted with enough accuracy to be useful in estimating health impacts. (As noted above, the current emissions model is not capable of serving as a meaningful emissions analysis tool for smaller projects.) Therefore, the relevance of the unavailable or incomplete information is that it is not possible to make a determination of whether any of the alternatives would have "significant adverse impacts on the human environment."

In the following section, FHWA provides a qualitative assessment of MSAT emissions relative to the various alternatives, and acknowledges that all of the project alternatives may result in increased exposure to MSAT emissions in certain locations, although the concentrations and duration of exposures are uncertain, and because of this uncertainty, the health effects from these emissions cannot be estimated.

Qualitative MSAT Analysis

For each Build Alternative presented in this document, the amount of MSATs emitted would be proportional to the VMT, because all other variables, such as fleet mix, are the same for each alternative. The VMT estimated for each of the Build Alternatives is slightly higher than that for the No Build Alternative, because the capacity added by this new roadway increases the efficiency of the area's roadway network and attracts rerouted trips from elsewhere in the transportation network (e.g., SR 106 and SR 96 through downtown Franklin). This increase in VMT would lead to higher MSAT emissions for the Build Alternatives along the roadway corridor, along with a corresponding decrease in MSAT emissions along the parallel routes. The emissions increase is offset somewhat by lower MSAT emission rates due to increased speeds; according to USEPA's MOBILE 6 emissions model, emissions of all of the priority MSATs except for diesel particulate matter decrease as speed increases. The extent to which these speed-related emissions decreases will offset VMT-related emissions

² South Coast Air Quality Management District, *Multiple Air Toxic Exposure Study-II* (2000); Highway Health Hazards, The Sierra Club (2004) summarizing 24 Studies on the relationship between health and air quality); NEPA's Uncertainty in the Federal Legal Scheme Controlling Air Pollution from Motor Vehicles, Environmental Law Institute, 35 ELR 10273 (2005) with health studies cited therein.

increases cannot be reliably projected due to the inherent deficiencies of technical models.

Table C-2 outlines the estimated VMT for each of the Build Alternatives. The estimated VMT under each of the Build Alternatives varies by less than 33 percent. DEIS Build Alternative F has the highest VMT (approximately 184,110), while the Selected Alternative has the lowest VMT (approximately 138,940).

Table C-2. VMT for Build Alternatives

Build Alternatives	Length (miles)	VMT
A	7.86	150,130
B	7.97	151,430
C	8.55	162,450
D	9.11	173,090
E	9.0	171,900
F	9.69	184,110
Selected Alternative (G)	7.51	138,940

For both the Selected Alternative and the DEIS Build Alternatives, emissions will likely be lower than present levels in the design year (2029) as a result of USEPA’s national control programs that are projected to reduce MSAT emissions by 57 to 87 percent between 2000 and 2020. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates and local control measures. However, the magnitude of USEPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

The construction of the new roadway proposed under the Build Alternatives will have the effect of moving traffic closer to nearby homes; therefore, under each Build Alternative there may be localized areas where ambient concentrations of MSATs could be higher under the Build Alternatives than the No Build Alternative. The localized increases in MSAT concentrations would likely be most pronounced along the following roadway sections:

- Segments 16, 17 and 18, which are included in all of the Build Alternatives, would be built near the Rebel Meadows Subdivision (see Chapter 3, Figure 3-5);
- Segments 12 and 13, which are included in all of the Build Alternatives, would be built near the Westhaven development and the Franklin Green Subdivision (see Chapter 3, Figure 3-5);
- Segment 11, which is included in all of the Build Alternatives, would be built near the Motor Roll Mobile Home Park (see Chapter 3, Figure 3-5); and
- Segment 6, which is included in DEIS Build Alternatives D, E and F (but not in the Selected Alternative), would be built near the Oak Leaf Estates Subdivision (see Chapter 3, Figure 3-5).

However, as discussed above, the magnitude and the duration of these potential increases compared to the No Build Alternative cannot be accurately quantified due to the inherent deficiencies of current models.

In conclusion, when a highway is constructed and, as a result, moves closer to receptors, the localized level of MSAT emissions for the Build Alternatives could be higher relative to the No Build Alternative, but this could be offset due to increases in speeds and reductions in congestion (which are associated with lower MSAT emissions). Also, MSATs would be lower in other locations when traffic shifts away from them (e.g., downtown Franklin). However, on a regional basis, USEPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause regional MSAT levels to be significantly lower than today.

Construction activities may generate a temporary increase in MSAT emissions. The emission of air pollutants will be reduced by the use of properly maintained equipment as outlined in TDOT's *Standard Specifications for Road and Bridge Construction*.