TRANSPORTATION PLANNING REPORT

State Route 131 (Lovell Road)

From Schaffer Road to State Route 169 (Middlebrook Pike)

Knox County

PIN 114540.00

PREPARED BY
CLINARD ENGINEERING ASSOCIATES, LLC
For the
KNOXVILLE REGIONAL TRANSPORTATION PLANNING ORGANIZATION
And the
TENNESSEE DEPARTMENT OF TRANSPORTATION
PROJECT PLANNING DIVISION

Approved by:	Signature	DATE
CHIEF OF ENVIRONMENT AND PLANNING		1/13/11
TRANSPORTATION DIRECTOR PROJECT PLANNING DIVISION		1-13-11
TRANSPORTATION MANAGER 2 PROJECT PLANNING DIVISION		1/13/11

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1.0 PURPOSE OF THE TPR

The Knoxville Regional Transportation Planning Organization (TPO) requested a review of a 1.75 mile segment of State Route (SR) 131 (Lovell Rd.) from Schaeffer Road to SR 169 (Middlebrook Pk). Proposed improvements to this roadway segment have been programmed in the 2015-2024 horizon year of the Knoxville Regional TPO's adopted Long Range Transportation Plan under Project #637.

The Knoxville Regional TPO identifies this segment of SR 131 (Lovell Rd.) as the final leg of improvements along Lovell Road as the other sections have either already been improved or are currently under construction. Additionally, this segment is a part of a larger planning corridor improvement extending to the northeast from Interstate 40/75 to Interstate 75.

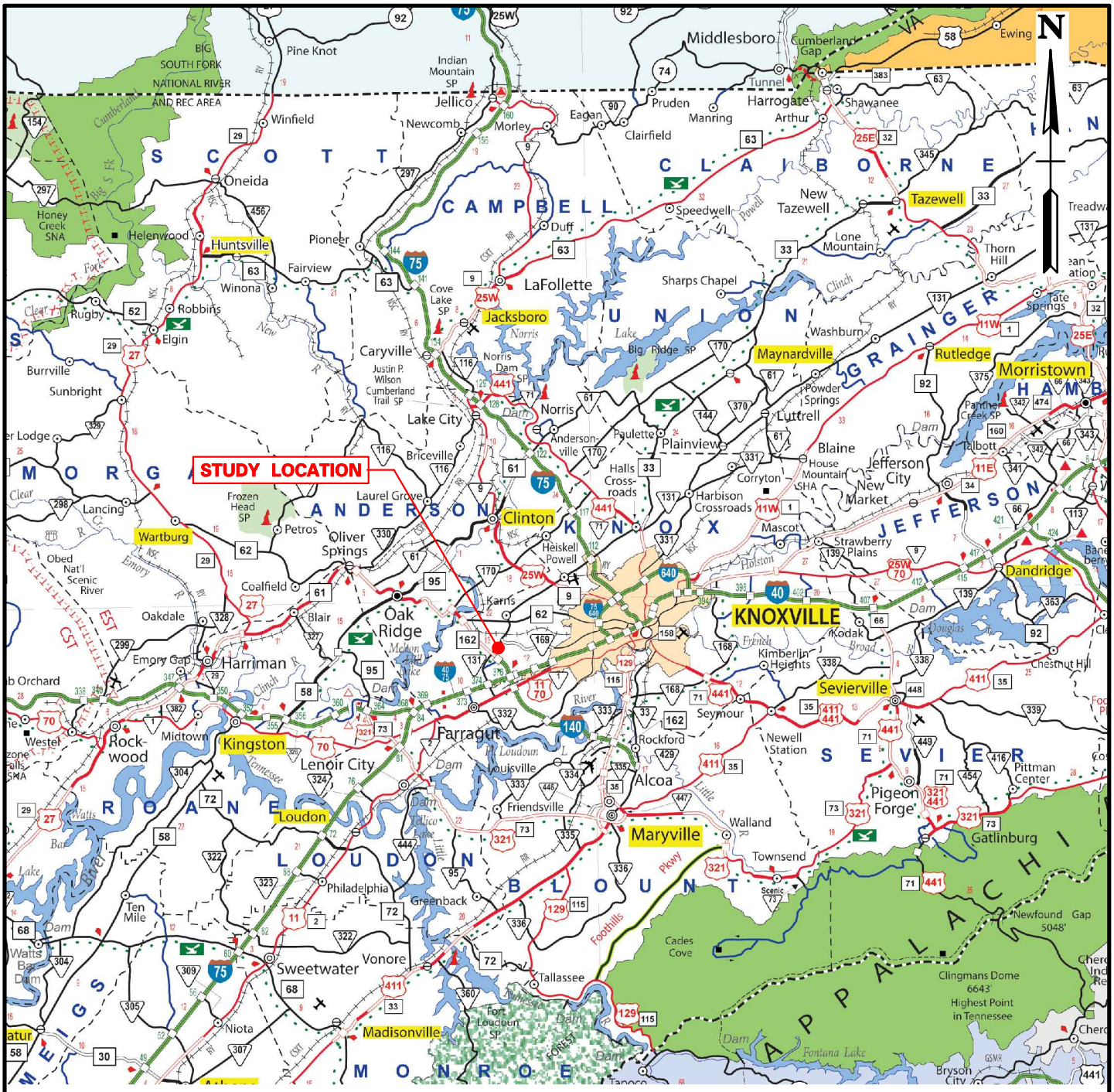
2.0 HISTORY AND BACKGROUND

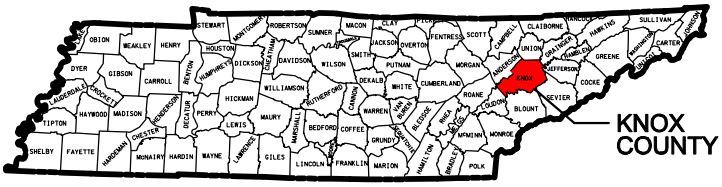
The limits of this study extend from Schaeffer Road to SR 169 (Middlebrook Pk), a distance of approximately 1.75 miles. Figure 1.1 presents a regional map, Figure 1.2 presents the study corridor location map, and Figure 1.3 further details the corridors geographic features on a United States Geological Survey (USGS) map.

Proposed improvements to this roadway segment have been programmed in the 2015-2024 horizon year of the Knoxville Regional TPO's adopted Long Range Transportation Plan. Other current or future improvements relating to this study segment include:

- SR 131 (Lovell Rd.) from Kingston Pike (SR 1) to Gilbert Road was widened to a five (5) lane cross section several years ago. A major interchange reconstruction with Interstate 40 was completed in this section.
- SR 131 (Lovell Rd.) from Gilbert Road to Schaeffer Road is currently under construction, widening to a five (5) lane cross section with bike lanes and sidewalks. Reconstruction of the Schaeffer Road access to Pellissippi Parkway is occurring with this project.
- Ball Camp Pike / Ball Road from SR 169 (Middlebrook Pk.) to SR 62 (Oak Ridge Hwy.) is proposed for widening. Approximately 1.5 miles of new roadway has been constructed at the eastern end of this corridor. All right-of-way has been purchased, but the rest of the project is awaiting funding for construction. This project is known as the Schaad Road Extension.
- Schaad Road from SR 62 (Oak Ridge Hwy.) to Pleasant Ridge Road is proposed to be widened to a four (4) lane median divided roadway in the Long Range Transportation Plan. No funding has been identified for this project.
- Schaad Road from Pleasant Ridge Road to Interstate 75 was widened to a four (4) lane median divided roadway approximately five (5) years ago.

The combination of improvements to the study segment as well as the related improvements above will result in a complete corridor improvement stretching continuously from Interstate 40/75 west of Knoxville to Interstate 75 on the north side of Knoxville. This improved corridor is expected to provide improved mobility as well as a suitable alternate route to the interstate system.





TDOT

VICINITY MAP

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CMB	TMC
FIGURE 2.1	
PIN # 114540.00	
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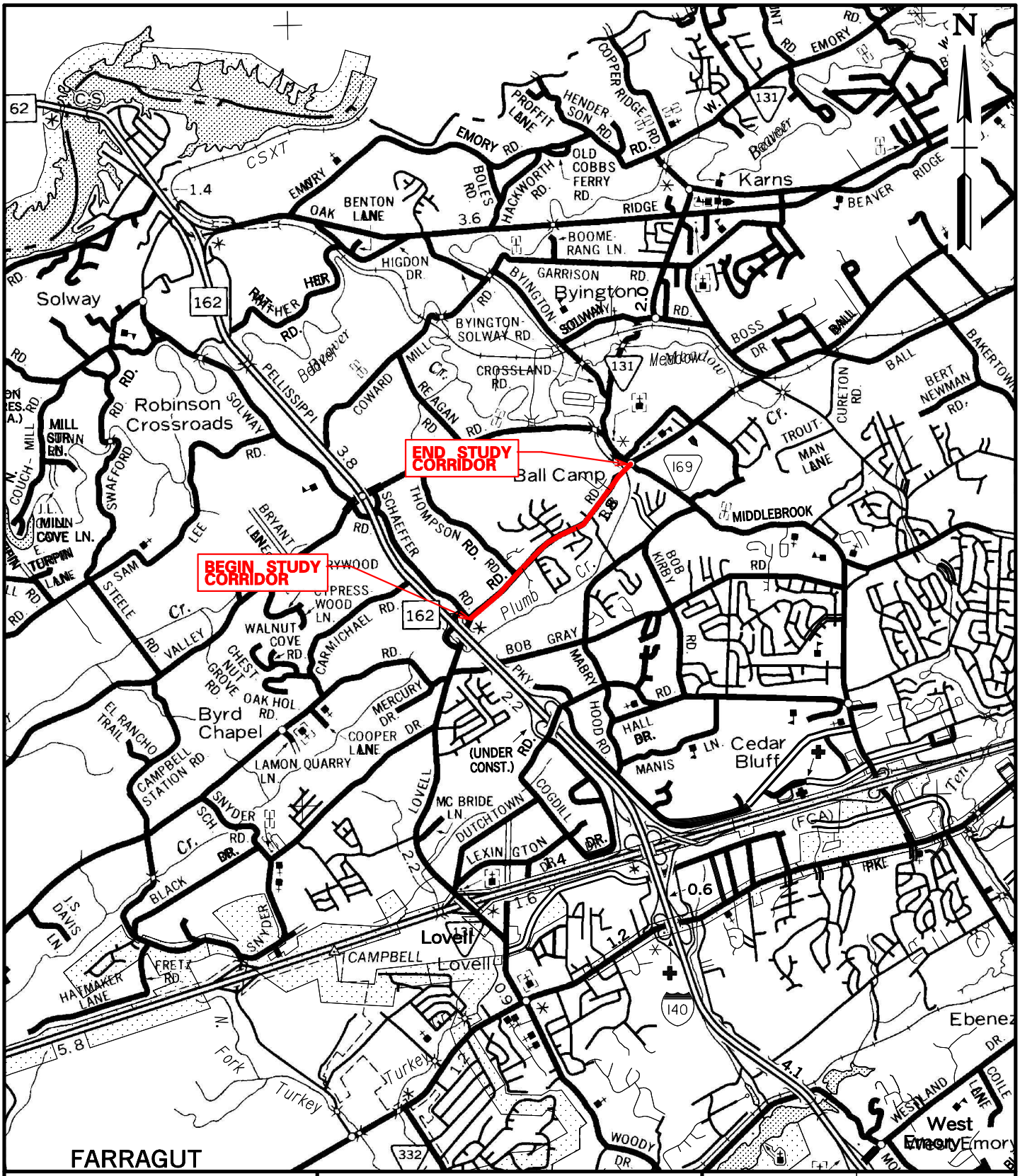

TDOT

LOCATION MAP

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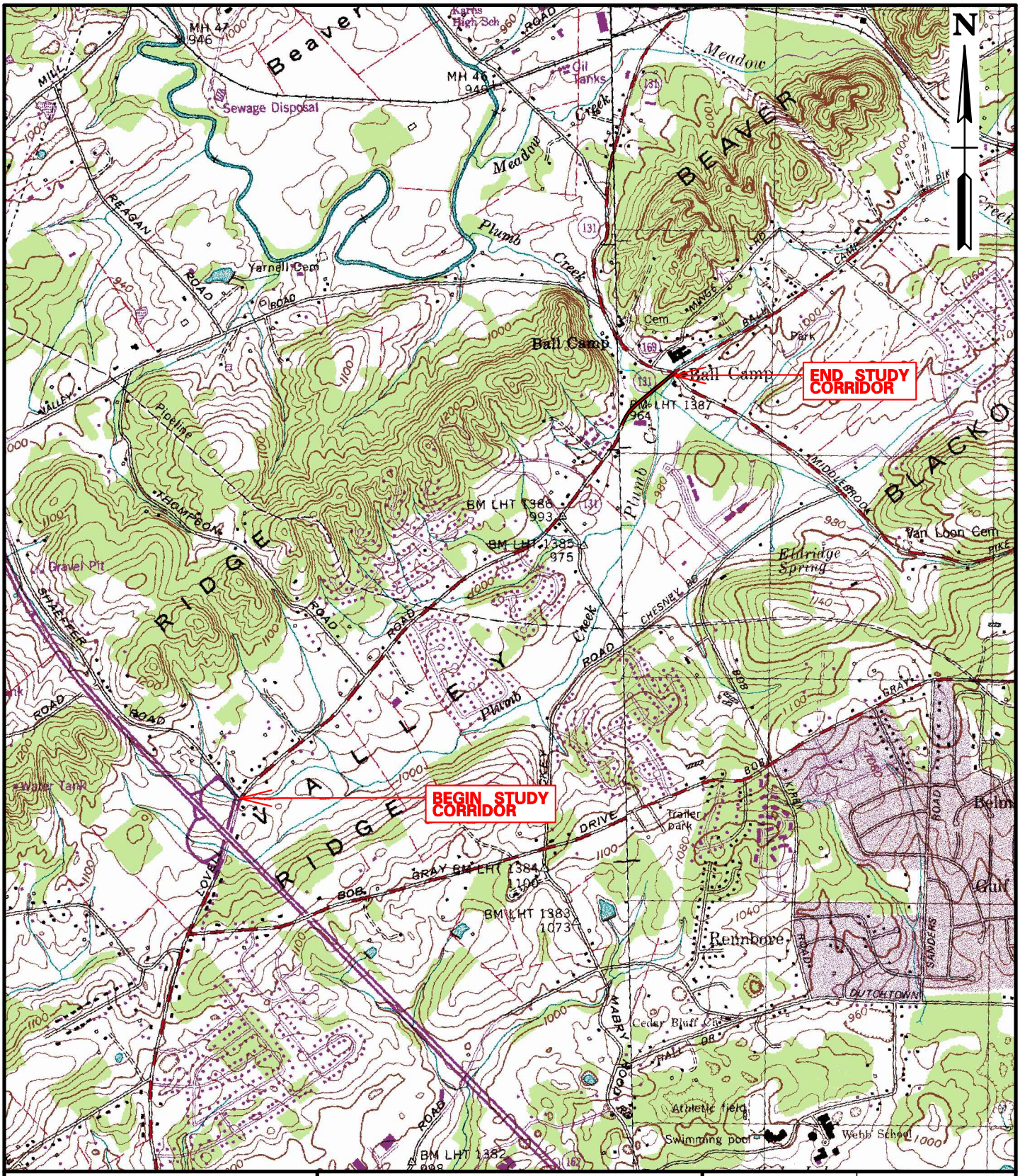
FIGURE 2.2	
PIN # 114540.00	
SCALE: 1"= 1 MILE	DATE: 08-05-10



TDOT

TOPOGRAPHY MAP

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FIGURE 2.3	
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1"= 2000'	08-05-10

3.0 EXISTING CONDITIONS

Population Growth

The corridor study limits reside within Knox County. Table 3.1 presents geographic data for the area and indicates that the Knox County has a significantly more densely populated area that the statewide average. Table 3.2 presents the historic population trends for the Knox County and offers a comparison to the averages seen statewide.

Table 3.1 – Geographic Data

Category	Knox County	Statewide
Land Area excluding water covered (Square Miles)	508.46	41,217.12
Persons / Square Mile (2000)	752.0	138.0
Housing Units / Square Mile (2009)	388.8	67.5

Data Source: U.S. Census Bureau State and County Quickfacts

Table 3.2 – Population Trends

Year	Knox County			State of Tennessee		
	Pop.	Percent Change	Avg. Growth Rate	Pop.	Percent Change	Avg. Growth Rate
2000	382,033	--	--	5,689,276	--	--
2009	435,725	14.1%	1.47%	6,296,254	10.7%	1.13%

Data Source: U.S. Census Bureau State and County Quickfacts

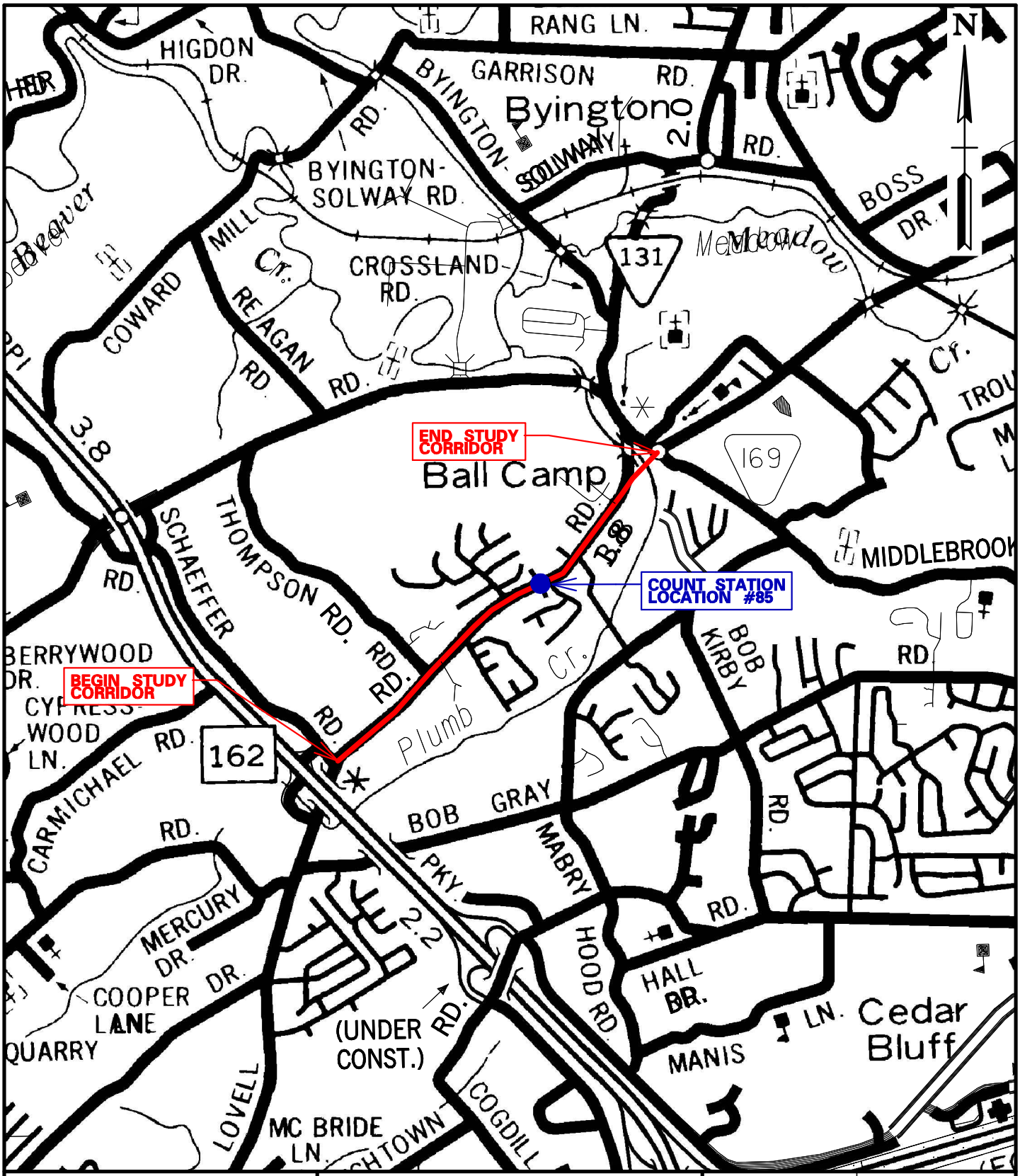
During the 2000 Census, Knox County employment estimates included 9,467 available for employment with a 4.8% unemployment rate. The 2006-2008 American Community Survey shows Knox County's unemployment rate to be approximately 4.7%.

Historic Traffic

TDOT collects traffic data at numerous locations along the corridor on a continuing basis. Table 3.3 presents data for the count station within the study segment of SR 131. A moderate historical growth rate can be seen for this area. Figure 3.1 shows the location of the TDOT count station.

Table 3.3 – Historic Traffic Data

TDOT Sta.	County	Route	Location	2009 AADT	Annual Growth Rate
85	Knox	S.R. 131	Near Ball Camp	11,615	2.37%



TDOT

COUNT STATION

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CMB	TMC
FIGURE 3.1	
PIN # 114540.00	
SCALE:	DATE:
1"= 1/2 MILE	10-15-10

Crash History

A total of one hundred forty-six (146) crashes have occurred within the study corridor limits from 2006 through 2009. There were zero (0) fatal crashes and three (3) incapacitating injury crashes. One hundred twelve (112) of the crashes occurred during daylight hours, while the remaining thirty-four (34) occurred at dusk or nighttime. Thirteen (13) of the crashes occurred during foggy weather conditions. Thirty-five (35) of the crashes occurred at the intersection with Schaeffer Road, which is the beginning of the study segment. Thirty-two (32) of the crashes occurred at the intersection with SR 169 (Middlebrook Pk.), which is the end of the study segment. The remaining seventy-nine (79) crashes occurred within the study segment along SR 131 (Lovell Rd.). The majority of the crashes within the study segment occurred at the numerous intersections with minor side streets. The minor side streets are all stop-controlled at these locations with SR 131 (Lovell Rd.) remaining uncontrolled. The crash rate along the study roadway segment is 2.68, which is slightly above the statewide average crash rate of 2.39 for similar type facilities.

Adjacent Corridor Sections

In order to provide consistency along SR 131 (Lovell Rd), it is necessary to evaluate the current roadway conditions on the adjacent segments of the route. SR 131 (Lovell Rd) is currently a five (5) lane cross section from SR 1/U.S. 70 (Kingston Pk) to Gilbert Road. The adjacent segment of SR 131 (Lovell Rd) from Gilbert Road to Schaeffer Road is currently under construction to a proposed five (5) lane cross section with bike lanes and sidewalks. SR 131 is designated along SR 169 (Middlebrook Pk) to the north of the intersection with Lovell Road and continues along Ball Camp Byington Road. The section of SR 131 on Middlebrook Pike is currently a four (4) lane median divided roadway. Ball Camp Byington Road is currently a two (2) lane roadway.

Where Lovell Road crosses SR 169 (Middlebrook Pk), the roadway becomes Ball Camp Pike which is currently a two (2) lane roadway, but right-of-way has been purchased for a proposed four (4) lane median divided roadway once construction funding is secured.

Existing Corridor Conditions

The study corridor begins at Schaeffer Road (L.M. 3.14) and ends at SR 169 (L.M. 4.89), although current construction improvements extend approximately 1000 feet beyond Schaeffer Road into the study segment. The existing right-of-way is approximately 60 feet wide. The study segment primarily consists of a relatively flat roadway with multiple horizontal curves within the study segment. The roadway section of SR 131 is consists of two (2) eleven foot (11') travel lanes and two foot (2') or less shoulders and is classified as an urban minor arterial. Both of the terminal intersections of the study corridor are traffic signal controlled. There are a few short right-turn deceleration lanes at the larger volume side street intersections. Within the study segment, the side streets are all stop-controlled with SR 131 remaining free-flow. The northern termini of the SR 131 study segment has been recently constructed and realigned to intersect directly across from Ball Camp Pike as shown in Figure 3.2. The newly aligned intersection approach currently has two (2) left turn lanes, one (1) through lane, and one (1) right turn lane. There is an existing striped out shoulder that should provide for future improvements to add an additional through lane at the intersection.

Figure 3.2 – SR 131 Intersection with SR 169

Level of Service Analysis

The concept of Level of Service (LOS) uses quantitative values such as speed, travel time, density, delay, and percent time spent following another vehicle to reflect the quality of service along a particular facility. Based on the Urban Streets section of the Highway Capacity Manual (HCM), the average travel speed affects the LOS experienced by travelers along the facility. The section of SR 131 within this study would be classified as a Class II (2) urban street. Table 3.4 describes the quality of service experienced for each LOS based on the Urban Streets section of the HCM. Table 3.5 shows the quantitative values for determining the LOS.

Table 3.4 – Level of Service (LOS) Description for Urban Streets

LOS	Level of Service Description - Urban Streets
A	Primarily free-flow operations at average travel speeds, usually about 90 percent of the free-flow speed for the given street class. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at signalized intersections is minimal.
B	Reasonably unimpeded operations at average travel speeds, usually about 70 percent of the free-flow speed for the street class. The ability to maneuver within the traffic stream is only slightly restricted, and control delays at signalized intersections are not significant.
C	Stable operations; however, the ability to maneuver and change lanes in midblock locations may be more restricted than at LOS B, and longer queues, adverse signal coordination, or both may contribute to lower average travel speeds of about 50 percent of the free-flow speed for the street class.
D	Borders on a range in which small increases in flow may cause substantial increases in delay and decreases in travel speed. LOS D may be due to adverse signal progression, inappropriate signal timing, high volumes, or a combination of these factors. Average travel speeds are about 40 percent of the free-flow speeds.
E	Characterized by significant delays and average travel speeds of 33 percent or less of the free-flow speed. Such operations are caused by a combination of adverse progression, high signal density, high volumes, extensive delays at critical intersections, and inappropriate signal timing.
F	Characterized by urban street flow at extremely low speeds, typically one-third to one-fourth of the free-flow speed. Intersection congestion is likely at critical signalized locations, with high delays, high volumes, and extensive queuing.

Information Source: Highway Capacity Manual (2000), Transportation Research Board

Table 3.5 – Level of Service (LOS) Criteria for Urban Streets

LOS	Average Travel Speed (mph)
A	>35
B	>28-35
C	>22-28
D	>17-22
E	>13-17
F	≤13

Information Source: Highway Capacity Manual (2000), Transportation Research Board

TDOT provided traffic volumes and TRIMS geometric data were used in analyzing SR 131 within the corridor study boundaries. Table 3.6 presents the analysis results of the existing two (2) lane facility.

Table 3.6 – Analysis Summary of Existing Facility

Urban Streets Analysis Summary				
Segment ID	Analysis Year	Average Travel Speed (mph)	Volume / Capacity	LOS
Schaeffer Rd to Middlebrook Pk	2015	15.8	1.22	E
Schaeffer Rd to Middlebrook Pk	2035	8.7	1.58	F

NOTE: THIS TABLE SUMMARIZES THE ANALYSIS OF THE HIGHEST VOLUME DIRECTION

Utility Infrastructure

Throughout the study segment length overhead utilities, water, sanitary sewer, gas, and underground copper cable or fiber optic are present. Overhead utilities and gas service lines run parallel to the east side of SR 131 except at the terminal intersection with SR 169 (Middlebrook Pk.). A major gas pipeline crosses the study segment as seen in Figure 3.3 to the north of Plumb Branch Rd. Other utility aspects are shown in Figures 3.4, 3.5, 3.6, and 3.7. Utilities are being relocated by a current construction project from Schaeffer Road up to two hundred feet (200') west of Cedardale Lane.

Figure 3.3 – Natural Gas Pipeline

Figure 3.4 – Utilities Adjacent to SR 131

Figure 3.5 – Relocated Overhead Utilities and Storm Sewer Installation

Figure 3.6 – Existing Sanitary Sewer

Figure 3.7 – Existing Gas Service Lines

Major Structures

There are no drainage structures classified as bridges, but there are three (3) culverts along the roadway study segment. One of the box culverts at Plum Creek are shown in Figure 3.8. No impacts are anticipated to the existing box culverts at Plum Creek by any improvement option. Figure 3.9 shows an existing box culvert that would be impacted by a corridor improvement option. There a no major existing or anticipated retaining walls along the roadway study segment.

Figure 3.8 – Existing Box Culvert at Plum Creek

Figure 3.9 – Existing Box Culvert (47CULV12005)

Multi-Modal Facilities

Public transportation is available through multiple agencies within Knoxville and Knox County. The Knoxville Area Transit (KAT) does not currently extend bus routes near the study segment of SR 131. Knox County Transit (CAC) provides need-based public transportation for both employment related trips and demand response transportation. Additionally, public transportation is available through the East Tennessee Human Resource Agency (ETHRA). SR 131 is not currently listed as an existing or proposed state bicycle route on the Tennessee Long-Range Transportation Plan. Option 2 would provide bike lanes and sidewalks which would improve conditions for bicyclists and pedestrians.

4.0 FIELD REVIEW INFORMATION

A field review of the study corridor was conducted on-site on November 5th, 2010, beginning at 9:00 a.m. EST.

Discussion of the initiation of the TPR took place including the significance of the roadway study segment as one portion of an overall corridor improvement strategy. Detailed descriptions of the various roadway segments within the overall corridor improvement and their status is included within the Knoxville Regional TPO's request in Appendix A. It was discussed that the intersection with Schaeffer Rd. at the beginning of the study segment is currently under construction. Additionally, the intersection with SR 169 (Middlebrook Pk.) has recently completed intersection improvements. There were no significant concentrations of crashes at any of the sideroad intersections within the study segment as to indicate the need for safety-related spot improvements within the roadway study segment.

It was noted that there is a proposed greenway along Plum Creek which would cross at the end of the study segment near the intersection with SR 169 (Middlebrook Pk.). Discussion of the roadway cross-section resulted in the modification of the typical section used for the construction of the adjacent section of SR 131 (Lovell Rd.) from Gilbert St. to Schaeffer Rd. The modification was to increase the sidewalk width from five feet (5') wide to seven feet (7') wide in order to provide additional space for the placement of mailboxes. The current study segment is primarily residential with numerous properties having direct access to/from SR 131 (Lovell Rd.). Some consideration was given to a three feet (3') wide grass strip between the curb and sidewalk, but there were concerns of maintenance and continuity between adjacent roadway segments. Additionally, the section of SR 131 (Lovell Rd.) from SR 1 (Kingston Pk.) to Gilbert St. currently has seven feet (7') wide sidewalks.

In order to move into the environmental phase, the segment will have to be included in the first horizon year of the long range transportation plan and listed in the transportation improvement plan (TIP).

Additional details of the field review are included within the meeting minutes included in Appendix D.

5.0 PURPOSE AND NEED

The purpose of the improvements for the study corridor is to provide a transportation facility that enhances mobility within the region, supports economic development, improves safety, better provides for alternative modes of travel, and relieves potential traffic congestion that may emerge from increasing development.

The SR 131 corridor, including this segment, is a secondary north-south route within Knox County and beyond, connecting: SR 1/U.S. 11/U.S. 70 (Kingston Pk.), Interstate 40, SR 162 (Pellissippi Pkwy.), SR 169 (Middlebrook Pk.), SR 62 (Oak Ridge Hwy.), SR 9/U.S. 25W (Clinton Hwy.), Interstate 75, and SR 71/U.S. 441 (Norris Fwy.) among others. This route accesses employment opportunities, connects to Interstate 40 and Interstate 75 as well as connecting into Union and Grainger Counties to the north.

Based on the findings of this study in conjunction with the field review with local stakeholders, the goals and objectives of an improved SR 131 facility include:

- **Increased roadway capacity**
  The traffic analysis of the existing roadway facility indicates that capacity has been reached at the current volumes and will be insufficient for the projected future traffic volumes. The corridor improvement option results in sufficient capacity to serve the existing and forecasted traffic volumes at a level-of-service (LOS) B.

- **Improved facility for alternative modes of transportation**
  The existing facility provides no accommodation for alternative modes of transportation. The corridor improvement option would provide sidewalks and bike lanes to accommodate alternative modes of transportation.

- **Continuous corridor improvements**
  The roadway study segment is one portion of a corridor improvement plan that stretches from Interstate 40/75 west of Knoxville at Lovell Road to Interstate 75 on the north side of Knoxville at Callahan Road. This corridor improvement plan is identified as a recommended alternative in a previous planning report on a proposed SR 475. The improved corridor would provide an additional corridor to serve regional traffic on the northwest side of Knoxville and an alternative route for vehicles traveling along Interstate 75.

- **Complete the final roadway segment of Lovell Road**
  The roadway study segment is the remaining segment of Lovell Road stretching from SR 1 (Kingston Pk.) to SR 169 (Middlebrook Pk.) to be improved. The study segment improvements would provide continuity along the length Lovell Road, matching the adjacent five (5) lane curb and gutter roadway sections with sidewalks.

6.0 OPTIONS FOR IMPROVEMENT

This report examines the consideration for a no-build option and a cross-sectional corridor improvement throughout the length of the study corridor. These options are introduced below and discussed throughout the remainder of this report.

Option 1: No-Build
This option assumes no modifications or improvements will be made over the planning horizon to add capacity. Routine maintenance related activities as well as scheduled resurfacing, signing, and possible safety projects may occur. This option does not support the project's stated purpose and need for providing a transportation facility to increase roadway capacity, provide for alternative modes of transportation, and contribute to an overall corridor improvement plan.

Option 2: Five (5) Lane Facility
This options considers the widening of the existing roadway along its current alignment to a five (5) lane curb and gutter roadway section with two (2) twelve foot (12') travel lanes in each direction, one (1) twelve foot (12') center turn lane, four foot (4') bike lanes, and sidewalks on both sides of the roadway.

No option is presented for an improved roadway along a new alignment due to the densely developed surroundings, which would result in increased impacts. Additionally, the roadway improvements need to connect to the current and planned corridor improvements at both study limit termini in order to have the benefit of continuous corridor improvements as stated in the purpose and need.

Corridor Improvements

Option 2: Five (5) Lane Facility
Capacity analysis for the design years indicated that the existing two (2) lane facility does not have sufficient capacity to accommodate the forecasted traffic volumes. A five (5) lane facility does provide sufficient capacity for the projected traffic volumes. Table 5.1 presents the analysis results of the proposed five (5) lane facility using the same LOS criteria as described in the traffic analysis of the existing roadway.

Table 5.1 – Analysis of Five (5) Lane Facility

Urban Streets Analysis Summary				
Segment ID	Analysis Year	Average Travel Speed (mph)	Volume / Capacity	LOS
Schaeffer Rd to Middlebrook Pk	2015	33.8	0.61	B
Schaeffer Rd to Middlebrook Pk	2035	32.6	0.79	B

NOTE: THIS TABLE SUMMARIZES THE ANALYSIS OF THE HIGHEST VOLUME DIRECTION

Continuity is important within the new corridor improvement sections, because it provides a level of expectation for users. The proposed roadway cross-section matches the adjacent roadway cross-section that is currently under construction from Gilbert Rd. to Schaeffer Rd.; except that the sidewalk has been widened to seven feet (7') in order to accommodate mailboxes within this residential area without encroaching upon sidewalk users. Figure 5.1 shows the proposed typical curb and gutter cross-section, which includes: four (4) twelve foot (12') travel lanes, one (1) twelve foot (12') center turn lane, four foot (4') bike lanes, and seven foot (7') sidewalks. The right-of-way required should be a constant ninety-six feet (96') wide with construction and slope easements that will vary based upon topography.

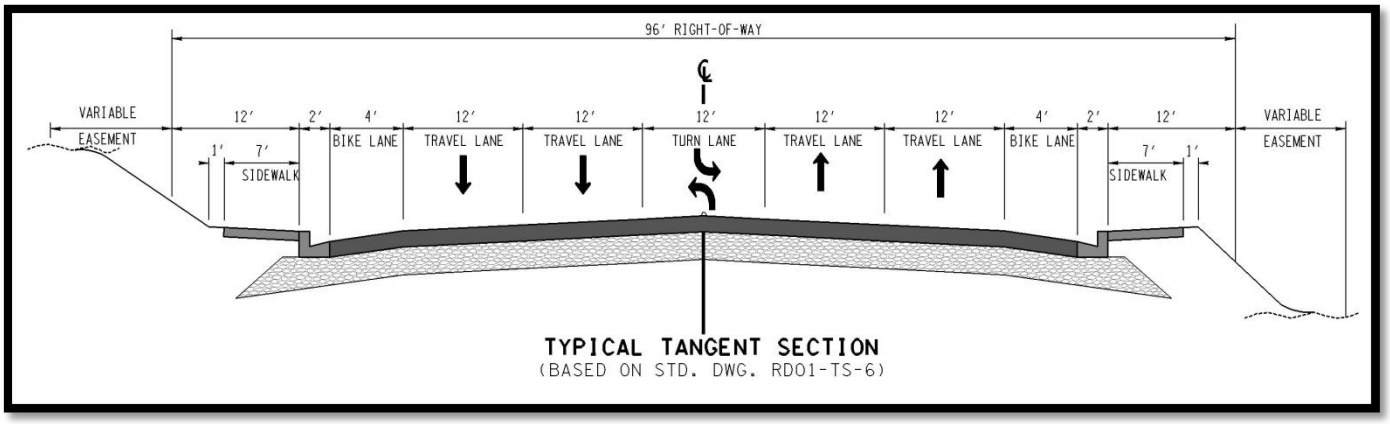

Figure 5.1 – Option 2: Five (5) Lane Facility

Spot Improvements

In the development of a TPR it is important to look at localized improvements that may provide lower cost improvements to safety and operations than a corridor improvement option. Localized improvements generally target areas with known safety or operations issues such as intersections, areas of significant roadway curvature, or areas with limited sight distance. The intersection of SR 131 (Lovell Rd.) at Schaeffer Road is the beginning of this TPR study segment and accounts for 35 of the 146 crashes from 2006-2009. This intersection is currently signalized and represents twenty-four percent (24%) of the total crashes. This intersection is currently being reconstructed under Federal Aid Project Number ARRA-STP-M-131(25). With this intersection currently being reconstructed, no improvements to it are proposed within this TPR. The intersection of SR 131 (Lovell Rd.) at SR 169 (Middlebrook Pk.) is the end termini of this TPR study segment and accounts for 32 of the 146 crashes from 2006-2009. This intersection is currently signalized and represents twenty-two percent (22%) of the total crashes. This intersection was reconstructed recently and realigned with Ball Camp Pike during that project. There are no obvious safety or sight distance issues with this newly constructed intersection; therefore, no improvements to it are proposed within this TPR.

Within the 1.75 mile long study segment there are eleven (11) side road intersection locations and many driveway accesses. Although there are groupings of crashes at each of the side road intersection locations, no single location has more than eight (8) crashes from 2006-2009. Although intersection improvements such as turn lanes and signage could be done at any of the individual locations, no single intersection or group of intersections appear to have distinguishing issues. Due to the number and frequency of side roads along the roadway segment, applying turn lanes and other spot improvements to each location would be essentially applying a corridor improvement strategy. Due to these factors, no spot safety improvements are proposed within this TPR study.

Discussion of Environmental and Cultural Impacts

In preparation of Transportation Planning Reports (TPR), the Tennessee Department of Transportation (TDOT) has introduced an environmental screening process for the project study area. By screening the latest available Geographic Information Systems (GIS) environmental data during the early stages of project planning TDOT and the public will be better prepared to anticipate potential environmental issues and mitigation requirements. This screening process involves using GIS to assess environmental data as it spatially relates to the project's Area of Potential Effect (APE). The environmental data reviewed in this TPR include the following layers:

- Archaeological/Historic Architecture – Historic properties and cemetery sites;
- Community Impacts – Sensitive community populations
- Ecology – Scenic waterways, natural areas, large wetlands, protected species;
- Hazardous Substances/Geology – Hazardous substance sites, pyritic rock/geotechnical, caves; and,
- Parks & Public Land – parks (federal/state/local), public lands/buildings, railroads, wildlife management areas.

<u>Preliminary Archeological/Historic Architecture</u>

Historic Properties & Structures – No project impact is anticipated as there are no National Register listed properties abutting or within the project study area or corridor.

Cemetery-Archaeological Sites – No impact on the project as there are no known cemetery sites within or abutting the project study area or corridor. It is anticipated that a 'normal' effort to complete this environmental review will occur during the NEPA process.

<u>Preliminary Community Impact</u>

Sensitive Populations – Impacts to sensitive community populations have been identified within the study area. Preliminary maps reveal that linguistically isolated populations are present. Consideration of these factors should be taken during the NEPA process.

<u>Preliminary Ecology</u>

Scenic Waterways – No project impact is expected as there are no scenic waterways or TDEC conservation sites within the project study area or corridor.

Large Wetlands Impacts – Within the 4,000 foot corridor, 0.78 acres of wetlands were identified within the EES. Using the National Wetland Inventory it was identified that the wetland is a freshwater pond near the beginning of the study corridor, but no impacts to this wetland are expected.

Bats, Rare, and Federally Protected Species – No project impact is anticipated. There is no occurrence of Indiana or gray bats within four (4) miles of the proposed project study area or corridor. There is no known occurrence of a rare, state, or federally-protected terrestrial species within the proposed transportation study area or corridor.

Aquatic Species, Rare and Federally Protected Species – No impact to the project is anticipated. There is no known occurrence of a rare, state, or federally-protected aquatic species within the project study area or corridor.

Preliminary Hazardous Substances/Geology

Pyritic Rock/Geotechnical – No project impact is anticipated. Pyritic rock is not known to occur in the study area/corridor or project does not involve excavation.

Caves – No project impact is anticipated as there are no caves in the project study area or corridor.

Preliminary Hazardous Materials and Hazardous Substance Sites – No project impact is anticipated as there are no known contaminated land tracts abutting or within the project study area or corridor.

Preliminary Parks, Public Lands, and Railroads

Tennessee Natural Areas Programs – No impact on the project in anticipated as the project study area or corridor does not include a Natural Area.

Tennessee Wildlife Management Area (WMA) – No project impact is anticipated as a WMA does not abut nor is located within the project study area or corridor.

Parks – No impact on the project is anticipated as there are no parks located within or abutting the project study area or corridor.

Railroads – No impact on the project is anticipated. There are no railroads located within the project study area or corridor.

As of the publication of this document, the GIS data within each layer was up to date and relevant to date of its publication. This data will be updated as part of the ongoing project development process. A complete listing of EES data is contained in Appendix B of this study. Within the 4,000 foot corridor, 0.78 acres of wetlands were identified within the EES. Using the National Wetland Inventory it was identified that the wetland is a freshwater pond near the beginning of the study corridor, but no impacts to this wetland are expected. The only other item identified with the EES was the presence of linguistically isolated populations. Overall, improvements to the study corridor should have relatively small environmental impacts or complications.

7.0 ASSESSMENT OF OPTIONS

TDOT's Seven Guiding Principles

The Tennessee Department of Transportation has adopted seven (7) 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 options discussed in this report.

Guiding Principle 1: Preserve and Manage the Existing Transportation System

Addressing the safety and operational needs of SR 131 will improve the overall transportation system in the region by providing the infrastructure to adequately address the movement of people and goods. This improved arterial between SR 162 (Pellissippi Pkwy.) and SR 169 (Middlebrook Pk.) will enhance the overall transportation system in the region and provide a more efficient and safer route for roadway users. According to the analysis of forecasted traffic volumes, the capacity of the existing roadway is not adequate within the study limits. The widening of the roadway facility along the existing alignment will provide the needed increase in capacity while utilizing the existing transportation system and minimizing impacts. Additionally, the overall planned corridor stretching from Interstate 40/75 at Lovell Road west of Knoxville to Interstate 75 at Callahan Road will provide an additional corridor to serve regional traffic and an alternate route for vehicles traveling along Interstate 75.

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

The corridor improvement option in this report will improve operations as well as increase capacity. An improved SR 131 will allow for improved travel speeds and better maneuverability allowing for the passing of slower moving vehicles. The ultimate corridor will be important to the surrounding communities and provides regional mobility and economic opportunities for both residents and industry. The five (5) lane roadway section with bike lanes and sidewalks will allow for significantly improved accommodations for pedestrians and bicyclists.

Guiding Principle 3: Support the State's Economy

The land use surrounding the study corridor is mostly residential in nature with sporadic commercial areas adjacent to the study corridor. The combined improvements to this study segment of Lovell Road, Ball Camp Pike, and Schaad Road will result in a significant arterial corridor connecting: Interstate 40/75 at Lovell Road, SR 162 (Pellissippi Pkwy.), SR 169 (Middlebrook Pk.), SR 62 (Oak Ridge Hwy.), SR 9 (Clinton Hwy), and Interstate 75 at Callahan Road.

Guiding Principle 4: Maximize Safety and Security

During the four (4) year period from 2006-2009, there were three (3) incapacitating injury crashes and forty-four (42) non-incapacitating injury crashes. The five (5) lane

roadway section would provide for safe passing of slower vehicles, better accommodation of bicyclists and pedestrians, and a center turn lane which allows for left turning vehicles to be removed from the travel lanes. Each of these aspects of the five (5) lane roadway will result in safer roadway operations. Additionally, the current reconstruction of the Schaeffer Road intersection and the recent construction of the SR 169 (Middlebrook Pk.) intersection will promote a reduced crash rate.

Guiding Principle 5: Build Partnerships for Livable Communities

TDOT's Long Range Transportation Plan promotes and encourages projects that have public and community support. This project study, originated by the Knoxville Regional TPO was identified as a need for the region and is supported by local public officials. As this project advances, the 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

In preparation of Transportation Planning Reports (TPR), the Tennessee Department of Transportation (TDOT) has introduced an early environmental screening (EES) process for the project study area. By screening the latest available environmental data during the early stages of project planning, TDOT and the resource and permitting agencies will be better prepared to anticipate potential environmental issues and mitigation requirements. The environmental data reviewed within the EES include:

- Archaeological/Historic Architecture – Historic properties and cemetery sites;
- Community Impacts – Sensitive community populations
- Ecology – Scenic waterways, natural areas, large wetlands, protected species;
- Hazardous Substances/Geology – Hazardous substance sites, pyritic rock/geotechnical, caves; and,
- Parks & Public Land – parks (federal/state/local), public lands/buildings, railroads, wildlife management areas.

Further environmental studies will be required if state and/or federal funds are planned for the proposed project. If such funds are involved, a document consistent with the National Environmental Policy Act (NEPA) will be required.

Several areas within the study corridor should be considered for avoidance or minimized impacts. These areas include; but are not limited to, streams, schools, and churches. The recommended improvement option is along the existing roadway alignment, which generally has less impact than constructing on a new location.

Guiding Principle 7: Promote Financial Responsibility

It is important to improve the existing infrastructure within the State of Tennessee as necessary while minimizing costs to the taxpayers. The implementation of the recommended improvement option in conjunction with the adjacent proposed improvements along SR 131 as well as improvements to Ball Camp Pike and Schaad Road will result in a maximum savings in travel time and serving traffic demand. The

connecting of similar capacity roadways would allow for the best utilization of the entire roadway corridor.

8.0 SUMMARY

Future improvements to the existing SR 131 corridor are necessary to address the local and regional needs of the area by providing additional capacity, enhancing operational characteristics, and providing for alternative modes of transportation. A roadway widening corridor improvement will provide an enhanced facility for users that best fits within TDOT's guiding principles, promotes financial responsiveness, improves safety, preserves the existing transportation system, and provides infrastructure improvements that will support potential economic development.

The following option was considered, but is not recommended at this time.

Option 1: No-Build Option: $0

This option does not support the project's stated purpose and need for increased roadway capacity, providing for alternative modes of transportation, and contributing to an overall corridor improvement plan. This option was reviewed, but is not recommended.

The following option is recommended for the roadway segment improvements.

Option 2: Five (5) Lane Facility $9,082,000

This option considers the widening of the existing roadway along its current alignment to a five (5) lane curb and gutter roadway section with two (2) twelve foot (12') travel lanes in each direction, one (1) twelve foot (12') center turn lane, four foot (4') bike lanes, and seven foot (7') sidewalks on both sides of the roadway. This option supports the project's stated purpose and need for increased roadway capacity, providing for alternative modes of transportation, and contributing to an overall corridor improvement plan.

Table 8.1 – Option 2 Cost Estimate Summary

ITEM	COST	
	Low Total	**High Total**
Right-of-Way Acquisition	$1,200,000	$1,200,000
Utility Relocations	$1,122,000	$1,518,000
Construction	$5,070,000	$6,860,000
Preliminary Engineering (10%)	$507,000	$686,000
Total*	**$7,899,000**	**$10,264,000**

*For estimating future project cost, a compounded inflation rate of 10% per year will be applied from the date of this estimate.

APPENDIX - A

KNOXVILLE REGIONAL TPO TPR REQUEST

KNOXVILLE REGIONAL TPO TRANSPORTATION PLANNING ORGANIZATION

MEMORANDUM

TO: Steve Allen, Director, TDOT Project Planning Division

CC: Cindy Pionke, Director of Planning and Development, Knox County Engineering and Public Works

FROM: Jeff Welch, Director, Knoxville Regional TPO

DATE: March 5, 2010

SUBJECT: Transportation Planning Report Request for Lovell Road (SR 131) from east of Schaeffer Road to Middlebrook Pike (SR 169).

Introduction
This request for a Transportation Planning Report (TPR) is being submitted to the TDOT Project Planning Division by the Knoxville Regional TPO on behalf of Knox County. Lovell Road (SR 131) from Schaeffer Road to Middlebrook Pike (SR 169) is included as Project C and listed in Appendix B of the FY2010 Unified Planning Work Program as a project planned for funding of a TPR by TDOT. Proposed improvements to this roadway segment have been programmed in the second horizon year (2015 - 2024) of the Knoxville Regional TPO's adopted Long Range Transportation Plan.

Termini
Lovell Road from near the intersection of Schaeffer Road to the intersection of Middlebrook Pike.

Length of Segment
Approximately 1.5 miles

Location Map
Attached as Figure 1

State Route Number and Locally Used Road Name
State Route 131 – Lovell Road

Long Range Plan/TIP Project Numbers and Horizon Year
The long range transportation plan project number is #637 with a horizon year of 2015 - 2024. This project is not listed in the current FY 2008 – 2011 TIP.

Purpose and Need
The primary purpose and need for a TPR is to assess the existing conditions of this section of Lovell Road and to evaluate options for addressing identified deficiencies. This segment represents the final leg of Lovell Road improvements as other sections have either been already improved or are currently under construction as a multi-lane facility. In addition, this segment would tie into other existing and future corridor improvements extending to the northeast over to I-75.

- **Project Status** – Attached is a map (Figure 2) showing the status of projects that have been implemented and are proposed along Lovell Road as well as the other roadways comprising the proposed continuous multi-lane roadway corridor concept noted above. Below is more information about each project based on the numerical label shown on the attached map:

    1. Lovell Road from Kingston Pike (SR 1) to Gilbert Road (north of I-40) was widened to a 5-lane cross section several years ago. A major reconstruction of the interchange with I-40 was also completed in this section.
    2. Lovell Road from Gilbert Road to Schaeffer Road is currently under construction to widen a 2-lane section to a 5-lane section with a continuous center turn lane, bike lanes and sidewalks. The actual construction limits go 1000' feet east of Schaeffer Road before it ties back into the existing 2-lane section at Cedardale Lane.
    3. Lovell Road from east of Schaeffer Road to Middlebrook Pike is the segment being requested for analysis with this TPR request. It should also be noted that approximately 1000' of Lovell Road was previously realigned to tie into the intersection with Ball Camp Pike at Middlebrook Pike (SR 169) as part of another project.
    4. Ball Camp Pike/Ball Road from Middlebrook Pike (SR 169) to Oak Ridge Highway (SR 62) is proposed for widening as well as construction of a significant portion of 4-lane median divided roadway on new alignment (shown with the dashed line). Approximately 1.5 miles of new roadway has been constructed at the eastern end of this corridor (known as the Schaad Road Extension) and the rest of the project is awaiting additional funding for construction (all right-of-way has been purchased). This project is being locally funded and managed by the Knox County Department of Engineering & Public Works.
    5. Schaad Road from Oak Ridge Highway (SR 62) to Pleasant Ridge Road is proposed to be widened to a 4-lane median divided roadway in the Long Range Transportation Plan; however no funding has been identified. This roadway lies within the jurisdictions of both the City of Knoxville as well as Knox County.
    6. Callahan Drive/Schaad Road from Pleasant Ridge Road to I-75 was widened to a 4-lane median divided roadway approximately 5 years ago.

- **Traffic Counts and Capacity** – Lovell Road carried an AADT of 11,974 vehicles per day along this segment in 2009 based on TDOT Count Station #85. This traffic volume is at or near capacity for this segment as discussed further in the next section on Roadway Deficiencies.

- **Roadway Deficiencies** – This section of Lovell Road is characterized by the TDOT TRIMS database as having 1-ft. shoulders on each side and 22-ft of total pavement width for 2 travel lanes. Given the above noted traffic volume and the fact that there are no left turn lanes through this section of Lovell Road there are poor levels of service and significant traffic

congestion, particularly in the peak hours. Additionally, there are safety issues primarily due to the lack of shoulders and turn lanes. This section of Lovell Road has been identified as a congested corridor in the Knoxville TPO's Congestion Management Process, and it was also identified for needing improvement under both existing and future conditions in Knox County's 2000 Strategic Transportation Plan Update.

- **Social Demands** – Lovell Road is located in the Northwest County Sector of Knox County, which has been the fastest growing in terms of total residential and commercial building permits since the year 2000. This is one of the 12 geographic sectors that the Knoxville/Knox County Metropolitan Planning Commission uses for planning purposes in Knox County. Lovell Road is classified as an Urban Minor Arterial and provides primary access to and between principal arterials such as Pellissippi Parkway (SR 162), Interstate 140 and Interstate 40 that provide regional connectivity and access to major employment areas.

- **Other Information** – TDOT's draft I-75 Corridor Study report has identified this section of Lovell Road for widening in order to serve as parallel route capacity along with the other segments previously discussed. This recommendation is based on the fact that the I-40/I-75 corridor through west and north Knox County has limited room to expand without major encroachment on surrounding businesses and property owners. Therefore, routes such as Lovell Road can provide additional corridor capacity, particularly for local traffic or in case of a major incident requiring a detour.

Local Agency Contact Persons

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  Email – mike.conger@knoxtrans.org

Conclusion

The TPR should evaluate the need for additional travel lanes, median, bike lanes, and sidewalks to accommodate the current and future demands of the community on Lovell Road (SR 131). The Knoxville Regional TPO on behalf of Knox County is requesting a TPR for this section of roadway.

Figure 1 - Location Map of Lovell Road (SR 131) TPR Request From Schaeffer Road to Middlebrook Pike (SR 169)

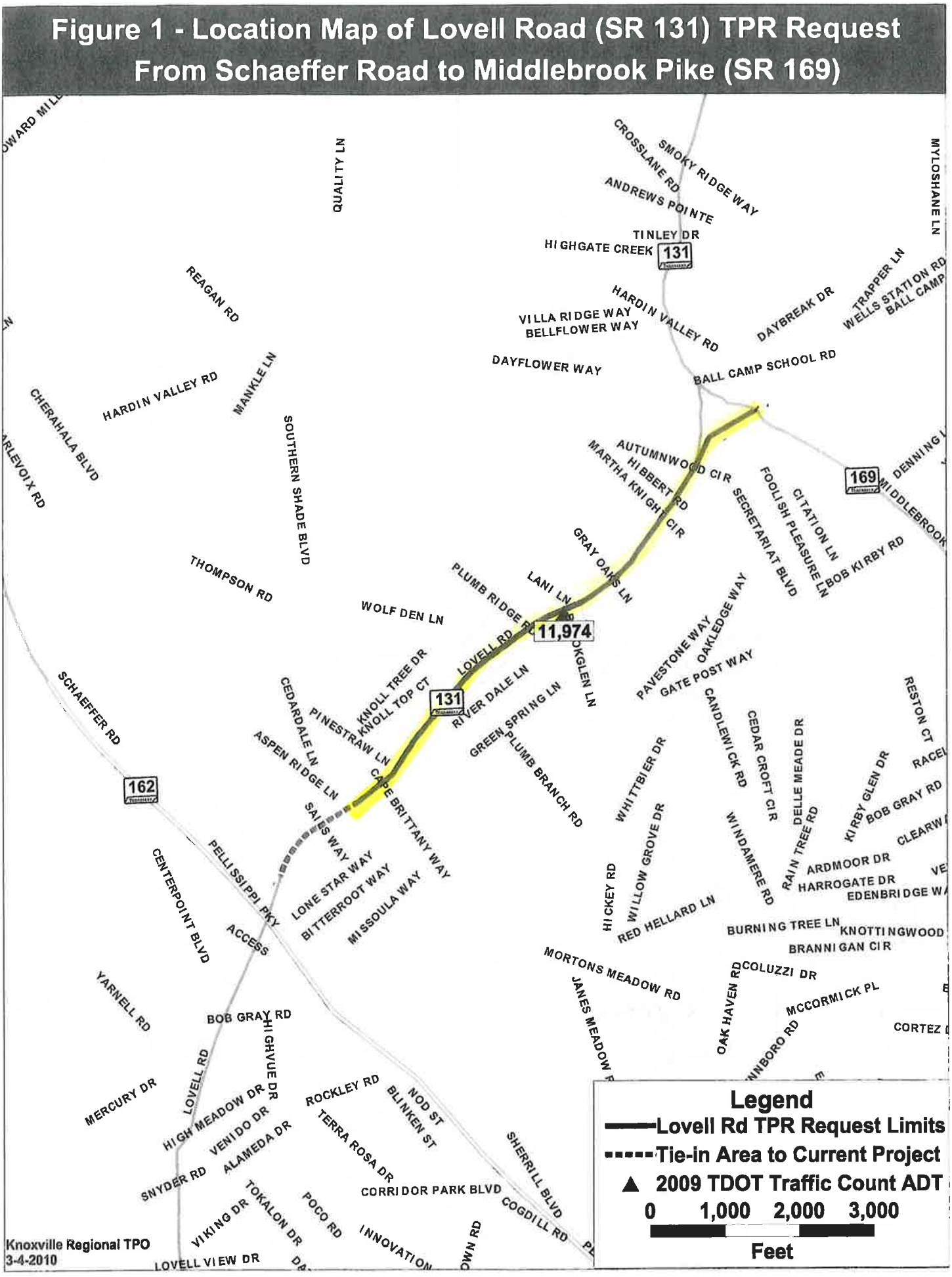
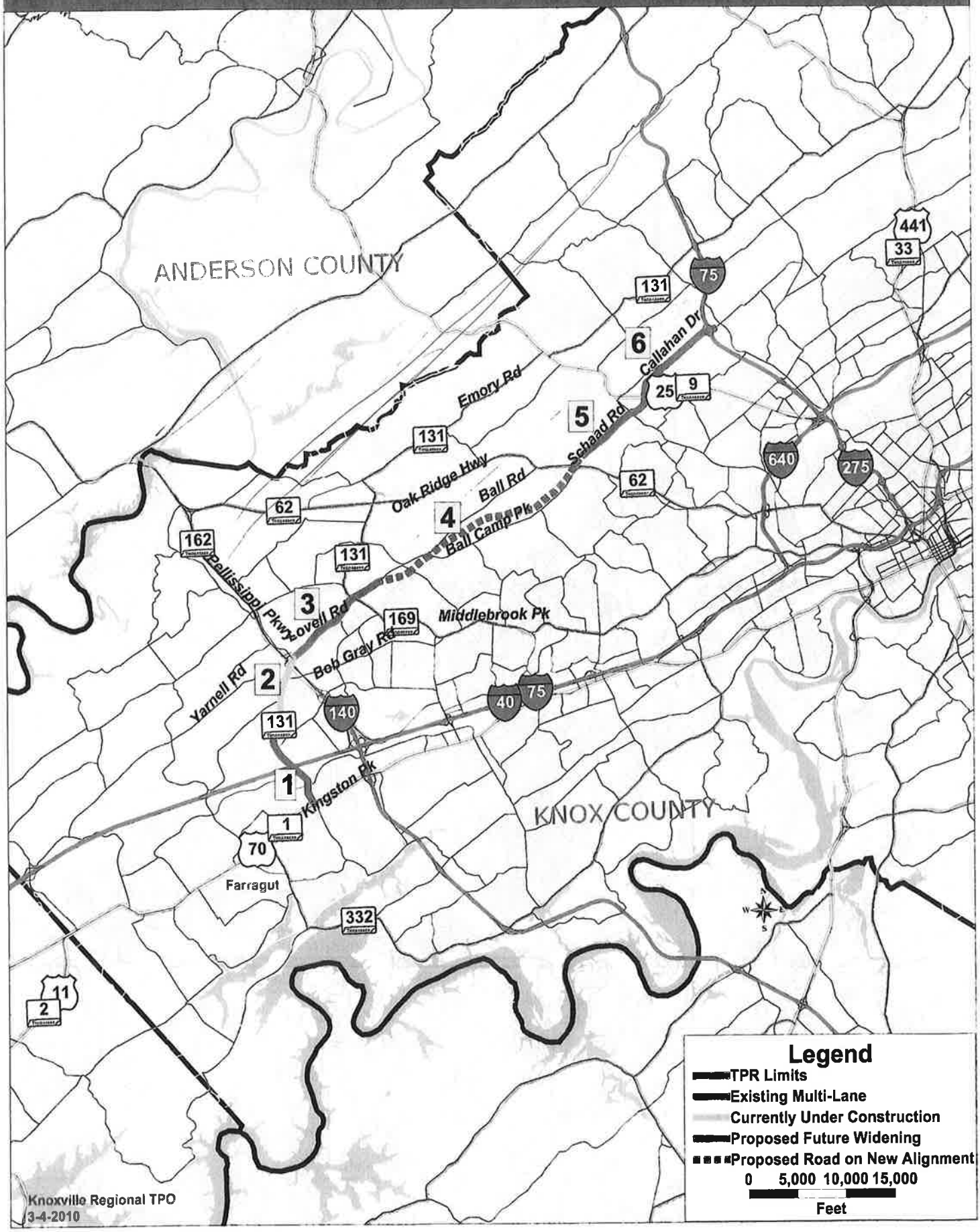
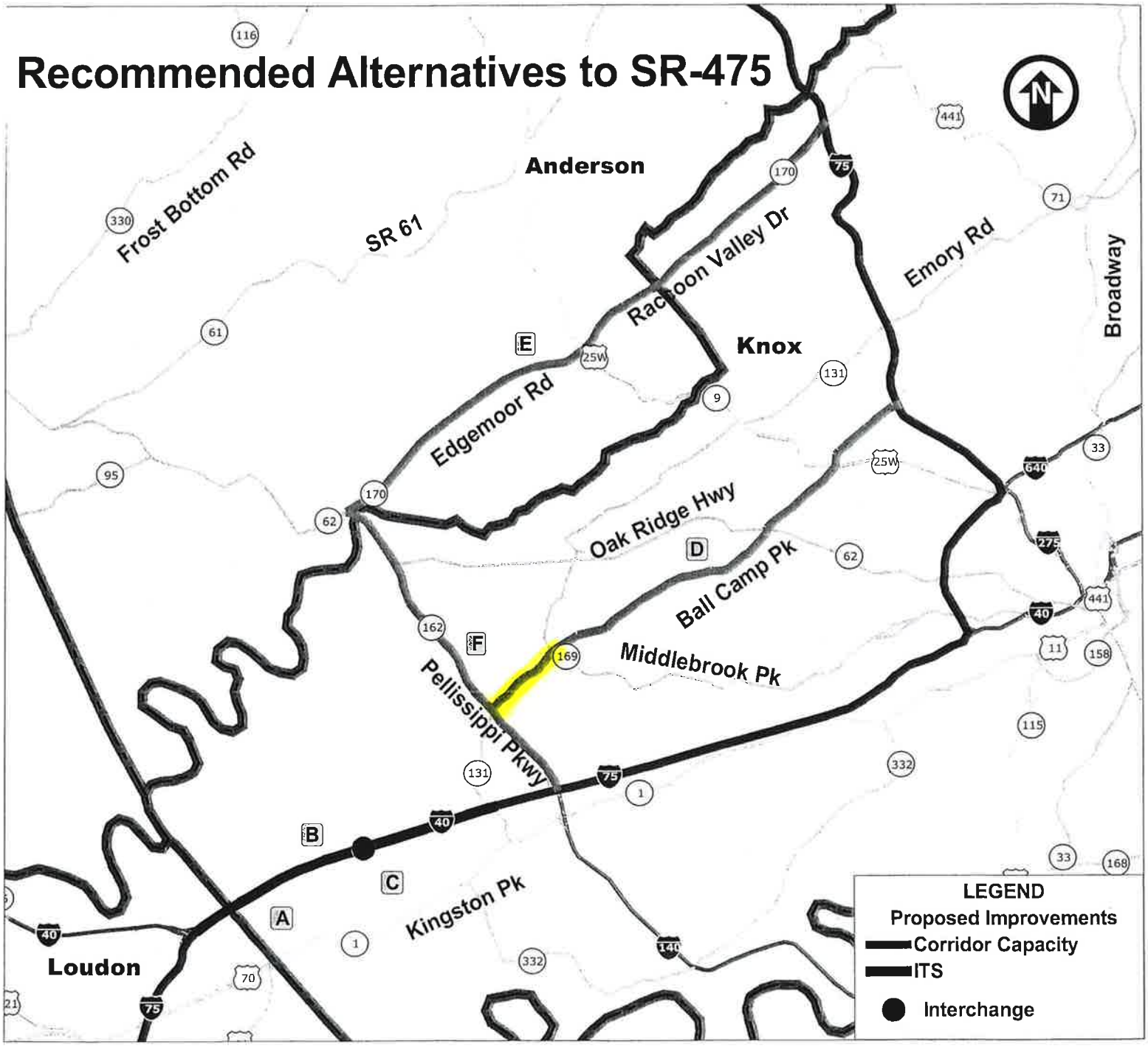


Figure 2 - Project Status Map for Lovell Road Corridor




Recommended Alternatives to SR-475
Anderson
Knox
Loudon
Frost Bottom Rd
SR 61
Raccoon Valley Dr
Emory Rd
Broadway
Edgemoor Rd
Oak Ridge Hwy
Ball Camp Pk
Middlebrook Pk
Pellissippi Pkwy
Kingston Pk
A
B
C
D
E
F
LEGEND
Proposed Improvements
Corridor Capacity
ITS
Interchange

APPENDIX - B

EARLY ENVIRONMENTAL SCREENING DATA

EES Report

PIN 114540.00
1,000 Foot Corridor

Option: 114540_4701V01
Version Date: September 28, 201(
Created by: JONATHAN ROGERS

Cemetery Sites & Cemetery Properties

Cemeteries	None were found
Cemetery Property	None were found

Institutions & Sensitive Community Populations

Institutions	None were found
Populations:	
No population present	None were found
65 & older populations	None were found
Disability populations	None were found
Households without a vehicle	None were found
Minority populuations 24%	None were found
Linguistically isolated populations	Present
Populations below poverty-State average-13%	None were found
Populations below poverty-State average-27%	None were found

Bat

None were found

Railroads

None were found

EES Report

PIN 114540.00
2,000 Foot Corridor

Option: 114540_4701V01
Version Date: September 28, 2010
Created by: JONATHAN ROGERS

National Register Sites	None were found
Superfund Sites	None were found
Pyritic Rock	None were found
TWRA Lakes & Other Public Lands	
TWRA Lakes	None were found
Other Public Lands	None were found

EES Report

PIN 114540.00
4,000 Foot Corridor

Option: 114540_4701V01
Version Date: September 28, 2010
Created by: JONATHAN ROGERS

Terrestrial Species — None were found

TDEC Conservation Sites & TDEC Scenic Waterways

TDEC Conservation Sites — None were found

TDEC Scenic Waterways — None were found

Large Wetland Impacts — **Total Acerage**= 0.78

POWHh 0.78 acres

Tennessee Natural Areas Program — None were found

Wildlife Management Areas — None were found

EES Report

PIN 114540.00

10,000 Foot Corridor

Option: 114540_4701V01

Version Date: September 28, 2010

Created by: JONATHAN ROGERS

Aquatic Species	None were found
Caves	None were found

APPENDIX - C

COST ESTIMATE DATA

Route:	**SR-131 (Lovell Road)**
Description:	**Transportation Planning Report**
	From Schaeffer Rd. to Middlebrook Pk. (SR-169)
County:	**Knox County**
Length:	**1.75 Miles**
Date:	**11/15/2010**

RIGHT-OF-WAY	(± 5 ACRES)		
	RIGHT-OF-WAY COSTS	**$**	**1,200,000**
UTILITY RELOCATION			
	UTILITY COSTS		**1,320,000**
CONSTRUCTION			
CLEAR AND GRUBBING		**$**	80,000
EARTHWORK		**$**	356,000
PAVEMENT REMOVAL		**$**	60,000
DRAINAGE		**$**	1,265,000
STRUCTURES		**$**	0
ISLANDS, CURBS, & SIDEWALKS		**$**	533,000
PAVING		**$**	1,953,000
MAINTENANCE OF TRAFFIC		**$**	40,000
TOPSOIL, SEEDING, & SOD		**$**	77,000
SIGNING & STRIPING		**$**	47,000
LIGHTING		**$**	0
SIGNALIZATION		**$**	0
FENCE		**$**	0
GUARDRAIL		**$**	0
RIP RAP OR SLOPE PROTECTION		**$**	15,000
OTHER CONST. ITEMS (15%)		**$**	664,000
MOBILIZATION		**$**	333,000
	CONSTRUCTION COST	**$**	**5,423,000**
	10% ENG. & CONT.	**$**	542,000
	TOTAL CONSTRUCTION COST	**$**	**5,965,000**
	10% PRELIMINARY ENGINEERING	**$**	597,000
	TOTAL COST *	**$**	**9,082,000**

**** For estimating future project costs, a compounded inflation rate of 10% per year will be applied from the date of this estimate.***

SR-131 (LOVELL RD.)
FROM SCHAEFFER RD. TO SR-169 (MIDDLEBROOK PK.)
DETAILED COST ESTIMATE

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
--------	**CLEARING AND GRUBBING**			**$80,000**	
201-01	Clearing and Grubbing	LS	1	$80,000	$80,000
--------	**EARTHWORK**			**$356,000**	
203-01	Road and Drainage Excavation	C.Y.	88,889	$4	$356,000
--------	**PAVEMENT REMOVAL**			**$60,000**	
202-03.01	Removal of Asphalt Pavement	S.Y.	20,000	$3	$60,000
415-01.02	Cold Planing of Bituminous Pavement	S.Y.	0	$2	$0
604-10.51	Scarifying	S.Y.	0	$4	$0
--------	**DRAINAGE**			**$1,265,000**	
604-02.01	Class A Concrete (Box Bridges)	C.Y.	94	$400	$38,000
604-02.02	Steel Bar Reinforcement (Box Bridges)	LB.	19464	$1	$19,000
607-03.02	18" Concrete Pipe Culvert	L.F.	0	$40	$0
607-05.02	24" Concrete Pipe Culvert	L.F.	5000	$50	$250,000
607-06.02	30" Concrete Pipe Culvert	L.F.	5,000	$70	$350,000
607-07.02	36" Concrete Pipe Culvert	L.F.	5,000	$90	$450,000
607-39.02	18" Pipe Culvert (Sidedrain)	L.F.	0	$30	$0
607-39.03	24" Pipe Culvert (Sidedrain)	L.F.	0	$35	$0
611-07.01	Class A Concrete (Pipe Endwalls)	C.Y.	0	$600	$0
611-07.02	Steel Bar Reinforcement (Pipe Endwalls)	LB.	0	$2	$0
611-07.03	Structural Steel (Pipe Endwalls)	LB.	0	$3	$0
611-12.01	Catch Basins, Type 12, 0'-4' Depth	EACH	60	$2,000	$120,000
611-12.02	Catch Basins, Type 12, 4'-8' Depth	EACH	15	$2,500	$38,000
--------	**STRUCTURES**			**$0**	
N/A	Estimated Bridge Cost	S.F.	0	$150	$0
--------	**ISLANDS, CURBS, & SIDEWALKS**			**$533,000**	
502-04.02	Load Transfer Dowels	EACH	1500	$10	$15,000
604-01.02	Steel Bar Reinforcement (Roadway)	LB.	4,000	$1	$4,000
701-01.01	Concrete Sidewalk (4")	S.F.	112,000	$3	$336,000
701-02.03	Concrete Handicap Ramp	S.F.	24	$11	$0
701-03	Concrete Median Pavement	C.Y.	0	$250	$0
702-01	Concrete Curb	C.Y.	0	$350	$0
702-03	Concrete Combined Curb & Gutter	C.Y.	896	$220	$197,000
--------	**PAVING**			**$1,953,000**	
303-01	Mineral Aggregate, Ty A Base, Grading D	TON	34,460	$15	$517,000
307-01.01	Asp. Conc Mix (PG64-22) Gr A	TON	10,542	$60	$633,000
307-03.08	Asphalt Conc Mix (PG76-22) Gr B-M2	TON	6,906	$60	$414,000
411-01.10	ACS Mix (PG64-22) Grading D	TON	4,858	$80	$389,000
411-01.10	ACS Mix (PG64-22) Grading D	TON	0	$80	$0
--------	**MAINTENANCE OF TRAFFIC**			**$40,000**	
712-01	Traffic Control	LS	1	$40,000	$40,000
--------	**TOPSOIL, SEEDING, & SOD**			**$77,000**	
203-04	Placing and Spreading Topsoil	C.Y.	5,926	$4	$24,000
801-01	Seeding (With Mulch)	Unit	0	$30	$0
803-01	Sodding (New Sod)	S.Y.	17,778	$3	$53,000

SR-131 (LOVELL RD.)
FROM SCHAEFFER RD. TO SR-169 (MIDDLEBROOK PK.)
DETAILED COST ESTIMATE

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
--------	**SIGNING & STRIPING**			**$47,000**	
713-02.14	Flexible Delineator (White)	EACH	0	$40	$0
713-02.15	Flexible Delineator (Yellow)	EACH	0	$40	$0
713-16.20	Signs (Special)	EACH	0	$1,500	$0
713-16.20	Signs	EACH	25	$400	$10,000
713-16.20	Signs	EACH	0	$200	$0
716-01.11	Raised Pvmt Markers (Bi Directional) (1 Color)	EACH	200	$25	$5,000
716-01.12	Raised Pvmt Markers (Mono-Directional) (1 Color)	EACH	200	$20	$4,000
716-01.21	Snwplwble Pvmt Mrkrs (Bi-Dir) (1 Color)	EACH	0	$75	$0
716-01.22	Snwplwble Pvmt Mrkrs (Mono-Dir) (1 Color)	EACH	0	$70	$0
716-02.04	Plastic Pavement Marking (Chnz Striping)	S.Y.	0	$20	$0
716-02.05	Plastic Pavement Marking (Stop Line)	L.F.	200	$15	$3,000
716-02.06	Plastic Pavement Mkg (Turn Lane Arrow)	EACH	20	$175	$3,500
716-03.01	Plastic Word Pvmt Marking (Only)	EACH	0	$200	$0
716-03.03	Plastic Word Pvmt Marking (Stop Ahead)	EACH	0	$400	$0
716-04.01	Plastic Pvmt Mkg (Straight - Turn Arrow)	EACH	0	$200	$0
716-04.02	Plastic Pvmt Mkg (Double Turn Arrow)	EACH	0	$200	$0
716-04.05	Plastic Pavement Mkg (Straight Arrow)	EACH	5	$150	$800
716-04.12	Plastic Pavement Mkg (Yield Line)	EACH	0	$20	$0
716-11.01	Spry Thermo Pavement Marking (4" Line)	L.M.	12	$1,700	$20,400
716-11.03	Spry Thermo Pavement Marking (6" Line)	L.M.	0	$2,500	$0
--------	**LIGHTING**			**$0**	
714-08.09	Light Standards	EACH	0	$2,500	$0
714-08.44	Found for Light Standards (Roadway)	EACH	0	$750	$0
714-09.03	Luminaires (250 Watt)	EACH	0	$600	$0
714-09.04	Luminaires (400 Watt)	EACH	0	$750	$0
--------	**SIGNALIZATION**			**$0**	
730-01	Traffic Signals	LS	0	$125,000	$0
--------	**FENCE**			**$0**	
707-01.01	Chain-Link Fence (4-Foot)	L.F.	0	$11	$0
707-03.01	Stock Fence	L.F.	0	$5	$0
--------	**GUARDRAIL**			**$0**	
705-01.01	Guardrail at Bridge Ends	L.F.	0	$65	$0
705-02.02	Single Guardrail (Type 2)	L.F.	0	$20	$0
705-03.02	Median Divider Guardrail (Type 2)	L.F.	0	$25	$0
705-04.02	Guardrail Terminal (Type 12)	EACH	0	$500	$0
705-04.03	Guardrail Terminal (Type 13)	EACH	0	$600	$0
705-04.04	Guardrail Terminal (Type 21)	EACH	0	$2,000	$0
705-04.07	Tan Energy Absg Term (NCHRP 350, TL3)	EACH	0	$2,500	$0
--------	**RIPRAP OR SLOPE PROTECTION**			**$15,000**	
709-05.06	Machined Rip-Rap (Class A-1)	TON	486	$30	$15,000
709-05.08	Machined Rip-Rap (Class B)	TON	0	$30	$0
709-05.09	Machined Rip-Rap (Class C)	TON	0	$30	$0

APPENDIX - D

COORDINATION AND MINUTES

Clinard Engineering Associates, LLC
INFRASTRUCTURE • PLANNING • DESIGN

Clinard Engineering Associates, LLC
109 Westpark Drive, Suite 440
Brentwood, Tennessee 37027
Tel: 615.370.6079 Fax: 615.627.4066
clinardengineering.com

MEMORANDUM

DATE: October 19, 2010

FROM: Chris Berry E.I., Clinard Engineering Associates, LLC

RE: Field Review for Transportation Planning Report
State Route 131 (Lovell Rd.) from Schaeffer Rd. to State Route 169 (Middlebrook Pk.)
L.M. 3.14 to L.M. 4.89
Knox County

A field review will be held for the project on ***Friday, November 5, 2010***. We will meet at the Conoco/Bread Box gas station at the southern termini of the study segment (See address and map on following page) at 9:00 AM (EST). If you have any questions, please feel free to call me. (Cell phone: 423-284-6741)

ATTENDEE LIST

TDOT Planning	
Gena Gilliam	Gena.Gilliam@tn.gov
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TDOT Environmental	
Suzanne Herron	Suzanne.Herron@tn.gov
Tom Love	Tom.Love@tn.gov
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FHWA	
Leigh Ann Tribble	LeighAnn.Tribble@dot.gov

Clinard Engineering Associates, LLC
INFRASTRUCTURE • PLANNING • DESIGN

Transportation Planning Report
State Route 131 (Lovell Rd.)
From Schaeffer Rd. to State Route 169 (Middlebrook Pk.)
Knox County
Meeting Minutes

ISSUE VERSION: DRAFT

MEETING NO.: **1**
DATE: **11/5/10**
TIME: **9:00 am**
LOCATION: **On-Site**

SUBJECT: **TPR – State Route 131 (Lovell Rd.)**

Prepared by: **Chris Berry, E.I.**
cberry@clinardengineering.com

Approved by: **Tom Clinard, P.E.**
tclinard@clinardengineering.com

Date Prepared: **11/5/10**

Attendee Names / Agency

Gena Gilliam – TDOT Project Planning
Paul Lane – TDOT NEPA and Conceptual Planning
Terrance Hill – TDOT Long Range Planning
Paul Beebe – TDOT Region 1 Design
Jeff Turner – TDOT Region 1 Design
Fay Danker – TDOT Region 1 Right-of-Way
Tom Lindquist – TDOT Region 1 Right-of-Way
Nathan Benditz – Knoxville Regional TPO
John Sexton – Knox County
Chris Berry – Clinard Engineering Associates
Tom Clinard – Clinard Engineering Associates

Copies To: File

The following items presented summarize the substantive items discussed or issues resolved at the above meeting to the best of the writer's memory.

ITEM	DESCRIPTION	STATUS	OPENED	CLOSED	ACTION
01	**Review of Informational Packet** The field review was conducted on-site at the Schaeffer Rd. intersection termini of the TPR study corridor. The informational packet included maps showing the limits of the study as well as a topographical map which shows multiple blue line streams crossing the study corridor. An additional map was provided to show the location of the TDOT historical traffic count station with the roadway study segment. A portion of the KRTPO long range plan project map was provided with a description of the current study segment and other planned project related to the current TPR study segment. The KRTPO request for the TPR was included, which details the current status of the related planned projects. It was discussed that the current TPR study segment is a portion of an overall continuous improved corridor stretching from the Lovell Rd. interchange at Interstate 40/75 to the Callahan Dr. interchange at Interstate 75 along Lovell Rd., Ball Camp Pike, Schaad Rd., and Callahan Dr. Lovell Rd. from Kingston Pk. to Gilbert Rd. has already been widened to a 5-lane cross section with sidewalks. Lovell Rd. from Gilbert Rd. to Schaeffer Road is current under construction to be widened to a 5-lane cross section with bike lanes and sidewalks. The current TPR study is from Schaeffer Rd. to SR-169 (Middlebrook Pk.). The next section is Ball Camp Pk. from SR-169 (Middlebrook Pk.) to SR-62 (Oak Ridge Hwy.). R.O.W. has already been purchased for this section, but is waiting for construction funding by Knox County. Schaad Rd. from SR-62 (Oak Ridge Hwy.) to Pleasant Ridge Rd. is proposed to be widened to a 4-lane median divided roadway in the Long Range Transportation Plan. The concluding segment of Callahan Dr./Schaad Rd. from Pleasant Ridge Rd. to Interstate 75 has already been widened to a 4-lane median divided roadway. The TPR study segment has been identified as a congested corridor in KRTPO's Congestion Management Process. Additionally, the KRTPO has indicated that the surrounding area of Knox County has been the fastest growing sector since the year 2000 in terms of total building permits. Once the corridor is completed it would provide regional connectivity and an interstate detour route in the occurrence of a major incident along the Interstate facilities.	FYI			
02	**Review of the TPR Segment** Large aerial layouts were presented, showing the existing roadway, limits of the current construction adjacent to the study segment, side road locations, major utility locations, streams, and approximate existing right-of-way. Additionally, an approximate roadway width was shown along the existing alignment in order to have an idea of the extents of impacts. The following points were made: • The current construction of roadway improvements along Lovell Rd. extend beyond the Schaeffer Rd. study termini, approximately to Cedardale Lane. A diagram was provided of the typical section being construction, which requires 92' of R.O.W. and consists of five (5) twelve foot (12') travel lanes, four foot (4') bike lanes, and five foot (5') sidewalks. • Additionally, the current construction project will realign the Schaeffer Rd. intersection with	FYI			

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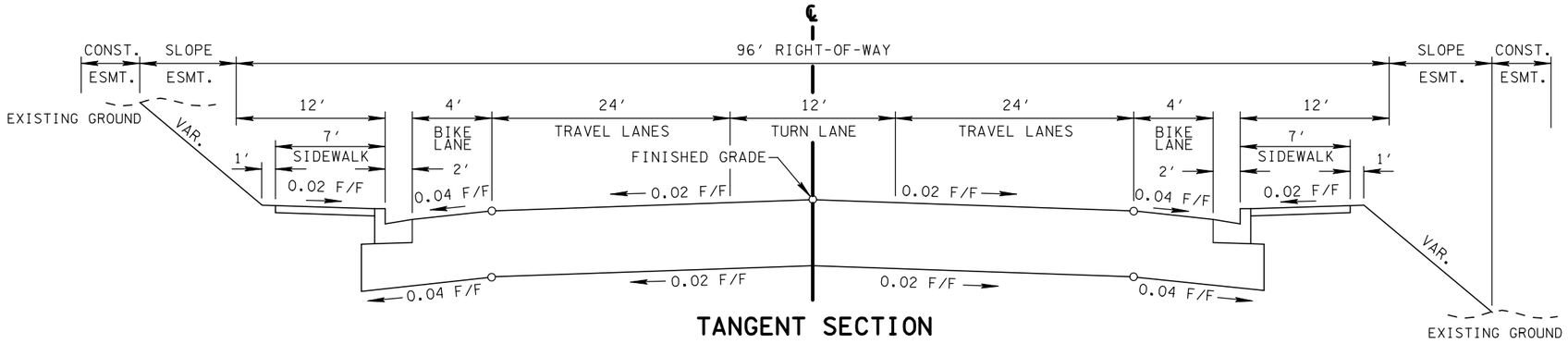
ITEM	DESCRIPTION	STATUS	OPENED	CLOSED	ACTION
	SR-131 (Lovell Rd.); therefore, this terminus intersection should not need improvements. • The locations of New Vision Church, a utility pad, a major gas pipeline, John Deere Landscapes, the West Knox Utility District, existing box culverts, and Ball Camp Elementary School were identified on the layouts. • The study terminus at the intersection with SR-169 (Middlebrook Pk.) was recently improved and should not need improvements. • The crash history along the study segment was discussed, noting that 67 of the 146 crashes occurred at the terminal intersections of which one has been recently improved and the other is currently being improved. Additionally, it was noted that no large groupings of crashes were at any of the minor side roads between the terminal intersections. Based on the low volumes and lack of crashes at the unimproved side road intersections, no spot improvements will be included within the TPR.				
03	**Following Discussion:** • There are no known proposed greenways running along the study segment of SR-131 (Lovell Rd.), but there is a proposed greenway along Plum Creek which would cross the study segment near the terminus at SR-169 (Middlebrook Pk.). • It was mentioned that Knox County has had some discussion about trying to get a wider than 5' sidewalk in the section currently being constructed. It was indicated that since our study segment is highly residential and numerous properties have direct access off of SR-131 (Lovell Rd.), that either a grass strip between the curb and gutter or an extra wide sidewalk may be preferred to allow for the placement of mailboxes and still have sufficient useable sidewalk width. There was concern about the maintenance of a grass strip vs. just providing extra sidewalk width. Providing 7' sidewalks would result in a 96' wide R.O.W. as opposed to the adjacent segment's 92' wide R.O.W. It was noted that very few residences were present in the adjacent segment as opposed to the primarily residential nature of the TPR study segment. • No major industries are present or anticipated within the study corridor area. • The KRTPO was going to provide a map of the Knoxville Urban Growth Boundary to see if any portion of the study segment is located within the urban boundary. • There was discussion of the fact that the TPR study segment is not in the current TIP for funding and whether or not it would be added to the current TIP once the study was completed. It was noted that the environmental document would not proceed until funding was secured. Nathan Benditz of the KRTPO indicated that he did not think that it would be moved into the current TIP, but believed it would be in the next upcoming TIP.	FYI			

APPENDIX - E

CORRIDOR LAYOUT SHEETS

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

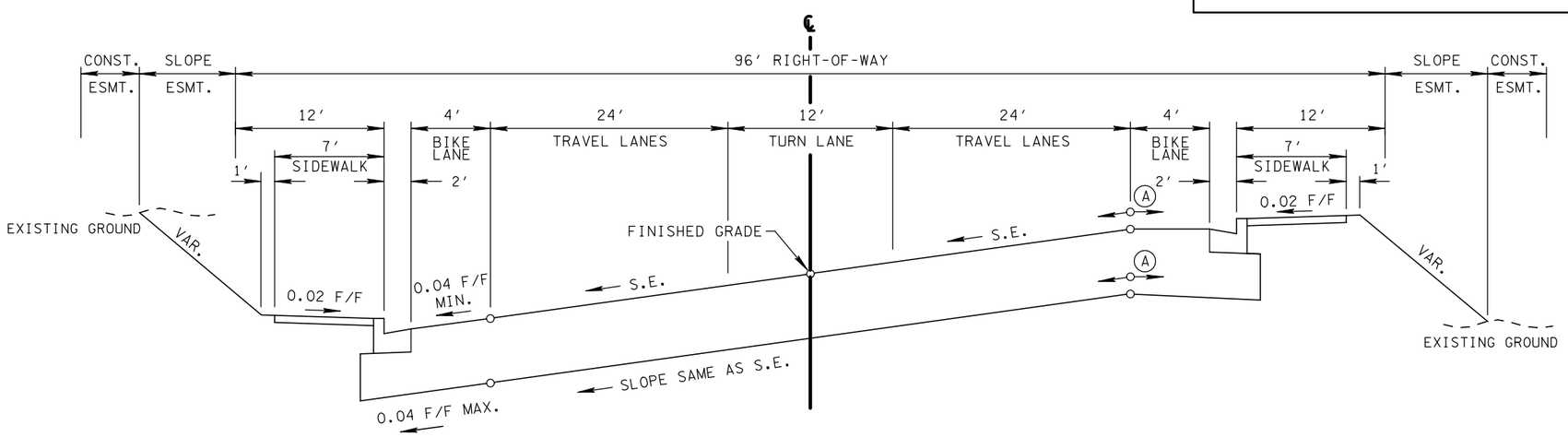
TYPE	YEAR	PROJECT NO.	SHEET NO.
TPR	2010		1



TANGENT SECTION

(BASED ON STD. DWG. RD-TS-6)

Ⓐ THE SLOPES OF THE SHOULDER AND ROADWAY PAVEMENT SHALL NOT EXCEED AN ALGEBRAIC DIFFERENCE OF 0.07.



SUPERELEVATED SECTION

(BASED ON STD. DWG. RD-TS-6)

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

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

TYPE	YEAR	PROJECT NO.	SHEET NO.
TPR	2010		2

BEGIN STUDY CORRIDOR

STATE ROUTE 162
PELLISSIPPI PKWY

BURGER KING

EXISTING R.O.W.

SCHAEFFER RD
L.M. 3.18

SR-131 (LOVELL RD)

EXISTING R.O.W.

CEDARDALE LN
L.M. 3.46

EXISTING R.O.W.

500' CORRIDOR

HUDDLE HOUSE

CONOCO

PARKWAY STORAGE

SAILS WAY
L.M. 3.33

CAPE BRITTANY WAY
L.M. 3.32

STATE ROUTE 162
PELLISSIPPI PKWY

MATCHLINE SEE FIGURE 2

N

0 100 200 300
SCALE: 1" = 200'

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

FIGURE 1
AERIAL

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

TYPE	YEAR	PROJECT NO.	SHEET NO.
TPR	2010		3

N

0 100 200 300

SCALE: 1" = 200'

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

FIGURE 2
AERIAL

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

TYPE	YEAR	PROJECT NO.	SHEET NO.
TPR	2010		4

MATCHLINE SEE FIGURE 2

MATCHLINE SEE FIGURE 4

LANI LANE
L.M. 4.17

GRAY OAKS LN
L.M. 4.31

BOMBAY LN
L.M. 4.38

HIBBERT LN
L.M. 4.58

EXISTING R.O.W.

SR-131 (LOVELL RD)

EXISTING R.O.W.

JOHN DEERE
LANDSCAPES

500' CORRIDOR

BROOKMILL RD
L.M. 4.23

HICKEY RD
L.M. 4.38

N

0 100 200 300
SCALE: 1" = 200'

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

FIGURE 3
AERIAL

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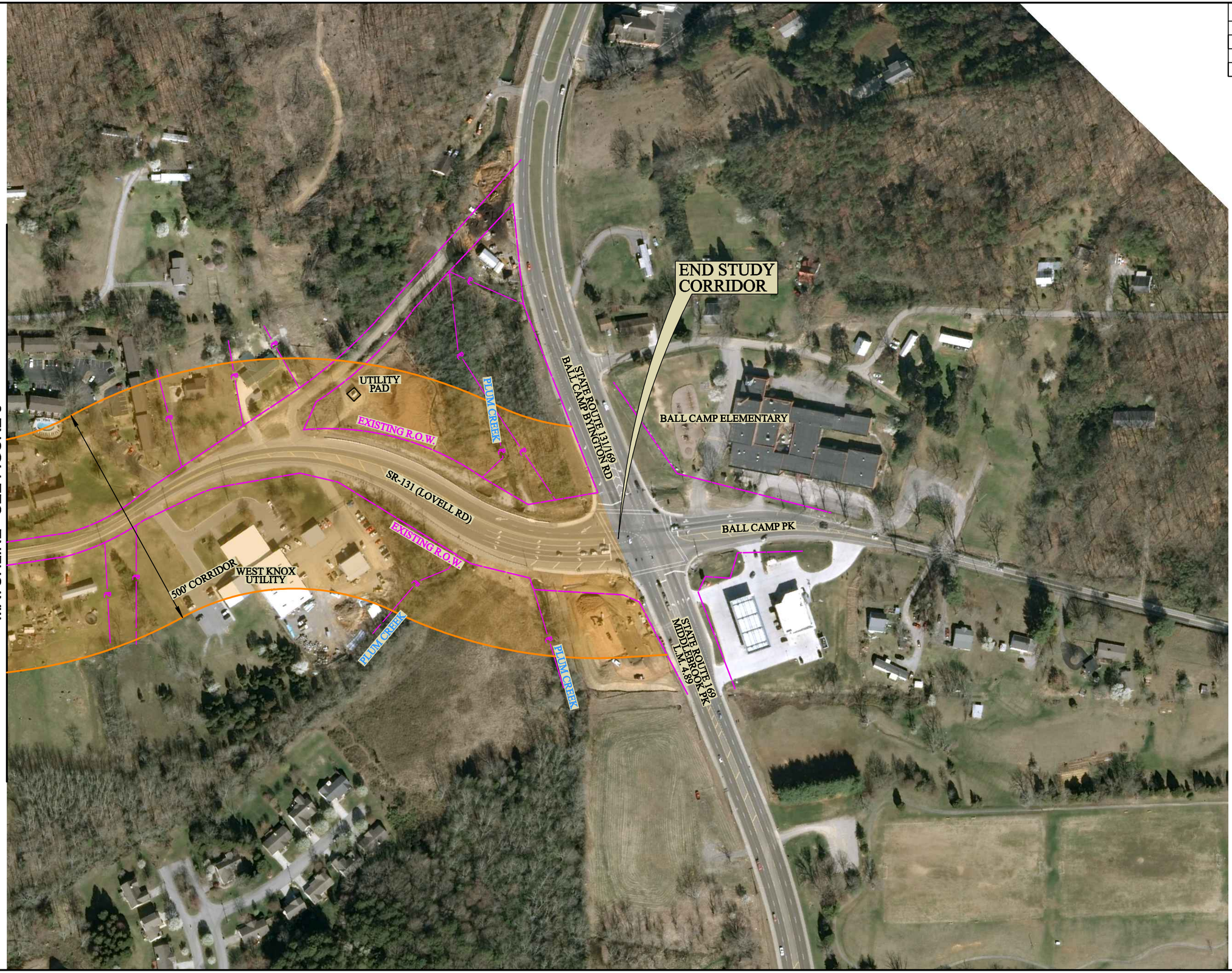
TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
TPR	2010		5



N

0 100 200 300

SCALE: 1" = 200'

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

FIGURE 4
AERIAL

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