

## **PURPOSE AND NEED (CONCURRENCE POINT 1)**

### **NEW CANADA ROAD PROJECT FROM STATE ROUTE 1 (U.S. HIGHWAY 70) TO U.S. INTERSTATE 40**

#### **Project Description**

The primary purpose of this project is to improve the major road connection between SR-1 and I-40 for enhanced regional and local transportation mobility. The proposed project is located in northeast Shelby County in the City of Lakeland and within the Memphis Metropolitan Area. The project location is shown on Figure 1. The proposed project involves providing a 4-lane divided roadway through the corridor. The typical section would provide two (2) 11' min. traffic lanes in each direction through the residential corridor, and two (2) 12' min. traffic lanes in each direction through the commercial corridor. Provisions will be made for bicyclists according to TDOT policy. The typical section would include a 14' minimum width raised landscaped median, curb/gutter and a 10' bicycle/pedestrian path on both sides of the road. The minimum right-of-way (ROW) width for the 4-lane roadway with raised median section and 10' bicycle/pedestrian path would be 108' through the residential corridor, and 116' through the commercial corridor.

The proposed alignment and typical street section have been developed using the Context Sensitive Solution (CSS) process. The proposed project has evaluated the impacts of widening the existing route along the current alignment versus realigning portions of the route or utilizing a new alignment that ties to the existing alignment at the north and south project termini.

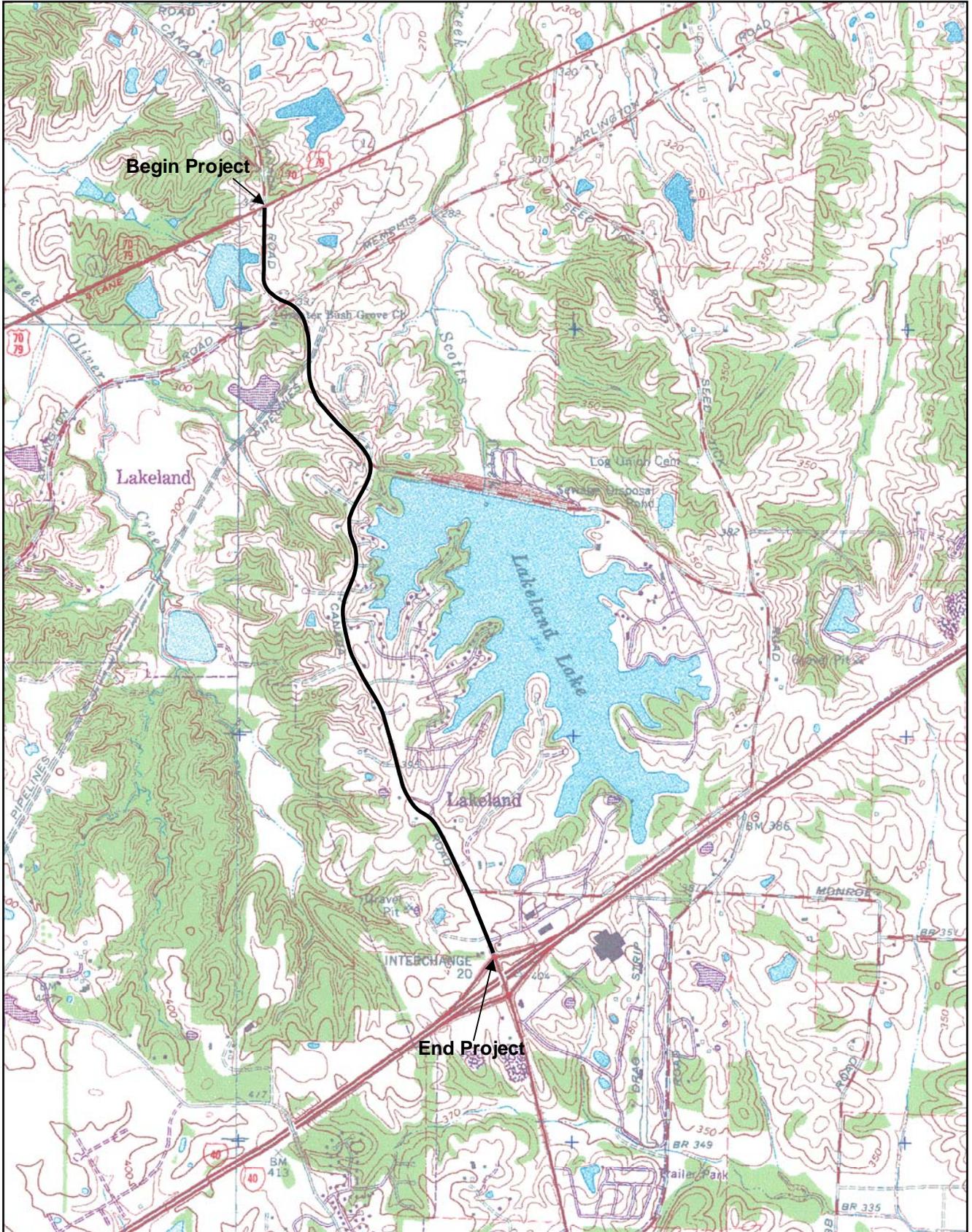
#### **Community Profile**

The City of Lakeland has a population of 10,848 as of 2007 which reflects an increase of 58% since the 2000 census. The portions of eastern Shelby County surrounding Lakeland have experienced similar growth and the area will continue to be one of the most desirable areas to reside. Canada Road is considered the gateway to the City of Lakeland.

#### **PURPOSE AND NEED:**

#### **Project Status**

This project was initiated at the request of the City of Lakeland, Tennessee. Lakeland, the Memphis/Shelby County Metropolitan Planning Organization (MPO), and Shelby County Government have collaborated throughout the development process to ensure that the transportation needs envisioned by the local community are coordinated. This Canada Road project from SR-1 to I-40 has been on the MPO Long Range Transportation Plan since 1980 and has been included in the MPO Transportation Improvement Program



**PROJECT LOCATION MAP**  
**CANADA ROAD**  
**LAKELAND, TENNESSEE**



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 Consulting Engineers & Scientists  
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DATE: 1999  
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 SCALE: 1:25,000

JOB NO. D7008-1

FIGURE

(TIP). The Context Sensitive Solution (CSS) has been followed during this project to further ensure that the local community's needs are incorporated into the project and will follow the provisions of the National Environmental Policy Act (NEPA) and the Tennessee Department of Transportation (TDOT) Guidelines. The CSS process is discussed further in section 4.0. The City of Lakeland has a TDOT approved contract to fund this project with 80% Surface Transportation Program (STP) funds and the City has selected the consultant for environmental/design.

Currently, plans to improve the I-40/Canada Road Interchange and to improve the Canada Road/SR-1 intersection are under development by the TDOT and the Federal Highway Administration. Canada Road from I-40 south to SR-15 (U.S. Highway 64) was recently improved to a 4 lane divided roadway to alleviate traffic congestion on this portion of the road. TDOT is also widening I-40 from 4-lanes to 6-lanes from State Route 15 (U.S. Highway 64) to State Route 385.

### **System Linkage**

Canada Road is functionally classified as a major north-south arterial in the MPO's Long Range Transportation Plan providing a needed north-south link to the east part of Shelby County. Improving the level-of-service for this section of Canada Road will improve the vehicular mobility for City of Lakeland residents, eastern Shelby County residents and emergency services. The portion of Canada Road that is the subject of this Purpose and Need is connected to major east-west highways including SR-1, I-40, and SR-15. Canada Road becomes Houston Levee Road just south of SR-15. Houston Levee Road is a major north-south arterial that runs from SR-15 to the south part of Shelby County. Eventually, Houston Levee Road is planned to extend into DeSoto County, Mississippi. The next adjacent interchange to the west of the Canada Road and I-40 interchange is SR-15, which is approximately 2.4 miles away. The next interstate interchange to the east is SR-385 which is approximately 5.2 miles away.

### **Existing Conditions**

The existing route of Canada Road from just north of I-40 to SR-1 measures approximately 2.3 miles and the majority of the route is zoned residential or agricultural. The existing route consists of two 11' travel lanes, with no shoulders and a posted speed limit of 35 miles per hour. There is approximately 1,500 linear feet of sidewalk on the east side of Canada Road from just south of Leeward Slopes Drive to Green Spruce Drive; however it doesn't connect to the Commercial use area located just north of I-40. There are roadside ditches, relatively sharp drop-offs and residential yards immediately adjacent to the pavement edge along portions of the existing route. The existing route is shoulder deficient and fails to meet current design standards. The north end of the corridor is curvilinear and fails to meet stopping sight distance in a number of locations. Numerous residential lots access Canada Road along the north portions of the corridor causing the potential for numerous vehicular accidents due to on and off egress. Sight distance issues exist with many of the access points.

## **Traffic**

The existing Average Annual Daily Traffic (ADT) on Canada Road just north of I-40 is approximately 7,000 vehicles per day (vpd). In 2008, the City of Lakeland adopted its most current transportation plan based on the 2006 Comprehensive Land Use Plan and the updated 2007 Metropolitan Planning Organization Transportation Demand Model. The subarea travel demand model included an analysis of Canada Road between I-40 and SR-1 at full build out of the City of Lakeland. The 2008 Special Area Transportation Study completed by Kimley-Horn indicates that future AADT traffic volumes along Canada Road range from nearly 30,000 vpd adjacent to I-40 to nearly 21,000 vpd adjacent to SR-1. These traffic volumes are anticipated to occur at full build-out of the municipality. The 2008 Special Area Transportation Plan does not predict when full build-out will occur.

## **Level of Service**

The character of roadway's operating conditions can be quantified by a "Level of Service" (LOS) analysis. The LOS analysis incorporates several factors including traffic volumes, number of lanes, terrain, directional split, heavy vehicles, and shoulder widths.

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 related to this report as found in the Highway Capacity Manual are as follows:

### LOS Traffic Flow Conditions

<b>LOS</b>		<b>Description</b>
Acceptable	A	Free-flow traffic operations at average travel speeds. Vehicles completely unimpeded in ability to maneuver. Minimal delay at signalized intersections.
	B	Reasonably unimpeded traffic operations at average travel speeds. Vehicle maneuverability slightly restricted. Low traffic delays.
	C	Stable traffic operations. Lane changes becoming more restricted. Travel speeds reduced to half of average free flow travel speeds. Longer intersection delays.
Unacceptable	D	Small increases in traffic flow can cause increased delays. Delays likely attributable to increase traffic, reduced signal progression and adverse timing.
	E	Significant delays. Travel speeds reduced to one third of average free flow travel speed.

	F	Extremely low speeds. Intersection congestion. Long delays. Extensive traffic queues at intersections.
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The level of service (LOS) on Canada Road, based on 7,000 AADT, is “C” for a two-lane roadway. The LOS for the forecasted 21,000 to 30,000 AADT (Lakeland full build-out) is “E” for the “no build” alternative and “C” for a four lane cross-section alternative. Although the existing LOS of “C” is indicative of flow with speeds at or near free flow speeds, that is not actually the case during peak hours due to a large number of turns onto side streets and private drives which add to traffic congestion that is not accounted for in the LOS analysis.

**Transportation Demand**

The Canada Road project is included in the current MPO Transportation Improvement Program (TIP) and 2008 Long Range Transportation Plan as an “Existing Plus Committed Project”. The City of Lakeland entered into a contract with TDOT for Environmental Assessment of the corridor in spring 2008. The Federal Highway Administration has concurred with this initial contract scope of work.

**Social And Economic Conditions**

Canada Road is the only major north-south arterial that runs through the City of Lakeland and provides connectivity with north and south Shelby County and access to I-40. The residential property along this portion of Canada Road is approximately 50% built out and the “mixed use center” is approximately 50% built out. This leaves a significant number of sites available for future residential locations and commercial locations, which would lead to economic growth for the City of Lakeland. Widening improvements to the existing route or an alternative route would provide greater ease of access to existing properties and improved quality of life for the residents immediately adjacent to the existing route.

**Land Use**

Lakeland is located in east Shelby County and is undergoing rapid growth, as are most of the suburbs outside the greater Memphis metropolitan area. The main land use along the portion of Canada Road from I-40 to SR-1 is zoned for “Suburban Neighborhood” which primarily consists of single-family residential lots. The southern portion of the route is zoned for both “Mixed Use Center” and “Residential Support Center” which consists of neighborhood commercial uses.

**Modal Relationships**

Canada Road is a major north-south route with interstate access that connects to SR-1, I-40 and SR-15.

## **Safety**

Over the last three years the average accident rate for this 2.3-mile portion of Canada Road is 23 accidents per year. The two reasons listed for the majority of the accidents reported were “failure to maintain control” and “failure to keep on road”. Due to the lack of shoulders there is very little opportunity for recovery of an errant vehicle. Site distance issues do exist with many of the private drive and residential street access points. The proposed widening or alternative route should improve sight distances and add shoulders and/or curb with buffer area to allow for recovery of errant vehicles.

As previously mentioned, the majority of this portion of Canada Road runs through a residential area and there is no pedestrian/bicycle path connectivity from the “Suburban Neighborhood” land use to the “Mixed Use Center” located just north of I-40. Sidewalks and bicycle provisions will improve the safety for pedestrians and bicyclists’ and will provide connectivity to the “Mixed Use Center”.

**Tennessee Environmental Streamlining Agreement (TESA)  
Concurrence Document for Concurrence Point 1**

**Purpose and Need and Study Area  
for  
New Canada Road Project  
From State Route 1 (U.S. Highway 70) to U.S. Interstate 40**

The Tennessee Department of Transportation has submitted for your review and concurrence summary information for the new alignment of Canada Road project including a preliminary Purpose and Need Statement and a description and mapping of the proposed Study Area. Once you have had a chance to review the enclosed documents, please sign this form to indicate your concurrence.

Please return the signed form to Mr. Joe Matlock at the address below within 45 days of the date of this letter (*January 4, 2010*):

Mr. Joe Matlock  
Transportation Planner, Region IV  
NEPA Document Office  
Environmental Division TDOT  
Suite 900 – James K. Polk Building  
505 Deadrick Street  
Nashville, Tennessee 37243-0334

[Joe.Matlock@state.tn.us](mailto:Joe.Matlock@state.tn.us)

If you do not concur with the information provided or need additional time to review it, please contact Mr. Joe Matlock in writing prior to the end of the 45-day review period indicating your reasoning for nonconcurrence and/or your request for a review time extension. As outlined in the TESA agreement, TDOT will assume you concur with the information provided for your review if no response is received.

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**This agency feels all provisions of the Tennessee Environmental Streamlining Agreement for Concurrence Point 1 for the above referenced project have been satisfied.**

**Agency:** \_\_\_\_\_

**Concurrence:** \_\_\_\_\_  
(Name and Title)

**Date:** \_\_\_\_\_