

TRANSPORTATION PLANNING REPORT

STATE ROUTE 99

FROM PROPOSED SOUTHWEST LOOP ROAD TO
CASON LANE IN MURFREESBORO, RUTHERFORD COUNTY

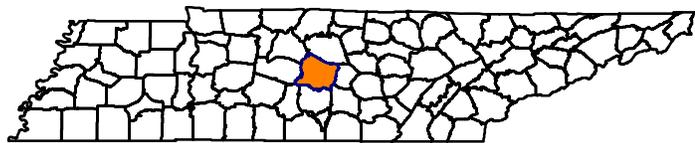
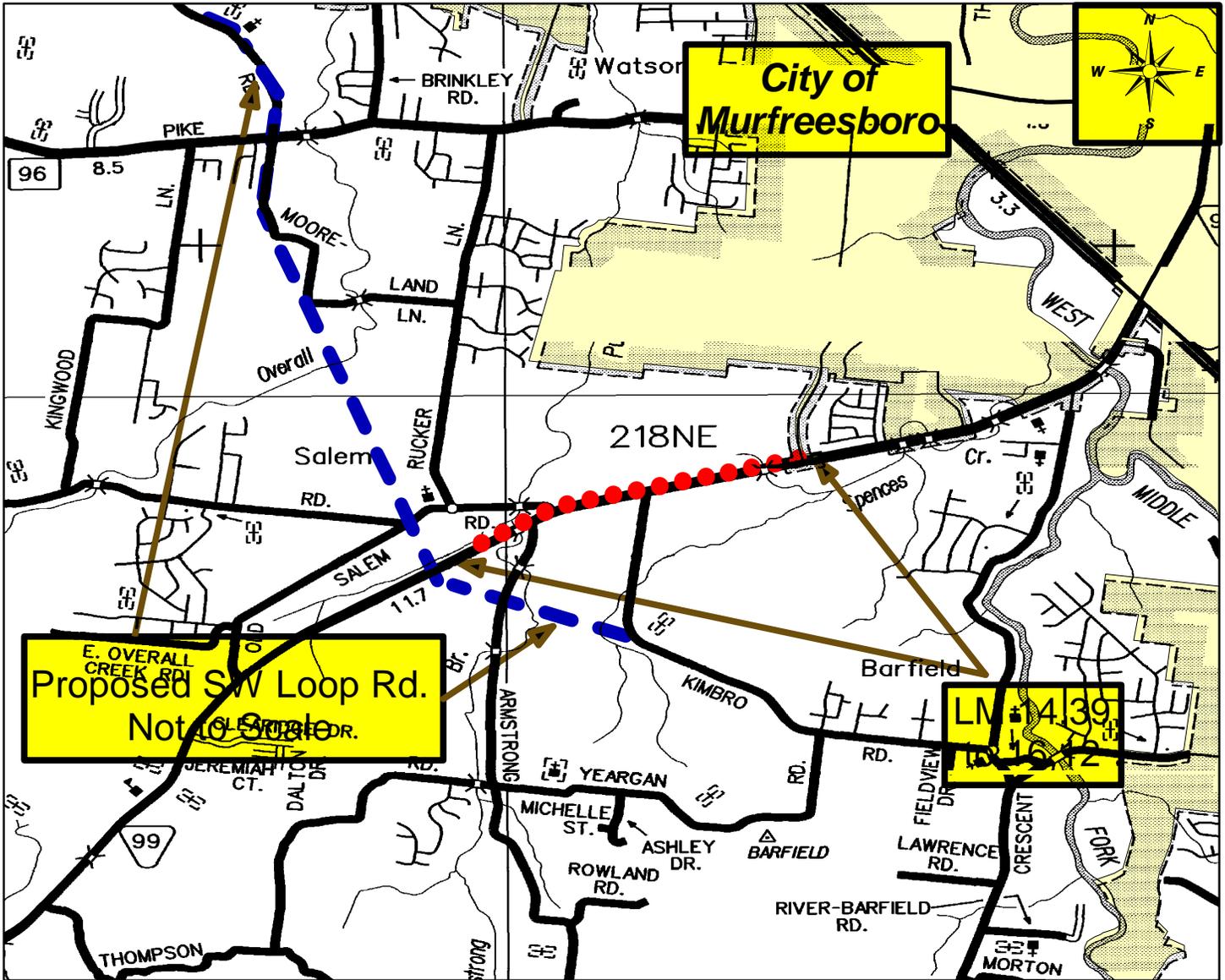
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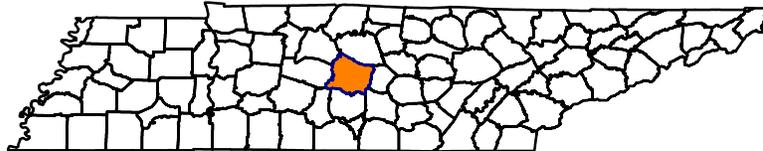
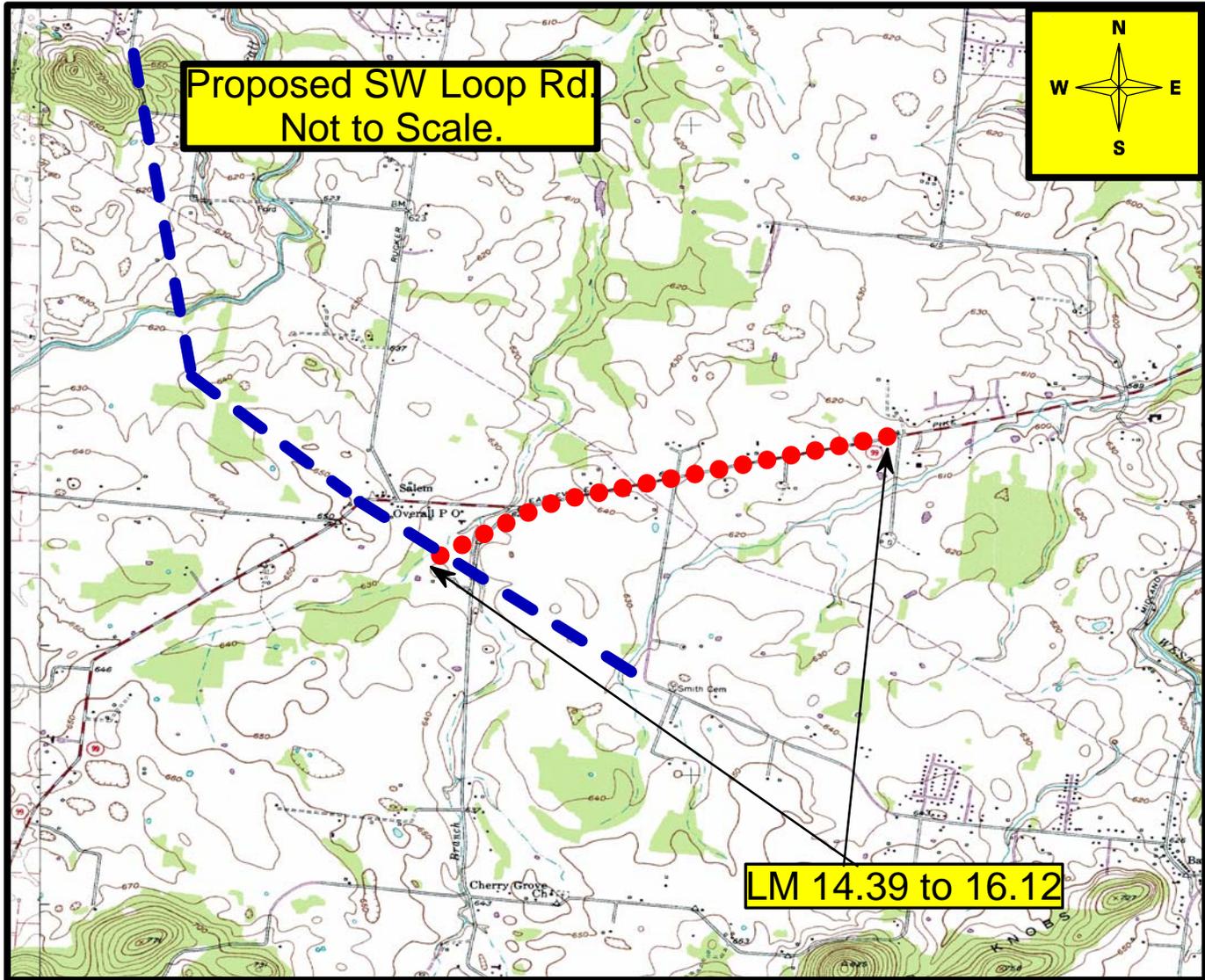
PREPARED BY
TENNESSEE DEPARTMENT OF TRANSPORTATION
PROJECT PLANNING DIVISION

Recommended by:	Signature	DATE
CHIEF OF ENVIRONMENT AND PLANNING		12/12/06
TRANSPORTATION DIRECTOR PROJECT PLANNING DIVISION		12-12-06
TRANSPORTATION MANAGER 2 PROJECT PLANNING DIVISION		12/08/06

This document is covered by 23 USC § 409 and its production pursuant to fulfilling public planning requirements does not waive the provisions of § 409.



Legend		Rutherford County State Route 99 From proposed SW Loop Road to Cason Lane
	SR-99 Ext.: Proposed SW Loop Rd. to Cason Ln.	
	City of Murfreesboro	



Legend

● ● ● SR-99 Extension: SW Loop Rd. to Cason Ln.

**Rutherford County
State Route 99
From Proposed SW Loop Road
to Cason Lane**

**DATA TABLE
State Route 99
Rutherford County**

No Build

**From: 0.1± west of Proposed SW Loop RD
To: Near Cason Lane**

EXISTING CONDITIONS

Item

Functional Class	Urban Minor Arterial
System Class	STP
Length - Miles	2.0 ±
Cross Section Feet	24 / 40-44 / 120-140
Present ADT (2011)	12,150
Projected Future ADT (2031)	17,000
Percent Trucks	6 %
Estimated Right-of-Way Acquisition (Acres)	N/A
Estimated Right-of-Way Tracts Affected	N/A
Estimated Business Displacements	\$ N/A
Estimated Right-of-Way Cost	\$ N/A
Estimated Utility Cost Reimbursable	\$ N/A
Estimated Utility Cost Non-Reimbursable	\$ N/A
Estimated Construction Cost	\$ N/A
Estimated Preliminary Engineering Cost	\$ N/A
Total Estimated Cost	\$ N/A

**DATA TABLE
State Route 99
Rutherford County**

OPTION 1

**From: 0.1± west of Proposed SW Loop RD
To: Near Cason Lane**

PROPOSED

Item

Functional Class	Urban Minor Arterial
System Class	STP
Length - Miles	2.0 ±
Cross Section Feet	88 / 120
Present ADT (2011)	12,150
Projected Future ADT (2031)	17,000
Percent Trucks	6 %
Estimated Right-of-Way Acquisition (Acres)	6.0 ±
Estimated Right-of-Way Tracts Affected	10
Estimated Business Displacements	\$ N/A
Estimated Right-of-Way Cost	\$ 395,000
Estimated Utility Cost Reimbursable	\$ N/A
Estimated Utility Cost Non-Reimbursable	\$ 950,000
Estimated Construction Cost	\$ 7,955,000
Estimated Preliminary Engineering Cost	\$ 600,000
Total Estimated Cost	\$ 8,555,000

PROJECT DATA TABLE

STATE ROUTE 99

	APPROXIMATE	PROPOSED	2011 AVERAGE	2031 AVERAGE	PERCENT	2031 LEVEL	R.O.W	UTILITY	CONSTRUCTION	PRELIMINARY	TOTAL
	LENGTH	IMPROVEMENT	DAILY TRAFFIC	DAILY TRAFFIC	TRUCKS	OF SERVICE	COST	RELOCATION COST	COST	ENGINEERING COST	COST
SECTION 1											
OPTION 1	2.0±	5 LANE	12,150	17,000	6	B	\$395,000	\$950,000	\$7,955,000	\$600,000	\$8,555,000
NO-BUILD	2.0±	EXISTING TWO-LANE	12,150	17,000	6	E	N/A	N/A	N/A	N/A	N/A
TOTAL											
OPTION 1	2.0±						\$395,000	\$950,000	\$7,955,500	\$600,000	\$8,555,000

EXISTING CONDITONS

State Route 99 in Rutherford County was added to the state road system on June 25, 1931. It extends from the Marshall County line to the Cannon County line, a total distance of approximately 33.23 miles. The proposed project length is approximately two miles from Cason Lane to the proposed Southwest Loop Road. The existing route consists of a standard two-lane with twelve foot traffic lanes and eight to ten foot shoulders and ditches in the project area. Option 1 does not include the proposed Southwest Loop Road that is a priority project for the city of Murfreesboro, or the widening of State Route 99 from Cason Lane to State Route 96 project; they are separate projects.

The base year (2011) average daily traffic (ADT) along this route ranges from a low of 10,890 to a high of 15,640. This traffic is based on 2005 cycle counts and a previous project prepared for design dated December 12, 2005. The design year (2031) traffic is based on the growth rate from the Nashville Metropolitan Planning Organization (MPO) computer model and long range plan. CSX Railway currently provides freight service for area industry. Trucking is the dominant means for moving goods to and from local businesses and industry.

Using the base years 2003 through 2005 crash data, a crash rate of 1.83 (crashes per one million vehicle miles) was calculated for the existing route. This can be compared to the statewide average rate for these years of 2.51.

COMMUNITY PROFILE

The sixth largest city in Tennessee, Murfreesboro is an urban community of 86,793 residents according to a 2005 estimate. The unemployment rate in Murfreesboro is 3.9%, which is lower than the statewide average of 5.2% for Tennessee. The city is located in the exact geographical center of Tennessee, located approximately thirty miles from Nashville on the major interstate (I-24) corridor between Nashville and Chattanooga. State Route 840 provides Murfreesboro with quick and efficient access to Interstate 40 to the north and Interstate 65 to the west, aiding in the economic development of the area.

Murfreesboro has over 150 industries that comprise distribution, warehousing, and manufacturing involving a wide range of products. Some of the larger companies are Nissan Motor Corp., Bridgestone/Firestone, Ingram Book Group, General Mills/Pillsbury, Whirlpool Corporation, State Farm, Borders Group, and Verizon Wireless.

The City of Murfreesboro is experiencing an increase in residential and commercial development along State Route 99 that has increased traffic demand along the route. The traffic generators can be separated into four land use categories: 1) industrial and manufacturing, 2) retail, 3) educational or institutional, 4) residential.

PURPOSE AND NEED OF THE PROJECT

The purpose of this study is to analyze existing and projected conditions to determine the purpose and need of improving State Route 99 east from the proposed Southwest Loop Road to Cason Lane. The proposed widening of State Route 99 from Cason Lane to the proposed Southwest Loop Road was initiated through the Tennessee Department of Transportation (TDOT) Program Development and Project Management Office and the City of Murfreesboro requesting the extension of an on-going project that runs from State Route 96 to Cason Lane. The proposed Southwest Loop Road project is a priority for local officials. The Proposed Southwest Loop Road and the proposed widening of State Route 99 from Southwest Loop Road to State Route 96 are included in the Nashville Municipal Planning Organization's (MPO) Long Range Plan. The Advance Planning Report (APR) for the widening project of State Route 99 from State Route 96 to Cason Lane was approved in April of 2000.



Intersection of SR-99 & Old Salem Road heading east at LM 14.71

The objective of this report is to define the purpose and need of the proposed improvement and estimate the cost of project implementation. This study was initiated due to the growth of residential and commercial developments, the inherent increase of truck and

employee traffic in and around Murfreesboro's downtown and industrial park areas, and the construction of new access roads connecting to the existing route.

The primary purpose of this project is to fill in the gap of an arterial traffic network caused by the development by the City of Murfreesboro plans to construct a new Southwest Loop Corridor. The project is needed to eliminate the potential for hazardous traffic conditions caused by a chokepoint between two high volume corridor routes.



Intersection of SR-99 & Belle River RD (new subdivision) heading east at LM 14.77

Other options were considered initially, but were not studied further because the no build option, a three lane option, or a four lane option would not fulfill the purpose and need of the project. These options would not (1) serve future demand for regional accessibility to the interstate highway system; (2) would not provide economic growth potential of the City of Murfreesboro and Rutherford County by improving the highway system; (3) the no build and three lane options would not increase the capacity on existing State Route 99 in order to meet future traffic demands; (4) the four lane option would handle the increased traffic demands, but would cause access issues and require more right-of-way to be acquired increasing the cost of the project. The four lane option would also have a greater impact on environmental and historic resources.

Currently, trucks account for 6% of the traffic on State Route 99 in the project area. This proposed project will reduce travel time and vehicle emissions to residential and commercial areas, the interstate, and the downtown area.

The primary need on State Route 99 in Rutherford County is for improved local and regional mobility. Several specific needs are encompassed in this broad goal:

1. Allow additional economic growth in the City of Murfreesboro and Rutherford County by providing improvement to the transportation system.
2. Provide an east/west route to serve demand for regional accessibility to the interstate highway system and protect that provision in the future.
3. Increase the capacity on existing State Route 99 in order to improve safety and mobility.
4. Widening needed to handle increased traffic demand spurred by commercial/residential development, and construction of new access roads connecting to the existing route.
5. With the construction of the proposed Southwest Loop Road and the widening of State Route 99 from State Route 96 to Cason Lane, this two mile section of State Route 99 connecting Cason Lane to the proposed Southwest Loop Road will need to be widened to prevent a choke point being created. The creation of a choke point at the intersection of State Route 99 and Cason Lane would introduce adverse capacity and safety conditions.



Approaching intersection with Cason Lane heading east at LM 16.04

Addressing transportation needs through corridor planning offers many benefits and represents a new way of identifying transportation improvements throughout the state. Rather than planning on a project-by-project basis and in a piecemeal fashion, corridor planning allows TDOT to look at a larger area and develop creative, collaborative and long-term solutions to problems. Projects developed through corridor planning offer more transportation choices and are more financially responsible in a time of limited resources at all levels of government. The 10-year Strategic Investment Plan is intended to jumpstart key pieces of the 25-year vision plan which is discussed in detail in the Long Range Transportation Plan (LRTP).

The LRTP looks at multimodal approaches to meet the increasing transportation needs in Tennessee for the next 25-years. It describes what type of transportation system we will have in the future and provides policy direction for investments and operating decisions. Each of the six primary modes of transportation (aviation, bicycle/pedestrian, highway, public transportation, rail and waterways) was examined for current use, future travel and freight demands and the condition of the system.

LEVEL OF SERVICE

The character of operating conditions can be quantified by a “Level of Service” (LOS) analysis. The proficiency of roads is described by their LOS. The criteria are defined as shown in the “Level of Service” section of this report and reflect the ability of roads to accommodate motor vehicle traffic and subsequent physical and psychological comfort levels of drivers. The LOS analysis incorporates several factors including traffic volumes, number of lanes, terrain, percent of no passing zones, directional split, heavy vehicles, and shoulder widths. The projected traffic volumes for the base and design years are depicted in the Project Data Table and on the traffic schematic included in this report.

LOS is a qualitative measure that describes the character of traffic conditions related to speed and travel time, freedom to maneuver, traffic interruptions, etc. There are six levels ranging from “A” to “F” with “F” being the worst. Each level represents a range of operating conditions. General descriptions of operating conditions for each of the levels of service are as follows:

LOS Traffic Flow Conditions

- 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 still high.

- C** Flow with speeds at or near free flow speeds. 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 the additional vigilance required for safe operation.

- D Speeds decline with increasing traffic. Freedom to maneuver within the traffic stream is more noticeably limited. The driver experiences reduced physical and psychological comfort levels.
- E At lower boundary, the facility is at capacity. Operations are volatile because there are virtually no gaps in the traffic stream. There is little 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 exceed 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.

The LOS analysis completed for this route utilized the projected design year (2031) traffic on the existing route as well as on the proposed improvement. The “no-build” operating conditions deteriorate to a LOS of “E” by the design year 2031. The proposed widening indicates a LOS of “B” for the same design year.

PROPOSED IMPROVEMENT

Description

This report will focus on an option to improve State Route 99 from Cason Lane to the proposed Southwest Loop Road along existing State Route 99, a total distance of approximately 2.0 miles.



Intersection of SR-99 & Armstrong Valley Road heading east at LM 14.52

The typical section will consist of four 12' traffic lanes with a 12' continuous turn lane, two 14' shoulders (includes curbs and gutters), two 5' sidewalks and utility strips. Most of the work will be within the existing 120' ± right-of-way. This proposed typical section is the same as the existing project running from State Route 96 to Cason Lane along existing State Route 99. Because of this, only one option was prepared for this report. There may be some areas where slope or construction easements will be necessary and some right-of-way will be required. Other options were considered initially, but were not studied further because of the impact they would have on historic sites and environmental factors if the alignment of State Route 99 were shifted to the north or south of its existing location. The option studied for this report will minimize adverse effects on historic sites or environmental factors by maintaining the existing alignment of State Route 99.

It is proposed to widen the existing roadway symmetrically about the centerline. The exception will be where a branch of Puckett Creek parallels the route on the north side through the area where the proposed Southwest Loop Road crosses State Route 99. Through this area, the roadway alignment will either be shifted to the south to avoid the creek or a retaining wall will be constructed to avoid the creek. The plans and cost estimates were developed with the idea of relocating the centerline to the south, which will require the purchase of 40'± of new right-of-way for about 3000'±. The necessary right-of-way to build the project will vary depending on construction slope requirements.

A no-build option was also analyzed for this report. The no-build option, as the name implies, denotes that only minor improvements (such as safety improvements and normal maintenance) would be made to the existing road and/or intersection areas. The no-build option does not meet the purpose and need of the project, and it will not provide the needed capacity to handle future traffic demands.



Intersection of SR-99 & Kimbro Road heading east at LM 15.29

ASSESSMENT OF OPTIONS

The TDOT has adopted seven guiding principles against which all transportation projects are to be evaluated. These guiding principles address concerns for system management, mobility, economic growth, safety, community, environmental stewardship, and fiscal responsibility. These guiding principles are discussed in the following paragraphs as they relate to the option for improving State Route 99 in Rutherford County.

Guiding Principle 1: Preserve and Manage the Existing Transportation System

When construction was completed on June 25, 1931, State Route 99 provided a facility for regional mobility through Rutherford County. That function has degraded in recent decades due to the lack of access control combined with increased commercial and residential development along the route.

The widening of existing State Route 99 is consistent with TDOT's goal of preserving the existing transportation system. The widening of existing State Route 99 through this section of Rutherford County would not necessitate acquisition of developed right-of-way as it would in a commercial and residential area that would involve significant property and environmental impacts. This improvement does not add additional mileage to the State Highway System.

Guiding Principle 2: Move a Growing, Diverse, and Active Population

The option considered in this report will provide needed capacity to address Murfreesboro's and Tennessee's regional travel demands. Residential and commercial

development and access along existing State Route 99 has made it less conducive to accommodating regional trip making, particularly to commuter movement.

Guiding Principle 3: Support the State's Economy

State Route 99 provides direct and indirect access to all of the major population centers in Rutherford County. The population in Murfreesboro has increased approximately 21% since the 2000 census. The unemployment rate in Murfreesboro is 3.9%. The areas economic growth and jobs created in Rutherford County and in Murfreesboro have not only benefited the local economy, but the state's as well.

The development of the proposed State Route 99 project will create better and safer access to residential and commercial areas along the route, as well as new residential and commercial developments in the future.

Guiding Principle 4: Maximize Safety and Security

Traffic crash rates on existing State Route 99 were 1.83, calculated from crash data for the years 2003 through 2005. A total of 39 traffic crashes were reported during that period, of which 18 (46%) involved an injury. There were no fatalities during this time period. The statewide average crash rate for an urban minor arterial two-lane road is 2.51.

Guiding Principle 5: Build Partnerships for Livable Communities

Nashville MPO staff coordinated with local officials to identify their concerns and objectives. In keeping with the goals of TDOT's current Public Involvement Process, the Nashville MPO conducted meetings with the local officials and the public to coordinate the transportation needs envisioned by the citizens of the local community and those of TDOT. This public involvement process will continue as mandated by the provisions of the National Environmental Policy Act (NEPA).

Guiding Principle 6: Promote Stewardship of the Environment

A detailed environmental study is needed to fully address the impact of the considered option within the Area of Potential Effects (APE). The APE is the geographic area in which an undertaking may directly or indirectly impact the environment. A more comprehensive analysis of the impacts will be completed at a later date to comply with the National Environmental Policy Act (NEPA). This analysis will require the consideration of

environmental values in the decision making processes by taking into account the environmental impacts of proposed actions and reasonable alternatives to those actions. Additional environmental disciplines such as social, economic, farmland, displacements, and land use impacts will be evaluated in the NEPA document.

Guiding Principle 7: Promote Financial Responsibility

Preliminary construction cost estimates were prepared for each considered option. Table 1 summarizes the construction cost estimates for Option 1 and the no-build option.

Table 1
Comparison of Construction Cost Estimates

OPTION	NUMBER OF NEW LANES	CONSTRUCTION COST	LENGTH	COST PER MILE
No Build	n/a	\$0	n/a	n/a
Option 1	4	\$8,555,000	2.0	\$4,277,500

PRELIMINARY HISTORIC ANALYSIS

TDOT historians have conducted a records search at the Tennessee State Historic Preservation Office (TN-SHPO) and a reconnaissance level field survey of this project in Rutherford County. Currently there is one property listed on the National Register of Historic Places (NRHP) within the existing State Route 99 corridor: Boxwood, a historic house on the south side of State Route 99 nearly one half mile west of Cason Lane. The reconnaissance survey identified several properties that will require additional survey and research.

1. **Harrison Farms**—TDOT historians surveyed a part of the area of potential effect for this project for the State Route 99 from Cason Lane to State Route 96 project. At the time Harrison Farms was not determined eligible for listing on the NRHP. However due to the passage of time, this property will need to be reassessed.
2. **Salem**—The town of Salem has several older properties that would need to be assessed if the project has the potential to impact it.

3. RD-2013-Free Classic Farmhouse with outbuildings—This farm on the south side of State Route 99 will require additional survey and research in order to determine NRHP eligibility.
4. Two farms, not previously surveyed by the TN-SHPO, will require documenting but are unlikely to be NRHP eligible.

Further research may indicate that some or none of the properties mentioned above are NRHP eligible. Measures should be taken in the planning process to avoid the National Register properties and minimize adverse effects. If properties are identified later as being eligible for the National Register, they will also need to be avoided to prevent adverse effects. Maintaining the existing alignment of State Route 99 will minimize adverse effects to the properties listed.

Summary

This project is an extension of an existing project widening State Route 99 from State Route 96 to Cason Lane. The proposed typical section will be the same as what was developed for the previously mentioned project.

Improvements of State Route 99 are needed to address the following needs:

1. Provides an east/west route to serve demand for regional accessibility to the interstate highway system and protect that provision in the future.
2. Provides economic growth potential for the City of Murfreesboro and Rutherford County by improving the highway system.
3. Increase the capacity on existing State Route 99 in order to meet future traffic demands.
4. Provides a higher LOS for motorist comfort levels.

Option 1 is based solely within the existing corridor and will be further evaluated under future studies for horizontal and vertical alignment, right-of-way, utility adjustments, environmental mitigations and structures. The proposed project area is approximately two miles in length.

The option will improve deficiencies throughout the route. The improved roadway will also enhance access to both commercial and residential sites along the route. Other primary beneficial effects include: (1) improved local and regional accessibility; (2) improved operating conditions along the project corridor; (3) increased traffic capacity; and (4) enhancement of

future planned growth by local and/or regional land use planning agencies; 5) Reduced fuel emissions as a result of eliminating slow moving or standing vehicles passing through the chokepoint.

The primary adverse effects of the proposed build option include: (1) the loss of land for right-of-way; (2) temporary construction impacts (dust, siltation, equipment noise, etc.) during the construction period; (3) traffic noise.

As depicted on the Project Data Table, the design year 2031 LOS for the option is “B” throughout the entire proposed route. The comparable LOS for the no-build option is a deficient LOS of “E”. In addition, the disadvantages of the no-build option include continued inadequate operating conditions inherent with increased traffic volumes. Some advantages of the no-build option include no disruption of the area due to construction and measures to mitigate environmental impacts would not be necessary.

Other options were considered initially, but were not studied further because the no build option, a three lane option, or a four lane option would not fulfill the purpose and need of the project. These options would not (1) serve future demand for regional accessibility to the interstate highway system; (2) would not provide economic growth potential of the City of Murfreesboro and Rutherford County by improving the highway system; (3) the no build and three lane options would not increase the capacity on existing State Route 99 in order to meet future traffic demands; (4) the four lane option would handle the increased traffic demands, but would cause access issues and require more right-of-way to be acquired increasing the cost of the project. The four lane option would also have a greater impact on environmental and historic resources.

In conclusion, this report identifies the option to address the purpose and need. Option 1 does meet the purpose and need; while the no build option does not. Therefore, the widening option should be advanced as a solution for further development under the NEPA planning process.

No Build

- Does not provide the needed capacity to address mobility concerns.

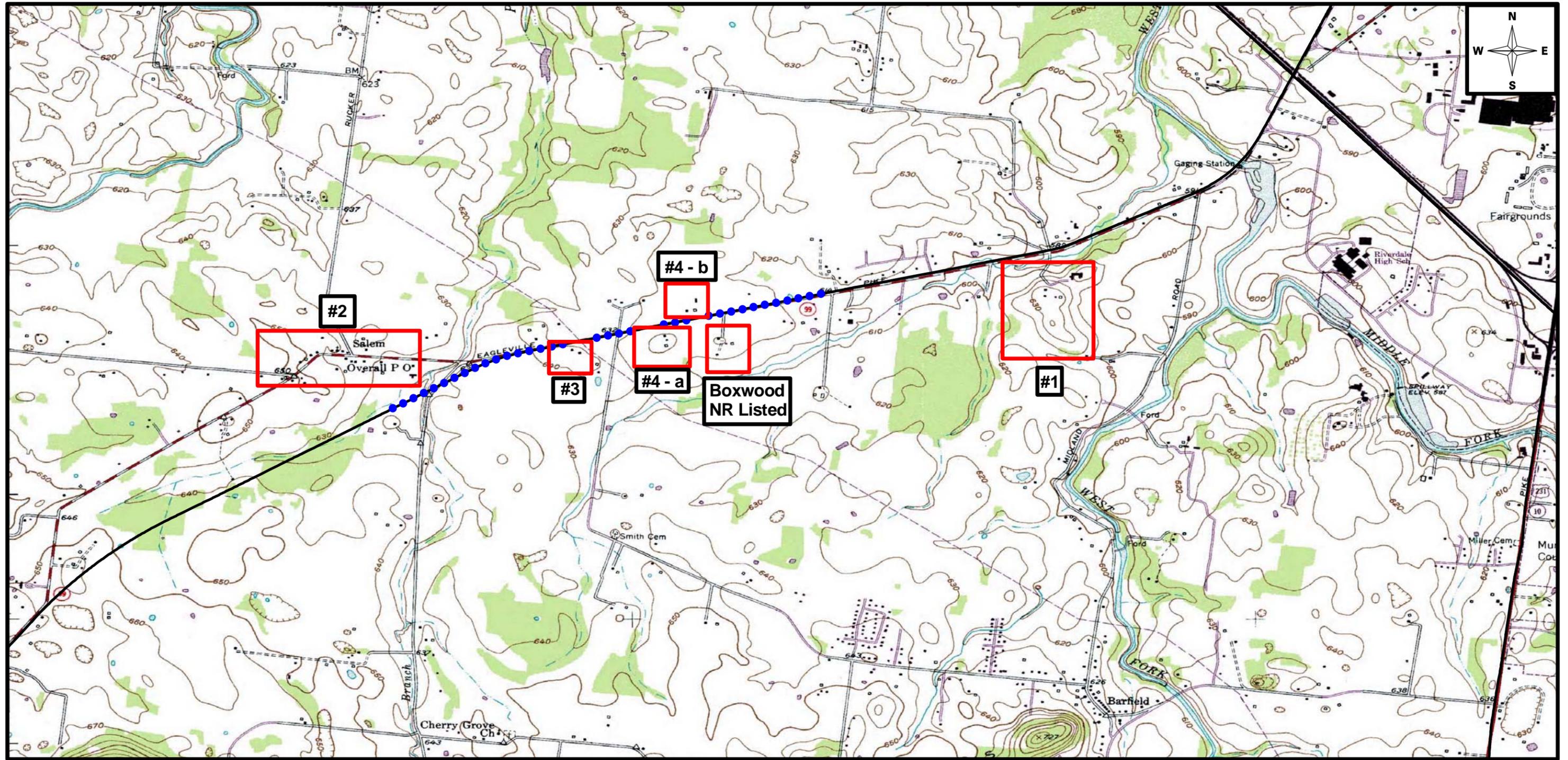
Option 1

- Increases system capacity
- Improved local and regional mobility
- Promotes economic development
- Reduces fuel emissions
- Provides better route connectivity with Interstate 24
- Helps to preserve State Route 99 by improving along the existing section from the proposed Southwest Loop Road to Cason Lane. Improvements along this section are needed to meet future traffic demands.

Historic Preservation Scoping Map

State Route 99 from Proposed SW Loop Road to Cason Lane

Rutherford County



Legend

●●●●●● Study Area



Preliminary Environmental Evaluation

If preliminary field reviews indicate the presence of any of the following facilities or Economic, Social and Environmental categories (ESE), place the number of facilities in the blank opposite the item. Where more than one location option is to be considered, place its letter designation in the blank.

	<u>Option</u>
1.) Hazardous Material Site or Underground Storage Tanks.....	_____
2.) Floodplains.....	_____
3.) Historical, archaeological, cultural, or natural landmark, or cemeteries.....	_____ X _____
4.) Airport.....	_____
5.) Residential establishment.....	_____ X _____
6.) Urban area, city, town, or community..... (Murfreesboro, Pop. 86,793)	_____ X _____
7.) Commercial area, shopping center.....	_____
8.) Institutional usages:	
a. School or other educational institution.....	_____
b. Hospital or other medical facility.....	_____
c. Church or other religious institution.....	_____ X _____
d. Public Building, e.g., fire station.....	_____
e. Defense installation.....	_____
9.) Agricultural land usage.....	_____ X _____
10.) Forested land.....	_____
11.) Industrial park, factory.....	_____
12.) Recreational usages:	
a. Park or recreational area, State Natural Area.....	_____
b. Wildlife refuge or wildlife management area.....	_____
13.) Waterway:	
a. Lake.....	_____
b. Pond.....	_____
c. River.....	_____
d. Stream.....	_____ X _____
e. Spring.....	_____
14.) Railroad Crossings.....	_____
15.) Location coordinated with local officials.....	_____ X _____
16.) Other.....	_____

Index Of Sheets

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	TYPICAL SECTION
3-8	PROPOSED LAYOUTS
9	GENERAL LOCATION MAP

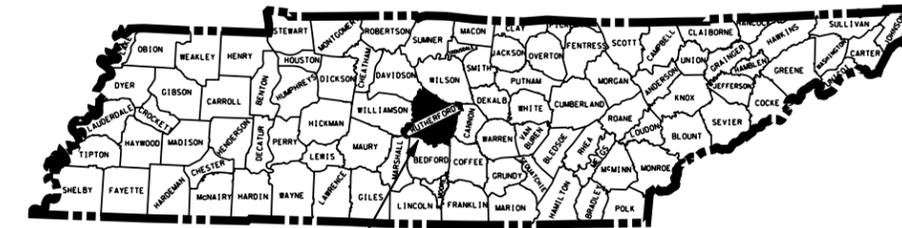
STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION BUREAU OF ENGINEERING

TENN.	YEAR	SHEET NO.
	2006	1
FED. AID PROJ. NO.		
STATE PROJ. NO.		

RUTHERFORD COUNTY

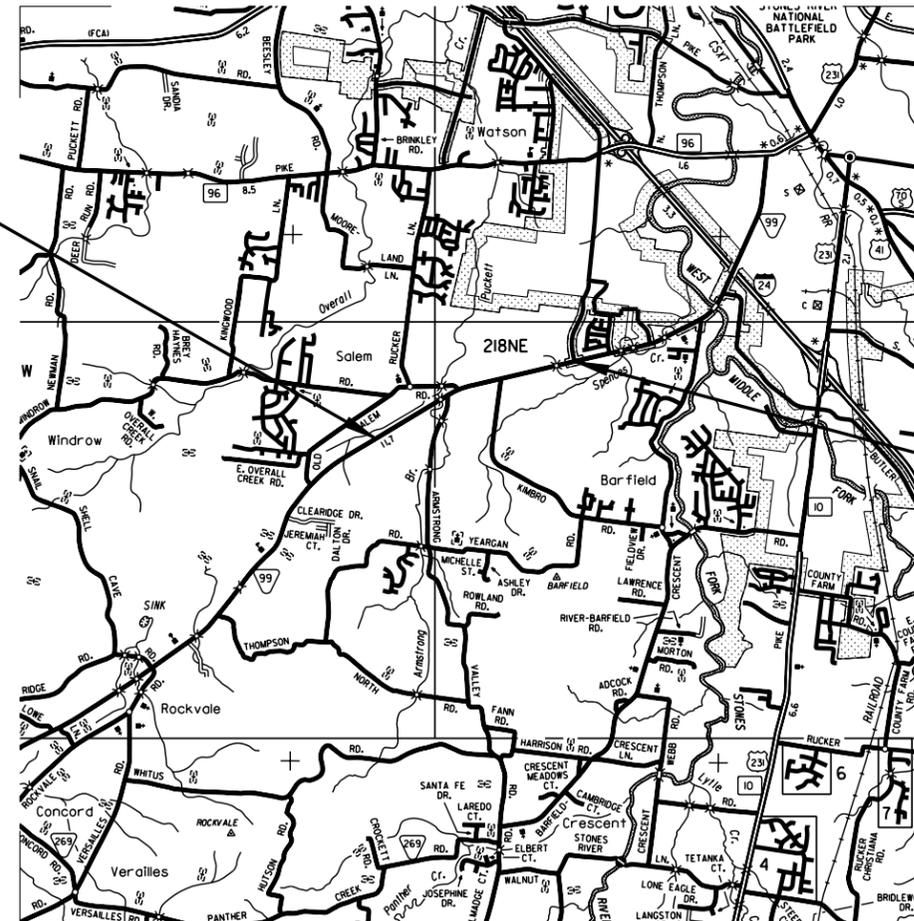
STATE ROUTE 99 FROM SOUTHWEST LOOP ROAD TO CASON LANE

STATE HIGHWAY NO. 99 F.A.H.S. NO.



PROJECT LOCATION

BEGIN PROJECT



END PROJECT

SPECIAL NOTES

PROPOSALS MAY BE REJECTED BY THE COMMISSIONER IF ANY OF THE UNIT PRICES CONTAINED THEREIN ARE OBVIOUSLY UNBALANCED, EITHER EXCESSIVE OR BELOW THE REASONABLE COST ANALYSIS VALUE.

THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED MARCH 1, 1995 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT

TDOT ROAD SP. SV. 2 _____

DESIGNER FRANK FULGHAM DRAFTER FRANK FULGHAM

APPROVED: _____
CHIEF ENGINEER

DATE: _____

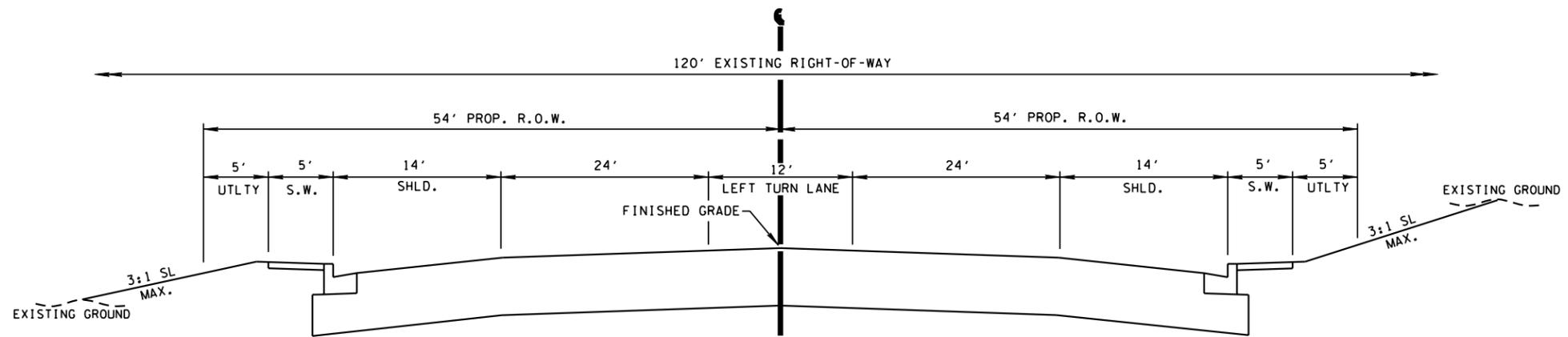
APPROVED: _____
COMMISSIONER

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: _____
DIVISION ADMINISTRATOR DATE

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
			2



PROPOSED TYPICAL SECTION

STATE ROUTE 99

FROM SOUTHWEST LOOP ROAD
TO CASON LANE

6/8/2006
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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

RUTHERFORD CO.
S.R. 99

NOT TO SCALE



CURVE C1
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 E 1,825.218.5447
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 T 90.66
 SE 0.000 FT/FT
 DESIGN SPEED 00 MPH
 TRANS. LENGTH 000

BEGIN PROJECT

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 T 90.66
 SE 0.000 FT/FT
 DESIGN SPEED 00 MPH
 TRANS. LENGTH 000



STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

RUTHERFORD CO.
 S.R. 99

TYPE	YEAR	PROJECT NO.	SHEET NO.
			4



CURVE C3
 PI 536+40.61
 N 536.251.9667
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 L 255.34
 T 127.69
 SE 0.000 FT/FT
 DESIGN SPEED 00 MPH
 TRANS. LENGTH 000

NOTE: CONSTRUCTION BY OTHERS.



STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

RUTHERFORD CO.
 S.R. 99

TYPE	YEAR	PROJECT NO.	SHEET NO.
			5



CURVE C4
 PI 541+41.06
 N 536,528.4391
 E 1,828,339.8419
 Δ 2° 33' 12" (RT)
 D 1° 00' 00"
 R 5,729.58
 L 255.34
 T 127.69
 SE 0.000 FT/FT
 DESIGN SPEED 00 MPH
 TRANS. LENGTH 000

CURVE C5
 PI 561+54.05
 N 537,564.5649
 E 1,830,065.7351
 Δs 17° 43' 32" (RT)
 θs 1° 30' 00"
 Δc 14° 43' 32" (RT)
 Dc 1° 30' 00"
 Rc 3,819.72
 Lc 981.71
 Ts 695.68
 Ls 200.00
 SE 0.000 FT/FT
 DESIGN SPEED 00 MPH
 TRANS. LENGTH 000



STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

RUTHERFORD CO.
 S.R. 99

TYPE	YEAR	PROJECT NO.	SHEET NO.
			6



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DEPARTMENT OF TRANSPORTATION

RUTHERFORD CO.
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TYPE	YEAR	PROJECT NO.	SHEET NO.
			7



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TYPE	YEAR	PROJECT NO.	SHEET NO.
			8



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