
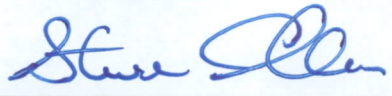



# **TRANSPORTATION PLANNING REPORT**

**STATE ROUTE 5  
FROM STATE ROUTE 3 (US 51) to PROPOSED INTERSTATE 69  
OBION COUNTY  
PIN# 109006.00**

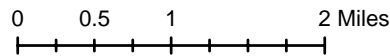
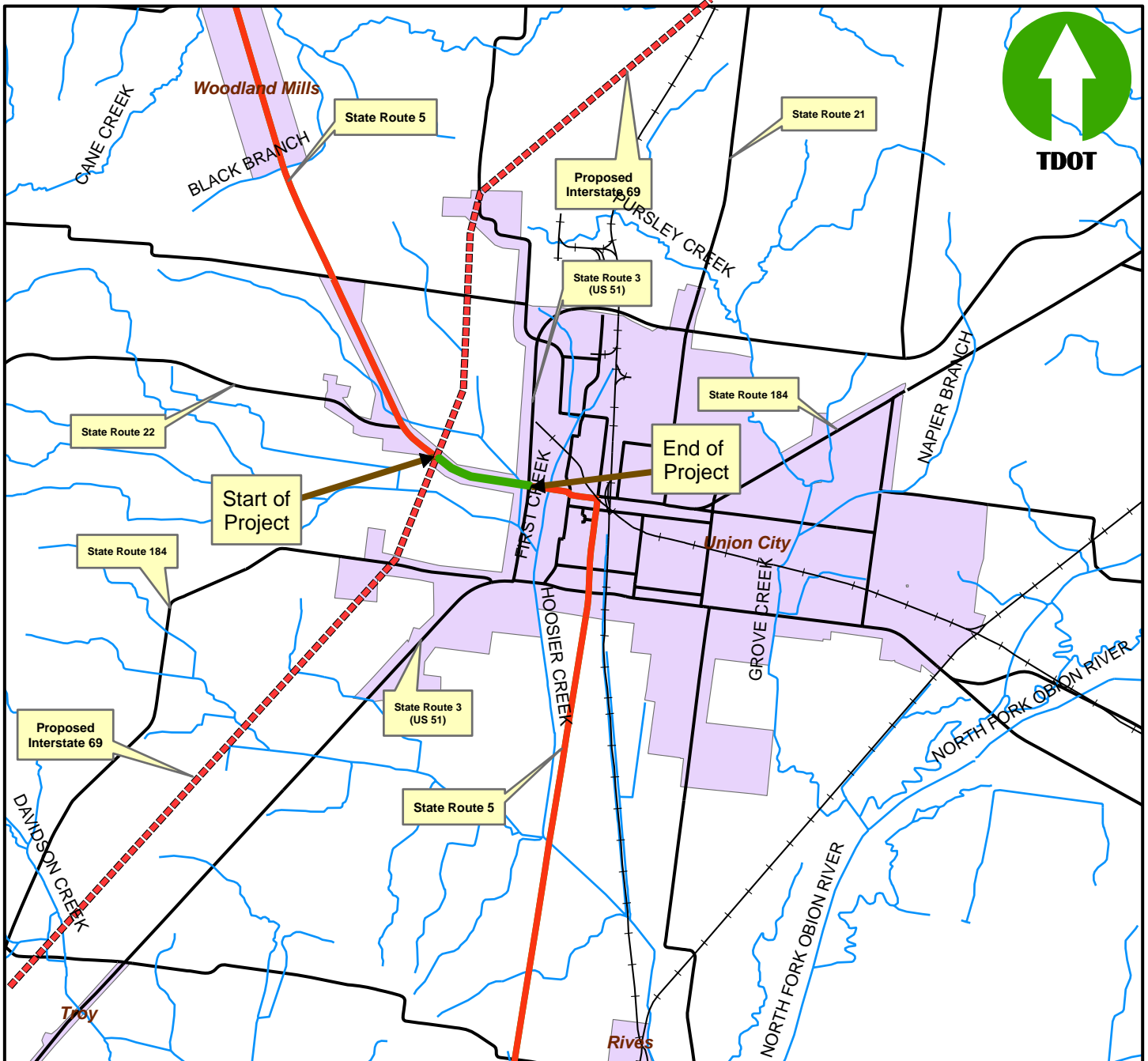


**PREPARED BY  
TENNESSEE DEPARTMENT OF TRANSPORTATION  
PROJECT PLANNING DIVISION**

Approved by:	Signature	DATE
CHIEF OF ENVIRONMENT AND PLANNING		9/25/07
TRANSPORTATION DIRECTOR PROJECT PLANNING DIVISION		9-26-07
TRANSPORTATION MANAGER 2 PROJECT PLANNING DIVISION		9/26/07

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

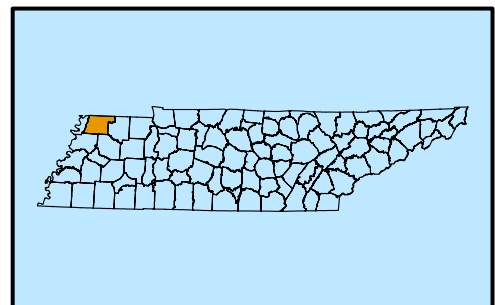
# Union City, Obion County



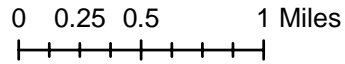
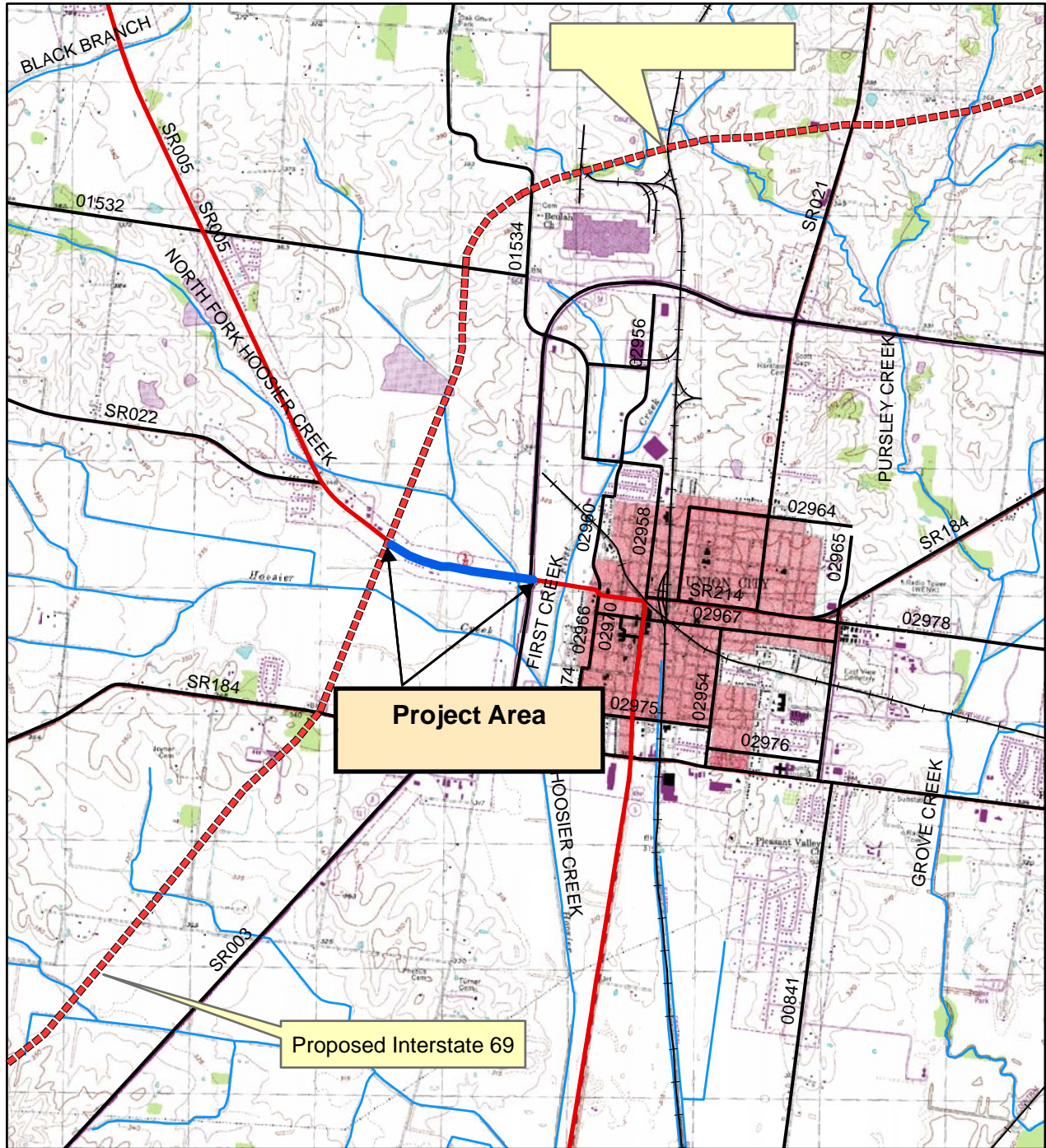
**Legend**

- Project Area
- Local Roads
- WATERWAYS
- State Route 5
- +— Illinois Central Railroad
- Municipal Boundaries

**Project Area**  
 State Route 5  
 Begin: Proposed Interstate 69  
 End: State Route 3 (US 51)  
 Approximately 0.86 Miles







**PROJECT AREA TOPOGRAPHY**  
**STATE ROUTE 5**  
**BEGIN: PROPOSED INTERSTE 69**  
**END: STATE ROUTE 3 (US 51)**  
**UNION CITY, OBION COUNTY**

## **EXISTING CONDITIONS**

State Route 5 in Obion County begins at the Gibson County line and continues to the Tennessee-Kentucky state line, a total distance of approximately 23.36 miles. The proposed project length is approximately 0.86± miles beginning at design plans for proposed Interstate 69 (near Graham Drive) and extends to approximately 400' East of the State Route 3/State Route 5 intersection. The proposed project section of State Route 5 in Obion County is functionally classified as an Urban Principal Arterial on the State Highway System. The projected base year (2012) annual average daily traffic (AADT) along this route ranges from a low of 6,710 to a high of 10,140. The proposed project area of the existing route is two-lanes, composed of two 12' travel lanes, with two 2' shoulders.

Analysis of crash data from 2003 through 2005, a crash rate of 1.65 (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. Therefore, the existing .86± mile segment of State Route 5 has been determined to operate at a crash rate lower than the statewide average.

## **COMMUNITY PROFILE**

According to Census 2000, Union City has a population of 10,876. Union City is the largest community in Obion County and the county seat. In 2005, the annual average unemployment rate for Union City was 6.1%, which is higher than the statewide average of 5.2% for Tennessee. Agricultural products that come from this area of West Tennessee include corn, soybeans, wheat, cattle, hogs, alfalfa, apples, peaches, and strawberries. Union City is also home to companies such as Goodyear Tire and Rubber, Tyson Food, Inc., Kohler, and Lennox Hearth Products.

## **PURPOSE OF STUDY**

The purpose of this study is to analyze existing and proposed conditions to determine the improvements needed for State Route 5 to provide route continuity and access to proposed Interstate 69. When completed, Interstate 69 will provide a continuous highway link between the Michigan/Canada and the Texas/Mexico borders. The proposed widening for this section of State Route 5 was initiated by a request from local elected officials and was ranked as a high priority by the regional Rural Planning Organization (RPO). The Prime Study Corridor recommended by the Northwest RPO began at SR-21/SR-22/SR-5 from SR-78 in Tiptonville, Lake County and extended to US 51 (SR-3) in Union City, Obion County. TDOT's Long Range Planning office prepared a needs assessment for the study area, and found the proposed project area for this report as the most deficient.



## **PURPOSE AND NEED**

The objective of this report is to define the preliminary purpose and need of the proposed improvement and estimate the cost of project implementation. The primary purpose of the proposed project is to fill in the gap of an arterial traffic network caused by the future development of I-69. The project is needed to eliminate the potential for hazardous traffic conditions caused by a chokepoint between two high volume corridor routes.

The primary need on State Route 5 in Obion County is for improved local and regional mobility. Several specific needs are encompassed in the broad goal:

1. Promote economic growth in Union City and Obion County by enhancing access to a National transportation system.
2. Provide an east/west route to serve the projected increase in demand for regional accessibility to the interstate highway system.
3. Increase the capacity on existing State Route 5 in order to improve safety and mobility.
4. Widening needed to handle the increased traffic demand spurred by commercial/residential development, and construction of a new access road connecting to the existing route.

## **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 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 exceeds 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 projected design year (2032) AADT traffic ranges from a low of 8,520 to a high of 14,200. The improvements proposed in this report would allow traffic flow to operate at a projected LOS "A". The "no-build" option for the base year 2012 will be a projected LOS "C", and would allow operating conditions to deteriorate to a projected LOS "D" by the design year 2032.

## **PROPOSED IMPROVEMENT**

The focus of this report is to develop an option to improve existing State Route 5 (from proposed Interstate 69 (near Graham Drive) to State Route 3.)

Beginning at Interstate 69 and continuing for a length of 0.86± miles, the proposed typical section will consist of four 12' travel lanes, a 12' continuous center turn lane, 12' shoulders, including curb and gutter and 5' sidewalk on a minimum 104' right-of-way with easements where required.

The proposed project will tie into the Interstate 69 construction. The traffic signal will be updated to accommodate double left turns from Northbound State Route 3 onto Westbound State Route 5, and double left turns from Eastbound State Route 5 onto Northbound State Route 3, exclusive left turn and right turns will be added where appropriate.

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 will not provide the needed capacity to handle future traffic demands that result from the construction of I-69 and changes in land use.

## **PEDESTRIANS AND BICYCLES**

The proposed typical section includes 5' sidewalk to accommodate pedestrians. The 10' shoulders in the proposed typical section can be signed and marked for use as bicycle lane.

## **DISPOSITION OF EXISTING ROUTE**

The proposed improvements in this report are along the existing route, therefore this section is non-applicable.

## **ASSESSMENT OF OPTIONS**

The Tennessee Department of Transportation 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 5 in Obion County.



### *Guiding Principle 1: Preserve and Manage the Existing Transportation System*

The proposed improvements for State Route 5 are consistent with TDOT's goal of preserving and managing the existing transportation system. Increasing the number of traffic lanes as well as shoulder width will allow the conditions of the existing route to meet current design standards. This project will also tie into the existing design plans of Interstate 69 through Obion County.

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

The option considered in this report will provide needed capacity to address Obion County's and regional travel demands. The proposed improvement will allow easy access to Interstate 69 from State Route 3. State Route 3 provides a route between Tennessee and Kentucky to the North and provides Southwest access to Interstate 155, which provides interstate access to Arkansas and Missouri at the junction of Interstate 55, just west of the Tennessee state line.

### *Guiding Principle 3: Support the State's Economy*

The proposed improvements for State Route 5 would enhance accessibility to Union City and provide support for future residential and commercial development opportunities in Obion County. The anticipated growth would also promote increased employment opportunity.

### *Guiding Principle 4: Maximize Safety and Security*

Traffic crash rates on existing State Route 5 were calculated from crash data for the years 2003 through 2005. A total of 32 crashes were reported during that period, 8 of which resulted in injury. Of the 32 crashes, 26 occurred at the intersection of State Route 5 and State Route 3, and all 8 injury crashes took place at this intersection. The safety of State Route 5 will be improved by updating traffic signals to accommodate double left turns for both left turn movements between State Route 5 and State Route 3. The safety of the remaining project area will be improved by updating width deficient shoulders to current design standards.

### *Guiding Principle 5: Build Partnerships for Livable Communities*

This project was initiated by local officials and the Northwest RPO in order to address anticipated traffic increases due to the construction of Interstate 69. The proposed improvements will provide enhanced interstate access for businesses and residents of Union City and Obion County.

### 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. Items listed on the Preliminary Environmental Evaluation form are located within the proposed project area, but may not necessarily be impacted. 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 process 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

The anticipation of increased traffic due to construction of Interstate 69 will necessitate the proposed improvements. Completing the proposed improvements in conjunction with the construction of Interstate 69 is a cost-effective measure. This cost benefit will be further enhanced if the proposed State Route 5 project is built under the same letting for the construction of the Interstate 69 interchange.

## **PRELIMINARY HISTORIC SURVEY**

The Area of Potential Effect (APE) for this project was evaluated as part of the Interstate 69 records search and field survey conducted in May and June of 2000. The findings are documented in report entitled *Architectural/Historical Assessment and Assessment of Effects, Proposed Corridor 18/Interstate 69 From the Interchange of U.S.51/U.S. 412 in Dyer County, Tennessee, to Purchase Parkway in Fulton County, Kentucky*. This report was prepared to identify architectural/historical properties listed in or eligible for the National Register of Historic Places (NHRP) located within the project APE. According to this document there are no architectural/historical resources in the APE for this project that are eligible for NRHP. This document is on file with the Tennessee Department of Transportation Environmental Planning Office.

## **SUMMARY**

This project will improve State Route 5 along the existing route from State Route 3 (US 51) to proposed Interstate 69 to meet the purpose and need. The primary purpose of the proposed project is to fill in the gap of an arterial traffic network caused by the future development of I-69. The project is needed to eliminate the potential for hazardous traffic conditions caused by a chokepoint between two high volume corridor routes.

Improvements of State Route 5 are needed to address the following needs:

1. Providing an east/west route to serve demand for regional accessibility to the interstate highway system and protect that provision in the future.
2. Providing economic growth potential for Union City and Obion County by improving the highway system to attract new industry.
3. Increasing the capacity on existing State Route 5 in order to meet future traffic demand.
4. Providing safer operating conditions for anticipated traffic increase by eliminating a choke point between two high volume corridors.

The project area proposed in this report will be further evaluated to determine the most appropriate horizontal and vertical alignment, right-of-way, utility adjustments, environmental mitigations, and structures. The proposed project is approximately .86± miles in length.

The option will improve deficiencies throughout the route. The improved roadway will also enhance access to both future commercial and residential sites along the route. Other primary benefits include: (1) improved local and regional accessibility; (2) improved operating conditions along the proposed project route; (3) increased traffic capacity; and (4) enhancement of future planned growth by local and/or regional land use planning agencies.

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 phase; (3) traffic noise.

The comparable LOS for the no-build option is a deficient LOS of “D” by 2032. In addition, the disadvantages of the no-build option include continued inadequate operating conditions inherent with the increase traffic volumes. Some advantages of the no-build option include no disruption of the area due to construction or need for measures to mitigate environmental impacts would not be necessary.



Due to the short length of the proposed project and the interchange design, no other option was viable or cost effective. Any other option, including the “no-build” option, would fail to (1) serve future demand for regional accessibility to the interstate highway system; (2) provide economic growth potential for the city of Union City by improving the highway system; (3) increase the capacity on existing State Route 5 in order to meet future traffic demands.

In conclusion, this report identifies the option to address the purpose and need. The no-build option does meet the purpose and need. Therefore, the widening option should be advanced as a solution for further development under the NEPA planning process. Consideration should be given to the timing and scheduling of all necessary studies, permits, design, R.O.W acquisition, and construction associated with the proposed Interstate 69 interchange.

**DATA TABLE  
State Route 5/22  
Obion County**

**No Build**

**From: SR-3/US51  
To: proposed I-69**

**EXISTING CONDITIONS**

**Item**

<b>Functional Class</b>	<b>Urban Principal Arterial</b>
<b>System Class</b>	<b>STP</b>
<b>Length – Miles/Feet</b>	<b>.86 ± / 4,550±</b>
<b>Cross Section Feet</b>	<b>24/28/80</b>
<b>Present AADT ( 2012 )</b>	<b>10,140</b>
<b>Projected Future AADT ( 2032 )</b>	<b>14,200</b>
<b>Percent Trucks</b>	<b>10 %</b>



**Existing State Route 5  
12' travel lane with 2' shoulders**

**DATA TABLE  
State Route 5/22  
Obion County**

**OPTION 1**

**From: SR-3/US51**

**PROPOSED**

**To: proposed I-69**

**Item**

<b>Functional Class</b>	<b>Urban Principal Arterial</b>
<b>System Class</b>	<b>STP</b>
<b>Length – Miles/Feet</b>	<b>.86 ± / 4,550±</b>
<b>Cross Section Feet</b>	<b>48/84/104</b>
<b>Present AADT ( 2012 )</b>	<b>10,140</b>
<b>Projected Future AADT ( 2032 )</b>	<b>14,200</b>
<b>Percent Trucks</b>	<b>10%</b>
<b>*Estimated Right-of-Way Acquisition (Acres)</b>	<b>2.5 ±</b>
<b>Estimated Business Displacements</b>	<b>\$ 0</b>
<b>Estimated Right-of-Way Cost</b>	<b>\$ 215,000</b>
<b>Estimated Utility Cost Reimbursable</b>	<b>\$ 0</b>
<b>Estimated Utility Cost Non-Reimbursable</b>	<b>\$ 246,000</b>
<b>Estimated Construction Cost</b>	<b>\$ 3,055,000</b>
<b>Estimated Preliminary Engineering Cost</b>	<b>\$ 210,000</b>
<b>Total Estimated Cost</b>	<b>\$ 3,726,000</b>

\*Slope or construction easements may be required outside of R.O.W.



# TENNESSEE DEPARTMENT OF TRANSPORTATION

## DESIGN CRITERIA FOR LOCATION AND DESIGN PHASE

ROUTE:	State Route 5	OPTION:	A	SECTION:	
REGION:	4	COUNTY:	OBION		
LOCATION:	From: near Graham Drive (Sta. 50+00 Project No. TN-I-69 (37))				
	To: State Route 3 (US 51)				

	20	12	ADT	6,170-10,140
	20	32	ADT	8,520-14,200
PERCENT TRUCKS	10%			
DHV (12%)	1,201			
FUNCTIONAL CLASSIFICATION	arterial			
MINIMUM DESIGN SPEED	45 MPH			
ACCESS CONTROL	none			
MAXIMUM CURVE	7° 45'(S.E.=0.04)			
MAXIMUM GRADE	6%			
MINIMUM STOPPING SIGHT DISTANCE	360'			
SURFACE WIDTH	2 @ 24'			
NUMBER OF LANES	4			
USEABLE SHOULDER WIDTH	2 @ 12'			
MEDIAN WIDTH	12' turn lane			
MINIMUM RIGHT-OF-WAY	104' *			
SIGNALIZATION	Mod. @ SR-3 (US 51)			

REMARKS: \* Easements will be required outside of right-of-way.

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# 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.

## Option Section

### Numbers

- |   |       |
|---|-------|
| 1.) Hazardous Material Site or Underground Storage Tanks.....                     | _____ |
| 2.) Floodplains.....  | _____ |
| 3.) Historical, archaeological, cultural, or natural landmark, or cemeteries..... | _____ |
| 4.) Airport.....  | _____ |
| 5.) Residential establishment.....  | X     |
| 6.) Urban area, city, town, or community.....<br>(Union City Pop. 10,788)         | X     |
| 7.) Commercial area, shopping center.....   | X     |
| 8.) Institutional usages:   |       |
| a. School or other educational institution.....                                   | _____ |
| b. Hospital or other medical facility.....  | _____ |
| c. Church or other religious institution.....                                     | _____ |
| d. Public Building, e.g., fire station.....                                       | _____ |
| e. Defense installation.....  | _____ |
|   | X     |
| 9.) Agricultural land usage.....  | _____ |
| 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.....  | _____ |
| e. Spring.....  | _____ |
| 14.) Railroad Crossings.....  | _____ |
|   | X     |
| 15.) Location coordinated with local officials.....                               | _____ |
| 16.) Other.....   | _____ |

<b>EST. COST DATA SHEET</b> <b>SR-5 in Obion County</b>		
PROJECT: From Proposed Interstate 69 (near Graham Drive) to State Route 3 (US 51) LENGTH: 0.86± CROSS SECTION: 4 lane arterial		
<b>Right-of-Way</b>	<b>EST. RIGHT-OF-WAY COST</b>	215,000
		<b>\$215,000</b>
<b>Utility Relocation</b>	<b>EST. ADJUSTMENT COST</b>	
Reimbursable Non-Reimbursable		\$246,000
		<b>\$246,000</b>
<b>Construction</b>		
Clearing and Grubbing		\$25,000
Earthwork		\$220,000
Pavement Removal		\$20,000
Drainage		\$290,000
Structures		\$300,000
Railroad Crossing or Separation		\$0
Paving		\$730,000
Retaining Walls		\$0
Maintenance of Traffic		\$25,000
Topsoil		\$10,000
Seeding		\$5,000
Sodding		\$20,000
Signing		\$5,000
Lighting		\$0
Signalization		\$60,000
Fence		\$0
Guardrail		\$5,000
Rip Rap or Slop Protection		\$20,000
Other Construction Items (15%)		\$260,000
Mobilization		\$95,000
10% Engineering and Contingencies		\$210,000
6% X 5 years = 30%		\$755,000
	<b>EST. CONSTRUCTION COST</b>	<b>\$3,055,000</b>
Preliminary Engineering (10%)		\$210,000
	<b>EST. SECTION COST</b>	
		<b>\$3,726,000</b>

Index Of Sheets

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	TYPICAL SECTION
3-4	PRESENT & PROPOSED LAYOUTS

STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF ENGINEERING

TENN.	YEAR	SHEET NO.
	2007	1
FED. AID PROJ. NO.		
STATE PROJ. NO.		

OBION COUNTY

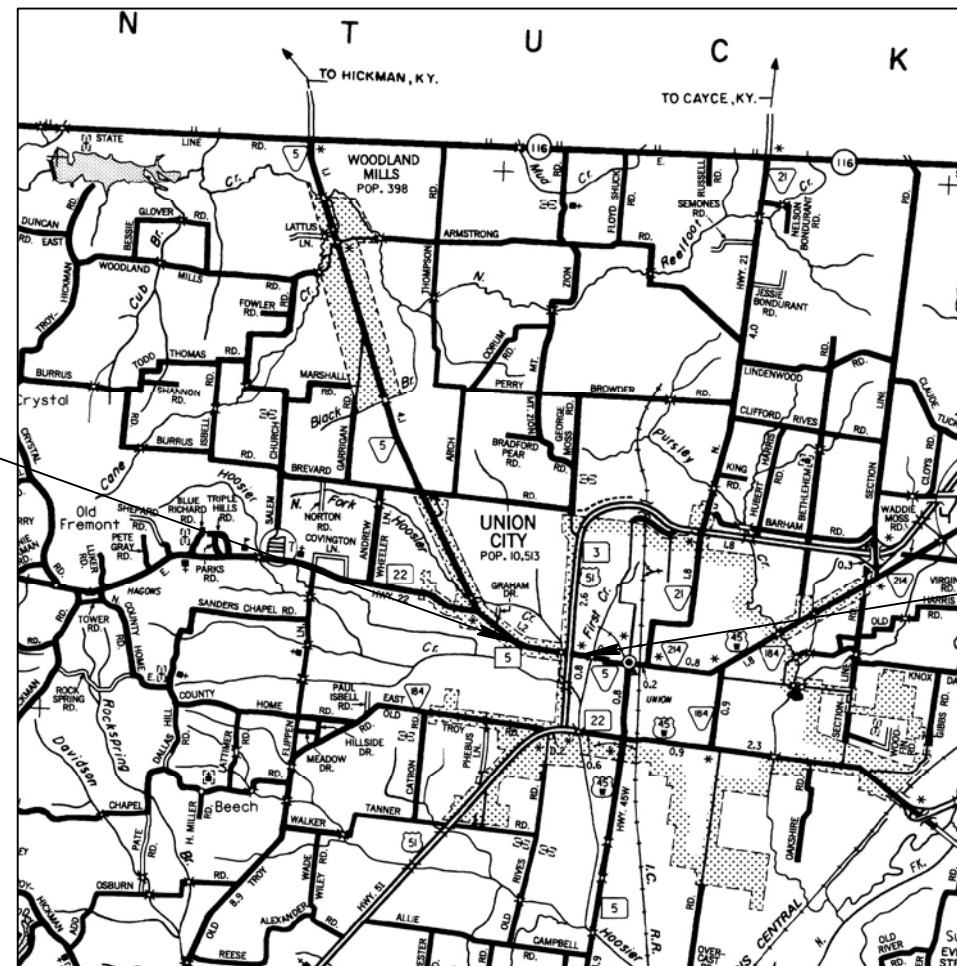
STATE ROUTE 5  
FROM NEAR GRAHAM DRIVE (STA. 50+00 PROJECT NO. TN-I-69(37))  
TO STATE ROUTE 3 (US-51)

STATE HIGHWAY NO. 5 F.A.H.S. NO.



PROJECT LOCATION

BEGIN PROJECT  
L.M. 17.81



END PROJECT  
L.M. 16.95

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

TRANSPORTATION MANAGER 1 DUDLEY DANIEL

CADD TECH 4 FRANK FULGHAM CHECKED BY \_\_\_\_\_

SCALE: 1" = 1 MILE

APPROVED: \_\_\_\_\_  
CHIEF ENGINEER

DATE: \_\_\_\_\_

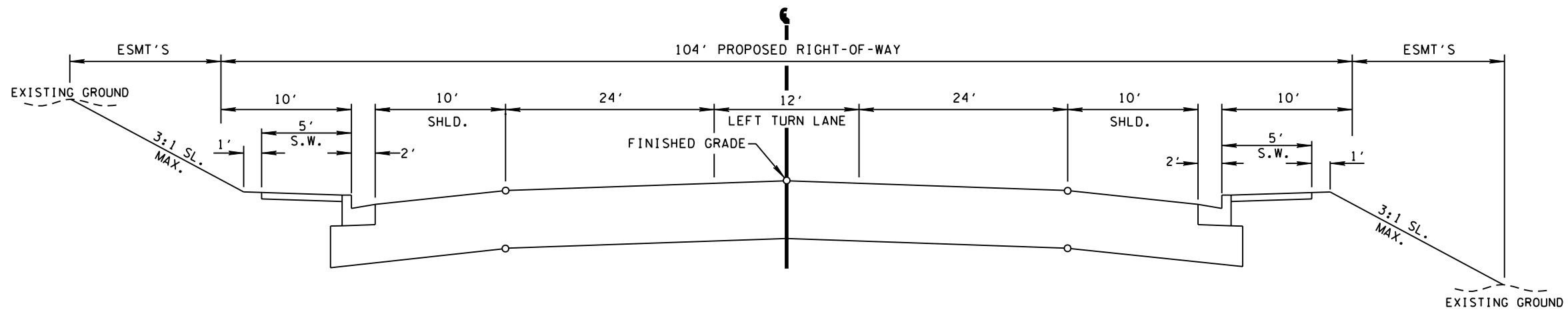
APPROVED: \_\_\_\_\_  
COMMISSIONER

U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: \_\_\_\_\_  
DIVISION ADMINISTRATOR DATE

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

DATE	BY	PROJECT NO.	SHEET NO.
.	.	.	2
.	.	.	.
.	.	.	.



### PROPOSED TYPICAL SECTION

STATE ROUTE 5

FROM NEAR GRAHAM DRIVE (STA.50+00 PROJECT NO. TN-I-69(37))  
 TO STATE ROUTE 3(US-51)

7/26/2007  
 C:\PROJECTS\0206\5.01\Sheets\FinishSheets\Sht02.dgn

STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION

**OBION COUNTY**

STATE ROUTE 5

NOT TO SCALE



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

NOTE: TIE INTO R.O.W. PROJECT NO.  
TN-I-69(37)

BEGIN PROJECT  
L.M. 17.81



45

50

PROP. ESMT'S.  
PROP. R.O.W.

PROP. R.O.W.  
PROP. ESMT'S.

SEE SHEET NO. 4

MATCH LINE

DATE	BY	PROJECT NO.	SHEET NO.
.	.	.	3
.	.	.	.
.	.	.	.



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

OBION COUNTY  
STATE ROUTE 5

7/26/2007  
C:\PROJETS\0200\1\5\1\Sheets\Finis\Sheets\Sht03.dgn



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

DATE	BY	PROJECT NO.	SHEET NO.
			4



SEE SHEET NO. 3

MATCH LINE

PROP. ESMT'S  
 PROP. R.O.W.

PROP. R.O.W.  
 PROP. ESMT'S

TO SOUTH FULTON

S.R. 3 (US-51)

S.R. 3 (US-51)

TO S.R. 22 (US-45W.)

END PROJECT  
 L.M. 16.85

S.R. 5 TO S.R. 214 (US 45 W.)



STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION

**OBION COUNTY**  
**STATE ROUTE 5**

7/26/2007  
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**TENNESSEE DEPARTMENT OF TRANSPORTATION  
PROJECT PLANNING DIVISION**

PROJECT NO.: \_\_\_\_\_ ROUTE: S.R. 5/22  
 COUNTY: OBION CITY: UNION CITY  
 PROJECT PIN NUMBER: \_\_\_\_\_  
 PROJECT DESCRIPTION: S.R.5/22 FROM S.R. 3/U.S. 51 TO PROPOSED I-69  
(L.M. 16.95) TO (L.M. 17.50) ON S.R.5

**DIVISION REQUESTING:**

MAINTENANCE  PAVEMENT DESIGN   
 PLANNING  STRUCTURES   
 PROG. DEVELOPMENT & ADM.  SURVEY & DESIGN   
 PUBLIC TRANS. & AERO.  TRAFFIC SIGNAL DESIGN   
 OTHER \_\_\_\_\_   
 YEAR PROJECT PROGRAMMED FOR CONSTRUCTION: \_\_\_\_\_  
 PROJECTED LETTING DATE: \_\_\_\_\_

**TRAFFIC ASSIGNMENT:**

BASE YEAR		DESIGN YEAR					DESIGN ROADWAY % TRUCKS		DESIGN AVERAGE DAILY LOADS	
AADT	YEAR	AADT	DHV	%	YEAR	DIR.DIST.	DHV	AADT	FLEX	RIGID
9,200	2012	12,010	1,201	10	2032	60-40	7	10		

REQUESTED BY: NAME DANIELLE LETSON DATE 12/8/06  
 DIVISION PLANNING  
 ADDRESS SUITE 900, JAMES K. POLK BLDG.  
NASHVILLE, TN 37243

REVIEWED BY: TONY ARMSTRONG Tony Armstrong DATE 2.16.07  
 TRANSPORTATION MANAGER 1  
 SUITE 1000, JAMES K. POLK BUILDING

APPROVED BY: BILL HART Bill Hart DATE 2.16.07  
 TRANSPORTATION MANAGER 2  
 SUITE 900, JAMES K. POLK BUILDING

**COMMENTS:**

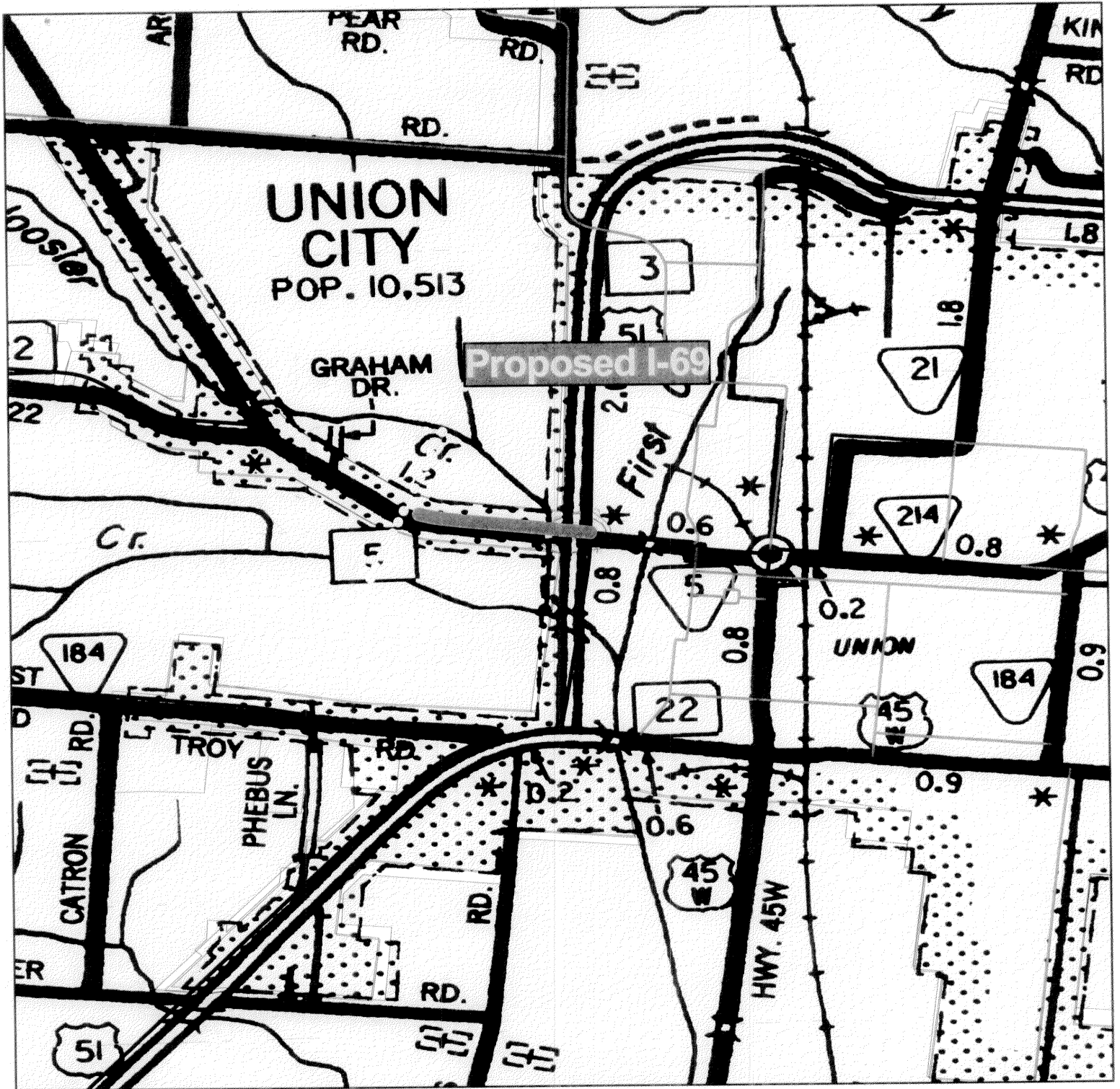
THIS TRAFFIC BASED ON 1 -12 HOUR TURNING MOVEMENT DATED FEB. 2007  
 AND A PREVIOUS I-69 PROJECT PREPARED FOR DESIGN DATED MARCH 5, 2003.

**DHV'S ARE NOT REQUIRED FOR SIDE ROADS LESS THAN 1000 AADT.**





NOTE: FOR BRIDGE REPLACEMENT PROJECTS, ADLs ARE NOT REQUIRED FOR AADT's OF 1000 OR LESS AND PERCENTAGE OF TRUCKS OF 7% OR LESS.

SEE ATTACHMENTS FOR TURNING MOVEMENTS AND/OR OTHER DETAILS.

(REV. 11/6/06)



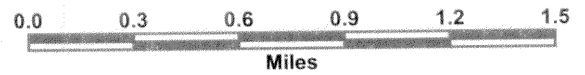
Legend

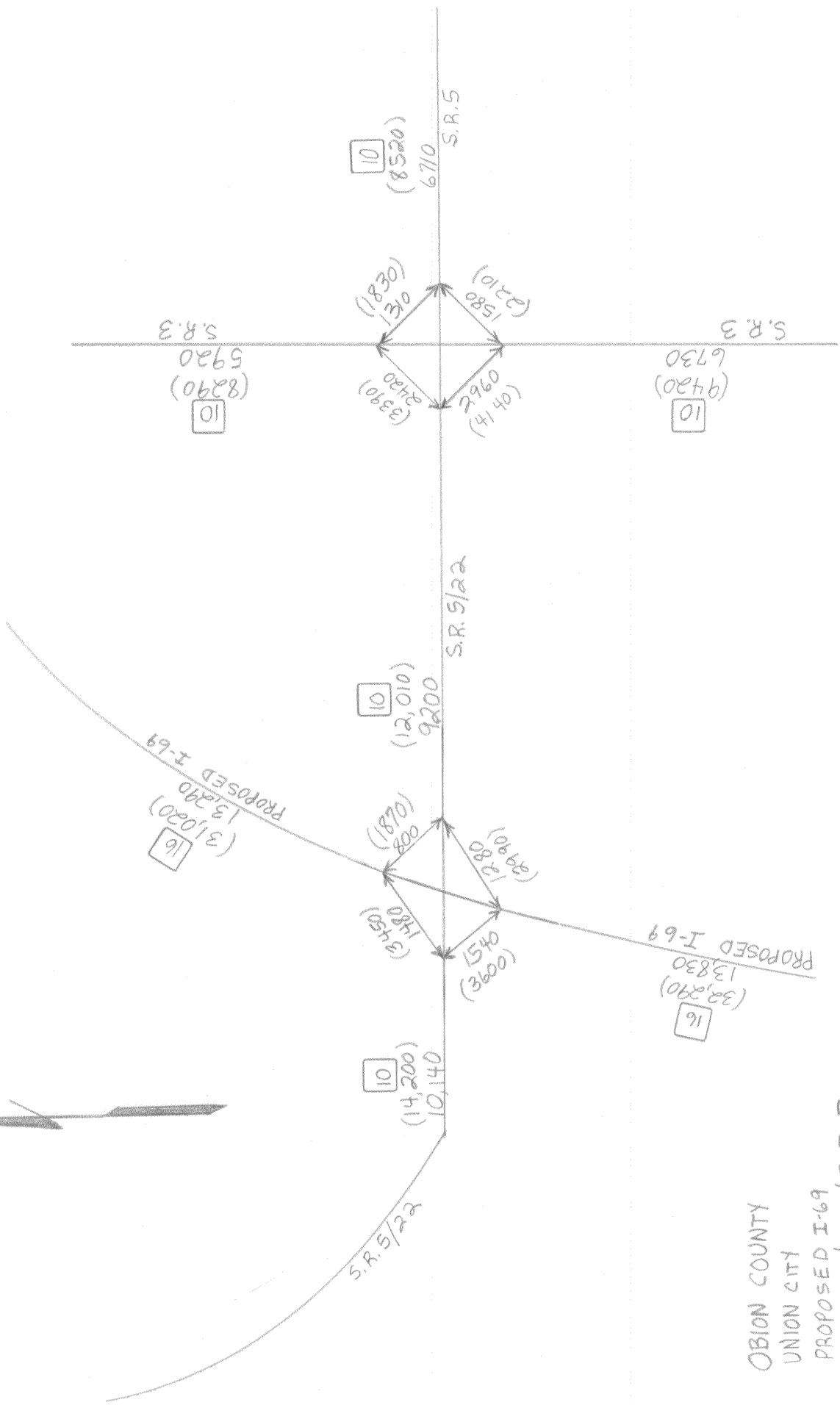
-  Active APR (Roads)
-  Urban Outline
-  city
-  Urban Growth Boundary

**Obion County**  
**SR-5/22**  
**from SR-3/US51**  
**to proposed I-69**

DATE: FEBRUARY 16, 2007

P.W





OBION COUNTY  
 UNION CITY  
 PROPOSED I-69  
 @ S.R. 5/22 & S.R. 3  
 LEGEND:  
 2012 AADT-000  
 2032 AADT-(000)  
 TRUCK % -   
 DATE: FEBRUARY 16, 2007  
 P.W.

**TENNESSEE DEPARTMENT OF TRANSPORTATION  
PROJECT PLANNING DIVISION  
SAFETY PLANNING SECTION**

**CRASH DATA REQUEST**

Requested by: Name: Danielle Letson Date: 1/4/07  
 Division: Short Range Planning  
 Address: 9<sup>th</sup> floor Telephone No.: 253-4001

Project No.: \_\_\_\_\_  
 Location: Region: \_\_\_\_\_ County: Obion City: Union City  
 Route: SR-5/22  
 Location on Route: from SR-3/US51 to proposed I-69

Beginning Log Mile: 16.95 Ending Log Mile: 17.50

**MAP SHOWING LOCATION MUST BE ATTACHED**

**TYPE OF CRASH DATA REQUESTED**

	CHECK		TIME PERIOD OR YEARS REQUESTED			
	Yes	No	(3 Years or Specify)			
Crash Listing:	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____
Collision Diagram:	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____
Crash Rates:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>2003</u>	<u>2004</u>	<u>2005</u>	_____
High Hazard Rank:	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____
Update Previous Request:	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____
Special Request:	<input type="checkbox"/>	<input type="checkbox"/>	Describe Specifics: _____			

*SR 3 - 18.39 - 18.45*

Request Analyzed By: *[Signature]* Date: 1-5-07  
 Reviewed By: *[Signature]* Date: 1/5/07  
David Lollar, Transportation Specialist 2  
*[Signature]* Date: 1/5/07  
Harold Dilmore, Transportation Manager 1  
*[Signature]* Date: 1/5/07  
Bill Anderson, Transportation Manager 2

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# STATE OF TENNESSEE

County	= OBION	Date:	01/05/07
Route	= SR 5		
Location	= FROM SR 3 TO PROPOSED I 69		
Highway Type	= 2 LANE URBAN		
Crash Years	= 2003 - 2005		
ADT Year Used	= 2005 TRIMS		
Comments	= INCLUDES CRASHES FROM INTERSECTION W) SR 3		

## QUALIFY HIGH RISK RURAL ROAD FUND

BLM	ELM	Length	AVERAGE ADT	VMT
16.95	17.50	0.55	7,360	4,048
0.00	0.00	0.00	0	0
0.00	0.00	0.00	0	0
0.00	0.00	0.00	0	0
0.00	0.00	0.00	0	0
0.00	0.00	0.00	0	0

0.55                      7,360                      4,048

AADT Year = 2005 TRIMS

	<b>Total</b>	<b>Fatal</b>	<b>Injury</b>
No. of Crashes	32	0	8
No. of Years	3		
SW avg. rate	2.51	0.01	0.72

**Section - 2 LANE URBAN**

Crash Years = 2003 - 2005

AADT YEAR = 2005 TRIMS

Exposure	4.4326		
Rate (A)	7.22	0.00	1.80
Critical Rate (C)	4.37	0.23	1.77
Severity Index	0.2500		

Ratio of A/C=                      1.65 Does Not Qualify

TDOT PROJECT PLANNING DIVISION (SAFETY PLANNING SECTION)

# STATE OF TENNESSEE

County	= OBION	Date:	01/05/07
Route	= SR 5		
Location	= FROM SR 3 TO PROPOSED I 69		
Highway Type	= 2 LANE URBAN		
Crash Years	= 2003 - 2005		
ADT Year Used	= 2005 TRIMS		
Comments	= DOES NOT INCLUDE CRASHES FROM INTERSECTION SR 3		

## QUALIFY HIGH RISK RURAL ROAD FUND

BLM	ELM	Length	AVERAGE ADT	VMT
16.95	17.50	0.55	7,360	4,048
0.00	0.00	0.00	0	0
0.00	0.00	0.00	0	0
0.00	0.00	0.00	0	0
0.00	0.00	0.00	0	0
0.00	0.00	0.00	0	0

0.55                      7,360                      4,048

AADT Year = 2005 TRIMS

	<b>Total</b>	<b>Fatal</b>	<b>Injury</b>
No. of Crashes	6	0	0
No. of Years	3		
SW avg. rate	2.51	0.01	0.72

**Section - 2 LANE URBAN**

Crash Years = 2003 - 2005

AADT YEAR = 2005 TRIMS

Exposure	4.4326		
Rate (A)	1.35	0.00	0.00
Critical Rate (C)	4.37	0.23	1.77
Severity Index	0.0000		

Ratio of A/C=                      0.31 Does Not Qualify

TDOT PROJECT PLANNING DIVISION (SAFETY PLANNING SECTION)





**STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
PLANNING DIVISION  
SUITE 900, JAMES K. POLK BUILDING  
505 DEADERICK STREET  
NASHVILLE, TENNESSEE 37243-0334**

**Gerald F. Nicely**  
COMMISSIONER

**Phil Bredesen**  
GOVERNOR

**MEMORANDUM**

**TO:** Don Ellis, Manager 2  
Program Development and Scheduling Office

**FROM:** Terry Gladden, Manager 1 *TG*  
Project Planning Division

**DATE:** November 27, 2007

**SUBJECT:** Transportation Planning Report, PIN # 109006.00, State Route 5  
From 0.13 miles West of SR-22 to proposed I-69, Obion County

I am enclosing a copy of the subject report bearing the signatures of the appropriate Department personnel. In addition, a PDF file of the study will soon be available via PPRM and the Transportal.

This report is being provided for your use in determining priorities, establishing future scheduling, and initiating further development of the project.

If you need further information, please contact me.

TG/dmh

Enclosure

**Cc/enc:** Frederick Miller, Mike Clinard, Jeff Hoge, Jane Jones, Glen Blankenship, , Kelly Henshaw, Rob Goad, Benny McGuire, Terry Hailey, FILE (2)

**ECc:** Ed Cole, Paul Degges, Doug Delaney, Jeanne Stevens, Jeff Jones, Steve Allen, Ralph Comer, Jim Moore, Chuck Rychen, Bill Hart, Rusty Staggs, Doug Delaney, Harold Jackson, R.B. Kathman, Gerald Kline, Alfred Graham, Teresa Estes



# **TRANSPORTATION PLANNING REPORT**

## **STATE ROUTE 5**

**0.13 miles West of State Route 22 to Proposed Interstate 69  
OBION COUNTY  
PIN# 109006.00**

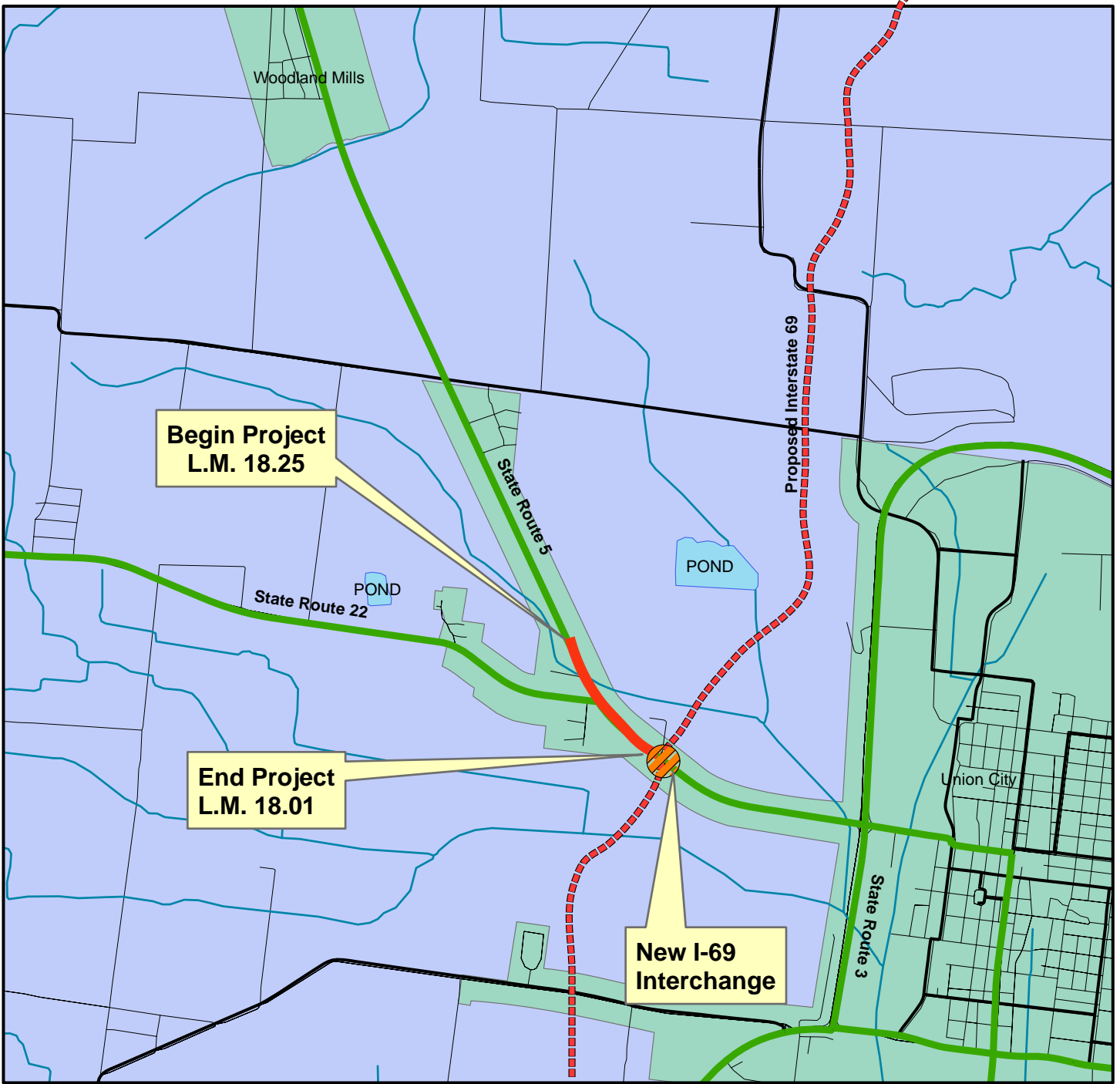


**PREPARED BY  
TENNESSEE DEPARTMENT OF TRANSPORTATION  
PROJECT PLANNING DIVISION**

Approved by:	Signature	DATE
CHIEF OF ENVIRONMENT AND PLANNING		11/30/07
TRANSPORTATION DIRECTOR PROJECT PLANNING DIVISION		11-28-07
TRANSPORTATION MANAGER 2 PROJECT PLANNING DIVISION		11/27/07

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

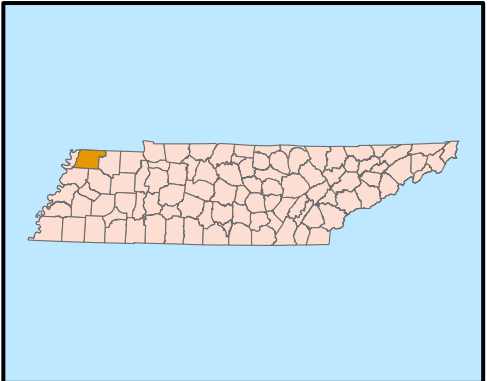
# Union City, Obion County



### Legend

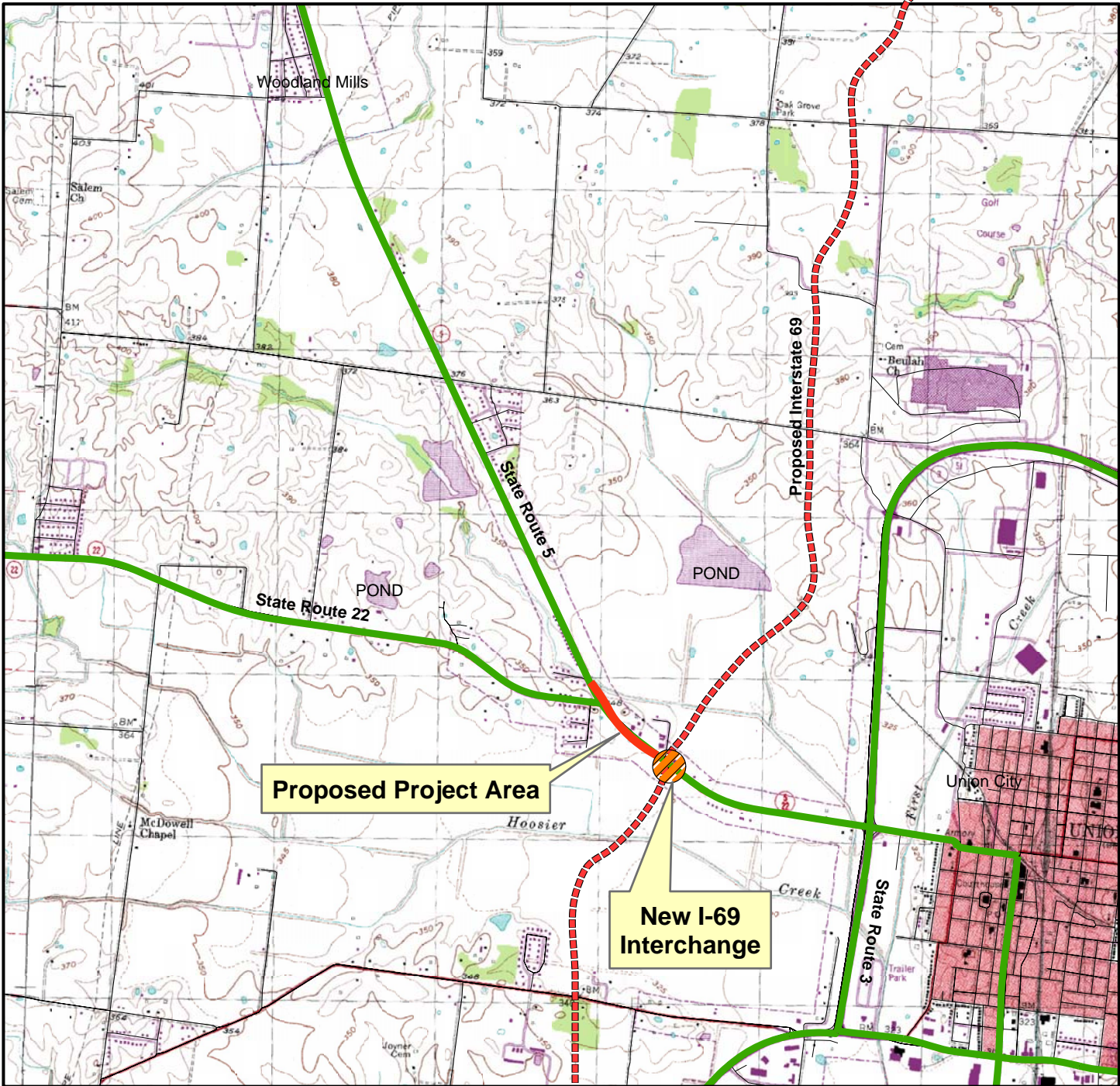
- STATE ROUTES
- WATERWAYS
- LOCAL ROADS
- CITY BOUNDARY

**PROJECT VICINITY MAP**  
**OBION COUNTY**  
**STATE ROUTE 5**  
**L.M. 18.25 - 18.01**







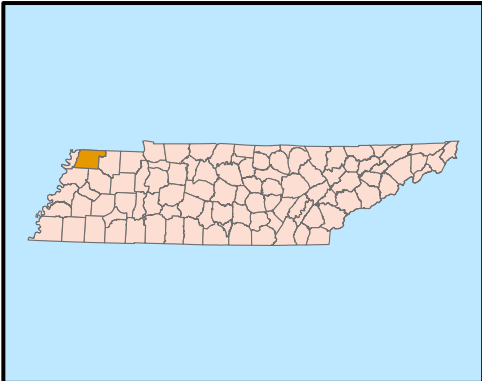
# Union City, Obion County



### Legend

-  STATE ROUTES
-  LOCAL ROADS

### PROJECT AREA TOPOGRAPHY



## **EXISTING CONDITIONS**

State Route 5 in Obion County begins at the Gibson County line and continues to the Tennessee-Kentucky state line, a total distance of approximately 23.36 miles. This section of study is approximately 0.24± miles in length beginning at 0.13± miles West of the intersection of State Route 5 and State Route 22 and ends at the proposed Interstate 69 interchange (currently in design). This section of State Route 5 in Obion County is functionally classified as an Urban Principal Arterial on the State Highway System. The projected base year (2012) annual average daily traffic (AADT) along this route ranges from a low of 6,710 to a high of 10,140. The study area of the existing route is two-lanes, composed of two 12' travel lanes, with two 2' shoulders, and 80' of right-of-way.

Analysis of crash data, from 2003 through 2005, resulted in a crash rate of .18 (crashes per one million vehicle miles) for the existing route. This can be compared to the statewide average rate of 2.51 for similar facilities. Therefore, the existing .24± mile segment of State Route 5 has been determined to operate at a crash rate lower than the statewide average.

## **COMMUNITY PROFILE**

According to Census 2000, Union City has a population of 10,876. Union City is the largest community in Obion County and the county seat. In 2005, the annual average unemployment rate for Union City was 6.1%, which is higher than the statewide average of 5.2% for Tennessee. Agricultural products that come from this area of West Tennessee include corn, soybeans, wheat, cattle, hogs, alfalfa, apples, peaches, and strawberries. Union City is also home to companies such as Goodyear Tire and Rubber, Tyson Food, Inc., Kohler, and Lennox Hearth Products.

## **PURPOSE OF STUDY**

The purpose of this study is to analyze existing and future roadway conditions and to develop options for improvements of State Route 5 to provide route continuity and access to proposed Interstate 69. When completed, Interstate 69 is proposed to provide a continuous highway link between the Michigan/Canada and the Texas/Mexico borders. The study for this section of State Route 5 was initiated by a request from local elected officials and was ranked as a high priority by the Northwest Rural Planning Organization (RPO). The Prime Study Corridor recommended by the Northwest RPO began at SR-21/SR-22/SR-5 from SR-78 in Tiptonville, Lake County and extended to US 51 (SR-3) in Union City, Obion County. TDOT's Long Range Planning office prepared a needs assessment for the study area, and found the study area for this report as the most deficient.

## **PURPOSE AND NEED**

The objective of this report is to define the preliminary purpose and need of the improvement options and estimate the cost of project implementation. The primary purpose of the improvement is to fill the gap of an arterial traffic network caused by the future development of I-69. The improvements are needed to eliminate the potential for hazardous traffic conditions caused by a chokepoint between two high volume corridor routes.

The primary need on State Route 5 in Obion County is for improved local and regional mobility. Several specific needs are encompassed in the broad goal:

1. Promote economic growth in Union City and Obion County by enhancing access to a National transportation system.
2. Provide an east/west route to serve the projected increase in travel demand for regional accessibility to the interstate highway system.
3. Increase the capacity on existing State Route 5 in order to improve safety and mobility.
4. Widening needed to handle the increased traffic demand spurred by commercial/residential development, and construction of a new interchange connecting to the existing route.

## **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 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 exceeds 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 projected design year (2032) AADT traffic ranges from a low of 8,520 to a high of 14,200. The improvements proposed in this report would allow traffic flow to operate at a projected LOS “A”. The “no-build” option for the base year 2012 will be a projected LOS “C”, and would allow operating conditions to deteriorate to a projected LOS “D” by the design year 2032.

## **PROPOSED IMPROVEMENT**

The focus of this report is to develop options to improve existing State Route 5 from 0.13± miles West of the State Route 5 and State Route 22 intersection to proposed Interstate 69.

Beginning at 0.13± miles West of the State Route 22 intersection with State Route 5 and continuing for a length of 0.24± miles, the proposed typical section will consist of four 12' travel lanes, a 12' continuous center turn lane, 12' shoulders, including curb and gutter and 5' sidewalk on a minimum 104' right-of-way with easements where required.

The proposed project will tie into the Interstate 69 construction. A traffic signal and turn lanes will be installed at the intersection of State Route 5 and State Route 22. In addition, the skew of the intersection will be modified to improve sight distance.

## **PEDESTRIANS AND BICYCLES**

The improvement options include sidewalks to accommodate pedestrians. The 10' shoulders in the proposed typical section can be signed and marked for use as bicycle lanes.

## **DISPOSITION OF EXISTING ROUTE**

The improvement options in this report are along the existing route, therefore this section is non-applicable.



## **ASSESSMENT OF OPTIONS**

The Tennessee Department of Transportation 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 5 in Obion County.

### **Guiding Principle 1: Preserve and Manage the Existing Transportation System**

The improvement options for State Route 5 are consistent with TDOT's goal of preserving and managing the existing transportation system. Increasing the number of traffic lanes as well as shoulder width will allow the conditions of the existing route to meet current design standards. This project will also tie into the existing design plans of Interstate 69 through Obion County.

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

The option considered in this report will provide needed capacity to address Obion County's and regional travel demands. The improvement options will provide easy access to Interstate 69 from State Route 3. State Route 3 provides a route between Tennessee and Kentucky to the North and provides Southwest access to Interstate 155, which provides interstate access to Arkansas and Missouri at the junction of Interstate 55, just west of the Tennessee state line.

### **Guiding Principle 3: Support the State's Economy**

The improvement options for State Route 5 would enhance accessibility to Union City and promote future residential and commercial development opportunities in Obion County. The anticipated growth would also promote increased employment opportunity.

### **Guiding Principle 4: Maximize Safety and Security**

Traffic crash rates on existing State Route 5 were calculated from crash data for the years 2003 through 2005. A total of 8 crashes were reported during that three year period. Of the 8 crashes, 6 occurred at the intersection of State Route 5 and State Route 22. The safety of State Route 5 will be improved by installation of a traffic signal and turn lanes proposed at this intersection. Sight distance will also be improved at this intersection by improving the angle at which State Route 22 intersects State Route 5. The safety of the remaining study area will be improved by updating width deficient shoulders to current design standards.

*Guiding Principle 5: Build Partnerships for Livable Communities*

This study was initiated by local officials and the Northwest RPO in order to address anticipated traffic increases due to the construction of Interstate 69. The improvement options will provide enhanced interstate access for businesses and residents of Union City and Obion County.

*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. Items listed on the Preliminary Environmental Evaluation form are located within the study area, but may not necessarily be impacted. 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 process by taking into account the environmental impacts of proposed actions and reasonable alternatives to those actions. Additional environmental disciplines such as social, economic, farmland, residential and business displacements, and land use impacts will be evaluated in the NEPA document.

*Guiding Principle 7: Promote Financial Responsibility*

The anticipation of increased traffic due to construction of Interstate 69 will necessitate the proposed improvements. Completing the proposed improvements in conjunction with the construction of Interstate 69 is a cost-effective measure.

**PRELIMINARY HISTORIC SURVEY**

The Area of Potential Effect (APE) for this project was evaluated as part of the Interstate 69 records search and field survey conducted in May and June of 2000. The findings are documented in report entitled *Architectural/Historical Assessment and Assessment of Effects, Proposed Corridor 18/Interstate 69 From the Interchange of U.S.51/U.S. 412 in Dyer County, Tennessee, to Purchase Parkway in Fulton County, Kentucky*. This report was prepared to identify architectural/historical properties listed in or eligible for the National Register of Historic Places (NHRP) located within the project APE. According to this document there are no architectural/historical resources in the APE for this project that are eligible for NRHP. This document is on file with the Tennessee Department of Transportation Environmental Planning Office.

## **SUMMARY**

This improvement option will enhance State Route 5 along the existing route from .13± miles west of the intersection of State Route 5 and State Route 22 to proposed Interstate 69 to meet the purpose and need. The primary purpose of the proposed option is to fill the gap of an arterial traffic network caused by the future development of I-69. The improvements are needed to eliminate the potential for hazardous traffic conditions caused by a chokepoint between two corridors.

Improvements of State Route 5 are needed to address the following needs:

1. Providing an east/west route to serve demand for regional accessibility to the interstate highway system and protect that provision in the future.
2. Providing economic growth potential for Union City and Obion County by improving the highway system to attract new industry.
3. Increasing the capacity on existing State Route 5 in order to meet future traffic demand.
4. Providing safer operating conditions for anticipated traffic increase by eliminating a choke point between two corridors.
5. Improving safety at the intersection of State Route 22 by removing the skew and adding a traffic signal.

The study area proposed in this report will be further evaluated to determine the most appropriate horizontal and vertical alignment, right-of-way, utility adjustments, environmental mitigations, and structures. The proposed project is approximately .24± miles in length.

The improvement option will eliminate geometric deficiencies throughout the route. The continuous center turn lane will provide enhanced safety and access to both future commercial and residential sites along the route. Other benefits include: (1) improved local and regional accessibility; (2) improved operating conditions along the proposed project route; (3) increased traffic capacity; and (4) enhancement of future planned growth by local and/or regional land use planning agencies.

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 phase; (3) traffic noise.

The comparable LOS for the no-build option is a deficient LOS of “D” by 2032. In addition, the disadvantages of the no-build option include continued inadequate operating conditions inherent with the increased traffic volumes. Some advantages of the no-build option include no disruption of the area due to construction or need for measures to mitigate environmental impacts.

Due to the short length of the proposed project and the interchange currently under design, no other option was recognized as cost effective. Any other option, including the “no-build” option, would fail to (1) serve future demand for regional accessibility to the interstate highway system; (2) provide economic growth potential for the city of Union City and the surrounding area; (3) increase the capacity on existing State Route 5.

In conclusion, this report offers guidance to address the purpose and need. The no-build option does meet the purpose and need. Therefore, the guidance offered for the widening option should be given consideration for further development under the NEPA planning process. Consideration should also be given to the timing and scheduling of all necessary studies, permits, design, R.O.W acquisition, and construction associated with the proposed Interstate 69 interchange.

**DATA TABLE  
State Route 5  
Obion County  
EXISTING CONDITIONS**

**No Build**

**From: 0.13± miles west of SR-22**

**To: proposed I-69**

**Item**

<b>Functional Class</b>	<b>Urban Principal Arterial</b>
<b>System Class</b>	<b>STP</b>
<b>Length – Miles/Feet</b>	<b>.24 ± / 1,270±</b>
<b>Cross Section Feet</b>	<b>24/28/80</b>
<b>Present AADT ( 2012 )</b>	<b>10,140</b>
<b>Projected Future AADT ( 2032 )</b>	<b>14,200</b>
<b>Percent Trucks</b>	<b>10 %</b>



**Existing State Route 5  
12' travel lane with 2' shoulders**

**DATA TABLE  
State Route 5/22  
Obion County**

**OPTION 1**

**From: .13± west of SR-5 @ SR-22**

**To: proposed I-69**

**PROPOSED**

**Item**

<b>Functional Class</b>	<b>Urban Principal Arterial</b>
<b>System Class</b>	<b>STP</b>
<b>Length – Miles/Feet</b>	<b>.24 ± / 1,267±</b>
<b>Cross Section Feet</b>	<b>48/84/104</b>
<b>Present AADT ( 2012 )</b>	<b>10,140</b>
<b>Projected Future AADT ( 2032 )</b>	<b>14,200</b>
<b>Percent Trucks</b>	<b>10%</b>
<b>*Estimated Right-of-Way Acquisition (Acres)</b>	<b>2.5 ±</b>
<b>Estimated Business Displacements</b>	<b>\$ 0</b>
<b>Estimated Right-of-Way Cost</b>	<b>\$ 697,000</b>
<b>Estimated Utility Cost Reimbursable</b>	<b>\$ 0</b>
<b>Estimated Utility Cost Non-Reimbursable</b>	<b>\$ 72,000</b>
<b>Estimated Construction Cost</b>	<b>\$ 1,315,000</b>
<b>Estimated Preliminary Engineering Cost</b>	<b>\$ 90,000</b>
<b>Total Estimated Cost</b>	<b>\$ 2,174,000</b>

\*Slope or construction easements may be required outside of R.O.W.

# 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.

## Option Section

### Numbers

- |   |       |
|---|-------|
| 1.) Hazardous Material Site or Underground Storage Tanks.....                     | _____ |
| 2.) Floodplains.....  | _____ |
| 3.) Historical, archaeological, cultural, or natural landmark, or cemeteries..... | _____ |
| 4.) Airport.....  | _____ |
| 5.) Residential establishment.....  | _____ |
| 6.) Urban area, city, town, or community.....<br>(Union City Pop. 10,788)         | _____ |
| 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.....                                     | _____ |
| d. Public Building, e.g., fire station.....                                       | _____ |
| e. Defense installation.....  | _____ |
|   | X     |
| 9.) Agricultural land usage.....  | _____ |
| 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.....  | _____ |
| e. Spring.....  | _____ |
| 14.) Railroad Crossings.....  | _____ |
|   | X     |
| 15.) Location coordinated with local officials.....                               | _____ |
| 16.) Other.....   | _____ |



<b>EST. COST DATA SHEET</b> <b>SR-5 in Obion County</b>		
PROJECT: From .13± West of SR 22 to Prop. I-69 LENGTH: 0.24± CROSS SECTION: 4 lane arterial		
<b>Right-of-Way</b>	<b>EST. RIGHT-OF-WAY COST</b>	697,000
		<b>\$697,000</b>
<b>Utility Relocation</b>	<b>EST. ADJUSTMENT COST</b>	
Reimbursable Non-Reimbursable		\$72,000
		<b>\$72,000</b>
<b>Construction</b>		
Clearing and Grubbing		\$10,000
Earthwork		\$95,000
Pavement Removal		\$0
Drainage		\$140,000
Structures		\$0
Railroad Crossing or Separation		\$0
Paving		\$355,000
Retaining Walls		\$0
Maintenance of Traffic		\$10,000
Topsoil		\$5,000
Seeding		\$5,000
Sodding		\$5,000
Signing		\$1,000
Lighting		\$0
Signalization		\$120,000
Fence		\$0
Guardrail		\$0
Rip Rap or Slop Protection		\$0
Other Construction Items (15%)		\$110,000
Mobilization		\$45,000
10% Engineering and Contingencies		\$90,000
6% X 5 years = 30%		\$325,000
	<b>EST. CONSTRUCTION COST</b>	<b>\$1,316,000</b>
Preliminary Engineering (10%)		\$90,000
	<b>EST. SECTION COST</b>	<b>\$2,175,000</b>

# TENNESSEE DEPARTMENT OF TRANSPORTATION

## DESIGN CRITERIA FOR LOCATION AND DESIGN PHASE

ROUTE:	State Route 5	OPTION:	A	SECTION:	
REGION:	4	COUNTY:	OBION		
LOCATION:	FROM 0.13 miles West of SR-22				
	To Proposed Interstate 69				

	20	12	ADT	6,170-10,140
	20	32	ADT	8,520-14,200
PERCENT TRUCKS	10%			
DHV (12%)	1,201			
FUNCTIONAL CLASSIFICATION	arterial			
MINIMUM DESIGN SPEED	45 MPH			
ACCESS CONTROL	none			
MAXIMUM CURVE	7° 45'(S.E.=0.04)			
MAXIMUM GRADE	6%			
MINIMUM STOPPING SIGHT DISTANCE	360'			
SURFACE WIDTH	2 @ 24'			
NUMBER OF LANES	4			
USEABLE SHOULDER WIDTH	2 @ 12'			
MEDIAN WIDTH	12' turn lane			
MINIMUM RIGHT-OF-WAY	104' *			
SIGNALIZATION	Mod. @ SR-3 (US 51)			

REMARKS: \* Easements will be required outside of right-of-way.

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Index Of Sheets

SHEET NO.	DESCRIPTION
1.....	TITLE SHEET
2.....	TYPICAL SECTION SHEET
3 and 4.....	PROPOSED LAYOUT SHEETS

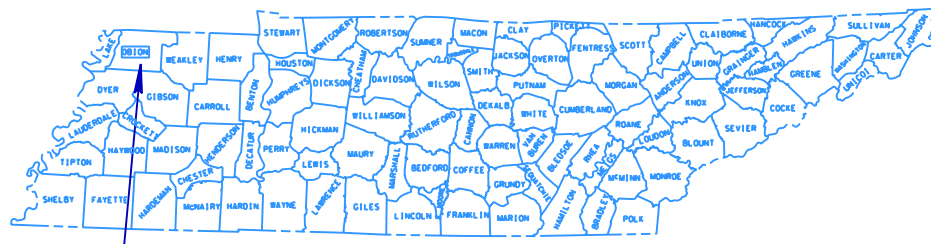
STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF ENGINEERING

TENN.	YEAR	SHEET NO.
	2007	1
FED. AID PROJ. NO.		
STATE PROJ. NO.		

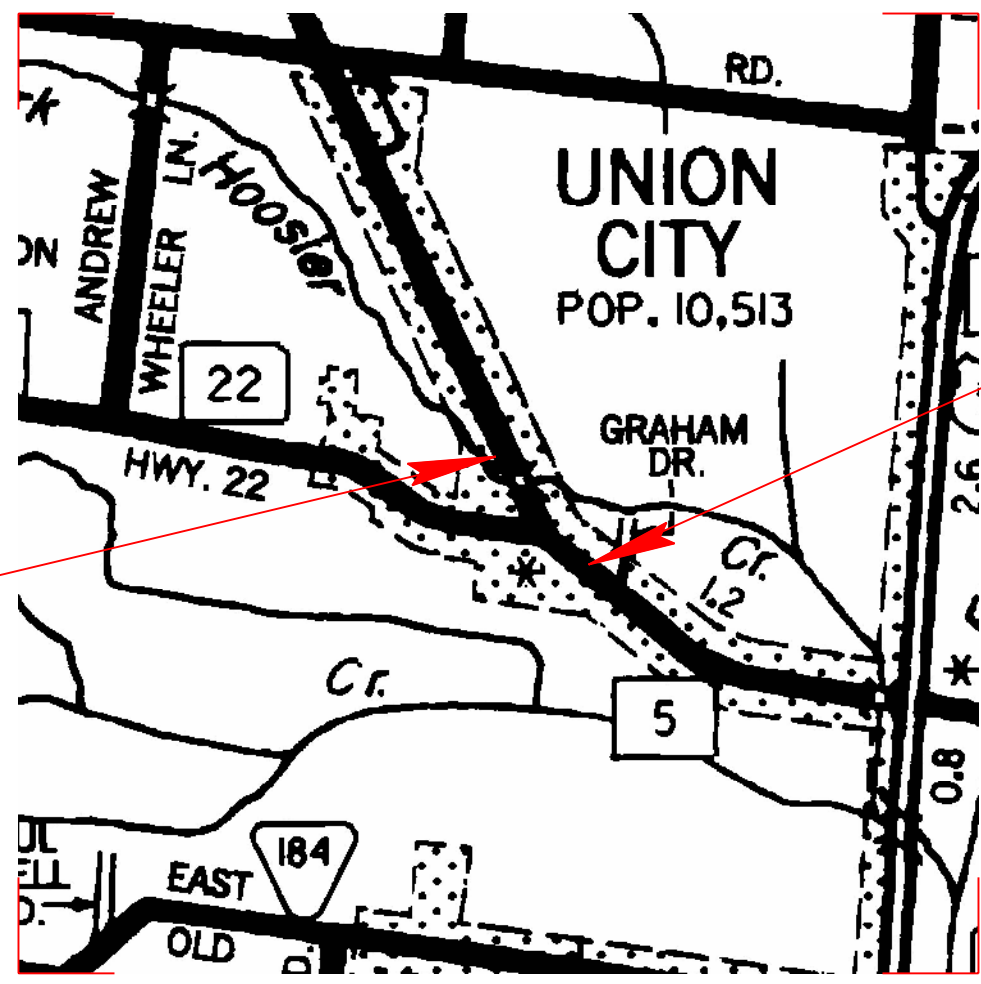
OBION COUNTY  
STATE ROUTE 5

FROM : Near North Fork Hoosier Creek  
TO : 0.13 ± Mile East of State Route 22

STATE HIGHWAY NO. 5 F.A.H.S. NO. N/A



PROJECT LOCATION



BEGIN PROJECT

END PROJECT

SCALE: 1" = 1-1/2 MILE

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 COMER L. TILLEY  
GWEN S. AVERY, TECH. CHECKED BY \_\_\_\_\_  
P.E. NO. \_\_\_\_\_

APPROVED: \_\_\_\_\_  
CHIEF ENGINEER

DATE: \_\_\_\_\_

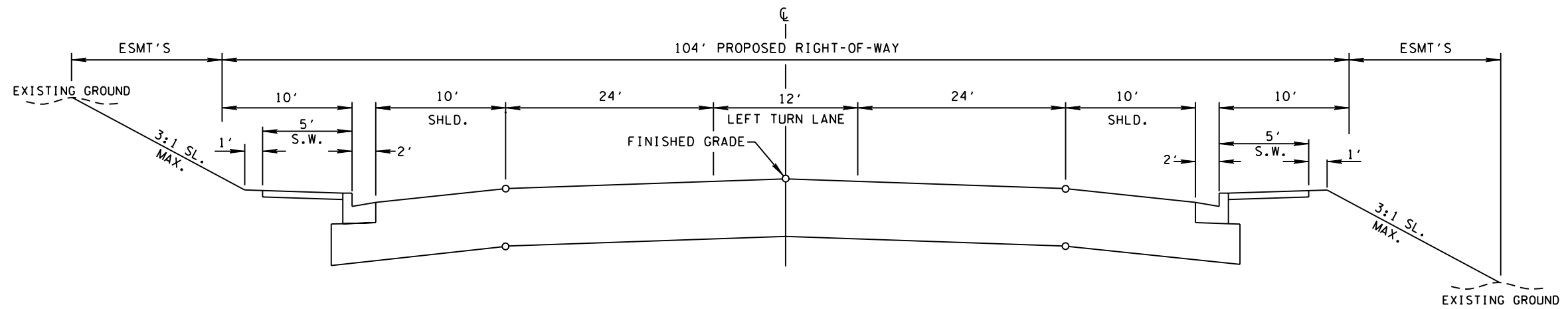
APPROVED: \_\_\_\_\_  
COMMISSIONER

U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: \_\_\_\_\_  
DIVISION ADMINISTRATOR

DATE: \_\_\_\_\_

TYPE	YEAR	PROJECT NO.	SHEET NO.
.	2007	.	2
.	.	.	.
.	.	.	.
.	.	.	.



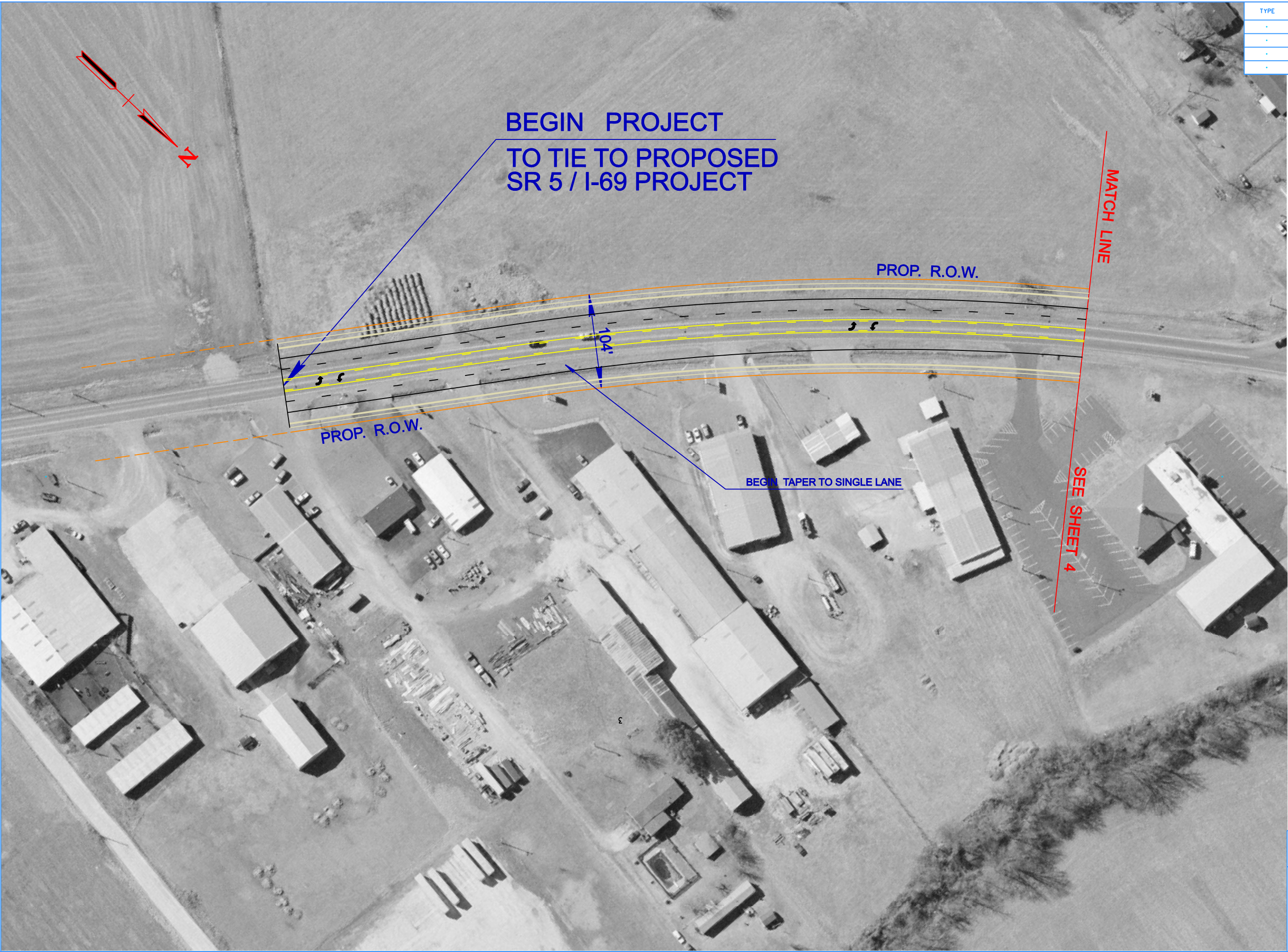
**PROPOSED TYPICAL SECTION**

**STATE ROUTE 5**

FROM: Near North Fork Hoosier Creek  
 TO: 0.13 ± Mile East of State Route 22



TYPE	YEAR	PROJECT NO.	SHEET NO.
.	2007	.	3
.	.	.	.
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.	.	.	.



**BEGIN PROJECT  
 TO TIE TO PROPOSED  
 SR 5 / I-69 PROJECT**

PROP. R.O.W.

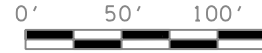
MATCH LINE

PROP. R.O.W.

BEGIN TAPER TO SINGLE LANE

SEE SHEET 4

104'

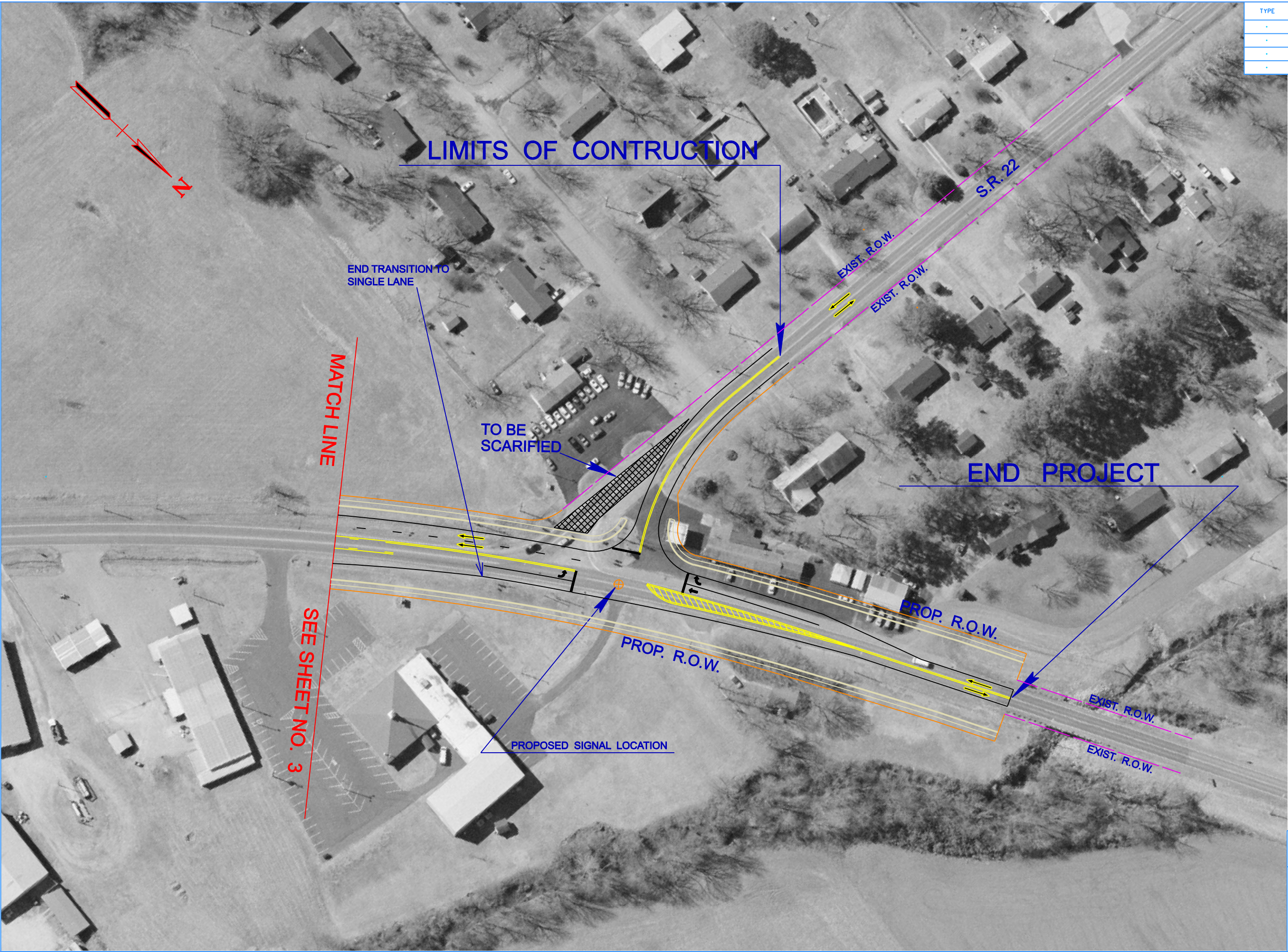


STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION

**OBION COUNTY**  
 STATE ROUTE 5



TYPE	YEAR	PROJECT NO.	SHEET NO.
.	2007	.	4
.	.	.	.
.	.	.	.



10/26/2007  
 K:\Gwen\OBION CO\SR5\Newsheets\SR\_5sht04.dgn

0' 50' 100'

STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION

OBION COUNTY  
 STATE ROUTE 5