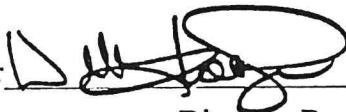


ADVANCE PLANNING REPORT

STATE ROUTE 14 (AUSTIN PEAY HIGHWAY)
FROM STATE ROUTE 204 (SINGLETON PARKWAY)
TO THE TIPTON COUNTY LINE
SHELBY COUNTY

PREPARED BY
TENNESSEE DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING AND DEVELOPMENT

Approved by:



Director, Bureau of Planning and Development

4-28-98

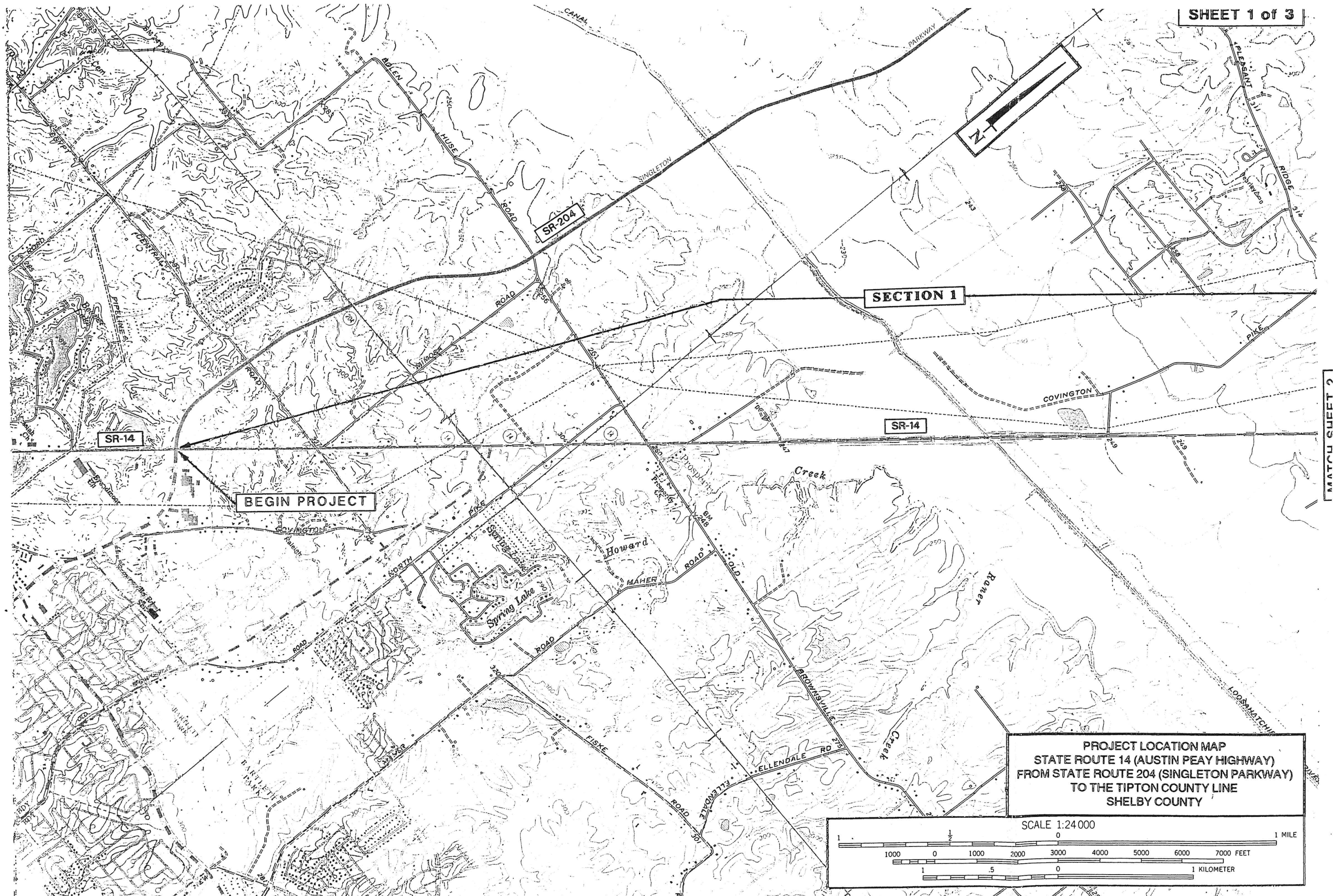
Date

REVISION

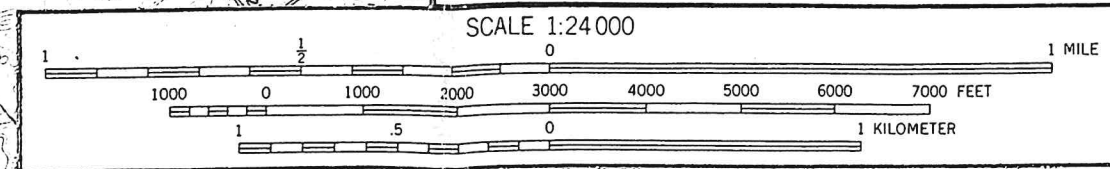
Recommended by:	INITIALS	DATE	Recommended by:	INITIALS	DATE
TRANS. DIRECTOR PLANNING DIVISION	GAB	3/30/98	TRANS. DIRECTOR PLANNING DIVISION		
ENG. DIRECTOR DESIGN DIVISION	HJZ	4/13/98	ENG. DIRECTOR DESIGN DIVISION		
ENG. DIRECTOR STRUCTURES DIVISION	EW	4/14/98	ENG. DIRECTOR STRUCTURES DIVISION		
TRANS. DIRECTOR PROG. DEV. DIVISION	AEC	4-24-98	ENG. DIRECTOR PROG. DEV. DIVISION		
ASST. EXEC. DIRECTOR PLN. AND DEV.	HASB	4/27/98	ASST. EXEC. DIRECTOR PLN. AND DEV.		
ASST. EXEC. DIRECTOR PLAN AND DEV.	WOW	4/27/98	ASST. EXEC. DIRECTOR PLAN AND DEV.		

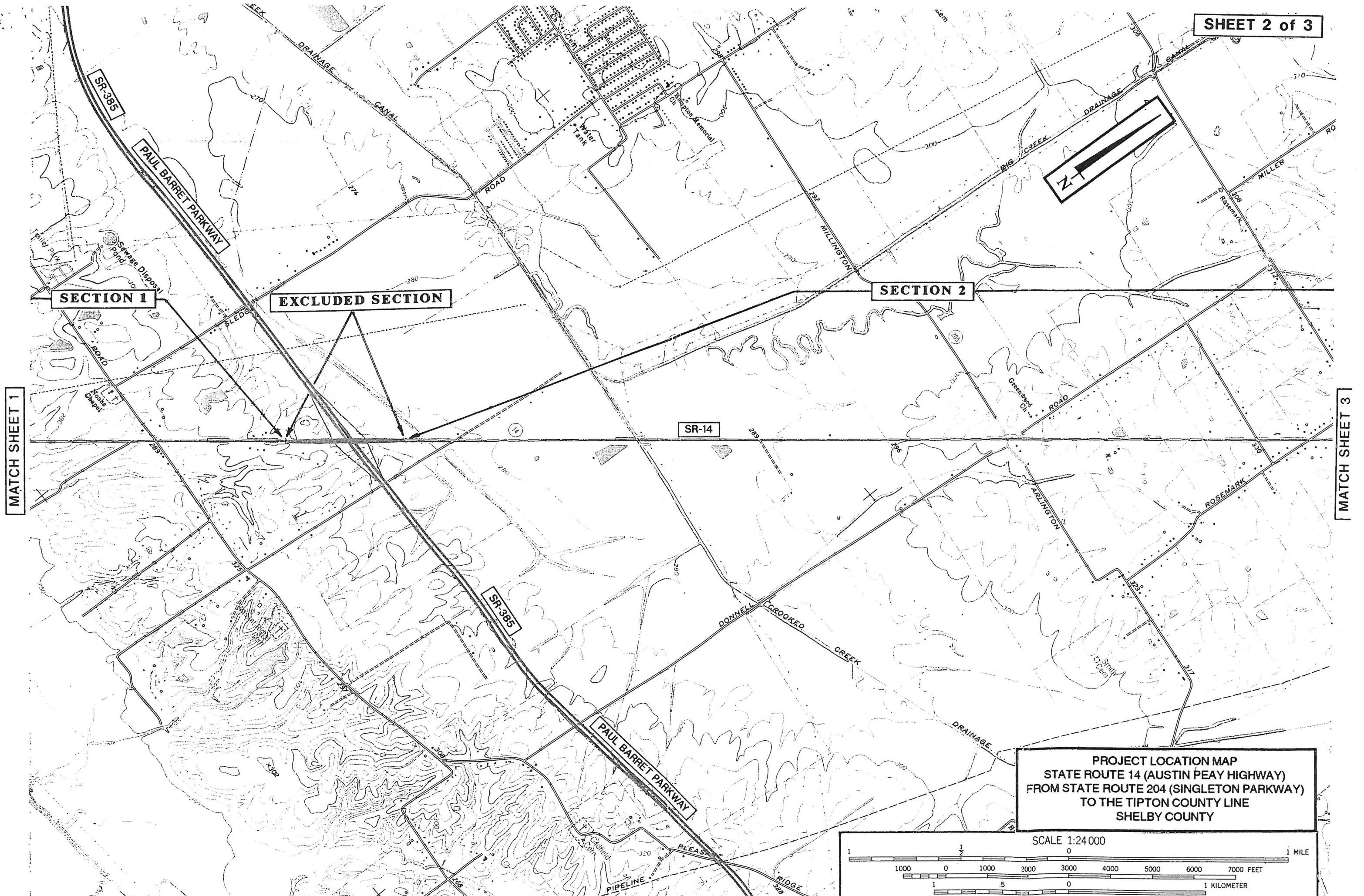


NOTE: THIS REPORT GIVES BOTH METRIC AND ENGLISH MEASUREMENTS.
THE ENGLISH UNITS ARE PROVIDED FOR INFORMATION PURPOSES ONLY.

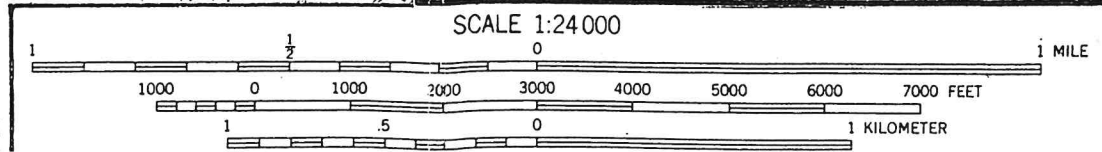


PROJECT LOCATION MAP
STATE ROUTE 14 (AUSTIN PEAY HIGHWAY)
FROM STATE ROUTE 204 (SINGLETON PARKWAY)
TO THE TIPTON COUNTY LINE
SHELBY COUNTY





PROJECT LOCATION MAP
STATE ROUTE 14 (AUSTIN PEAY HIGHWAY)
FROM STATE ROUTE 204 (SINGLETON PARKWAY)
TO THE TIPTON COUNTY LINE
SHELBY COUNTY



MATCH SHEET 2

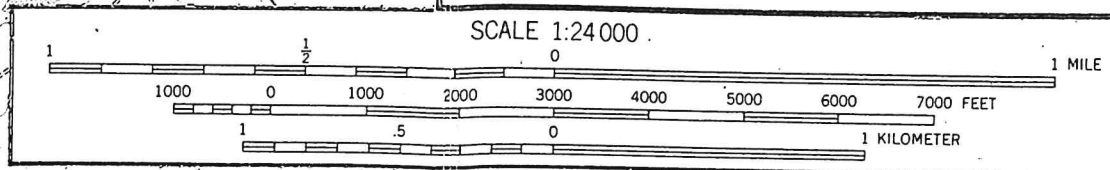
SECTION 2

SR-14

END PROJECT

PROJECT LOCATION MAP
STATE ROUTE 14 (AUSTIN PEAY HIGHWAY)
FROM STATE ROUTE 204 (SINGLETON PARKWAY)
TO THE TIPTON COUNTY LINE
SHELBY COUNTY

SCALE 1:24 000



DATA TABLE (Existing)

State Route 14

Item

Functional Class	Rural Minor Arterial
System Class	State Transportation Program
Length - Kilometers (Miles)	24.1 (15.0)
Cross Section	
Meters (Feet)	7.3m/12.8m/48.8m (24'/42'/160')
Present ADT (1998)	4,460 to 13,300
Projected	
Future ADT (2018)	7,150 to 19,560
DHV	1,760
Percent Trucks	5 to 8
Estimated Right-of-Way	
Acquisition - Hectares (Acres)	
Estimated Right-of-Way	
Tracts Affected	
Estimated	
Family Displacements	
Estimated	
Business Displacements	
Estimated	
Non-Profit Displacements	
Estimated	
Right-of-Way Cost	
Estimated Utility Cost	
Reimbursable	
Estimated Utility Cost	
Non-Reimbursable	
Estimated	
Construction Cost	
Estimated Preliminary	
Engineering Cost	
Total Estimated Project Cost	

DATA TABLE (Proposed)

State Route 14

Section I

Item

Functional Class	Rural Minor Arterial
System Class	State Transportation Program
Length - Kilometers (Miles)	10.1 (6.3)
Cross Section	18.0m/25.2m/45m (60'/84'/150') and
Meters (Feet)	14.4m/36.6m/75m (48'/120'/250')
Present ADT (1998)	8,020 to 13,300
Projected	
Future ADT (2018)	12,900 to 19,560
DHV	1,760
Percent Trucks	6 to 7
Estimated Right-of-Way	
Acquisition - Hectares (Acres)	14.6 (36)
Estimated Right-of-Way	
Tracts Affected	56
Estimated	
Family Displacements	1
Estimated	
Business Displacements	0
Estimated	
Non-Profit Displacements	0
Estimated	
Right-of-Way Cost	\$ 1,040,000
Estimated Utility Cost	
Reimbursable	\$ 235,000
Estimated Utility Cost	
Non-Reimbursable	\$ 475,000
Estimated	
Construction Cost	\$ 21,335,000
Estimated Preliminary	
Engineering Cost	\$ 1,940,000
Total Estimated Section Cost	\$ 25,025,000

DATA TABLE (Proposed)

State Route 14

Section II

Item

Functional Class	Rural Minor Arterial
System Class	State Transportation Program
Length - Kilometers (Miles)	14.0 (8.7)
Cross Section	
Meters (Feet)	14.4m/36.6m/75m (48'/120'/250')
Present ADT (1998)	4,460 to 8,020
Projected	
Future ADT (2018)	7,150 to 12,900
DHV	1,760
Percent Trucks	5 to 8
Estimated Right-of-Way	
Acquisition - Hectares (Acres)	12.5 (31)
Estimated Right-of-Way	
Tracts Affected	66
Estimated	
Family Displacements	3
Estimated	
Business Displacements	2
Estimated	
Non-Profit Displacements	0
Estimated	
Right-of-Way Cost	\$ 1,440,000
Estimated Utility Cost	
Reimbursable	\$ 55,000
Estimated Utility Cost	
Non-Reimbursable	\$ 390,000
Estimated	
Construction Cost	\$ 20,780,000
Estimated Preliminary	
Engineering Cost	\$ 1,890,000
Total Estimated Section Cost	\$ 24,555,000

DATA TABLE (Proposed)

State Route 14

Total

Item

<u>Functional Class</u>	<u>Rural Minor Arterial</u>
<u>System Class</u>	<u>State Transportation Program</u>
<u>Length - Kilometers (Miles)</u>	<u>24.1 (15.0)</u>
<u>Cross Section</u>	<u>18.0m/25.2m/45m (60'/84'/150') and</u>
<u>Meters (Feet)</u>	<u>14.4m/36.6m/75m (48'/120'/250')</u>
<u>Present ADT (1998)</u>	<u>4,460 to 13,300</u>
<u>Projected</u>	
<u>Future ADT (2018)</u>	<u>7,150 to 19,560</u>
<u>DHV</u>	<u>1,760</u>
<u>Percent Trucks</u>	<u>5 to 8</u>
<u>Estimated Right-of-Way</u>	
<u>Acquisition - Hectares (Acres)</u>	<u>26.9 (67)</u>
<u>Estimated Right-of-Way</u>	
<u>Tracts Affected</u>	<u>122</u>
<u>Estimated</u>	
<u>Family Displacements</u>	<u>4</u>
<u>Estimated</u>	
<u>Business Displacements</u>	<u>2</u>
<u>Estimated</u>	
<u>Non-Profit Displacements</u>	<u>0</u>
<u>Estimated</u>	
<u>Right-of-Way Cost</u>	<u>\$ 2,480,000</u>
<u>Estimated Utility Cost</u>	
<u>Reimbursable</u>	<u>\$ 290,000</u>
<u>Estimated Utility Cost</u>	
<u>Non-Reimbursable</u>	<u>\$ 865,000</u>
<u>Estimated</u>	
<u>Construction Cost</u>	<u>\$ 42,115,000</u>
<u>Estimated Preliminary</u>	
<u>Engineering Cost</u>	<u>\$ 3,830,000</u>
<u>Total Estimated Section Cost</u>	<u>\$ 49,580,000</u>

PURPOSE OF STUDY

The purpose of this study is to determine the need and feasibility of improving a deficient segment of State Route 14 (Austin Peay Highway) from State Route 204 (Singleton Parkway) to the Tipton County Line. This report includes tables reflecting existing and projected project data, construction cost breakdowns, and preliminary environmental impacts. Also included are a Project Location Map and Functional Design Plans that depict the proposed improvement on aerial photographs. This project was initiated by area residents and their State legislative representatives concerned with increasing traffic volumes and unsafe conditions along the route.

DEFICIENCIES

Geometrics ☒ Structures ☒ Operational ☒ R/R Crossing ☐

Accident Rate 1.88 Statewide Average Rate 1.68

PROPOSED IMPROVEMENT

This project has been divided into two sections for planning and funding purposes. A short segment through the Paul Barrett Parkway interchange is excluded from the project. Section I runs from State Route 204 (Singleton Parkway) to just south of the State Route 385 (Paul Barrett Parkway) interchange and will consist of two separate typical sections. From the beginning of the project to 0.5 miles north of Old Brownsville Road the proposed cross section consists of 4 @ 3.6 meter (12') traffic lanes, a 3.6 meter (12') continuous turn lane, and 2 @ 3.6 meter (12')

shoulders within a 45 meter (150') right-of-way. The remaining segment of Section I as well as all of Section II (from just north of the Paul Barrett Parkway interchange to the Tipton County Line) consists of 4 @ 3.6 meter (12') traffic lanes, a 15 meter (48') median, and 2 @ 3.6 meter (12') shoulders within a 75 meter (250') right-of-way. The placement of these typical sections (left, right, or symmetrical to the existing roadway) strives for a balance between utilizing the existing right-of-way to its greatest potential and minimizing negative impacts to wetlands and residential properties. The proposed typical sections will tie into a five lane section at Singleton Parkway, a four lane section at Paul Barrett Parkway and a two lane section at the Tipton County Line. The Loosahatchie River and its four overflows will require new structures as well as numerous stream crossings along the route. The existing horizontal alignment is adequate but the vertical alignment will require adjustments to meet the proposed design speed of 100 km/h (60 mph). Section I of this project is listed as a Priority 2 (1 to 20 years) construction improvement in the Memphis MPO Major Road Plan. Section II from Paul Barrett Parkway to Navy Road is listed as a Priority 3 (after 20 years) in the same plan. This plan was adopted in November, 1994 and amended in May, 1995. The remaining segment from Navy Road to the Tipton County Line is not designated for a priority improvement in the plan.

CHECKLIST OF DETERMINANTS FOR LOCATION STUDY

State Route 14 (Austin Peay Highway)

If preliminary field reviews indicate the presence of any of the following facilities or ESE categories, place a "✓" in the blank opposite the item. Where more than one alternate is to be considered, place its letter designation in the blank.

1. Agricultural land usage.....✓
2. Airport (existing or proposed).....
3. Commercial area, shopping center.....✓
4. Floodplains.....✓
5. Forested land.....✓
6. Historical, archaeological, cultural, or natural landmark, or cemeteries.....
7. Industrial park, factory.....
8. Institutional usage's
 - a. School or other educational institution.....
 - b. Church or other religious institution.....✓
 - c. Hospital or other medical facility.....
 - d. Public building, e.g., fire station.....
 - e. Defense installation.....
9. Recreational usage's
 - a. Park or recreational area, State Natural Area.....
 - b. Wildlife refuge or wildlife management area.....
10. Residential establishment.....✓
11. Urban area, town, city, or community.....
12. Waterway, lake, pond, river, stream, spring, wetland.....✓
Permit required: Coast Guard_____ Section 404 ✓
Section 10_____ TVA Section 26a review_____
NPDES_____ Aquatic Resource Alteration Permit ✓
Class V Injection Wells_____
13. Location coordinated with local officials.....✓
14. Railroad Crossings.....
15. Hazardous Material Site.(U.S.T. - Underground Storage Tanks)..<✓
See pages 3 and 30 of functional plans.
16. Other.....

TENNESSEE DEPARTMENT OF TRANSPORTATION

DESIGN CRITERIA FOR LOCATION AND DESIGN PHASE

ROUTE State Route 14 SECTION I

REGION IV COUNTY Shelby PROJECT NO. _____

LOCATION: FROM State Route 204 (Singleton Parkway)

TO 0.8 km (0.5 mi) north of Old Brownsville Rd.

FUNCTIONAL CLASSIFICATION..... Rural Minor Arterial

MINIMUM DESIGN SPEED..... 100 km/h (60 mph)

ACCESS CONTROL..... N/A

MAXIMUM CURVE..... 395 m (SE: 8%) 4°-45'

MAXIMUM GRADE..... 3%

(525' - 650')

MINIMUM STOPPING SIGHT DISTANCE.... 157.0 m - 205.0 m

SURFACE WIDTH..... 2 @ 7.2 m (24')

NUMBER OF LANES..... 4

USEABLE SHOULDER WIDTH..... 2 @ 3.6 m (12')

MEDIAN WIDTH..... 3.6 m (12') Turn Lane

MINIMUM RIGHT-OF-WAY..... * 46 m (150')

SIGNALIZATION..... N/A

REMARKS: * Right-of-Way limits will be determined by

slope limits.

TENNESSEE DEPARTMENT OF TRANSPORTATION
DESIGN CRITERIA FOR LOCATION AND DESIGN PHASE

ROUTE State Route 14 SECTION I
REGION IV COUNTY Shelby PROJECT NO. _____
LOCATION: FROM 0.8 km (0.5 mi) north of Old Brownsville Rd.
TO State Route 385 (Paul Barrett Parkway)

FUNCTIONAL CLASSIFICATION..... Rural Minor Arterial
MINIMUM DESIGN SPEED..... 100 km/h (60 mph)
ACCESS CONTROL..... N/A
MAXIMUM CURVE..... 395 m (SE: 8%) 4°-45'
MAXIMUM GRADE..... 3%
(525' - 650')
MINIMUM STOPPING SIGHT DISTANCE.... 157.0 m - 205.0 m
SURFACE WIDTH..... 2 @ 7.2 m (24')
NUMBER OF LANES..... 4
USEABLE SHOULDER WIDTH..... 2 @ 3.6 m (12')
MEDIAN WIDTH..... 15 m (48')
MINIMUM RIGHT-OF-WAY..... * 76 m (250')
SIGNALIZATION..... N/A
REMARKS: * Right-of-Way limits will be determined by
slope limits.

TENNESSEE DEPARTMENT OF TRANSPORTATION

DESIGN CRITERIA FOR LOCATION AND DESIGN PHASE

ROUTE State Route 14 SECTION II

REGION IV COUNTY Shelby PROJECT NO. _____

LOCATION: FROM State Route 385 (Paul Barrett Parkway)

TO Tipton County Line

FUNCTIONAL CLASSIFICATION..... Rural Minor Arterial

MINIMUM DESIGN SPEED..... 100 km/h (60 mph)

ACCESS CONTROL..... N/A

MAXIMUM CURVE..... 395 m (SE: 8%) 4°-45'

MAXIMUM GRADE..... 3%

(525' - 650')

MINIMUM STOPPING SIGHT DISTANCE.... 157.0 m - 205.0 m

SURFACE WIDTH..... 2 @ 7.2 m (24')

NUMBER OF LANES..... 4

USEABLE SHOULDER WIDTH..... 2 @ 3.6 m (12')

MEDIAN WIDTH..... 15 m (48')

MINIMUM RIGHT-OF-WAY..... * 76 m (250')

SIGNALIZATION..... N/A

REMARKS: * Right-of-Way limits will be determined by

slope limits.

COST DATA SHEET

Section I

PROJECT: State Route 14 from State Route 204 to State Route 385.

Right-of-Way

Land, Improvements, and Damages (36 Acres).....	\$ 710,000
Incidentals (56 Tracts).....	\$ 320,000
Relocation Payments (1 Residences).....	\$ 10,000
(0 Businesses)	
(0 Non-Profits)	

Total Right-of-Way Cost.....\$ 1,040,000

Utility Relocation

Reimbursable.....	\$ 235,000
Non-Reimbursable.....	\$ 475,000

Total Adjustment Cost.....\$ 710,000

Construction

Clear and Grubbing.....	\$ 115,000
Earthwork.....	\$ 2,355,000
Pavement Removal.....	\$ 130,000
Drainage..(Includes Erosion Control).....	\$ 865,000
Structures.....	\$ 6,600,000
Railroad Crossing or Separation.....	\$ 0
Paving.....	\$ 6,235,000
Retaining Walls.....	\$ 0
Maintenance of Traffic.....	\$ 350,000
Topsoil.....	\$ 90,000
Seeding.....	\$ 65,000
Sodding.....	\$ 25,000
Signing.....	\$ 5,000
Lighting.....	\$ 0
Signalization.....	\$ 0
Fence.....	\$ 0
Guardrail.....	\$ 160,000
Rip Rap or Slope Protection.....	\$ 200,000
Other Construction Items (8.5%).....	\$ 1,520,000
Mobilization.....	\$ 680,000
10% Eng. and Const.....	\$ 1,940,000

Total Construction Cost.....\$ 21,335,000

Preliminary Engineering (10%).....\$ 1,940,000

TOTAL COST.....\$ 25,025,000

COST DATA SHEET

Section II

PROJECT: State Route 14 from State Route 385 to Tipton County Line.

Right-of-Way

Land, Improvements, and Damages (31 Acres).....	\$ 1,013,000
Incidentals (66 Tracts).....	\$ 375,000
Relocation Payments (3 Residences).....	\$ 52,000
(2 Businesses)	
(0 Non-Profits)	

Total Right-of-Way Cost.....\$ 1,440,000

Utility Relocation

Reimbursable.....	\$ 55,000
Non-Reimbursable.....	\$ 390,000

Total Adjustment Cost.....\$ 445,000

Construction

Clear and Grubbing.....	\$ 160,000
Earthwork.....	\$ 2,545,000
Pavement Removal.....	\$ 185,000
Drainage..(Includes Erosion Control).....	\$ 1,505,000
Structures.....	\$ 2,335,000
Railroad Crossing or Separation.....	\$ 0
Paving.....	\$ 8,835,000
Retaining Walls.....	\$ 0
Maintenance of Traffic.....	\$ 500,000
Topsoil.....	\$ 130,000
Seeding.....	\$ 90,000
Sodding.....	\$ 40,000
Signing.....	\$ 10,000
Lighting.....	\$ 0
Signalization.....	\$ 0
Fence.....	\$ 0
Guardrail.....	\$ 210,000
Rip Rap or Slope Protection.....	\$ 200,000
Other Construction Items (8.5%).....	\$ 1,480,000
Mobilization.....	\$ 665,000
10% Eng. and Const.....	\$ 1,890,000

Total Construction Cost.....\$ 20,780,000

Preliminary Engineering (10%).....\$ 1,890,000

TOTAL COST.....\$ 24,555,000