Executive Summary

Corridor K
SR 40 (US 64) from west of the Ocoee River to SR 68 Near Ducktown
Polk County

Existing Transportation Conditions

Corridor K in Polk County (US 64/US 74/SR 40) from west of the Ocoee River to the SR 68 interchange near Ducktown is primarily a 2-lane road with 12-foot lanes and variable width shoulders (2 to 12 foot) through the Ocoee River Gorge. One mile west of the Ocoee Whitewater Center, the road is a 4-lane divided facility before transitioning back to a 2-lane typical section with passing lanes for the final six miles. There is one designated pedestrian and bicycle path running behind an existing barrier just south of US 64 between National Forest System Road (NFSR) 45 (Gassaway Creek Rd) and the Ocoee Whitewater Center. Within the project study area US 64 transitions from a 4-lane section with flush median to the west and to a 4-lane with depressed median section to the east.

Purpose and Need

The purpose of the proposed project is to implement a safe, reliable, and efficient east–west transportation route that will improve regional transportation linkages and preserve environmental quality. It is also to support local, regional, and state plans, land use, transportation goals and to support economic development in the Southeastern region of Tennessee.

The project is needed to correct roadway deficiencies, improve safety and system linkage, and to provide opportunity for economic development. Due to topographic and natural constraints, US 64 from just west of the Ocoee River crossing to SR 68 does not satisfy appropriate design standards. The current roadway is lacking in its horizontal alignment, shoulder widths, sight distance around curves, and guardrail placement. Rockslides along the current route cause notable travel time delays due to a lack of convenient detour routes. The route is unique in that it is used by a mixture of commercial, recreational, and commuter traffic. In summer months, pedestrians and boaters often walk and park along the road. Pedestrians and parked vehicles slow traffic on the only east-west arterial in the region and increase safety concerns. Economic development along Corridor K would benefit from transportation improvements.

Options Considered

Ten options were evaluated: two options are based on improvements to existing US 64, one for the entire length and one for spot improvements throughout the corridor; three options are all on new location north of the Ocoee River; two corridors all on new location to the south; and two options combine new location corridors to the north in combination with improvements to existing US 64. The No Build option is also considered. The project begins 0.2 miles west of the existing Ocoee River crossing and ends at the 4-lane section of US 64 near the SR 68 interchange near Ducktown.

<u>Option 1 – No Build</u>

No improvements made to US 64. Estimated cost: maintenance.

Option 2 – Improvements to Existing US 64

Option 2 is a 500 foot corridor that runs along the north side of the existing US 64 alignment. Improvements for the entire project length would be made with standard typical section and some areas with new location construction or widening with a minimum design speed of 50 miles per hour (mph) to eliminate existing curves below a posted speed of 45 mph. Some bridges would be widened or replaced. One location within the corridor could have a tunnel which would eliminate a series of curves. The estimated cost is $304,563,000 for a 2-lane section; $497,794,000 for a 4-lane section.

Option 2A – Spot Improvements to Existing US 64

Option 2A is similar to Option 2 but would only involve improvements to select areas along US 64 to improve the mobility and safety of the existing route. Twenty locations have been identified for potential improvements with the elimination of sharp curves, shoulder widening on roads and bridges, and new location construction, including the tunnel location also in Option 2. This option would maintain most of the existing alignment and typical section. The estimated cost is $198,884,000.

Option 3 — Northern Corridor N-4

Option 3 is a 2,000 foot corridor on nearly all on new location north of the Ocoee River. It is the furthest north option, running north of Little Frog Mountain into the Hiwassee River watershed. It crosses SR 68 north of Ducktown. This option also includes a tunnel. The estimated cost is $826,527,000 for a 2-lane section; $1,289,515,000 for a 4-lane section.

Option 4 – Northern Corridor N-5

Option 4 is a 2,000 foot corridor on new location north of the Ocoee River. It is similar to Option 5 with a more northern corridor segment at a higher elevation above Parksville Lake. It runs south of Little Frog Mountain and generally follows US 64 east of the Ocoee Whitewater Center. The estimated cost is $373,776,000 for a 2-lane section; $673,986,000 for a 4-lane section.

Option 5 – Northern Corridor N-6

Option 5 is a 2,000 foot corridor on new location north of the Ocoee River. It shares all corridor segments with Option 4 except for one to the north of Parksville Lake, which is lower in elevation and includes some of the existing US 64 alignment to the west of SR 30. The estimated cost is $370,115,000 for a 2-lane section; $638,970,000 for a 4-lane section.

Option 6 – Southern Corridor S-5

Option 6 is a 2,000 foot corridor on new location south of the Ocoee River. It begins west of Parksville Lake and runs through the Ocoee Bear Reserve south of the lake and river. It shares common corridor segments with Option 7 to the east and west. The estimated cost is $381,212,000 for a 2-lane section; $686,764,000 for a 4-lane section.

Option 7 – Southern Corridor S-6

Option 7 is another 2,000 foot corridor on new location south of the Ocoee River. It is similar to Option 6, only further to the south. The estimated cost is $389,840,000 for a 2-lane section; $743,795,000 for a 4-lane section.

For Options 6 and 7, given the stated purpose to support local, regional and state plans, potential encroachment of the Ocoee Black Bear Reserve merits further analysis and agency coordination.

Option 8 – Northern Corridor N-7

Option 8 combines parts of other options with the utilization of the 500 foot corridor along existing US 64 on the west and east sides of the Ocoee River Gorge like Option 2, and a 2,000 foot new location corridor to the north that follows parts of Option 4 at the higher elevation above the lake, and stays north of the gorge where it ties to the existing alignment just west of the Ocoee Whitewater Center. The existing alignment corridor would be improved to a 4-lane typical section and the new location corridor would be a 2-lane typical section. The estimated cost is $383,413,000.

Option 8A – Northern Corridor N-8

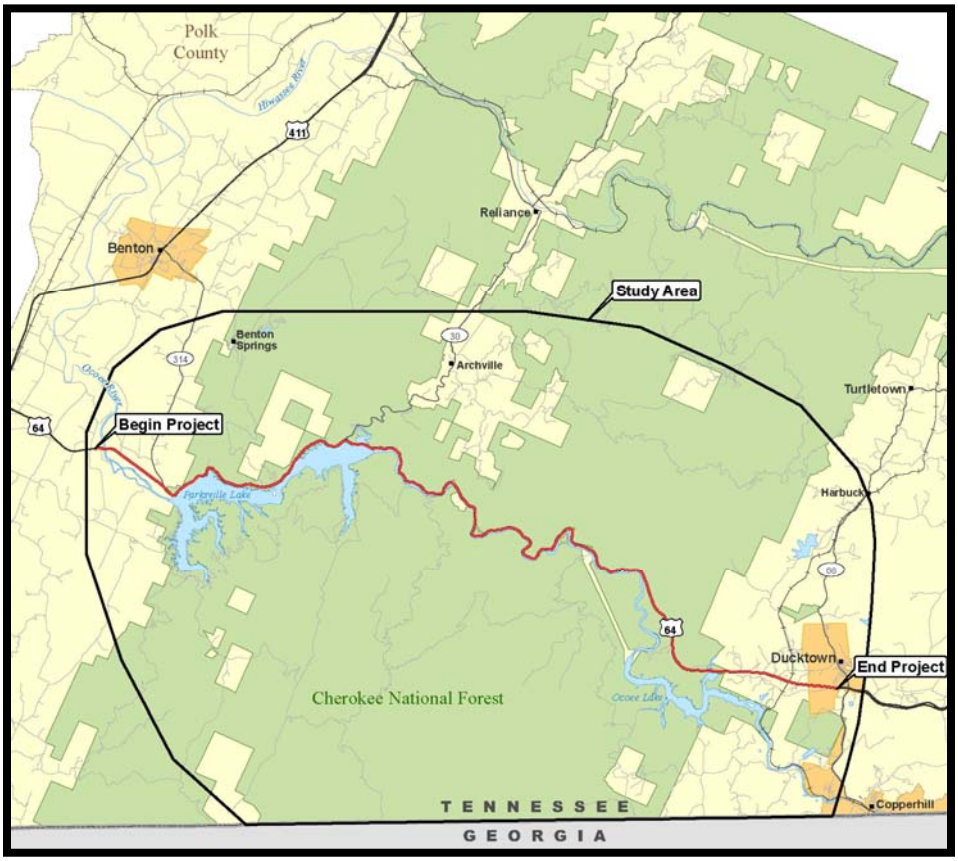
Option 8A is exactly like Option 8 except the 2,000 foot new location corridor north of Parksville Lake is similar to Option 5 at a lower elevation. It too utilizes much of the existing US 64 alignment to the east and west of the lake and gorge. The existing alignment corridor would be improved to a 4-lane typical section and the new location corridor would be a 2-lane typical section. The estimated cost is $379,109,000.

Summary

All build options except Option 2A - Spot Improvements meet the purpose and need to support the regional transportation goals of a safe, reliable and efficient east-west route which is critical to the project. The No Build Option does not meet the purpose and need.

Considered corridor options that satisfy all or portions of the purpose and need should be included as reasonable corridor alternatives in the Draft Environmental Impact Statement since these options support the regional transportation goals of a safe, reliable and efficient east-west route. Options satisfying critical elements of the stated purpose and need but only portions of the overall purpose and need merit future analysis of cost, environmental impact and context sensitive design solutions that facilitate flexibility in project decision making. All options considered in the TPR will be carried forward into the NEPA Review process.

Project Location Map



TRANSPORTATION PLANNING REPORT

Corridor K

SR 40 (US 64) FROM WEST OF THE OCOEE RIVER TO SR 68 NEAR DUCKTOWN
POLK COUNTY
PIN# 102420.00
Federal Project No. APD-NHE-40(15)

PREPARED BY
URS CORPORATION
For the
TENNESSEE DEPARTMENT OF TRANSPORTATION
PROJECT PLANNING DIVISION

Approved by:	Signature	Date
CHIEF OF ENVIRONMENT AND PLANNING		5-19-10
TRANSPORTATION DIRECTOR PROJECT PLANNING DIVISION		5-18-10
TRANSPORTATION MANAGER 2 PROJECT PLANNING DIVISION		5-18-10

Table of Contents

List of Tables

List of Figures

List of Appendices

1.0 PURPOSE OF THE TPR

The Transportation Planning Report (TPR) is part of the State of Tennessee's transportation planning process. It is intended to establish the immediate and long-term needs for the proposed Corridor K, and to assess how options under consideration at the time of this report fulfill the purpose and need of the project. This TPR documents the planning process (not the design process) that has been implemented for the proposed Corridor K.

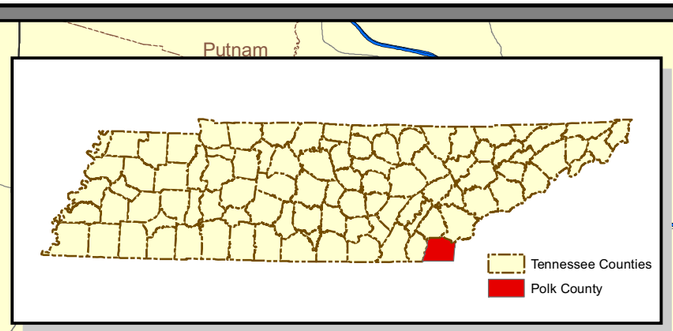
Study of the proposed Corridor K was initiated by the Appalachian Regional Commission (ARC) as part of the Appalachian Development Highway System (ADHS) and was included in the Appalachian Regional Development Act of 1965. The Tennessee Department of Transportation (TDOT) began studying areas of US 64 in Polk County in the 1970s. Since that time, several studies have been prepared by TDOT and ARC including a Draft Environmental Impact Statement (EIS) issued in 2003 for the proposed relocation of US 64 from west of the Ocoee River to State Route (SR) 68. That EIS was later rescinded.

Figure 1 shows the location of the proposed project. Figure 2 and 3 depict the project study area. The project study area is discussed in more detail in Section 2.2.

TDOT is taking a fresh look at the section of the proposed Corridor K from US 64 west of the Ocoee River to SR 68 near Ducktown that is particially based on the findings of the *Corridor K Economic Development and Transportation Study* (2008), which concluded there is an immediate and long-term economic development need for an improved east-west transportation corridor in the project region. Through the utilization of context sensitive principles, TDOT can better assess options that best fulfill the project's various needs such as enhanced safety and economic development.

The project needs identified in this report include improvements of roadway deficiencies, safety, system linkage, and enhanced economic development at both the local and regional levels.

NOTE: This report discusses impacts that are currently known or suspected. Other potential impacts may be discovered upon in-depth studies performed as part of the national Environmental Policy Act studies.



Putnam
Morgan
Anderson
Knox
Knoxville
Roane
Loudon
Sevier
Blount
Van Buren
Bledsoe
Rhea
Meigs
McMinn
Monroe
Sequatchie
Hamilton
Cleveland
Bradley
Marion
Chattanooga
Polk
Study Area
TENNESSEE
NORTH CAROLINA
GEORGIA
640
40
140
75
321
127
27
411
129
64
41
24
59

US 64 | CORRIDOR K
OCOEE RIVER GORGE SECTION

Legend

- Study Area
- Interstate
- Primary Road
- Secondary Road
- Tennessee Counties
- State Boundary

1:506,880
1 inch equals 8 miles
0 2 4 8 Miles

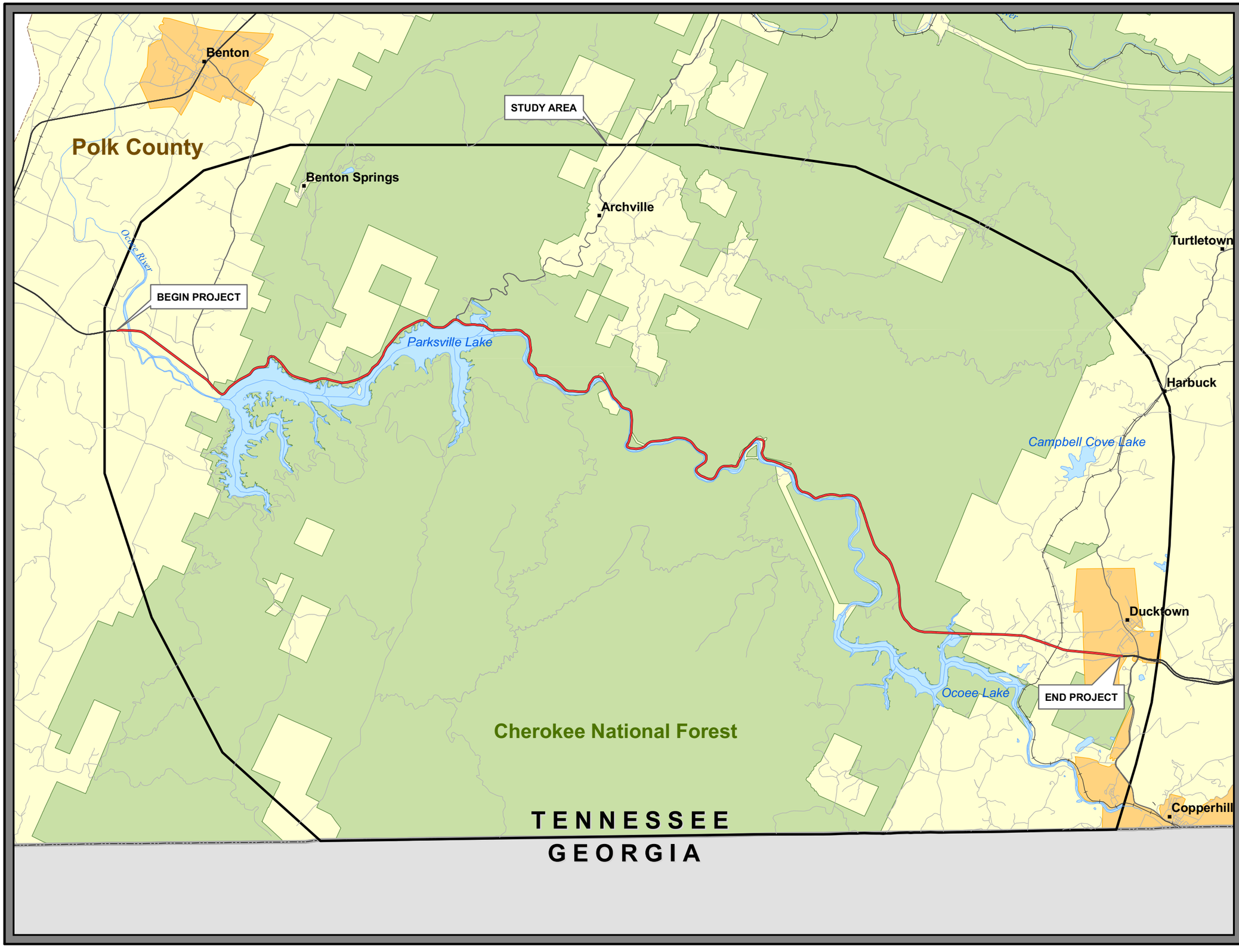
Source(s): Tele Atlas, ESRI, US Forest Service, and URS Corp.
Date: March 2010

TDOT

FIGURE 1
LOCATION MAP

CORRIDOR K

SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown
Polk County, Tennessee



US 64 CORRIDOR K

OCOEE RIVER GORGE SECTION

Legend

- City/Municipality/Town
- Existing US 64 Route of Interest
- Railroad
- Secondary Route
- Local Road
- River
- Waterbody
- Municipality
- Cherokee National Forest (Polk Co.)
- Polk County
- Project Study Area
- Project Study Area

1:95,040

1 inch equals 1.5 miles

0 0.5 1 2 Miles

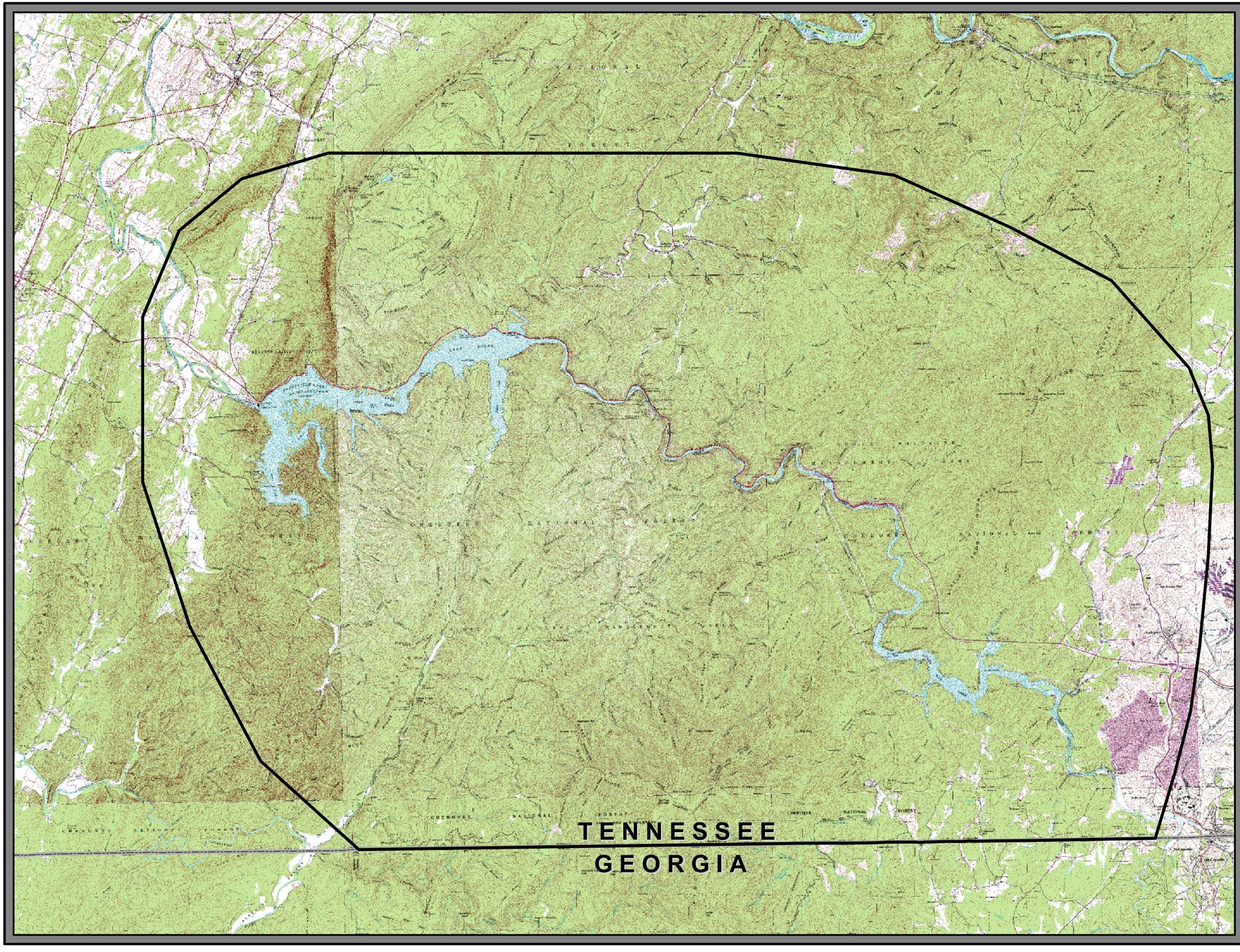
Source(s): Tele Atlas, ESRI, US Forest Service, and URS Corp.
Date: March 2010

TDOT Go.

FIGURE 2
PROJECT STUDY AREA

CORRIDOR K

SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown
Polk County, Tennessee



US 64 | CORRIDOR K

OCOEE RIVER GORGE SECTION

Legend

- Project Study Area
- State Boundary

1:95,040

1 inch equals 1.5 miles

0 0.5 1 2 Miles

Source(s): Tele Atlas, ESRI, US Forest Service, and URS Corp.
Date: March 2010

TDOT Go.

FIGURE 3
TOPOGRAPHY

CORRIDOR K

SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown
Polk County, Tennessee

2.0 PROJECT HISTORY AND BACKGROUND INFORMATION

2.1 PROJECT HISTORY

In 1964, the President's Appalachian Regional Commission (PARC) reported to Congress that economic growth in Appalachia would not be possible until the region's isolation had been overcome (Appalachian Regional Commission, 2004). The PARC report placed top priority on a modern highway system as the key to economic development. As a result, Congress authorized the development of the ARC which was charged with the task of constructing the ADHS through the Appalachian Regional Development Act of 1965. The ADHS was designed to generate economic development in previously isolated areas, supplement the Interstate system, connect Appalachia to the Interstate system, and provide access to areas within the region as well as to economic markets in the rest of the nation.

2.1.1 APPALACHIAN REGIONAL DEVELOPMENT ACT

Corridor K project was first introduced as one of 31 regional projects included in the Appalachian Regional Development Act (ARDA) of 1965. The purpose of the ARDA was to address isolated areas in the Appalachian region through transportation systems intended to encourage economic development. The Appalachian Regional Development Act of 1965 described the condition of the Appalachian region as follows:

"…while abundant in natural resources and rich in potential [the region] lags behind the rest of the Nation in its economic growth and that its people have not shared properly in the Nation's prosperity. The region's uneven past development, with its historical reliance on a few basic industries and a marginal agriculture, has failed to provide the economic base that is a vital pre-requisite for vigorous self-sustaining growth." (40 App USC 403).

The ARDA's primary objective was to improve the economic conditions of the Appalachian region through the following means: provide the infrastructure necessary for economic and human resource development; develop the region's industry; improve access of the region's businesses and to the technical and financial resources necessary for the development of these businesses. The Appalachian region consists of 410 counties in 13 Appalachian states (ARC, 2009).

Through the ARDA, Congress established the ARC (also in 1965) to foster and promote economic and social development. The ARC is a federal-state partnership that includes all of West Virginia and portions of 12 other states from Mississippi to New York.

According to the *ARC Strategic Plan*, for Appalachia to compete economically with communities across the nation, it must have a safe and efficient transportation system connecting it to national transportation networks. Because of its difficult terrain, Appalachia was largely bypassed by the Interstate system, leaving the region with a network of winding, two-lane roads, which present a major barrier to development (Appalachian Regional Commission, 2004).

ARC is committed to achieving their initial goal of providing a safe and efficient transportation system connecting the Appalachian region to national transportation networks. The ARDA was amended and reauthorized in 2008.

Since the enactment of the ARDA, a combination of federal, state, local, and private funding in excess of $15 billion has helped provide highways, hospitals, land conservation, mine and land restoration, flood control and water resource management, vocational education facilities, and

sewage treatment works to approximately 21 million residents in 399 counties within the Appalachian region. Throughout the terms of seven US presidents, federal financial support has helped support the ARC to promote economic development in the region.

2.1.2 APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM

The ADHS is the first system authorized by Congress for the purpose of stimulating economic development within the Appalachian region. It includes 3,571 miles of highway improvements, including 31 corridors in 410 counties of 13 Appalachian states. The ADHS system is intended to connect national markets and trade flows in the isolated, depressed regions of Appalachia by increasing market access to the labor force, buyers, suppliers, and multimodal facilities.

Improved ADHS corridors increase traffic efficiency by reducing travel times, lowering vehicle-operating costs, and improving traffic safety. These efficiencies are the result of an increase in the number of travel lanes, improved lane and shoulder widths, improved grades, fewer curves, restricted access, and overall higher operating speeds.

ADHS corridors were selected based on the following criteria:

- Major economic centers in Appalachia once bypassed by the Interstate system were to be linked to the Interstate system, restoring location-based advantages.

- Selected corridors were chosen to 'close the gap' between key markets on either side of Appalachia that were not linked by the Interstate system. The region could then capitalize on the alterations in flows of commerce which such additions to the National Highway Network might induce.

- Several corridors were selected to open up large areas of Appalachia with notable potential for recreational development.

- By constructing a highway system through the more isolated sections of Appalachia, commuting fields for the major job centers in and around Appalachia would be enlarged because more people would be able to travel greater distances in less time to the jobs and services being developed.

ADHS corridors are intended to affect the Appalachian region in a number of ways, most notably by increasing the competitive positioning of the region through the improvement of access.

In 1998, ARC completed a study to objectively measure the extent that the completed portion of the ADHS had contributed to the region's economy. The study focused on 12 of the 26 corridors that were almost complete. Its purpose was to assess the extent to which the corridors have helped the region's economy. The study found that ADHS has been instrumental in creating thousands of new jobs and generating economic benefits that would exceed highway construction costs and maintenance costs by more than a billion dollars (ARC, 1998). ADHS construction made the regions that were affected better places to invest, live, and work. The ADHS corridors generate economic development benefits in the region by improving the competitive position of existing and new industries through lower transportation costs and higher productivity. The increases in production were shown to increase job opportunities and wages. Improved road conditions and access resulted in greater efficiency. In addition, the corridors increase access to health care, education, and cultural amenities.

As of September 2002, more than 85 percent of the ADHS system was open to traffic or under construction. In 2003, all 13 Appalachian states' governors re-endorsed the importance of the ADHS and set a goal of 90 percent completion by 2010.

The *Economic Affect Study of Completing the ADHS* (2008) also examined the successes of the ADHS system. Transportation, trade, and economic analysis of the ADHS system have been done over the past 15 years. The ARC region is estimated to gain $2.1 billion annually by 2035 in economic activity due to market accessibility gains by 2035. If completed, 235 of the 410 ARC counties would see a reduction in travel time to the nearest airport with 26 of the counties experiencing an eight percent or greater reduction in travel time. 325 of the 410 counties are estimated to increase accessibility to buyer and supplier markets within a three hour drive, with 59 counties improving by more than 10 percent. The primary ARC industries that would benefit from the completion of ADHS projects include warehousing and distribution, manufacturing, mining and utilities, professional services, and other business services. The study found that more jobs have been created and more economic growth has been stimulated in counties with Appalachian Development highways than in counties without them. The study also found that the remaining ADHS highway projects complete important linkages in a long-distance network, rather than just serving connections between individual communities. Many of these projects open up access for isolated, mountainous areas, rather than merely expanding system capacity.

2.1.3 CORRIDOR K PROJECT TIMELINE

The proposed Corridor K project was one of the projects included in the ARDA of 1965. It is intended to link the metropolitan areas of Chattanooga, Tennessee and Asheville, North Carolina. To assist the ARC and to better serve its constituents, TDOT began identifying transportation related problem areas along US 64 in Polk County in the 1970's.

TDOT has been working in conjunction with the Tennessee Valley Authority (TVA), US Army Corps of Engineers (USACE), US Forest Service (USFS) and other entities since the late 1980's to assess the potential affects of the Corridor K project.

Upon its inclusion in the ARDA, the proposed project's major need for improvement was cited as operating deficiencies. In 1976, TDOT sent coordination letters for 'Scoping Comments.' At that time, the project was a low priority and did not advance due to lack of funding (USDOT et al, 2003). Also in 1976, TVA improved the Ocoee No. 2 power plant. Over the next five years, the Ocoee area was discovered by recreationists who rallied for continued use. TVA agreed to scheduled water releases as a result of tourist pressures, which in turn increased tourism in the Ocoee River Gorge area.

Sugarloaf Mountain at Parksville Lake (2009)

In 1981, government funding for the ADHS was reduced, eliminating all funding for Corridor K.

Corridor K was included in the Tennessee Accelerated Primary Highway Plan in 1986 funded by additional state gas tax approved by the General Assembly, yet state transportation funding was not available to advance the project.

In 1989 and 1990, a preliminary engineering analysis was conducted on a new location segment of existing US 64 that passes through the gorge. A preferred alignment was selected and then the project was put on hold.

Congress passed the 'Intermodal Surface Transportation Efficiency Act for the 21st Century' in 1991 and subsequently passed the 'Transportation Equity Act' in 1998. These Acts provided a guaranteed funding source from the Highway Trust Fund and provided funds to the State for use on the ADHS. In July of 1998, the proposed project, along with National Forest System Road (NFSR) 77 (within Cherokee National Forest), were designated under the USFS' Scenic Byway System as the 'Ocoee Scenic Byway.' TDOT, FHWA, and ARC compiled a cost estimate for the completion of the ADHS in Tennessee in 1997 and 2002.

In 1995, spot improvement studies were conducted in the gorge area because of safety concerns. In 1999, the studies were reopened, and the limits of the project were expanded to include US 64 east of SR 68 and west of SR 33/US 411. The expanded portions of the project moved forward and were scheduled for construction in 2004. A Finding of No Significant Impact (FONSI) was issued in 1999. A FONSI is issued when environmental analysis and interagency

review during the Environmental Assessment (EA) process find a project to have no significant impacts on the quality of the environment. FHWA did not adopt the FONSI and no action was taken because of the small benefit that would be generated from the improvements relative to the high financial and environmental costs.

In late 1999, at the request of Polk County officials, TDOT initiated an Environment Impact Statement (EIS) for improvements to US 64 between the four-lane section at U.S. 411 and the four-lane section at U.S. 68 in Ducktown. The project included the "Ocoee Bypass" and was proposed as 4-lane typical section facility on new location with multiple tunnels.

As part of the federal National Environmental Policy Act (NEPA) review process, a Draft Environmental Impact Statement (DEIS) for a proposed project between the Ocoee River Bridge and Ducktown was completed and approved by the Federal Highway Administration (FHWA) in 2003 with public meetings held in January 2004. Several alternatives were considered in the DEIS: the No-Build Alternative and two Build Alternative conceptual corridors that were evaluated for environmental effects (Build Alternatives 1 and 2). Both Build Alternatives involved constructing a new roadway or widening existing US 64 in the extreme western and eastern portions of the corridor. The typical section would feature two 12-foot travel lanes in each direction, separated by a 48-foot median, and 12-foot outside shoulders. Tunnels were proposed at four locations on new alignment to reduce areas of cuts and fills and related visual effects. The design speed throughout the project would be 60 miles per hour (mph), although the posted speed would vary. A 2,850 foot tunnel was proposed through Little Mountain and two tunnels (two thousand four-hundred (2,400) and eight hundred fifty (850) feet respectively) were proposed through Chilhowee Mountain in Build Alternative 1. In Build Alternative 2, an additional tunnel was proposed to pass through Brock Mountain, west of Goforth Creek. Build Alternative 2 shared the same alignment as Build Alternative 1 that included the previously mentioned three tunnels.

Several alternatives were eliminated from further consideration. These included:

- Improve existing
- Construct a long tunnel to divert traffic through the gorge
- Construct the eastern half of the project along Kimsey Highway
- Construct the project entirely south of the Ocoee River
- TSM (Transportation Systems Management)
- Transit

Both Build Alternatives were estimated to cost approximately $1.5 billion. Based on that estimated cost and comments, expectations, and issues raised by the public, interest groups, and resource agencies, TDOT decided to enter into a grant agreement with the Southeast Tennessee Development District (SETDD) for the purposes of accessing the economic return on constructing this segment of Corridor K. The result of that assessment was the development of the *Corridor K Economic Development and Transportation Study* (initiated in June 2006 and finalized in February 2008). This study concluded that there is an economic development need for an improved east-west transportation corridor to serve the region.

The DEIS that was initiated in 2003 was later rescinded by TDOT in 2008, based on the conclusions of the *Corridor K Economic Development and Transportation Study*, TDOT determined that a fresh look at Corridor K was warranted and initiated this Transportation Planning Report (TPR).

2.1.3.1 Scenic Byway Program

The portion of US 64/NFSR 77 that is the subject of this report was the first Scenic Byway designated under the USFS program. Criteria include that the road must exhibit exceptional qualities that make it warrant the Scenic Byway designation, would attract people, and that it must be safe for the average recreational driver in a passenger car.

The mission for US 64/Corridor K according to the USFS in 1994 was to:

- Enhance the visitor's experience through an understanding and appreciation of the natural and heritage resources along the Ocoee Scenic Byway.
- To guide the direction of resource management along the Ocoee Scenic Byway through the planned coordination of recreational facilities, informational signs, interpretation scenery, and ecosystem management.
- To promote rural economic development, focusing on increasing economic benefits from tourism while conserving the rural and scenic character of the landscape.

The unsafe conditions, adverse visual and audible effects of truck traffic along existing US 64/NFSR 77 are inconsistent with the mission of the program.

2.2 PROJECT STUDY AREA

The proposed Corridor K project represents one segment of the designated ADHS Corridor K regional project which passes through 11 counties as it spans portions of southeastern Tennessee and western North Carolina. The proposed Corridor K regional project follows US 64/US 74 from its western terminus at Exit 20 on Interstate 75 in Bradley County, Tennessee to Dillsboro, North Carolina, extending approximately 127 miles (Figure 4). This regional corridor is included in the National Highway System (NHS), US National Truck Network, and the defense-related Strategic Highway Network (STRAHNET).

The Corridor K regional project and its counterparts in the ADHS were created to open the impoverished areas of Appalachia to economic development (Southeast Tennessee Development District, 2009). The proposed project would link the metropolitan areas of Chattanooga, Tennessee and Asheville, North Carolina.

The proposed Corridor K project represents the segment of the regional project that traverses the Ocoee River Gorge of Polk County and includes areas along US 64 from west of the Ocoee River to SR 68 near Ducktown. The southern boundary of the Corridor K project study area is along the Tennessee-Georgia state line. The northern boundary, in general, is along the Hiwassee River and Ocoee River Watershed boundary (Figure 2).

2.3 REGION/COMMUNITY DESCRIPTION

2.3.1 POLK COUNTY

Polk County has many historic elements, most of which were built in support of the copper mining that originated in the 1840's. Copper mining was so prevalent in the southeastern portion of Tennessee near Ducktown that the area became known as the "Copper Basin." Before 1900, the Copper Basin was the largest metal mining district in the Southeast. Ducktown is located within the project study area and is known as a classic example of a mining town. The Burra Burra Mine site located at the edge of Ducktown is listed on the National Register of Historic Places (National Register) which identifies significant archaeological and historic sites.

US 64 | CORRIDOR K

OCOEE RIVER GORGE SECTION

Legend

- Corridor K Study Area
- Existing US Hwy 64/74
- State Boundary
- Interstate
- US Hwy
- ARC Corridor K Region

1:1,267,017

1 inch equals 20 miles

0 5 10 20 Miles

Source(s): Tele Atlas, ESRI, US Forest Service, and URS Corp.
Date: March 2010

TDOT Go.

FIGURE 4
APPALACHIAN REGIONAL COMMISSION'S CORRIDOR K
DILLSBORO, NC TO CLEVELAND, TN

CORRIDOR K

SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown Polk County, Tennessee

In 1836, the Hiwassee Railroad brought rail providing access to the area known as the Corridor K region to promote copper mining. The railroad grew into the 1900's, but regular passenger service ended in the late 1960's as the expansion of the trucking industry and loss of older industries limited rail traffic in the region. The last mine in the Copper Basin closed in 1987 and in March 2001, the last train left Copperhill, Tennessee. CSX Railroad abandoned the Copperhill line and sold it to the Tennessee Overhill Heritage Association in 2005. They now operate the line with seasonal passenger excursion trips as well as moving freight between Copper Hill and Etowah, Tennessee.

The State of Tennessee has identified the US 64 corridor as a Tennessee Parkway, referring to it as the "Old Copper Road" in recognition to the notable role that the Corridor played in the region's copper mining era (USFS, 2008).

Much of the terrain of Polk County is mountainous. Mountain ranges within the CNF split Polk County into two parts. These two parts of the county are connected by US 64. The eastern portion of the county, including Big Frog Wilderness, constitutes part of the southern Appalachian Mountains. The nearest metropolitan area is Chattanooga which is approximately 44 miles west of Polk County.

Ocoee Whitewater Center (2009)

The cultural landscape includes natural scenic vistas in and near the CNF, such as the Ocoee River Gorge. Features of infrastructure include the TVA hydroelectric dams and the Ocoee Whitewater Center (OWC). The OWC was built for the 1996 Olympics and was among the first recreational/sporting facilities developed within the project study area (USFS, 2008).

As of 2007, Polk County's population was 15,937. The population increased by 18 percent between 1990 and 2007, averaging an annual population increase of approximately one percent. The average annual population increase reported in Polk County is comparable to that reported for the proposed Corridor K project study area in that same time period, 1.8 percent and 1.6 percent respectively. Projections for future growth indicate that the population in Polk County would reach 23,732 by 2025 (US Census, 2000).

The Corridor K project lies within rural Polk County and is located in the extreme southeastern portion of Tennessee. Polk County encompasses 436 square miles of land area, yet over half of all land in the county is part of the CNF. The USFS has jurisdiction over land use within National Forest boundaries.

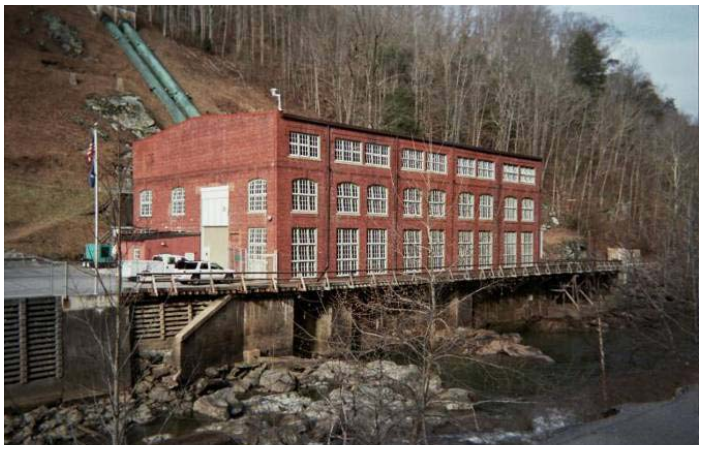
US 64 is the primary east-west route in Polk County. It is used by tourists, commuters, and freight haulers alike to navigate through the Ocoee River Gorge and other destinations to the east and west of the project study area. US 64 provides access to many of the county's tourist attractions, including the CNF and the Ocoee River. It also connects travelers to major north-south arterials including Interstate 75 and Interstate 26.

Polk County provides duplicate services to its residents due to the separation of people living on the east side of the gorge in Ducktown and Copperhill and the population living west of the gorge and Parksville Lake in Ocoee and Benton. There are two high schools, two libraries, two courthouses, and two jails, all requiring county funding.

2.4 ENVIRONMENTAL CHARACTERISTICS

2.4.1 THE OCOEE RIVER/OCOEE RIVER GORGE

Known as a free-flowing, whitewater river, the Ocoee River carved out the Ocoee River Gorge. Today, the TVA harnesses the water power of the Ocoee River for hydroelectricity and recreation in the form of recreational lakes and at certain times of the year, whitewater rafting. Whitewater occurs only when water is released through a series of three dams, collectively referred to as the Ocoee Dam system. The eastern dam, Ocoee Dam No.3, is between Big Frog Wilderness and Little Frog Mountain Wilderness areas; the middle dam, Ocoee Dam No. 2, is at Caney Creek; and the western dam, Ocoee Dam No.1 (also called Parksville Dam), is at the western edge of the district, south of Benton near the junction of US 64 and TN 314. Big Frog Wilderness area, when combined with the Cohutta Wilderness in Georgia is the largest tract of designated wilderness east of the Mississippi River. The Wilderness Act prohibits use of motorized and mechanized equipment in all designated Wildernesses.



TVA Ocoee No. 2 Powerhouse (2009)

The proposed Corridor K is located primarily in the Ocoee River Watershed with only a portion of the project study area reaching the Hiwassee River Watershed to the north. The Ocoee River Watershed encompasses 665 square miles, 207 of which are in Tennessee, and drains to the Hiwassee River. The CNF is the largest tract of land in the watershed covering approximately 120 square miles (Figure 5). The CNF encompasses over 85 percent of the project area and is largely comprised of second growth mixed hardwoods and pines. According to the USFS, the Ocoee watershed has the most rare plant sites compared to other watersheds on the southern portion of the CNF. It is ranked third of seven comparing both total number of rare species and sites. Most of these unique plant species occur in the Ocoee River Gorge in very close proximity to US 64 and within nearby associated habitats (forests, bluffs, cliffs). The global distribution of Ruth's golden aster (a federally listed species) is contained within the corridors of the Ocoee and Hiwassee Rivers of southeastern Tennessee.

There are 2,881 acres of lakes recorded in the Tennessee portion of the Ocoee River Watershed. Most of the streams are primarily representative of the Blue Ridge Province mountain streams. The Tennessee Department of the Environment and Conservation (TDEC) has designated 101 streams in this watershed as Exceptional Tennessee Water and Outstanding National Resource Waters. This designation influences land use strategies and water quality management in the state.

US 64 | CORRIDOR K

OCOEE RIVER GORGE SECTION

Legend

- City/Municipality/Town
- Dam
- Powerhouse
- Railroad
- Primary Route
- Secondary Route
- Local Road
- Conasauga River Watershed
- Hiwassee River Watershed
- River
- Waterbody
- Municipality
- Wilderness Area/Wilderness Study Area
- Cherokee National Forest (Polk Co.)
- Polk County
- Project Study Area

1:95,040

1 inch equals 1.5 miles

0 0.5 1 2 Miles

Source(s): Tele Atlas, ESRI, US Forest Service, and URS Corp.
Date: March 2010

TDOT Go.

FIGURE 5
ENVIRONMENTAL FEATURES: WILDERNESS AREAS AND WATERSHEDS

CORRIDOR K

SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown
Polk County, Tennessee

Reliance
Benton
Benton Springs
Archville
Ocoee
Cherokee National Forest
Kimsey Hwy
Greasy Cr Rd
Eaksville Rd
Parksville Lake
Cookson Cr Rd
Bullens Rd
Pace Gap Rd
Ocoee No. 1 Powerhouse
Ocoee No. 2 Powerhouse
Ocoee No. 2 Dam
Ocoee No. 3 Powerhouse
Ocoee No. 3 Dam
Ocoee Lake
Hiwassee River Watershed
Little Frog Addition NW WSA
Little Frog Addition NE WSA
Little Frog Mountain
Harbuck
Ducktown
Copperhill
Branch Rd
Baker Cr Rd
Sylco Cr Rd
Big Frog Mountain
Big Frog Addition WSA
Conasauga River Watershed
Cohutta
TENNESSEE
GEORGIA
411
314
64
30
68

The Ocoee River flows northwestward through the southern Appalachian Mountains in southeastern Tennessee. The Ocoee River is a tributary of the Hiwassee River which it joins near the town of Benton. The Ocoee's flow is controlled by the TVA via three hydroelectric power dams. Most often the riverbed is nearly dry in the 10 mile stretch used for sporting, yet the streambed in these sections has some perennial flow and supports the diverse aquatic community. During the months of March through October TVA releases water to the rocky riverbed below the Ocoee No. 2 reservoir (between Ocoee No. 2 Dam and No. 2 Powerhouse) to provide whitewater recreational opportunities.

Pollution from many years of mining upstream of the Ocoee River system has notably affected the aquatic species in the river. Ongoing remediation efforts are helping to alleviate problems upstream and species diversity is possible once the entire Ocoee system is able to recover. Ongoing remediation has greatly improved the aquatic community throughout the Ocoee River. At least 14 fish species occur at the Ocoee Whitewater Center and 22 fish species have been recorded below Powerhouse #2.

South of the Ocoee River Watershed is the Conasauga River Watershed. The Conasauga River is an Eligible Wild and Scenic River and contains designated Critical Habitat for the Conasauga logperch and six federally-listed mussels. The river has significant biodiversity - greater than the entire Pacific Northwest (ref: USFS meeting 12-15-09) and subsequent protection efforts support and sustain it. On National Forest ownership, forest-wide riparian standards serve to protect water quality.

Within the project study area there are perennial streams and intermittent channels that are subject to runoff that is exposed to acidic rock drainage. For some of these streams within the Ocoee River system such as Rock Creek and Laurel Creek, this exposure has created a divide where species are found only in areas upstream of where the water becomes acidic. This exposure to acid rock drainage occurs both naturally and when construction activities expose pyritic rock to moisture and air.

2.4.2 FLOODPLAINS

Executive Order 11988, Floodplain Management, instructs government agencies to consider the risks, dangers, and potential effects of locating projects within floodplains. In situations where alternatives are impractical, the agency must reduce potential harm within the floodplain and take appropriate steps to notify the public.

Floodplains are typically described as areas likely to be inundated by a particular flood. For example, a flood that has a one percent chance of occurring in any one year is the 100 year flood. A 500 year flood has a 0.2 percent chance of occurring in one year. Federal Emergency Management Agency (FEMA) data were reviewed to determine the location of the 100 year and 500 year floodplain within the project study area.

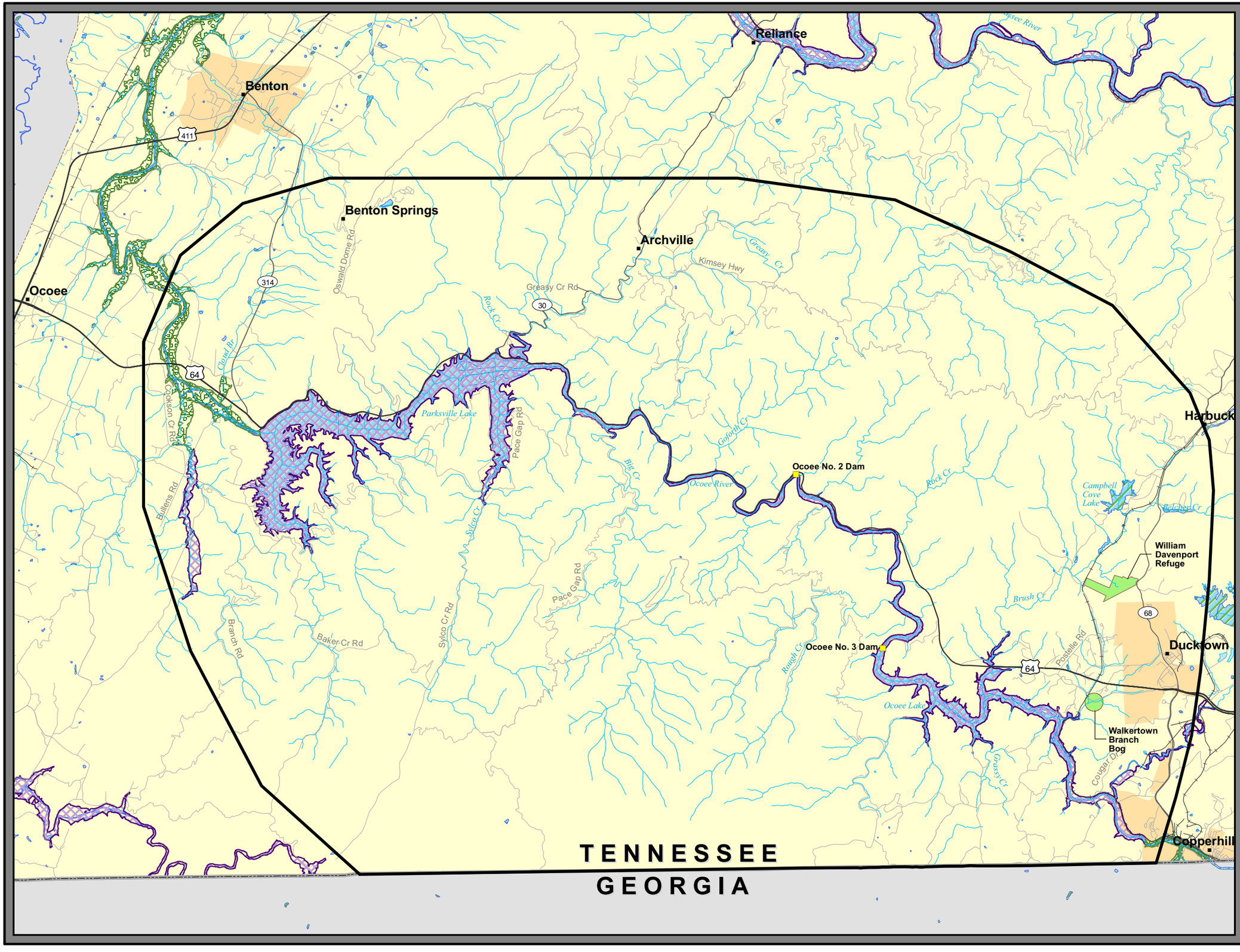
A small portion of the western end of the project study area encroaches on the 500-year flood zone associated with the Ocoee River (Figure 6). The 100 year floodplain is not encroached by proposed corridor alternatives.

2.4.3 WETLANDS

Wetlands are jointly defined by the US Environmental Protection Agency (USEPA) and the US Army Corps of Engineers (USACE) as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal

circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (Environmental Laboratory, 1987). Wetlands generally include “swamp marshes, bogs and similar areas” (40 CFR 230.3(t) and 33 CFR 328.3(b)).

Preliminary review of the US Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) (USFWS, 1998) mapping suggests the presence of wetland areas throughout the project study area (Figure 6). It should be noted that wetland areas identified using NWI wetland mapping should be considered “potential wetland areas” since they are largely identified without field verification of conditions or extent. The true extent of these wetland areas, or other as yet unidentified wetland areas, at the site would require field survey and formal wetland delineations.



US 64 CORRIDOR K

OCOEE RIVER GORGE SECTION

Legend

- City/Municipality/Town
- Railroad
- Local Road
- Secondary Route
- Stream/River (NHD)
- Waterbody (NHD)
- Municipality
- Conservation Site/Natural Area
- Polk County
- Project Study Area
- Project Study Area
- NWI Wetlands

Flood Zone (FEMA)

- A
- AE

1:95,040

1 inch equals 1.5 miles

0 0.5 1 2 Miles

Source(s): Tele Atlas, ESRI, US Forest Service, and URS Corp.
Date: March 2010

TDOT Go.

FIGURE 6
WATER RESOURCES

CORRIDOR K

SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown
Polk County, Tennessee

2.4.4 THE CHEROKEE NATIONAL FOREST

The National Forest has been proclaimed by Tennessee Wildlife Resources Agency as the state's largest Wildlife Management Area. All provide an array of recreational activities and serve as a focal point along the scenic drive of US 64. The Ocoee River, site of whitewater slalom events in the Atlanta 1996 Summer Olympics, runs through Polk County and is vital to one of the county's major industries, whitewater rafting. The river attracts thousand of tourists and sportsmen each year to Polk County. In addition to whitewater rafting, other recreational opportunities present along the proposed Corridor K include biking, hiking, camping, canoeing, fishing, boating, swimming, and hunting.

According to the USFS, millions of people visit Tennessee's CNF each year. The CNF is located in Eastern Tennessee and stretches from Chattanooga to Bristol along the North Carolina border. It consists of 640,000 acres in its entirety; over 150,000 of those acres, more than 23 percent, are located within Polk County (USFS, 2007). The CNF is at the heart of the Southern Appalachian mountain range, and is considered by the USFS to be one of the world's most diverse areas. The northern terminus of the Benton MacKaye Trail was formed there in the 1970's.

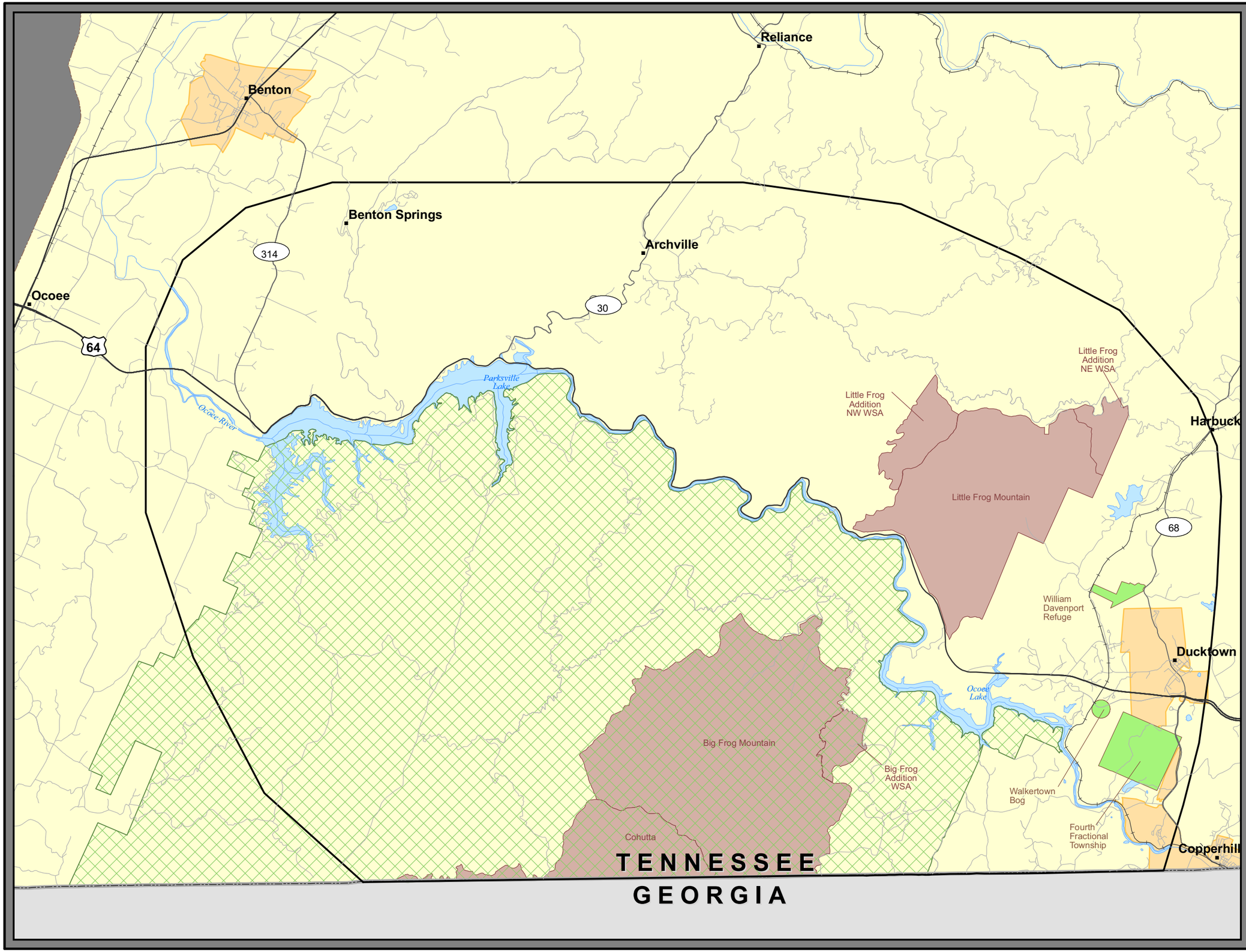
The Big Frog Wilderness Area, consisting of 8,082 acres of forested land, is located in the southern region of the CNF. The Wilderness area's boundary stretches into Georgia where it abuts Cohutta Wilderness Area. In their entirety, the Big Frog Wilderness Area and the Cohutta Wilderness (7) constitute the largest tract of Wilderness on USFS land in the eastern United States (Wildernet, 2009).

The Little Frog Mountain Wilderness consists of a total of 4,666 acres in the southeast region of CNF, just north of existing US 64.

One of six Tennessee Wildlife Resource Agency (TWRA) designated bear reserves lies just south of the Ocoee River and extends the length of the study area. The Ocoee Bear Reserve was established for the purpose of excluding hunting as a means to preserve species proliferation. The CNF Land Management Plan calls for no net increase in roads within this bear reserve area. According to the plan, if roads are added, an equivalent length of existing roads must be closed. The network of roads within the National Forest serves both the Forest Service and the public. All roads serve a purpose but not all are available to the public. These administrative roads are important to the USFS for their use in land management, prescribed burning, and access. Public roads are enjoyed for recreation and access to campgrounds and recreational opportunities.

2.4.5 THREATENED AND ENDANGERED SPECIES

The USFS is required to address three species categories during project review; 1) those that are federally listed under the Endangered Species Act; 2) those identified by the Regional Forester, Southern Region as Sensitive; and 3) species of viability concern listed in the 2004 Revised Land and Resource Management Plan, Cherokee National Forest (RLRMP)



US 64 CORRIDOR K

OCOEE RIVER GORGE SECTION

Legend

- City/Municipality/Town
- Railroad
- Secondary Route
- Local Road
- River
- Waterbody
- Municipality
- Conservation Site/Natural Area
- Black Bear Reserve
- Wilderness Area
- Polk
- State Boundary
- Project Study Area

1:95,040

1 inch equals 1.5 miles

0 0.5 1 2 Miles

Source(s): Tele Atlas, ESRI, US Forest Service, and URS Corp.
Date: March 2010

TDOT Go.

FIGURE 7
MANAGED AND PROTECTED AREAS

CORRIDOR K

SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown
Polk County, Tennessee

Table 1 describes federally-listed species listed within Polk County.

Table 1: Polk County Federally Listed Species

Scientific Name	Common Name
Invertebrate	
Epioblasma florentina walkeri	Tan riffleshell
Epioblasma metastriata	Upland combshell
Hamiota altilis	Finelined pocketbook
Medionidus parvulus	Coosa moccasinshell
Pleurobema geogianum	Southern pigtoe
Pleurobema hanleyianum	Georgia pigtoe
Pleurobema troshelianum	Alabama clubshell
Ptychobranchus greenii	Triangular kidneyshell
Villosa trabalis	Cumberland bean pearly mussel
Epioblasma florentina florentina	Yellow-blossom pearly mussel
Lexingtonia dolabelliodes	Slabside pearly mussel
Pleurobema chattanoogaense	Painted clubshell
Vascular Plants	
Pityopsis ruthii	Ruth's golden-aster
Plantanthera integrilabia	White fringeless orchid
Vertebrate Animals	
Cyprinella caerulea	Blue shiner
Percina antesella	Amber darter
Percina jenkinsi	Conasauga logperch
Percina tanasi	Snail darter

Specific plant and animal surveys to assess the likelihood of their occurrence in the remote areas south of the Ocoee River have yet to be completed, but this area is very botanically diverse according to the U.S. Forest Service. Further analyses including field surveys should be completed south of the Ocoee River and throughout the study area to assess if the listed federally protected species occur within proposed corridor alternative boundaries. These surveys should be coordinated with the Forest Service.

A review of the Tennessee Natural Heritage Program listing indicated there are at least 83 state-listed species of plants and animals in Polk County. Further analysis would be warranted to assess if any state listed species occur within proposed corridor alternatives.

2.4.6 WILDLIFE HABITAT LINKAGES

The CNF is home to a large and diverse population of plant and animal species. In October 2009 State and Federal agencies along with other stakeholders met to identify and assess wildlife, its habitat, and any movement or migration patterns within the project study area. Input at that meeting was used to create the report *An Assessment of Wildlife Habitat Linkages* (Ruediger 2010). At the time, only the preliminary corridors were discussed so no specific recommendations were given, but the information provided in the report is applicable for Context Sensitive Solutions (CSS) to be implemented in the planning, design, construction and maintenance phases of the project. The CSS process includes early and continuous

involvement of stakeholders. Their input is considered to be paramount in gaining broad public support of the recommendations that are the product of this report.

Using GIS data collected for this TPR and information about the wildlife shared by the agencies and stakeholders, possible linkages along each corridor were discussed for various species. Wildlife linkages to consider included such ideas as bridges and culverts sized to accommodate the largest species that might cross at the location, fencing to promote crossings at specific locations, and planting vegetation that would deter feeding in areas adjacent to the roadway.

Included in the *Assessment of Wildlife Habitat Linkages* report was discussion of critical ecological issues along US 64/Corridor K and the identified alternatives including:

- Black bear habitat fragmentation. US 64/Corridor K cuts through some of the Southern Appalachian's most critical black bear habitat. Should a route south of the existing corridor be selected, it would fragment the largest bear reserve on the CNF.
- A large number of native and sport fish inhabit the drainages crossed by US 64/Corridor K. These include some federally listed fish as well as many species of concern to TWRA and the USFS. Some drainages contain up to 25 species of fish. There are also many other aquatic organisms inhabiting the drainages that are of concern.
- There are a large number of rare or endemic plants or plant communities that occur along the existing corridor and some of the alternatives. Some of these would be difficult to avoid if the roadway were improved or rerouted. Large, contiguous blocks of interior forests could also be fragmented.
- Large numbers of endemic land snails exist throughout this portion of the CNF. These species are not well researched and the impacts of future highway construction are of concern.
- The proposed Corridor K could affect large populations of amphibians and reptiles.
- Some drainages contain pyritic rock and soils that can severely acidify adjacent and downstream drainages if disturbed.

In summary, the habitats and species that occur along US 64/Corridor K are ecologically complex and fragile.

2.4.7 NOISE

Noise is defined as unwanted sound for the purposes of this report. It is emitted from many sources and often associated with airplanes, factories, railroads, power generating plants, and highway vehicles. Noise effects are location dependent and would be addressed in detail should the project advance to the federal NEPA review process.

2.4.8 AIR QUALITY

The air quality assessment associated with the proposed Corridor K would be considered on a regional level. The assessment is primarily intended to assess if the potential emissions from the proposed project are in compliance with Tennessee's State Implementation Plan (SIP). The project study area is in attainment for the eight hour ozone designation and Particulate Matter (PM) 10 and PM 2.5 and most other criteria pollutants (carbon monoxide, oxides, nitrogen, etc.). Polk County is a maintenance area for sulfur oxide, meaning that the county was designated nonattainment for sulfur dioxide, but has since developed a plan and reduced emissions to levels demonstrating attainment with both primary and secondary sulfur oxide National Ambient Air Quality (NAAQ) standards for future years. Air effects are location dependent and would be addressed in detail should the project advance to the federal NEPA review process.

2.4.9 CULTURAL RESOURCES

This section lists various community facilities and cultural resources listed on the National Register of Historic Places in Polk County within the boundaries of, or in close proximity to, the proposed corridor alternatives (Figure 8).

The National Register is a list of properties that have been evaluated against specific criteria and found to have historic, architectural, archaeological, and/or cultural significance. This list is maintained by the National Park Service (NPS).

2.4.9.1 Properties Listed on the National Register of Historic Places within the Project Study Area

The Copeland House is located west of Parksville Lake on Cookson Creek Road. This period architecture home is also known as the Winston Cloud House.

The Ocoee Hydroelectric Plant No. 2 and Ocoee No. 1 Hydroelectric Station (Parksville Dam) and the flume between Ocoee Dam #2 and Ocoee Hydroelectric Plant No. 2 are all owned and operated by the Tennessee Valley Authority and continue to be used for power generation. Plant No. 2 is located on US 64 near mile-point (MP) 17.5. Parksville Dam is located on the west side of the Ocoee River Gorge.

Burra Burra Mine Bucket Hoist and Boiler Buildings (2009)

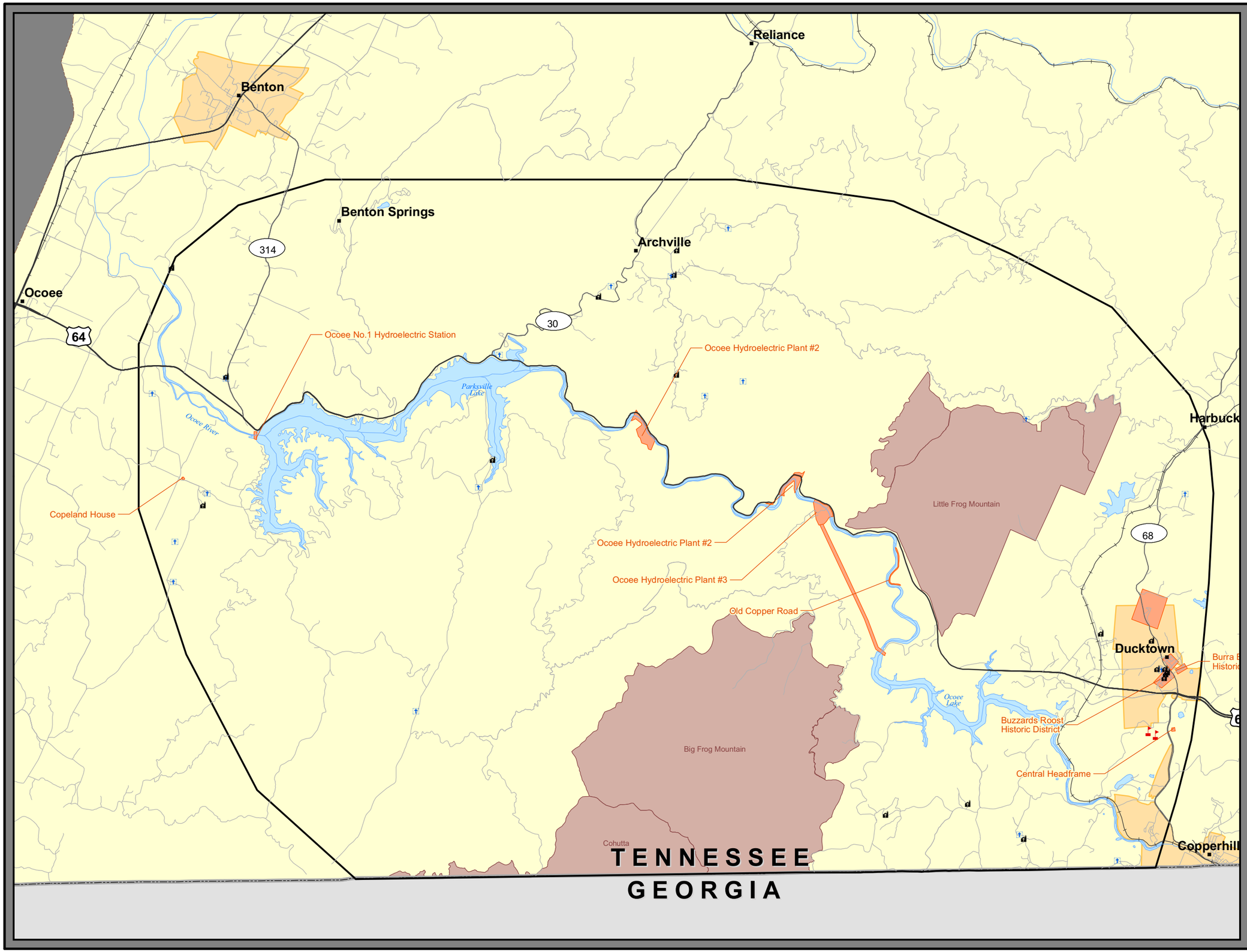
The Ducktown Historic District is located on two blocks of Main Street between SR 68 and an alley in downtown Ducktown.

Burra Burra Mine Historic District is home to the Ducktown Basin Museum. The mine closed in 1987 and its remaining structures are listed on the National Register.

Buzzards Roost Historic District is an area with private homes of period architecture on five different streets in downtown Ducktown on the west side of SR 68.

Ducktown Elementary School Kimsey Junior College (2009)

Kimsey Junior College is a structure on the National Historic Register. Also known as Ducktown Elementary School, this resource is a rare rural example of Collegiate Gothic Architecture. Originally built for a state college, it was used as a local school exclusively until its closure in 2005.



US 64 CORRIDOR K

OCOEE RIVER GORGE SECTION

Legend

- Church
- Cemetery
- School
- City/Municipality/Town
- Railroad
- Primary Route
- Secondary Route
- Local Road
- River
- Historically Significant Site
- Waterbody
- Municipality
- Wildnerness Area
- Polk County
- State Boundary
- Project Study Area

1:95,040

1 inch equals 1.5 miles

0 0.5 1 2 Miles

Source(s): Tele Atlas, ESRI, US Forest Service, and URS Corp.
Date: March 2010

TDOT Go.

FIGURE 8
CULTURAL RESOURCES

CORRIDOR K

SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown
Polk County, Tennessee

2.4.9.2 Other Properties/Sites of Historic Significance

A portion of US 64 referred to as Old Copper Road spanning from the Ocoee Whitewater Center up-river toward Boyd Gap along the north bank of the Ocoee River was part of the original wagon road that linked the mines in Copperhill to the rail yards in Cleveland, Tennessee. It is now part of the Tanasi Trail System, 30 miles of hiking/biking trails out of the Ocoee Whitewater Center.

Ocoee Hydroelectric Plant No. 3 is located on US 64 near mile-point (MP) 17.5 and includes the TVA water flume built above the south bank of the Ocoee River. The flume may have historic significance and will require further assessment.

The Old Dutch Settlement is eligible for listing on the National Register of Historic Places and is also a historic precinct that is a Priority Heritage Asset of the CNF. It is approximately 145 acres and includes multiple properties on the south side of the Ocoee River near the base of Big Frog Wilderness.

Within the CNF there are numerous unmarked cemeteries and individual grave sites. A number of potentially eligible archaeological sites have been mapped but many sites, particularly ones south of the Ocoee River and around Greasy Creek have yet to be assessed for historic significance.

2.4.10 GEOLOGY AND SOILS

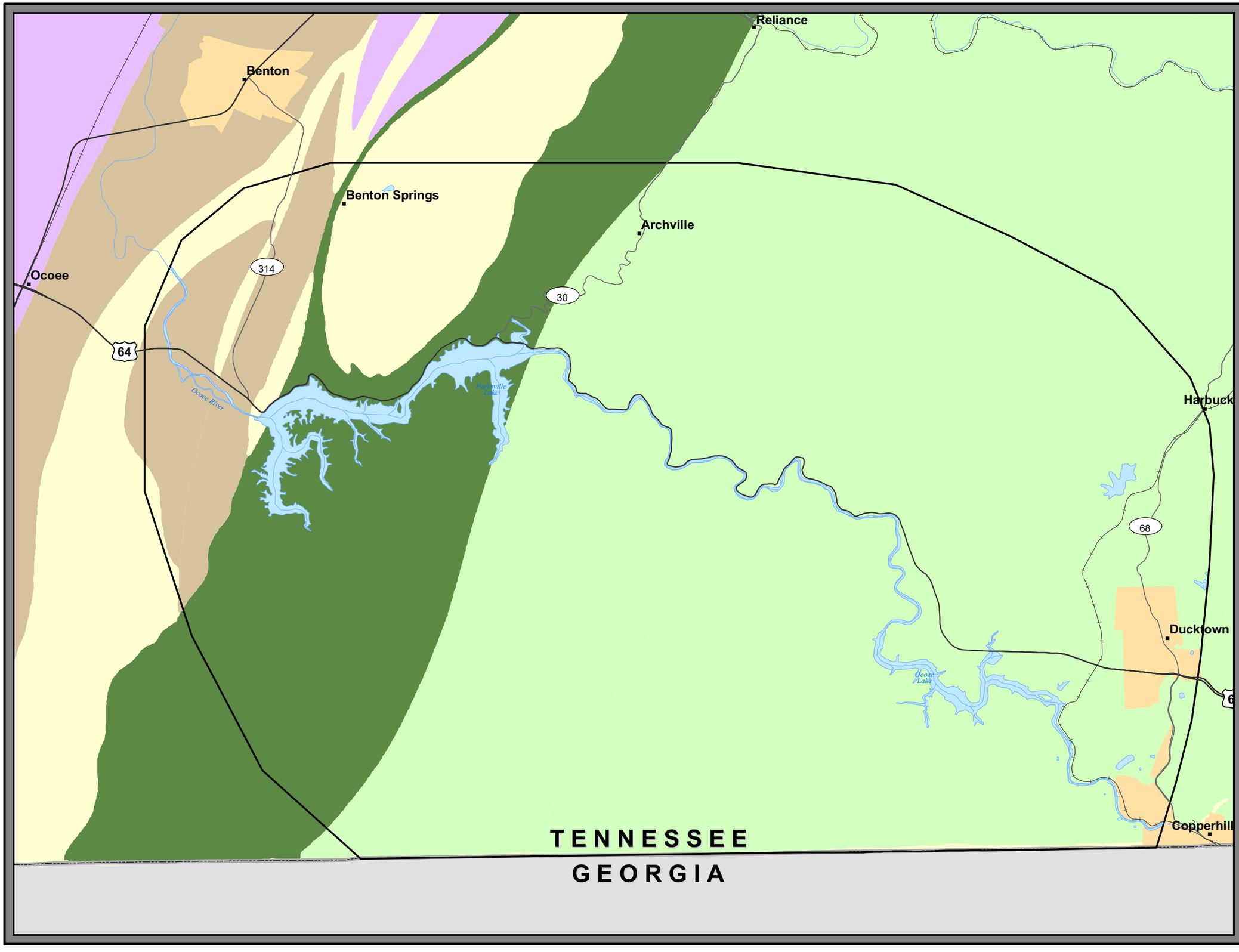
The majority of proposed Corridor K lies within the Blue Ridge (Unaka Mountains) physiographic province. Veins of pyritic rock are likely to be found within the project study area. The U.S. Geological Survey data indicating the presence of pyritic rock in Buck Bald, Boyd Gap, Marner and Copperhill formations (Figure 9). The disturbance of pyritic rock and subsequent exposure to moisture and oxygen can lead to the formation of Acid Rock Drainage (ARD).

ARD occurs naturally as part of the rock weathering process and may pose a threat to the sustainability of rivers, streams and other freshwater systems. In areas where pyritic rock is found ARD could be exacerbated by activities often associated with roadway construction. The potential for soil erosion and subsequent ARD due to disturbance is greatest in areas with rugged topography that would command larger and/or steeper cut and fill slopes during construction.

There are numerous options for addressing ARD; the most common options include containment and neutralization at the point of disturbance and off-site containment and neutralization.

Further analysis would be warranted to determine the location of pyritic rock sites within the study area and the ARD potential at these sites.

Rockfall debris that crossed US 64 into Ocoee River at rafting put in below Dam No. 2 on November 10, 2009.



US 64 | CORRIDOR K

OCOEE RIVER GORGE SECTION

Legend

- City/Municipality/Town
- Dolomite
- Limestone
- Includes formations that may contain acid producing rock
- Includes formations that contain acid producing rock
- Formation that may contain potentially acid producing rock
- Formation that contains acid producing rock
- Railroad
- Primary Route
- A25
- Secondary Route
- A31
- A35
- River
- Waterbody
- Municipality
- Polk County
- State Boundary
- Project Study Area

1:95,040

1 inch equals 1.5 miles

0 0.375 0.75 1.5 Miles

Source(s): Tele Atlas, ESRI, US Forest Service, and URS Corp.
Date: March 2010

TDOT Go.

FIGURE 9
PYRITIC ROCK

CORRIDOR K

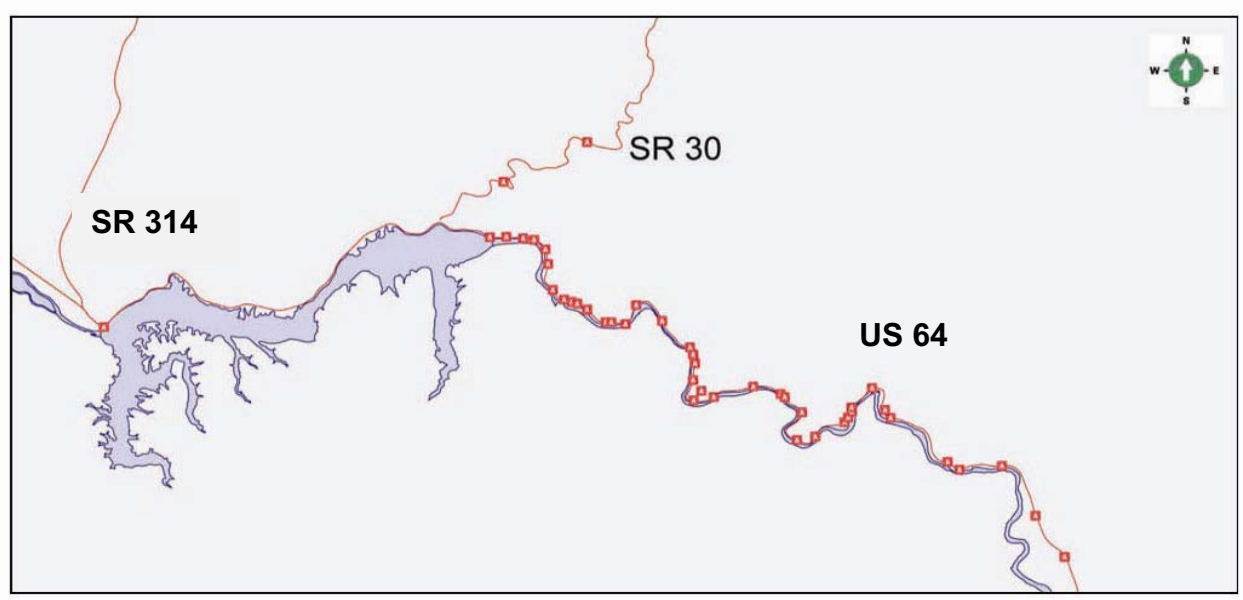
SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown
Polk County, Tennessee

Soil and rock slope stability is an important consideration for this project due to the mountainous terrain found within the study area. The U.S. Geological Survey data indicates possible slope stability issues associated with the Boyd Gap formation due to the presence of highly sulfidic slate and metasiltstone.

US 64 through the Ocoee River Gorge has the highest concentration of high hazard rockfall locations in Tennessee with 44 sites identified along the route (See Figure 10). Minor rockfalls occur regularly and occasionally are significant enough to close the road for weeks or months at a time with all traffic having to be detoured to alternate routes, some of which can add nearly two hours to the roundtrip time. The primary reason a rockfall location is designated as a high hazard is the lack of width in the roadside ditch. Many locations along the existing route were constructed with very little, if any ditch (see photo next page) with a rock face rising above the narrow shoulder. When rockfalls occur in these areas, the road is the only catchment area for rock debris. TDOT estimates the cost of rockfall mitigation for the Corridor K project to be at least $150-200 million. The estimate for statewide rockfall mitigation is over $1 billion for the 980 high hazard sites identified in Tennessee.

Through the gorge, there are a number of locations that cause significant concern to TDOT Maintenance. There are rock formations adjacent to the road where lower rocks that are supporting larger rocks above have fragmented. Removal of such potential rockfall hazards could be a matter of removal of rock for hundreds of feet up the mountain before a stable rock face can be established. Cracks and gaps in these lower rocks are being measured and monitored, but no attempt to eliminate these high hazard locations has been made due to the uncertainty of the effort required.

Figure 10: Identified High Hazard Rockfall Locations



Modern construction methods for rock cuts on new location reduce rockfall hazards by drilling and pre-splitting the rock to create a more vertical cut face which better supports the exposed rock slope. This is most effective when the layers of rock are fairly horizontal. The geology of Polk County can vary from one ridge to the next with folds and rock layers that are not horizontal (see photo below). These changes in geology could require a different design from one cut slope to the next. A wider catchment area is the most effective method of mitigation for rockfalls, but a higher rock cut creates a wider section and larger impacts. Other measures may also be required to stabilize exposed rock slopes. These include rock bolts, welded wire mesh draping, rock catchment fencing and shotcrete. These can help reduce the catchment width but can become a higher maintenance issue than catchments alone. All of the build options will have issues with rockfall and pyritic rock, whether on new location or along the existing alignment. Additional geotechnical and rock engineering will be required during the planning and design phases to properly address them.

Rockfall debris across US 64 near MP 17 on November 10, 2009. Photo by Dan Henry, Chattanooga Times Free Press

2.4.11 US 64 Road Closures and Detours

Rockfalls along US 64 have been the primary reason the road has had to be closed to through traffic over the years. TDOT Maintenance crews regularly go out to clean up minor rockslides that fall into the roadside ditch or into the road that require temporary lane closures with flagmen. Major rockslides like the one in November 2009 create the need to close the route to all through traffic and establish detour routes around the Ocoee River Gorge. SR 30 is the only State Route that accesses US 64 within the gorge, so the location of a rockfall impacts where traffic can be detoured. If a closure is needed west of SR 30, no traffic can get through the gorge entering from the west and must be detoured north on US 411 to SR 30 and then south to US 64. For US 64 closures to the east of SR 30 such as the November 2009 rockslide, the two recommended detour routes are shown on Figure 11 as either SR 68 out of Ducktown, south into Georgia to SR 5, to US 76 west through Ellijay, to US 411, then north back into Tennessee to Ocoee, and then west on US 64/SR 40 into Cleveland and I-75. The other detour option is SR 68 north out of Ducktown to I-75 near Sweetwater, then south to Cleveland. For US 64 closures east of SR 30, Archville area residents are still able to access SR 30 from the west on US 64.

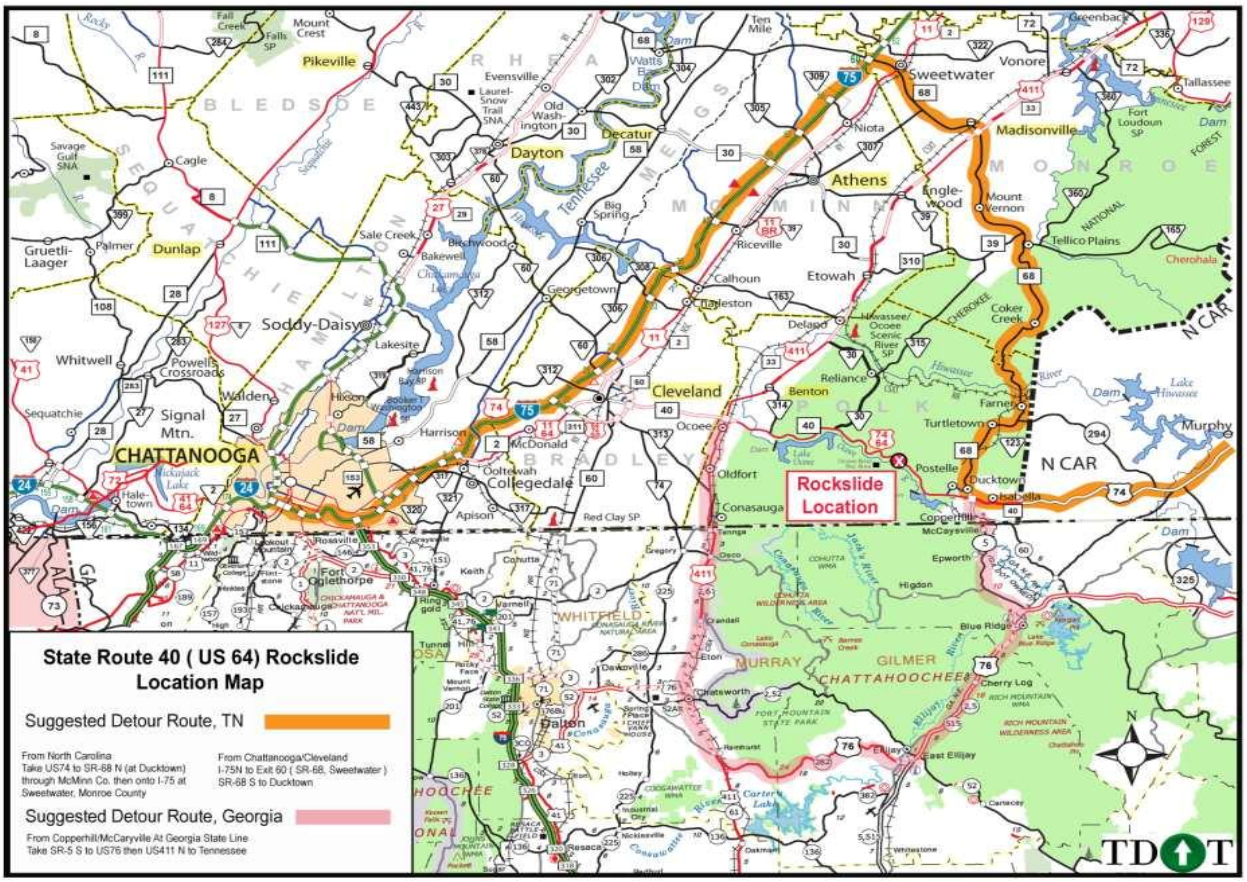
When US 64 is fully open, the commute from Ducktown to I-75 in Cleveland is approximately 48 minutes for the 41 mile trip. For commuters taking the detour in Tennessee, the travel time is 107 minutes for the 98 mile trip. Alternatively, the detour through Georgia takes 110 minutes for the 96 mile trip. This means when US 64 is closed, a trip from Ducktown into Cleveland and back (using the detour) increases the total time by two hours and increases the distance by 112 miles roundtrip. This additional time affects the lives and economics of the region, particularly the residents and businesses on the east side of Polk County. Longer commute distances and travel times limit the ability to supply goods and services across and through Polk County. The detour also directly impacts personal expense of fuel and vehicle maintenance costs, and the loss of personal time.

There are other routes within the area that can be used for a detour that are shorter in distance, but longer in travel time (see Figure 11). Many of the 2-lane roads available for a detour route

are difficult for larger trucks because they have steep grades, numerous curves, limited sight distance, and steep side slopes with inadequate shoulders and no guardrail. The travel time is also becomes longer having to follow a slower truck that has little or no place to pull over with no passing lanes along the route.

Starting in February 2010, the Small Business Administration (SBA) made Economic Injury Disaster Loans available in Polk, Bradley, McMinn, and Monroe Counties in Tennessee as well as Cherokee County in North Carolina and Fannin and Murray Counties in Georgia. These are low-interest disaster loans available to small businesses, small agriculture cooperatives, and most private non-profit organizations that have been affected by the rock slide (http://news.tennesseeanytime.org/node/4612). Families could apply for assistance with their transportation costs through the Southeast Tennessee Human Resources Agency.

Figure 11: Proposed Detour Routes for November 2009 US 64 Road Closure



2.4.12 ECONOMICS

Early industrial activity, such as gold and copper mining led to the establishment of various communities and towns in the mid 1840's that are still found within the region today. Railroads and roads were constructed to serve the mining industry, which allowed the logging and textile industries to become established. The textile industry remained strong until the late 1980's when the national textile industry began to experience significant losses believed to be associated with globalization. The furniture industry, which grew out of the region's logging activities, remained strong until the last decade (1990's) when this industry experienced deep losses due to international competition. Many of these same natural resources are in use today

for logging and hydroelectric energy generation. Yet, in some cases, the use of the natural resources found in the region has been diversified in order to build a new industry, tourism, which is based on recreation and cultural heritage.

Tourism is an important component of the economy in the proposed Corridor K region and is particularly critical to the more rural counties, including Polk County. Yet, the county reported in 2004 the lowest tax collections within the Corridor K region at approximately $1.56 million dollars (Wilbur Smith, 2008).

The Corridor K region includes the metropolitan areas of Chattanooga and Cleveland, Tennessee and Asheville, North Carolina. Within this region, these metropolitan communities continue to experience relatively stable economic growth while the more rural communities in the proposed Corridor K region are more dependent on vulnerable or seasonal business sectors including textiles, furniture, construction, and tourism. According to the *Corridor K Economic Development and Transportation Study* (2008), higher transportation costs are a frequent barrier to future business growth within the Corridor K region study.

The region's major manufacturing sectors include: food products, chemical manufacturing, electrical equipment and appliances, furniture, paper, textiles, apparel, fabricated metal products, machinery, and transportation equipment. Service related occupations represented approximately 25 percent of the total employment in 2000, making it the largest reported sector in Polk County next to manufacturing which was reported to be roughly 14 percent. The service related employment sector includes much of the tourism industry in Polk County.

Table 2 lists the top five manufacturing firms in terms of total employees for Polk County as of February 2008.

Table 2: Polk County Major Employer

Firm Name	Product	Total Employees
Copper Basin Medical Center	Hospital	117
American Uniform	Textile	117
Roxanne Crystal Geyer	Bottle Water	101
Conasauga Lumber Company	Lumber	57
Remington Industries	Textile	30

Source: Corridor K Economic Development and Transportation Study-Final Report (2008)

The Tennessee Department of Labor and Workforce Development reported that the labor force in Polk County experienced an unemployment rate of 12.1 percent in November of 2009, which is higher than the reported statewide unemployment rate of 10.3 percent for the same time period. Based upon 2004 census estimates, 15.1 percent of the population in Polk County lives below the state established poverty level.

2.4.13 RECREATIONAL ACTIVITIES

With much of the project study area within the boundaries of the CNF and with the Ocoee River being adjacent to US 64 through the gorge, there are numerous recreational activities and opportunities that support the local economy. Most all these are outdoor activities, including whitewater rafting, hiking, biking, horse riding, camping, hunting, fishing, boating, and swimming. Access to most of the existing recreational opportunities are from US 64 with

trailheads, parking areas, and the marina adjacent to the existing road. The recreational sites located within the project study area include:

- Parksville Lake and Marina
- Parksville Beach
- Parksville and E. Parksville Boat Ramps
- Mac Point Beach
- Big Creek and Caney Branch with whitewater access and restroom facilities
- Ocoee Whitewater Center – three thousand (300,000) visitors per year
- Campgrounds
- Boyd Gap scenic overlook parking area
- Benton MacKaye Trail – Springer Mountain, GA to Great Smoky Mountains NP
- Tanasi Mountain Bike Trail System – at the Ocoee Whitewater Center
- Hiking and biking on both sides of the Ocoee River
- Forest Service roads that access the back country
- Rock Creek Gorge – waterfalls, trails, Clemmer trailhead

2.5 EXISTING TRANSPORTATION CONDITIONS

US 64 within the project study area is 2-lanes with the exceptions of approximately one mile of 4-lane divided section just west of the Ocoee Whitewater Center and at the eastern end where the 2-lane section has a truck climbing lane for the steeper uphill grades. Within the project study area there are several short passing zones along the route and left turn lanes at the intersections with SR 314, SR 30, Ocoee Whitewater Center, and designated parking areas. Existing lane widths vary from eleven (11) to twelve (12) feet and shoulder widths vary from one (1) to twelve (12) feet. From the beginning of the project to the western entrance to the gorge, the shoulder width is generally four (4) feet with two (2) feet stabilized. Through the gorge, the shoulder width varies but nearly the entire length is substandard for a rural arterial. Through the gorge, the majority of the shoulders are substandard in width. Minor shoulder widening has occurred where feasible, but much of this section is constrained by adjacent rock cliffs to the north and the river to the south. Between the Ocoee Whitewater Center and the east end of the project, the shoulders are typically twelve (12) feet wide with eight (8) to Ten (10) feet stabilized.

The posted speed along Parksville Lake and through the Ocoee River Gorge is 45 mph. West of Parksville Lake and east of the Ocoee Whitewater Center, the posted speed is 55 mph. Due to geometry and limited sight distance through the gorge, there are six curves that are posted 15 mph to 30 mph and more curves that are not posted for reduced speeds, but have a radius below the design speed of 45 mph.

Stakeholder engagement has indicated that US 64 through the gorge is a concern to the senior population in Polk County, particularly to the east where traveling through the gorge is the primary route to get to necessary services such as health care. Parents have safety concerns for the young and inexperienced drivers having to travel the road.

There are few alternative modes of transportation available in the project study area including rail lines and airport facilities that provide service to businesses and residents of Polk County.

The Hiwassee River Railroad is the only in-service railroad located in Polk County. This railroad is primarily an east-west route that follows the Hiwassee River north of the project study area. There is only one rail line that runs through the project study area, crossing under US 64 approximately one mile west of SR 68 in Ducktown. CSX freight service ended in 2001. In 2005

the Tennessee Overhill Heritage Association purchased the line and the Tennessee Valley Railroad now operates a weekend passenger excursion train between Etowah and Copperhill from March to November as well as hauling freight on a contract basis.

Norfolk Southern and CSX operate north-south rail corridors between Knoxville and Chattanooga. Neither route goes through Polk County; however the Hiwassee River Railroad line does have a connection at Etowah in McMinn County to the east Tennessee CSX line.

Chattanooga Metropolitan Airport is vital to this region's economy and travel system. The airport is approximately 40 miles from Polk County. There are no airports within the project study area, but there are two private airports in Polk County. Martin-Campbell Airport, located just east of the eastern terminus of the project in Copperhill has a 3,500-foot paved runway. The Chilhowee Airport is located in Benton, northwest of the project study area. It has a 2,600-foot grass landing strip and is used primarily for glider planes. The Chattanooga Metropolitan Airport has a,7,400-foot paved runway with five carriers and nine daily destinations.

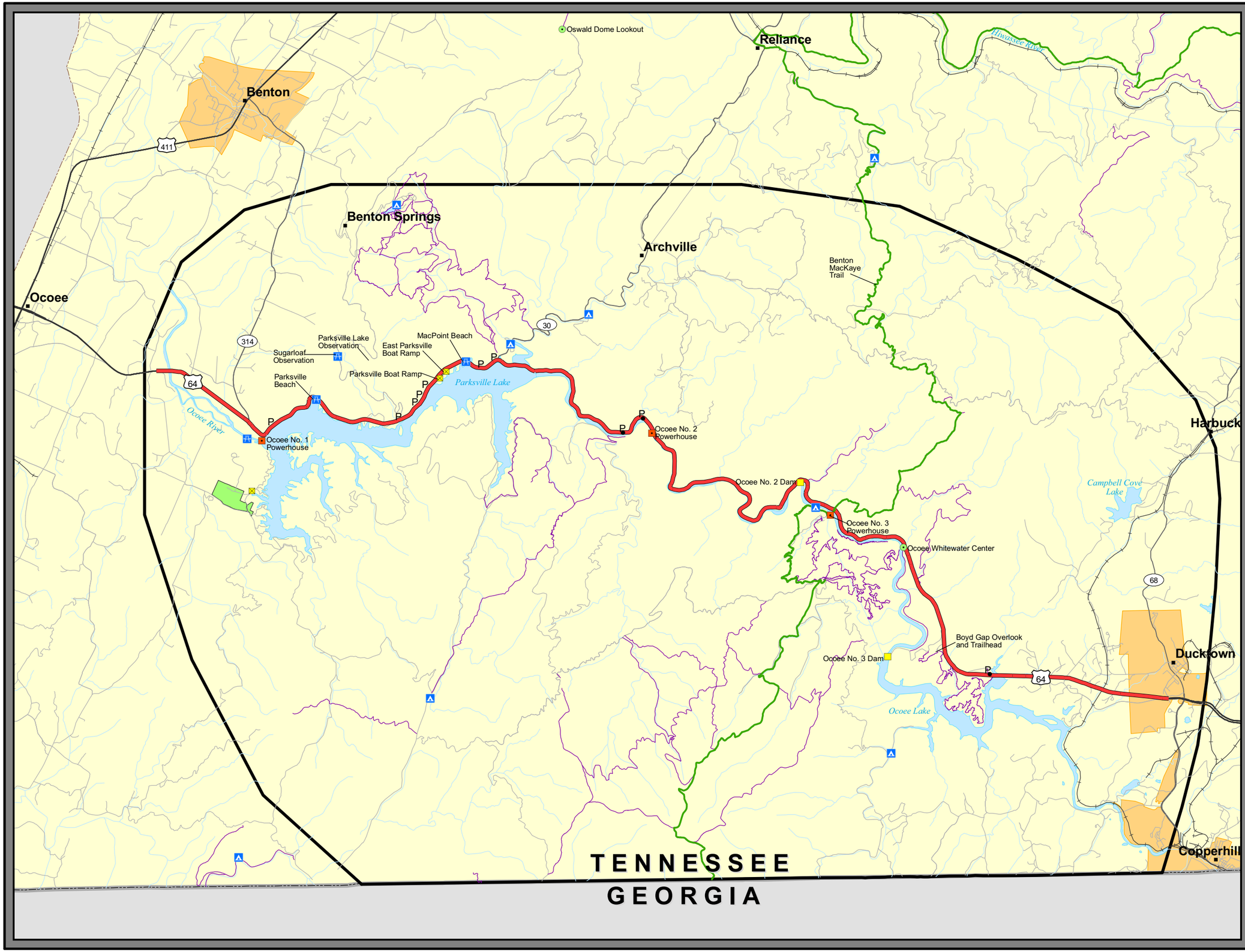
There is only one location along US 64 that accommodates pedestrians and cyclists. A paved path behind the guardrail and concrete barrier runs along the south side of US 64 between Little Gassaway Road at Ocoee No. 3 Powerhouse and the Ocoee Whitewater Center. Much of US 64 through the gorge has inadequate shoulders, but pedestrian traffic does exist along the Ocoee River, particularly with boaters walking to and from cars parked on the shoulder and to get back up-river. Hiking trails such as the Benton MacKaye Trail also cross US 64.

2.5.1 MAJOR TRAFFIC GENERATORS

With the project study area being primarily within the CNF, there are no major industrial or commercial businesses that generate traffic within the project study area. The Ocoee River and its use for recreation and tourism is the largest traffic generator within the project study area, however this is seasonal. From mid-March through November 1st TVA releases additional water for boating and rafting Thursdays through Mondays. Commercial rafting outfitters primarily use buses to shuttle rafters along the river but individual boaters tend to park along the shoulder of the road. As the primary east-west route through Polk County, US 64 serves interstate commercial traffic, logging trucks, and commuters as well as recreational traffic. The truck percentage along the corridor ranges from nine to 12 percent.

2.5.2 CRASH HISTORY

The crash rates for US 64 between 2005 and 2007 were calculated for each section where traffic volumes or typical sections changed. Five segments along the existing route were identified and analyzed with four 2-lane sections and one 4-lane divided section. Table 3 summarizes each segment and analysis results. The four 2-lane sections taken as a whole have a crash rate below the statewide average; however two of the four segments have crash rates higher than the statewide average. These two segments are not contiguous. The 4-lane section west of the Ocoee Whitewater Center recorded a crash rate higher than the statewide average. It should be noted that there are two median crossover locations where cars turn left or make a U-turn on US 64 and many of the crashes were at these locations. In October 2009, safety improvements were completed to eliminate one of the median openings on this segment of US 64. Future crash analysis would assess the effectiveness of this improvement.



US 64 CORRIDOR K

OCOEE RIVER GORGE SECTION

Legend

- City/Municipality/Town
- Dam
- Powerhouse
- Campground
- Other Recreational Site
- Boat Ramp
- Picnic Area
- Parking Area
- Benton MacKaye Trail
- Existing US 64 Route of Interest
- Recreational Trails
- Railroad
- Secondary Route
- Local Road
- River or Creek
- YMCA Camp/Property
- Waterbody
- Municipality
- Polk
- State Boundary
- Project Study Area

1:95,040

1 inch equals 1.5 miles

0 0.5 1 2 Miles

Source(s): Tele Atlas, ESRI, US Forest Service, and URS Corp.
Date: March 2010

TDOT Go.

FIGURE 12
RECREATIONAL SITES

CORRIDOR K

SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown
Polk County, Tennessee

US 64 | CORRIDOR K

OCOEE RIVER GORGE SECTION

Legend

- Airport
- City/Municipality/Town
- US Highway (64)
- State Route (314)
- USFS Roads
- River
- Railroad
- Waterbody
- Municipality
- Polk
- Project Study Area

1:158,563

1 inch equals 2.5 miles

0 0.5 1 2 Miles

Source(s): Tele Atlas, ESRI, US Forest Service, and URS Corp.
Date: March 2010

TDOT Go.

FIGURE 13
EXISTING TRANSPORTATION MODES

CORRIDOR K

SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown
Polk County, Tennessee

Table 3: Crash Analysis Summary

Segment No.	MP to MP	Description of 2-Lane Segments	Crash Rate	Statewide Ave. Rate
1	2.80 to 4.75	2-lanes from 0.3 mi west of Ocoee River to SR 314; 1.95 miles; 26 crashes	1.77	1.65
2	4.75 to 9.88	2-lanes from SR 314 to SR 30; 5.13 miles; 31 crashes	1.11	1.65
3	9.88 to 18.40	2-lanes from SR 30 to Forest Service Rte 45 (Little Gassaway Rd); 8.52 miles; 83 crashes	1.98	1.65
5	19.45 to 26.08	2-lanes from Ocoee Whitewater Center to Ramp of SR 68; 6.63 miles; 45 crashes	1.19	1.65
Summary of 2-lane section of US 64			**1.51**	**1.65**
Segment No.	**MP to MP**	**Description of 4-Lane Segment**	**Crash Rate**	**Statewide Ave. Rate**
4	18.40 to 19.45	4-lanes from Forest Service Rte 45 (Little Gassaway Rd) to Ocoee Whitewater Center; 1.05 miles; 16 crashes	3.09	0.80
Summary of 4-lane section of US 64			**3.09**	**0.80**

For the reporting period, there were 201 crashes, four of which involved fatalities and 88 which involved incapacitating, severe or other injuries. Most crashes did not occur under adverse weather conditions. A total of 349,188 vehicle miles travelled (VMT) were recorded for the three years.

No single repository of site-specific animal crash data is available in Tennessee and according to USFS the exact locations of the crashes are not known. Yet, TWRA and USFS documented at least seven bear roadkill mortalities in a four year period (2006-2009) within the general project area. Roadkill accounts for the largest percentage of non-harvest mortality of black bear in Tennessee.

Polk County has the lowest density of deer population in Tennessee, therefore crashes involving deer are not as common, particularly through the gorge. The deer population is higher on each end of gorge where their preferred habitat is available. Crashes involving deer have occurred on US 64 in these areas.

A 2004-2006 crash analysis referenced in the *Corridor K Economic Development and Transportation Study* identified 228 crashes and a crash rate of 2.90 on the 2-lane segments with the statewide average at 1.68 for US 64. Even with the recent reduction in crash rates, there are still numerous safety issues identified in this section of the proposed Corridor K project:

- Lack of visibility at curves
- Encountering traffic stopped for parking, pedestrians, or downed trees
- Pedestrians walking roadside
- Lack of turn lanes
- Lack of parking
- Road closure due to rock slides and downed trees
- Lack of alternate routes

US 64 CORRIDOR K

OCOEE RIVER GORGE SECTION

Legend

- Safety Issue Location
- Crash rate on 4-lane section exceeds statewide average
- Eastbound shoulder - lacks adequate shoulder
- Westbound shoulder - rock face at shoulder w/ no ditch
- City/Municipality/Town
- Primary Route
- Secondary Route
- Railroad
- River
- Waterbody
- Municipality
- Wildnerness Area
- Polk
- State Boundary

1:95,040

1 inch equals 1.5 miles

0 0.3750.75 1.5 Miles

Source(s): Tele Atlas, ESRI, US Forest Service, and URS Corp.
Date: March 2010

TDOT Go.

FIGURE 14
SAFETY ISSUES

CORRIDOR K

SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown
Polk County, Tennessee

2.5.3 RECENT IMPROVEMENTS

TDOT prepared a Road Safety Audit Report in 2006 that identified 18 locations where safety improvements could be made to US 64 in the gorge area. Twelve of the sites were located within the project study area. By October 2009, all recommended improvements were completed, which included adding pavement markings and/or raised reflective pavement markers, turn lanes, advanced warning signs, removing rock adjacent to the road, and adding a traffic signal at Main Street and US 64 in Ducktown. TDOT Region 2 Maintenance has also made improvements by installing additional guardrail. Most of the improvements were not started until spring of 2009. Crash data for these areas has not yet been completed to assess if safety has improved along the entire route.

Segment 4 from Forest Service Route 45 (Litle Grassaway Road) to the Ocoee Whitewater Center has the highest crash rate (3.09) along the route and is over the statewide average rate (0.80). The recommended improvement to eliminate the median opening and add an eastbound left lane and westbound acceleration were completed in October 2009. Future crash analyses would assess the effectiveness of this improvement.

New pavement marking, guardrail and advanced warning signs approaching 15 mph curve (2009)

Over the years, TDOT Maintenance crews have been able to do other improvements such as adding guardrail, widening shoulders for pullouts or removing outcropping rock adjacent to the road. Conditions do not always allow construction to meet design standards, but these efforts are still done to help increase safety for motorists.

During the months that US 64 was closed after the November 2009 rock fall, TDOT maintenance crews worked on spot improvements within the existing Right-of-Way along the road west of the rock fall location. This work included removal of overhanging trees, removal of rock outcropping from high hazard locations, and select areas of shoulder widening on the south (river) side of the road. Two curves, including the 15 mph curve, were addressed by cutting back the rock face adjacent to the westbound lane by seven (7) to fifty (50) feet. Some of the material removed from the slopes was used to create a new pulloff near M.P. 16.0 for emergency river rescue operations.

2.5.4 MAJOR STRUCTURES

There are nine 2-lane bridges and six culverts on existing US 64 in the project study area at the following locations:

Bridges

- Ocoee River (M.P. 3.12)
- Cloud Branch (M.P. 4.23)
- Greasy Creek (M.P. 10.35)
- Madden Branch (M.P. 11.06)
- Left Prong Caney Creek (M.P. 13.14)
- Goforth Creek (M.P. 15.39)
- Rock Creek (M.P. 20.04)
- Brush Creek (M.P. 23.04)
- Hiwassee River Railroad (M.P. 24.85)

Culverts

- East of Welcome Valley Road (M.P. 3.53)
- Branch (M.P. 13.89)
- Branch (M.P. 14.12)
- Branch (M.P. 15.23)
- Branch (M.P. 15.69)
- Branch (M.P. 17.84)

All bridges at locations listed above could be retained, replaced with new, or widened on existing alignment. Bridges over Greasy Creek, Madden Creek, Left Prong Caney Creek and Goforth Creek are within the Ocoee River Gorge. The remaining bridges are outside of the gorge. Only the bridge over Greasy Creek has adequate shoulder width for 2-lane rural arterial design criteria.

2.5.5 MULTI-MODAL FACILITIES

Public transit is available in Polk County through the Southeast Tennessee Human Resources Agency (SETHRA). This transit van service operates in association with TDOT and the Federal Transit Administration (FTA) and provides rides for employment to qualified individuals in Polk and eight other neighboring counties.

Pedestrian traffic is only safely accommodated in a few places along US 64 within the project study area. Pedestrians, particularly boaters, walk along the road through the gorge to travel up and down the river. A multi-use path located behind an existing barrier wall on the south side of US 64 spans from the Ocoee Whitewater Center to approximately one mile west, running parallel to the existing 4-lane section of US 64.

3.0 PRELIMINARY PURPOSE AND NEED FOR THE PROJECT

3.1 PURPOSE

The purpose of the proposed Corridor K project is to implement a safe, reliable, and efficient east–west transportation route from just west of where US 64 crosses the Ocoee River to SR 68 that would improve the regional transportation linkages and preserve environmental quality.

Additionally, the proposed project should support local, regional, and state plans and goals for land use and transportation and support or enhance economic development in the Southeastern region of Tennessee. This proposed Corridor K project lies within a section of ARC's ADHS Corridor K region. The Corridor K region extends 127 miles from Interstate 75 in Bradley County, Tennessee to ADHS Corridor "A" near Dillsboro, North Carolina.

3.2 NEED

Roadway Deficiencies- Due to topographic and natural constraints, US 64 from just west of the Ocoee River crossing to SR 68, does not satisfy design standards appropriate to a roadway of the ADHS and the National Truck Network.

TDOT identified the following roadway deficiencies in their *Road Safety Audit Report* (2006):

- Horizontal alignment
- Lack of roadway shoulders
- Rock slides
- Minimal sight distance around curves
- Inadequate space for guardrail placement

Obstruction of passage due to crashes, rockslides (major and minor), and inclement weather coupled with the scarcity of potential detours can cause notable travel time delays within the proposed project's study area.

Many of these deficiencies and others noted in the *Road Safety Audit* have been addressed to the fullest extent possible by TDOT. However, safety issues remain on the existing highway.

Safety- Any US Highway 64/Corridor K project should address the unique safety issues caused by various types of traffic and corridor users. Vehicle classes using US 64 include automobiles, motorcycles, tractor trailers, military vehicles, buses, and recreational vehicles. The current traffic volumes and the various mix of vehicles using US 64, combined with the mountainous terrain, sharp curves, inadequate sight distance, substandard shoulders and clear zones, and moderately steep grades, create a high potential for crashes and substantial traffic delays. Crash data derived from TDOT's *Road Safety Audit* (2006) identify areas along US 64 that are experiencing higher than average crash rates. In some cases, these areas are the same as those identified as having design deficiencies that have not been eliminated by previous roadway improvement efforts.

System Linkage- US 64 is the only east-west arterial in the region and serves through, local, and recreational traffic of various classifications. At a local level, a proposed project is warranted to support or enhance the local transportation network, U.S. Forest Service transportation network linkage and provide access to health care facilities, educational facilities, cultural

amenities, and to employment opportunities. On a regional level, the proposed project would represent a section of ADHS' Corridor K.

Economic Development- The *Corridor K Economic Development and Transportation Study* (2008) concluded that the Corridor K region, including the proposed project, would benefit from transportation improvements that enhance the economic sustainability and support the growing tourism industry in the Southeastern region.

Corridor K is among many ADHS approved corridors and highways intended to promote economic development in the Appalachian Region of the United States. It has been identified by the Southeast Rural Planning Organization (SERPO) as one of the most important transportation projects being considered in southeast Tennessee today (Southeast Tennessee Development District, 2009).

3.3 OTHER GOALS AND OBJECTIVES

Additional goals and objectives deemed to be beneficial include the following:

- US 64, from just west of the Ocoee River crossing to SR 68, has been identified as a non-interstate component of the Strategic Highway Network (STRAHNET) by the Military Traffic Management Command Transportation Engineering Agency. As part of the National Highway System (NHS) and STRAHNET the subject project would represent a portion of an integrated transportation network intended to support the nation's economy.
- The proposed project should promote the mission of the USFS' Scenic Byways Program by enhancing access to destinations having regional importance such as the Ocoee Whitewater Center and the Ocoee River.
- The proposed project should strive to be consistent with the 2004 revised Cherokee National Forest, Land and Resource Management Plan (RLRMP) in a way that will integrate with the unique and significant natural resource and social attributes of the Cherokee National Forest.
- The proposed project should support the current and future needs of local businesses, local and regional economic plans, and the objectives of the ARC. The proposed project should provide for opportunities for travelers to pull off the roadway and see the natural splendor of the Ocoee River Region including scenic vistas, overlooks, river, and historical points.
- The proposed project should consider the safety of pedestrians and cyclists along US 64.

4.0 MEASURES OF EFFECTIVENESS

4.1 LEVEL OF SERVICE

The TPR analyzed base year (2014) and design year (2034) traffic volumes for the project study area in Polk County. The procedures used to define the operational qualities of the roadways are based on the concepts of capacity and level of service (LOS) as set forth in the 2000 edition of the Highway Capacity Manual (HCM) (TRB, 2000). The LOS is defined with letter designations from A to F as shown in
Table 4: Level of Service (LOS) Definitions. LOS A represents the best operating conditions along a road or at an intersection, while LOS F represents worst case conditions. The recommended LOS for arterials is LOS B based on the American Association of State Highway

and Transportation Officials (AASHTO) guidelines. However, the guidance allows for some flexibility as follows: "…except in mountainous areas where LOS C is acceptable." Each of the build options was analyzed with no access control for the new location corridors. A higher number of access points for a "worst case" analysis was performed, even though much of the corridor is within CNF.

Table 4: Level of Service (LOS) Definitions

Level of Service	Road Segment/Ramps
A	Free flow. Individuals are unaffected by other vehicles and operations are constrained only by roadway geometry and driver preferences. Maneuverability within traffic stream is good. Comfort level and convenience are excellent.
B	Free flow, but the presence of other vehicles begins to be noticeable. Average travel speeds are the same as in LOS A, but there is a slight decline in freedom to maneuver and level of comfort.
C	Influence of traffic density on operations becomes marked. The ability to maneuver within the traffic stream is clearly affected by other vehicles. Multi-lane highways with a free flow speed (FFS) above 50 miles per hour (mph), the speeds reduce somewhat. Minor disruptions can cause serious local deteriorations and queues would form behind any significant traffic disruption.
D	The ability to maneuver is severely restricted due to traffic congestion. Travel speed is reduced by the increasing volume. Only minor disruptions can be absorbed without extensive queues forming and the service deteriorating.
E	Operating conditions at or near the capacity level, usually unstable. The densities vary, depending on the FFS. Vehicles are operating with the minimum spacing for maintaining uniform flow. Disruptions cannot be dissipated readily. Most multilane highways with FFS between 45 and 60 mph vehicle mean speeds at capacity range from 42 to 55 mph, but are highly variable and unpredictable.
F	Breakdown flow. Traffic is over capacity at points. Queues form behind such locations, which are characterized by extremely unstable stop-and-go waves. Travel speed within queues are generally less than 30 mph.

Source: Transportation Research Board, 2000.

Traffic volumes were analyzed for the ten options to determine the LOS for each in the base year (2014) and design year (2034). The route for each option was separated into different segments based on changes in typical sections and traffic volumes (vehicles per hour). The segments and resulting LOS are described in Section 5, Proposed Improvements.

The Highway Capacity Software (HCS) used for the analysis accounts for changes in volume and typical sections, but does not factor in the condition of the road such as narrow shoulders or short segments with reduced speed, which can affect normal driving conditions. However, as discussed in Section 4.2 Travel Time, these conditions do not appear to impact the flow of traffic through the gorge so the HCS results would not be negatively affected.

4.2 TRAVEL TIME

The travel time of the corridor is the length of time it takes to travel the length of the project. It takes into account the lane miles, driver speed, any delays from heavy traffic volumes or turning vehicles, posted speeds, passing zones, and number of lanes.

A travel time study was performed to determine the typical time and speed of a trip between the beginning and end of the project. Travel runs were conducted in mid-August 2009 during the

rafting season, but before school had started. Another set of runs were made in mid-October 2009 while rafting season continued but with school in session and the leaves at peak season. The summer runs experienced no travel delays with an average running speed of 48 mph and 29 minutes of travel time. The mid-October runs were slightly slower with average running speed of 47 mph and 30 minutes of travel time. No significant delays were encountered during the two sets of study runs. Rafting buses were numerous, but caused no delays with drivers who were experienced in driving on US 64 and knew where to pull off without having to stop or slow down enough to impede the flow of traffic.

As with other rural 2-lane roads, traffic delays along US 64 occur with each crash or temporary road closure. However, the lack of alternative routes within Polk County does not provide a convenient detour route for traffic driving though the gorge area. Narrow shoulders on US 64 through the gorge do not provide space for vehicles to safely pull off the road or room for other cars to get around an incident in the road. In the case of a long term road closure, the available east-west detours can increase travel times by more than one hour in each direction with traffic routed to SR 68 and I-75. Additional studies are proposed to determine regional economic impacts to road closures due to rock slides as well as travel time studies for detours routes used when US 64 is closed to through traffic in the Ocoee River Gorge.

5.0 PROPOSED IMPROVEMENTS

5.1 DESIGN CRITERIA

5.1.1 NUMBER OF TRAVEL LANES

The western project terminus of the proposed Corridor K project is currently under construction to become a multi-lane roadway with sections of 4-lane with both divided and flush median. The eastern project terminus is a 4-lane section with a divided 48-foot depressed median. Both of these have or will have two 12-foot lanes in each direction with 12-foot outside shoulders (10-foot paved).

The 2,000 foot study corridors on new location would provide adequate width for any potential typical section that meets the functional classification of rural arterial including 2-lane, 4-lane with flush or divided median. For options on the existing US 64 route, this same range of improvements could be made within the 500-foot corridor with only minor horizontal alignment revisions.

The traffic analysis indicates that a 2- or 4-lane typical section with 12 foot lanes would provide an acceptable LOS for the 2034 design year traffic volumes. A 4-lane typical section would provide better route continuity, greater capacity and improved safety, but at a higher cost. A 2-lane section would still provide the capacity for the anticipated future volumes. Truck climbing lanes, passing lanes and dedicated turn lanes would improve the performance.

It would also be possible to construct the full width of a future multi-lane section along a new location build corridor, but initially provide for only 2-lane, 2-way traffic until the traffic growth warrants additional lanes. This concept would address most environmental effects under the original construction, with only minor effects in the future from paving additional lanes. This assumes no additional tunneling would be warranted.

5.1.2 DESIGN SPEED

In order to decrease travel time and improve mobility through the project study area, the design speed should be at least 50 mph which would allow a posted speed of 45 mph. A design speed of 60 mph would allow a posted speed limit of 55 mph, which would match the posted speed limit on each end of the project study area. The design speed controls other geometric factors such as minimum radius of horizontal curves, maximum vertical grades, and stopping sight distance.

5.1.3 PEDESTRIAN AND BICYCLE ACCOMMODATIONS

Any selected typical section for improvements to US 64 should meet American Association of State Highway and Transportation Officials (AASHTO) design standards. The recommended outside shoulder width for a rural principal arterial is twelve (12) feet with ten (10) feet stabilized for a 4-lane and ten (10) feet with eight (8) feet stabilized for a 2-lane. These widths would better accommodate pedestrian and bicycle use. Sidewalks are not recommended with the open shoulder typical section.

5.1.4 PASSING ZONES

Along the 2-lane and 3-lane segments of existing US 64 within the project study area are short passing zones. These would remain for options that retain the current US 64 alignments. The improvement options on new location can create more opportunities for passing zones by providing better sight distance, truck passing lanes, and increased quality of service along the route.

5.1.5 ACCESS CONTROL

The need to improve east-west mobility through the proposed Corridor K project and support economic development should be balanced with the need to maintain the scenic and natural surroundings of Polk County. These needs can be met with access management along any new location option of the proposed Corridor K project with control measures such as limiting driveway entrances and side road connections along the route. Reducing the number of locations where vehicles could turn would improve the service and safety of the project route.

5.1.6 DISPOSITION OF EXISTING ROUTE

For a typical project with a new location option, any segment of the existing road could be removed from the State Highway System and become the responsibility of other entities. For the purpose of this study, this would be the case for all options except Option 1 - No-Build, Option 2 - Improvements to US 64, and Option 2A - Spot Improvements on Existing US 64. However, due to the unique dual nature of the project study area with the need to improve access to the variety of recreational opportunities along the Ocoee River as well as improve the highway linkage to each end of Polk County, some segments of US 64 may be retained on the State Highway System. TDOT will consider a disposition option through collaborative efforts with local government officials and other vested entities.

5.1.7 ROADSIDE DESIGN

The roadside design of the proposed Corridor K should incorporate concepts described in the AASHTO *Roadside Design Guide*. The roadside should be designed to be free of fixed objects, with stable flattened slopes that can reduce the severity of a lane departure crash. Adequate clear zone distances for the chosen design speed should be incorporated to provide safer conditions for errant vehicles driving out of a lane, to reduce the serious consequences of affect

to a fixed object, or recovering driver control in advance of a steep slope. Where a roadside obstacle exists, the following options should be considered:

- Remove or relocate the obstacle (i.e. boulder or existing sign)
- Redesign the obstacle so it can be safely traversed (i.e. flattened slope)
- Reduce the affect severity by using an appropriate breakaway device (i.e. new sign support)
- Protect the obstacle with a longitudinal barrier (i.e. guardrail or concrete barrier)
- Delineate the obstacle (i.e. object markers or advanced signage)

5.2 CORRIDOR OPTIONS CONSIDERED

This TPR considers ten options for the proposed Corridor K. These options evaluate the opportunities within the Ocoee River section of the proposed Corridor K project. The options include 20 to 23 mile east-west corridors that generally range from five hundred (500) to two thousand (2,000 feet) in width, wherein several alternative options may be considered should the project be advanced to the federal NEPA review process. The corridors are developed from 19 segments with corridor options sharing common segments as shown in Figures 14 and 15. There are five corridors all on new location north of the Ocoee River, and two corridors on new location to the south. Two options are based on improvements to existing US 64, one for the entire length and one for spot improvements throughout the corridor. Two options combine existing and new location corridors, both on the north side of the river. The options being evaluated are summarized below:

- Option 1– No-Build
- Option 2 – Improve Existing US 64
- Option 2A – Spot Improvements to Existing US 64
- Option 3 – Northern Corridor N-4 (Segments 4-2-3)
- Option 4 – Northern Corridor N-5 (Segments 4-2-6-7)
- Option 5 – Northern Corridor N-6 (Segments 4-5-7)
- Option 6 – Southern Corridor S-5 (Segments 17-18-12-13-10-11)
- Option 7 – Southern Corridor S-6 (Segments 17-19-10-11)
- Option 8 – Corridor N-7 (Combination: Existing-Segments 20-2-6-7-Existing)
- Option 8A – Corridor N-8 (Combination: Existing-Segments 20-5-7-Existing)

Options for spot improvements are considered only when immediate safety and/or geometric needs are identified and are not eligible for federal safety funding. The new location corridors are made up of numerous corridor segments that diverge from and merge back together to become a single corridor option. All of these options are evaluated to assess how each would meet the purpose and need of the project.

5.2.1 QUANTM

The various corridors were developed in part with the use of QUANTM which is a computer-based planning tool that uses environmental impacts, engineering, community impacts, and cost constraints identified by stakeholders to develop optimized routes. It is most effective for alignment studies in areas with steep terrain. Multiple route locations can be created that avoid or reduce affects to known resources, such as critical wildlife habitat, water features, and cultural resources, while following TDOT roadway design standards.

Input for QUANTM requires four main parts: 1) a digital terrain model for the topography of the project area; 2) geometry based on the design criteria for the road, including design speed, minimum horizontal radius, maximum vertical grades, and lane configurations; 3) Cost factors for key construction items such as earthwork and bridges; 4) Geographic Information System (GIS) features with assigned status on how they should be addressed in the design. Features can be assigned an avoidance status of Low-Medium-High and QUANTM would develop alignment alternatives that would go through an area of a Low Avoidance, around the edges of a Medium Avoidance or completely avoid a High Avoidance. This last code would prevent individual alignments from going through a protected area such as the Big Frog Wilderness and Little Frog Mountain Wilderness areas yet still meet the design criteria.

Output from QUANTM was reviewed to assess where common route alternatives were grouped together. These groupings indicated a location where numerous optimized routes met the input parameters. Each grouping was identified as a potential segment that would make up a corridor. During the analysis, various corridors were identified from the segments; however as new GIS data was collected and added to the analysis, some of the route groupings changed and segments would no longer meet the criteria. These segments were not eliminated but were not used to develop the corridors.

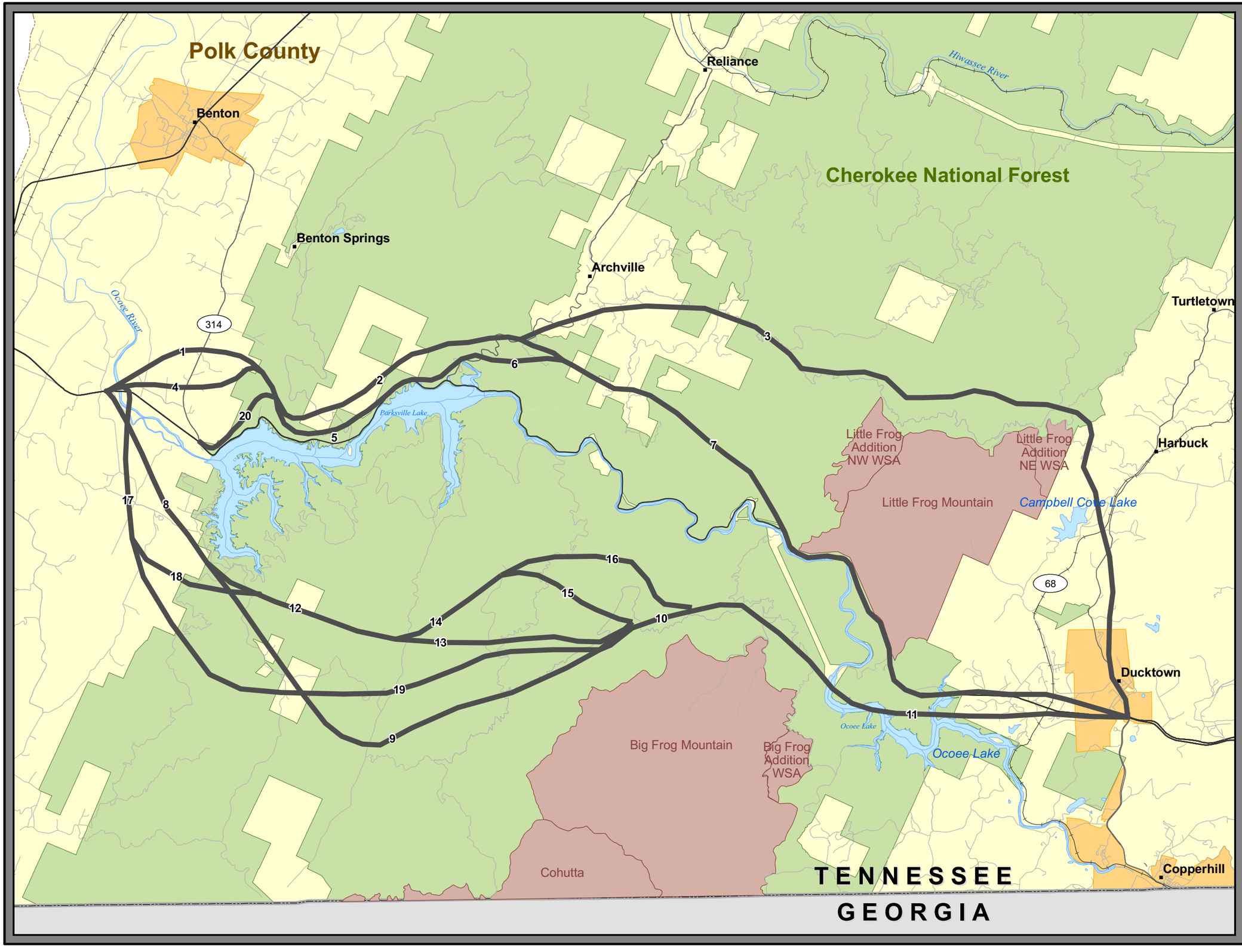
Corridor Options 4, 5, 6, 7, 8, and 8A were developed from QUANTM output. Two corridors were identified along the existing US 64 route. One corridor was suggested for analysis from a Citizens Resource Team (CRT) member.

5.2.2 EARLY ENVIRONMENTAL SCREENING

Once the corridors were identified, TDOT evaluated each option with an Early Environmental Screening (EES) process. By screening the latest available GIS environmental data during the early stages of the planning process, TDOT and the public would be better prepared to anticipate many potential environmental issues and potential mitigation requirements, yet this screening tool is not all-inclusive of environmental concerns associated with roadway improvements. This screening process involves using GIS to assess environmental data as it spatially relates to the projects Area of Potential Effect (APE). The EES reviews the following five categories of data:

- **Archaeological/Historical Architecture** – cemeteries and historic property
- **Community Impacts** – institutions and sensitive community populations
- **Ecology** – protected species (terrestrial and aquatic), Scenic Waterways, wetlands
- **Hazardous Substances/Geology** – Superfund sites, pyritic rock, caves
- **Parks and Public Lands** – local, state and federal lands, parks, public buildings or land, railroads, wildlife management areas

Results from the EES report were reviewed with other GIS data collected and were refined or supplemented for the report.



US 64 CORRIDOR K
OCOEE RIVER GORGE SECTION

Legend

- City/Municipality/Town
- Existing US 64 Corridor
- Railroad
- Secondary Route
- Local Road
- River
- Waterbody
- Municipality
- Cherokee National Forest (Polk Co.)
- Polk County
- Wilderness Area/Study Area
- State Boundary
- Project Study Area

1:95,040
1 inch equals 1.5 miles

0 0.5 1 2 Miles

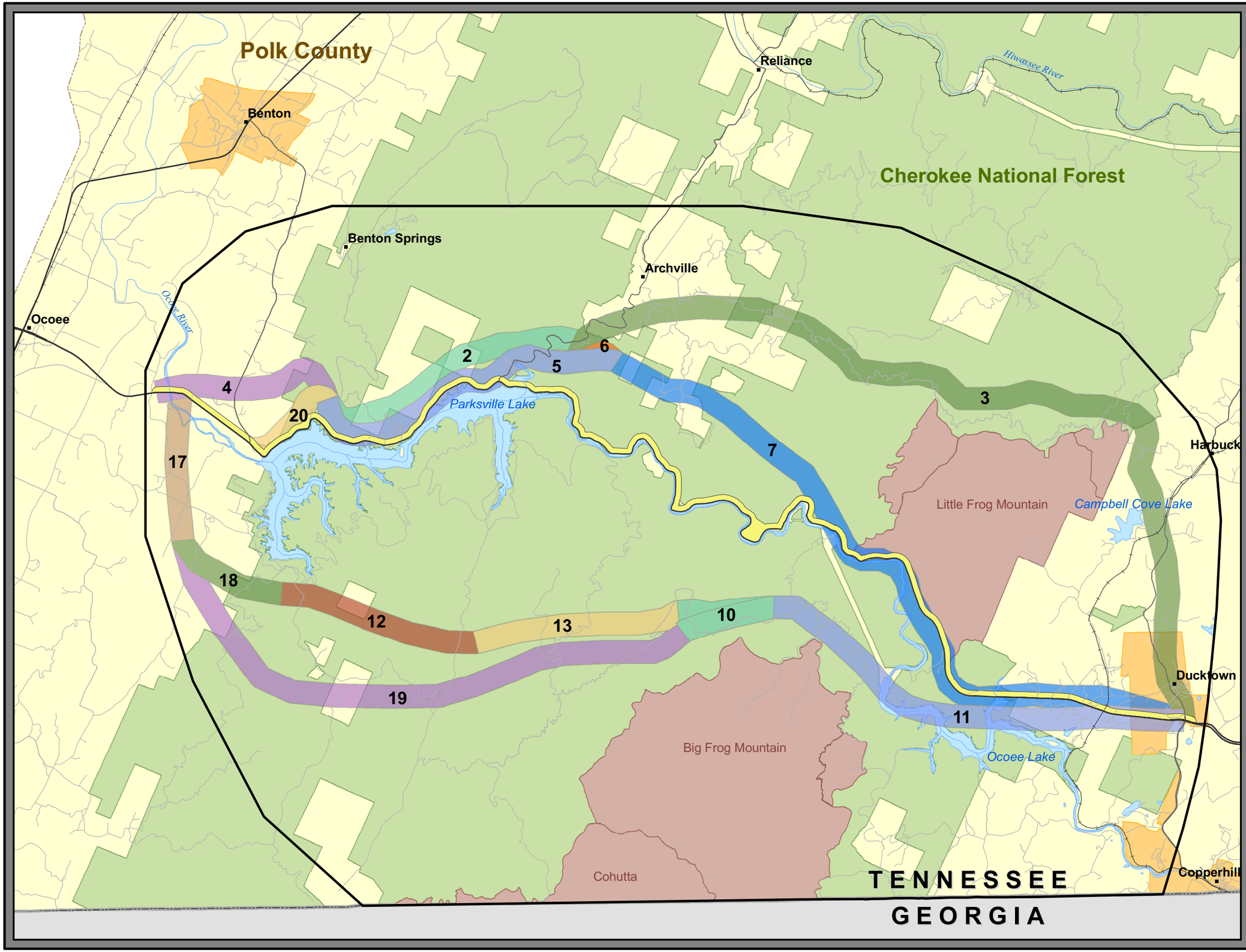
Source(s): Tele Atlas, ESRI, US Forest Service, and URS Corp.
Date: March 2010

TDOT Go.

FIGURE 15
PROPOSED SEGMENTS

CORRIDOR K

SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown
Polk County, Tennessee



US 64 CORRIDOR K

OCOEE RIVER GORGE SECTION

Legend

- City/Municipality/Town
- Existing US 64 Corridor
- Railroad
- Secondary Route
- Local Road
- River
- Waterbody
- Municipality
- Cherokee National Forest (Polk Co.)
- Polk County
- Wilderness Area/Study Area
- Project Study Area

1:95,040

1 inch equals 1.5 miles

0 0.5 1 2 Miles

Source(s): Tele Atlas, ESRI, US Forest Service, and URS Corp.
Date: March 2010

TDOT

FIGURE 16
PROPOSED CORRIDORS

CORRIDOR K

SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown Polk County, Tennessee

5.2.3 OPTION 1 – NO-BUILD

5.2.3.1 Concept

No changes to US 64 within the project study area. The project length would remain at 23.1 miles (Figure 17). There will be no improvements within the project study area other than routine maintenance activities.

5.2.3.2 Typical Section

There will be no improvements within the project study area other than routine maintenance activities.

5.2.3.3 Early Environmental Screening

No EES evaluation was necessary for the No-Build option.

5.2.3.4 Environmental Concerns

The No-Build option would not alter water resources within the project study area. Regardless, existing conditions are of concern with exposed rock slopes along US 64 that produce acidic runoff as well as sediment that is carried by streams and the Ocoee River.

There would be no new encroachment on CNF lands associated with this option.

No new effects to biological resources would be anticipated. This option would not encroach upon any wildlife management areas or wilderness areas. US 64 through the gorge does not have a high number of recorded crashes involving wildlife, but this number could rise as traffic volumes increase into the design year 2034.

This option would not address improvements or mitigation efforts to the TDOT designated high hazard rockslide locations through the Ocoee River Gorge adjacent to US 64. These efforts would continue to be addressed by TDOT's Rockfall Mitigation Program based on their priority across the state. No pyritic rock would be exposed by project related construction.

There would be a potential for air quality to worsen and increased ambient noise levels as traffic levels along US 64 are anticipated to increase in to the design year 2034.

5.2.3.5 Community Concerns

Into the design year, travel times would be expected to increase as traffic increases with the higher demand on US 64. Community effects associated with the existing route include temporary road closures (major and minor), long detour routes, rockslides, pedestrians and parking along the shoulders, and overall road safety concerns.

No new scenic views or access to recreational resources would be created or enhanced by this option. There would be no changes to hiking/biking trails or other recreational sites associated with the No-Build Option. This Option would not alter remote areas. Hunting and angling activities would remain unchanged.

US 64 | CORRIDOR K

OCOEE RIVER GORGE SECTION

Legend

- City/Municipality/Town
- Existing US 64 Corridor
- Railroad
- Secondary Route
- Local Road
- River
- Waterbody
- Municipality
- Cherokee National Forest (Polk Co.)
- Polk County
- Wilderness Area/Study Area
- Project Study Area

Polk County

Cherokee National Forest

Benton

Reliance

Hiwassee River

Benton Springs

Archville

Ocoee

Ocoee River

BEGIN PROJECT

Parksville Lake

Harbuck

Little Frog Mountain

Campbell Cove Lake

END PROJECT

Ducktown

Big Frog Mountain

Ocoee Lake

Copperhill

Cohutta

TENNESSEE

GEORGIA

1:95,040

1 inch equals 1.5 miles

0 0.5 1 2 Miles

Source(s): Tele Atlas, ESRI, US Forest Service, and URS Corp.
Date: March 2010

TDOT Go.

FIGURE 17
OPTION 1: NO BUILD

CORRIDOR K

SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown Polk County, Tennessee

5.2.3.6 Anticipated Operational Performance

The traffic analysis indicates an overall LOS of C for 2014 traffic and LOS C for the design year 2034 for the No-Build option. The analysis was done for 13 segments along existing US 64 with LOS ranging from A to C in 2014 and A to D in 2034. Table 5 details the anticipated operational performance with no improvements made to US 64.

Travel time for the length of the project is approximately 29 minutes from the beginning to end of the project. The design year travel time is only expected to increase by only one minute to 30 minutes. Traffic volumes are not expected to increase significantly through the gorge, but they do increase enough around SR 314 to lower the LOS from a C to a D on the west end of the project and delays could increase with a higher volume of turning traffic. Seasonal temporary delays from recreational traffic, parking along the shoulder and pedestrians walking adjacent to the travel lane will continue. This option does not address the issue of temporary road closures that would require a long-term (weeks or months) detour.

Table 5: Performance Measures for Option 1: No-Build

	No of Lanes	Vehicles per Hour	LOS	Distance (mi)	Estimated Ave. Speed (mph)	Travel Time (min)
Year 2014	2	324-577	C	23.1	48	29
Year 2034	2	412-843	C	23.1	46	30

5.2.3.7 Estimated Construction Costs

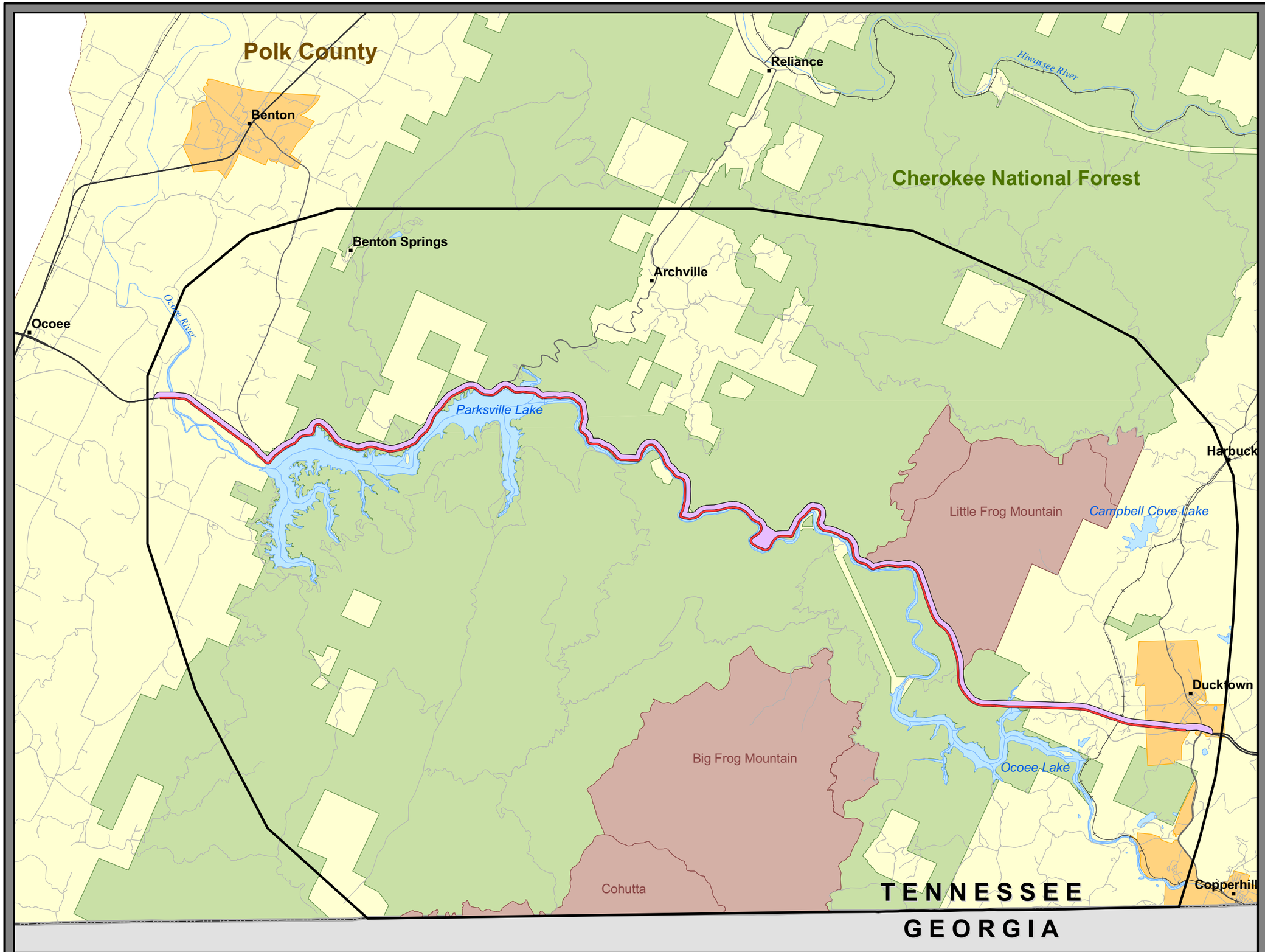
No cost beyond scheduled maintenance of the existing road or other projects funded through the TDOT Rockfall Mitigation Program.

5.2.4 OPTION 2 – IMPROVE EXISTING US 64

5.2.4.1 Concept

Option 2 (see Figure 18) would update and improve existing US 64 for the entire project limits with an alignment and typical section that meets design standards for a 2-lane or 4-lane rural arterial route. Improvements for safety and mobility would include widened shoulders on both the road and bridges, increased radius of curves that do not meet design standards or have insufficient sight distance, and realignment of US 64 on new location potentially with a tunnel. Much of the existing horizontal and vertical alignment could be widened, but there are numerous locations that would require the construction of a larger radius curve or construction on new location in order to meet the minimum design speed. These locations are identified in Figure 19 of the next section for Option 2A.

The design would provide a minimum posted speed of 45 mph for the entire route, with much of the route posted for 55 mph. For a 2-lane section, adding passing lanes where feasible to improve level of service. Existing intersections such as SR 30 and NFSR 77 would be improved for adequate turn lane lengths and sight distance. This option would address areas prone to



US 64 CORRIDOR K

OCOEE RIVER GORGE SECTION

Legend

- City/Municipality/Town
- Existing US 64 Corridor
- Option 2: US 64 Improvements
- Railroad
- Secondary Route
- Local Road
- River
- Waterbody
- Municipality
- Cherokee National Forest (Polk Co.)
- Polk County
- Wilderness Area/Study Area
- Project Study Area

1:95,040

1 inch equals 1.5 miles

0 0.5 1 2 Miles

Source(s): Tele Atlas, ESRI, US Forest Service, and URS Corp.
Date: March 2010

TDOT Go.

FIGURE 18
OPTION 2: US 64 IMPROVEMENTS

CORRIDOR K

SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown Polk County, Tennessee

rock slides, falling trees or other safety issues with wider ditches. Improvements would generally be made within the 500-foot corridor width north of the existing alignment due to the proximity of the existing route adjacent to the Ocoee River. Only one location extends beyond five hundred feet (500) where construction of a tunnel or large rock cut could eliminate two curves and reduce the travel length by 0.41 miles. Some areas of existing US 64 are close to the Ocoee River, possibly requiring retaining walls or other retaining devices to stabilize or maintain existing soil adjacent to the river bank. Construction of the 2-lane section outside the gorge to the east and west would only require roadway shoulder and ditch widening, as much of the road along these two areas were constructed at or just below the standards for a rural arterial.

5.2.4.2 Typical Section

The typical section for a 2-lane arterial would be provided throughout the length of the proposed project with two 12-foot lanes and 10-foot shoulders (eight foot stabilized) per TDOT standards for 2-lane rural arterial highways. The existing pavement would be maintained to the greatest extent possible to reduce construction costs. The typical for a 4-lane arterial would have 12-foot lanes with 12-foot shoulders (10 foot stabilized) and a flush or divided median. Existing lanes would be utilized as part of this typical section wherever possible. The roadway construction width for a 2-lane roadway would vary from eighty eight (88) feet to as much as four hundred (400 feet), depending on cut and fill limits. A 4-lane roadway would vary from one hundred eighteen (118) feet to as much as five hundred (500) feet depending on cut and fill limits.

The wider roadway shoulders would allow for continued parking along the road for river recreation and full ditch sections would provide adequate clear zone distances and areas for rockfall catchment. They would also provide additional width for better pedestrian and cycling use.

5.2.4.3 Early Environmental Screening

TDOT's EES evaluation identified the following resources within the APE of the existing US 64 Corridor:

Archaeological/Historical Architecture

Archaeological/Historic Sites – There is one historic site within this corridor at Ocoee No. 1 Hydroelectric Station located on the south side of the river. Proposed improvements would be located north of the river.

One eligible and two potentially eligible archaeological sites are located within the corridor. All of these would require additional studies and coordination with SHPO. US 64 crosses two of these sites near the west end of Parksville Lake. These would be impacted by any construction adjacent to the existing road.

Community

Railroad – The corridor crosses an old CSX railroad currently being used by the Hiwassee River Railroad excursion train. Any new crossing is anticipated to be a grade separation requiring coordination with the railroad, Tennessee DOT Safety Planning and Travel Data Office and the Tennessee DOT Right-Of-Way Division - Utilities Section. Potential effects associated with roadway construction activities at railroad crossings include stormwater drainage issues, grade separation requirements, and possible

railroad property acquisition. Acquisition of railroad property is likely to require extensive coordination and may involve the development of a maintenance agreement.

Cemetery – The Price Cemetery is located within the APE of this corridor option. The potential to affect this resource has yet to be determined and would warrant further assessment should alignments be developed for this option. Given the overall flexibility within the corridor to design alignments that can often avoid these types of community resources it would seem likely that effects to Price Cemetery could be avoided.

Public Institutions – The Polk County 9-1-1 facility is located within this corridor, adjacent to US 64 near the west end of Parksville Lake. The building would not likely be impacted with any associated improvements for the 2-lane typical section if the existing alignment was maintained in this area. However, widening required for a 4-lane typical section would require this facility to be relocated.

Ecology

Water Resources – There are 21 known wetland sites with a total of 2,430 acres within the 4,000 foot EES corridor. Based on GIS data review most of these sites are beyond the limits of the corridor. Additional jurisdictional wetlands or other waters of the U.S. (streams, ponds) may be identified within the corridor with further assessment and field investigation.

Terrestrial Species – There are 60 locations of known federally protected terrestrial species or a state protected species within the 4,000 foot EES corridor. Large areas of habitat for the plant species; Southern lobelia, Sedum Nevii, and mountain bush honeysuckle are within the corridor limits. The highly ranked plants Ruth's golden-aster, fraser's loosestrife, and Nevius' stonecrop are identified in the mapping along existing US 64. Further investigation such as field surveys would be warranted to confirm locations of any federally protected terrestrial species within the APE of this corridor option.

Aquatic Species – There is a recorded occurrence of a rare or state listed aquatic species located within the 10,000 foot EES corridor. Nine locations were identified through the EES evaluation and GIS data indicated the presence of Tennessee Dace and Seepage Salamander within the APE of this corridor. A survey for these species and others that are afforded protection by the state would be warranted to confirm their location within the APE of this option.

TDEC Conservation Sites & Scenic Waterways – This option has the potential to encroach upon five TDEC Conservation sites including the Little Frog Mountain, Goforth Creek Gorge, Ocoee River Gorge, Ocoee River/Ruths golden aster Protection Planning Site and Walkertown Branch Bog, a cranberry bog with a substantial plant population. All these TDEC Conservation Sites are along the existing route. The potential to affect a Scenic Waterway through construction activities is considered to be high with this option and may involve an additional stream crossing (bridge replacement), and/or relocation of a stream.

Section 4(f) of the DOT Act (23 U.S.C. 138) applies to significant and publicly owned parks and recreational areas and may be applicable should this option be advanced to the federal NEPA review process and avoidance of TDEC conservation sites are not

feasible. The Section 4(f) review may include analysis, resource agency coordination, and negotiation to resolve Section 4(f) issue(s) associated with the crossing of a Scenic Waterway.

Hazardous Substance/Geology

Pyritic Rock – This option has the potential to disturb pyritic rock which is often associated with subsequent ARD. Formations containing pyritic rock disturbed by construction activities may warrant encapsulation and/or other mitigation measures to reduce the potential for ARD.

The EES identified five locations were pyritic rock occurs within the project study area with three different formations (Sandsuck Formation, Walden Creek Group, and Great Smoky Group).

Construction of this option is not anticipated to affect karst and cave systems.

There are no known Superfund areas located within this option.

Parks and Public Lands

Wildlife Management Areas – This option would encroach upon CNF and Wildlife Management Areas. The encroachment effects could be reduced through context sensitive design solutions. The potential for indirect effects and cumulative impacts associated with construction of this option would warrant further assessment should this option advance to the federal NEPA review process. The Fourth Fractional Township is located within the 4,000 foot EES corridor but outside the corridor limits.

There are no listed TWRA managed lakes in Polk County.

5.2.4.4 Environmental Concerns

Construction of this option could potentially affect one Federally listed endangered plant species known from the Ocoee gorge, Ruth's golden-aster (*Pityopsis ruthii*). Potential impacts to this species would require coordination with USFS. Widening the road may have the potential to affect habitat for Sedum nevii and Lysimachia fraseri which are Forest Service Sensitive species.

Biological resources occurring within this option have the potential to be affected by construction related activities but these effects are not expected to be as noteworthy as those associated with new location options, especially for some of the larger upland species (black bear, white-tailed deer, and elk). Steep rock cuts along US 64 and the river deter the north-south movement of larger wildlife through the gorge area. Wildlife crossings are more common outside the gorge to the east and west. Roadway improvements would not be as notable in these areas for the 2-lane typical section because the better condition of the existing roadway where only shoulder and ditch widening would be needed. Effects to smaller wildlife in these areas are not expected to notably increase, particularly if existing drainage pipes and box culverts can be enhanced for wildlife crossings at these locations.

There would be no additional Ocoee River crossings with this option, but the existing crossing near the beginning of the project could be replaced with a new bridge located just to the north or the existing bridge widened. Other US 64 bridges would remain in place and only be widened. A

new bridge could encroach upon floodplains and affect wetland areas, but spanning their lengths would substantially reduce potential effects. These potential effects would be less for a bridge widening.

There are 44 streams located within the corridor. Each of these streams are currently crossed by US 64 with a pipe, box culvert or bridge. Potential effects on water resources would likely stem from construction of a wider typical section where existing crossings would need to be extended to maintain existing drainage. Potential effects would be greater for a 4-lane typical section than a 2-lane design. Stream crossings have the potential to effect areas with wetland characteristics which meet the US Army Corp of Engineers criteria for wetlands. Assessment of these areas would be warranted should this option advance to the federal NEPA review process.

Water quality would be affected by this option, but to a lesser magnitude than other build options because of the limited number of new stream crossings. Existing drainage would be extended on the upstream end in widening to the north. Pyritic rock would be encountered with rock cuts necessary to develop the typical section. With construction so close to the Ocoee River, space to construct and maintain erosion control measures for construction runoff would be more limited than for new location options.

Forest management would benefit from options in close proximity to the existing US 64 corridor. This would allow the USFS to maintain larger tracts of the CNF, which is better for prescribed burns and timber management.

An increase in noise levels would be expected in the gorge as traffic increases into the design year 2034. This increase would be similar to the No-Build Option. Air quality effects would be slightly improved over the No-Build Option as traffic congestion would be reduced.

5.2.4.5 Community Concerns

This option could have the largest amount of short-term effects on the community during construction. The time to complete the 23-mile improvements could be as much as four to eight years. Most of the construction would be adjacent to existing US 64 where the road would have to be closed to any traffic for setting up controlled blasting and removal of debris. The method involves drilling numerous holes into rock, loading with explosives and fracturing the rock for easier loading and removal. The slower process of using a hydraulic hammer to remove rock from the cliffs would likely need to be incorporated in sensitive areas or near critical habitat where the removal process can be better controlled without blasting. This technique takes time to complete rock removal with large equipment such as track hoes, dump trucks, and loaders, are all working within the confined space of the US 64 lanes adjacent to the river. Existing bridges that are not replaced would require either a temporary bridge and runaround detour to maintain two way traffic or one lane closed at all times during construction, for four to eight years or more, depending on how much construction along a corridor occurs simultaneously.

Nearly all construction could occur to the north of existing US 64 allowing existing recreational activities along the river to continue, but construction could possibly result in limited or no access to areas along US 64. Construction could be phased along the corridor to allow for access to select areas, but normal rafting schedules would be difficult to maintain with road construction through the gorge. Coordination with TVA would be warranted for any construction adjacent to the river occurring during lower flow days.

Option 2 could enhance the existing recreational opportunities along the river by improving the road that serves them. Wider shoulders would provide additional room away from traffic for hikers, bikers and boaters to park and walk or ride along the road. An improved road would also enhance access to Parksville Lake activities such as motor boating, swimming, picnicking, fishing and use of the beach. Remaining on or near the existing alignment would not provide access to new recreational opportunities within the CNF, but would preserve the wilderness and solitude that exists away from the river. Safety improvements made to bring the driver's sight distance up to standard could also improve some scenic views as trees and rock faces would be cut back.

As the primary east-west connector, US 64 closures for construction would be expected to affect the movement of people and goods across Polk County and into the three state region. Residents would experience increased user costs from delays and detour routes. Access to health care and county services would be reduced during construction. Healthcare is of particular importance to residents under TennCare in the eastern half of Polk County because they are not covered by the closer hospitals in neighboring states.

Once completed, an improved US 64 would provide better access to facilities that exist on each side of Polk County, potentially eliminating the need for duplicate services (courthouse, high school, jail) that currently exist. This decision would be made by County representatives.

Nearly all property adjacent to US 64 has the potential to be affected by improvements that would widen the existing alignment to a 4-lane typical section. Improvements could affect at least 65 property tracts within the study area, with the largest tract being the CNF. At least one residential relocation would likely occur with this typical section near the TVA offices below Ocoee Dam No. 1. At the eastern end of the project, houses and business appear to be far enough away from the existing road where asymmetric widening could shift the road enough to avoid additional relocations as the corridor approaches Ducktown. Improvements to a 2-lane section could reduce the number of impacted tracts where segments of the existing road outside the gorge are currently built to standards or only minor shoulder widening could be done within the existing Right-of-Way. No displacements are expected for the 2-lane typical section, however one or more is possible where the wider 4-lane section is constructed. For either typical section where the road is only widened, the additional property acquired would be roadway frontage for Right-of-Way or easement.

5.2.4.6 Anticipated Operational Performance

The design speed of this option would be a minimum of 50 mph through the gorge area and 60 mph on the west and east ends. This closely matches the existing design speeds through the project with posted speeds of 45 mph and 55 mph. With no significant change in profile grade, the truck passing lanes on the west side of the project would be retained. For a 2-lane typical section, passing lanes within the gorge that would allow cars to maintain speed and improve the operation, however the design year LOS is at an acceptable level without them.

The travel time would be reduced with the elimination of all reduced speed curves. An estimated travel time savings of 0.6 to one minutes could be realized. The project length would be reduced by approximately 0.7 miles with all the improvements detailed in Option 2A (spot improvements) constructed for Option 2. A standard typical section for the length of this option would improve the operation of the entire corridor with wider shoulders and ditches address rock slide areas by providing wider catchment ditches, eliminating or greatly reducing the chance for temporary road closures that would require a long-term off-site detour.

All business and recreational traffic would continue to utilize the same route, allowing the same mix of traffic, although the addition of passing lanes could improve the performance of a 2-lane road. Wider shoulders will provide additional room for cars that will continue to park along the river and for pedestrian and bicycle use.

Traffic analysis indicates essentially the same LOS as Option 1 No-Build with an average LOS of C for 2014 traffic and LOS C for the design year 2034. The analysis done for 13 segments along existing US 64 resulted in a LOS ranging from A to C in 2014 and A to D in 2034. Table 6 indicates the anticipated performance measures for this option with a 2-lane or 4-lane typical section.

Table 6: Performance Measures for Option 2: Improve Existing US 64

	No of Lanes	Vehicles per Hour	LOS	Distance (mi)	Estimated Ave. Speed (mph)	Travel Time (min)
Year 2014	2	324-577	C	22.4	49	27
Year 2034	2	412-843	C	22.4	48	28
Year 2014	4	324-577	A	22.4	55	24
Year 2034	4	412-843	A	22.4	55	24

5.2.4.7 Estimated Construction Costs

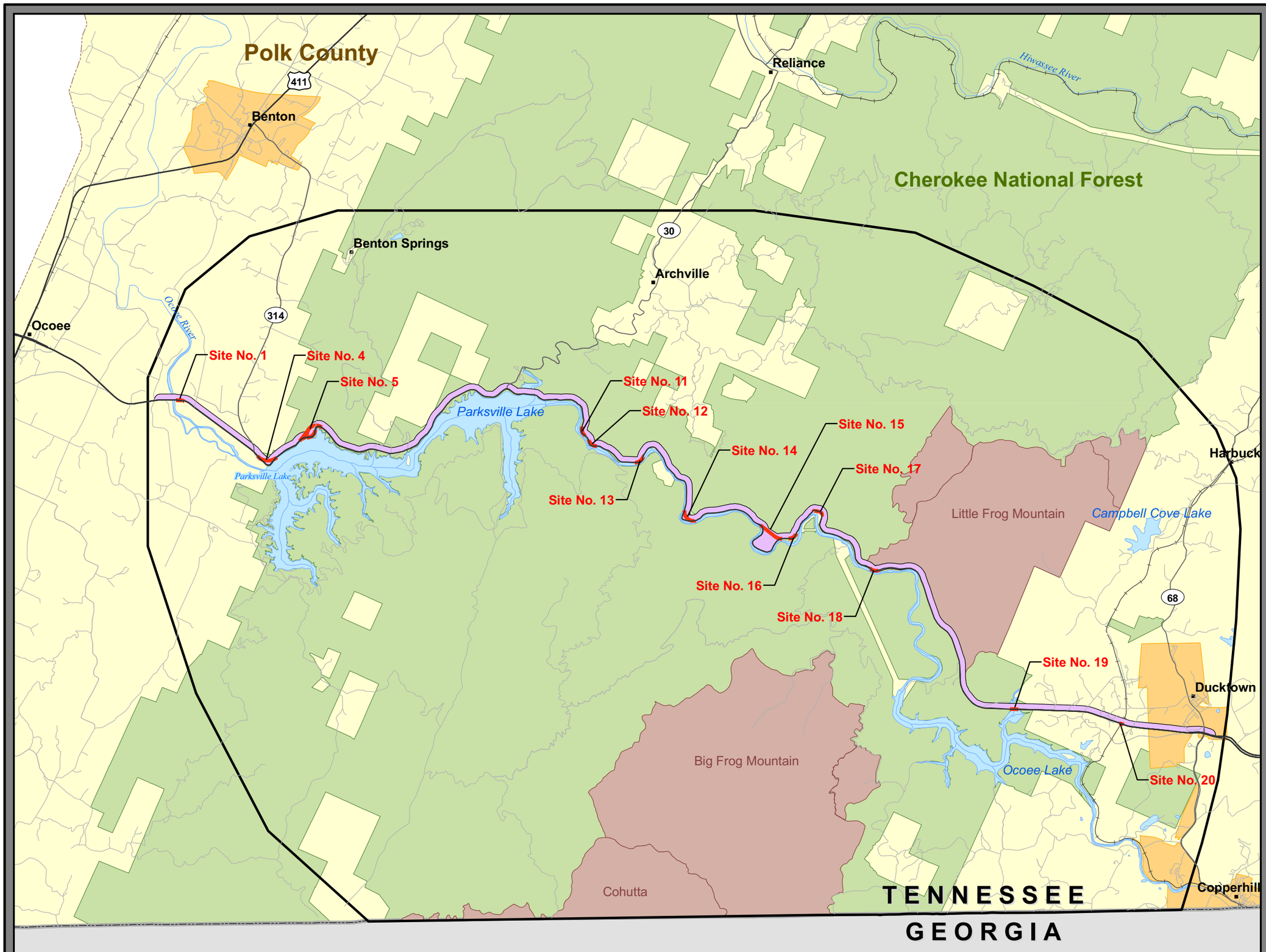
The estimated construction cost for this option would be $304,563,000 for a 2-lane section and $497,794,000 for a 4-lane section.

5.2.5 OPTION 2A – SPOT IMPROVEMENTS TO EXISTING US 64

5.2.5.1 Concept

Option 2A (See Figure 19) is similar to Option 2 but would only involve improvements to select areas along US 64. This option would maintain most of the existing alignment and typical section. There would be areas where the shoulders would not meet current standards for a rural arterial but would be acceptable for the context of this option, and could remain as is. Because the entire corridor is not improved, funding from the ARC cannot be used for this option.

The focus of the improvements for this option is increased safety and mobility. This option would include widening shoulders at select locations on both the road and bridges; eliminating poor sight distance by reducing or eliminating sharp curves with larger radius curves and by selective clearing of vegetation or scaling back rock slopes and adding catchment areas to the ditch; adding or extending turn lanes and guardrails; and addressing areas prone to rock slides and falling trees or other safety issues. Improvements are described in Table 7 with locations shown in Figure 19 Improvements would be made to the north of the Ocoee River generally within the 500-foot corridor width on the north side of the existing alignment. The total length of the project would be reduced by approximately 0.63 miles with the elimination or straightening of 14 curves along the existing alignment for a total length of 22.4 miles.



US 64 CORRIDOR K
OCOEE RIVER GORGE SECTION

Legend

- City/Municipality/Town
- Site No. = Spot Improvements
- US 64 Corridor
- Railroad
- Secondary Route
- Local Road
- River
- Waterbody
- Municipality
- Cherokee National Forest (Polk Co.)
- Polk County
- Wilderness Area/Study Area
- Project Study Area

1:95,040
1 inch equals 1.5 miles

0 0.5 1 2 Miles

Source(s): Tele Atlas, ESRI,
US Forest Service, and URS Corp.
Date: March 2010

TDOT Go.

FIGURE 19
OPTION 2A: US 64
SPOT IMPROVEMENTS

CORRIDOR K

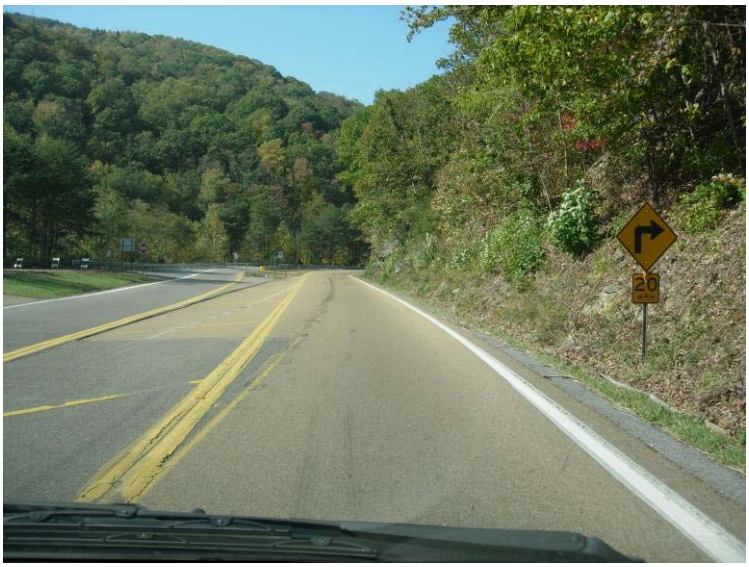
SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown
Polk County, Tennessee

Table 7: Spot Improvement Locations

Site No.	M.P. to M.P.	Distance (mile)	Improvement Description
1	3.12 to 3.22	0.10	Widen the existing bridge over the Ocoee River or replace on new location to the north of the existing bridge; new bridge alignment would add 0.1 miles to the travel distance.  *US 64 Bridge over Ocoee River (looking east)*
2	3.22 to 4.75	1.53	Widen the left and right shoulders to 12' with 10' stabilized; no change in travel distance.
3	4.75 to 5.00	0.25	Widen left (north side) shoulder to 12' with 10' stabilized; no change in travel distance.
4	5.00 to 5.2	0.2	Construct a 1205' radius curve that would eliminate a 25 mph curve and extend the 55 mph posted speed approaching the marina; existing road could be used for additional parking at existing pullover; reduces travel distance by 0.08 mile.
5	5.65 to 6.10	0.5	Option A: Construct a new location alignment with one or two 760' radius curves for a 45 mph posted speed to eliminate the 30 mph curve around the marina; reduces travel distance up to 0.07 mile. Existing road would be maintained for access to the marina away from through traffic.

Site No.	M.P. to M.P.	Distance (mile)	Improvement Description
5	5.65 to 5.85	0.2	Option B: Construct a 760' radius curve that would eliminate a 30 mph curve; reduces the travel distance by 0.01 mile. This option would not eliminate the 30 mph curve around the marina.  *US 64 curve approaching marina (looking east)*
6	7.72	0.1	Add eastbound left turn lane at Oswald Rd intersection; no change in travel distance
7	8.67	0.2	Select tree clearing at Parksville Lake Boat ramp to improve sight distance looking west; no change in travel distance
8	10.5 to 10.8	0.3	Select rock removal along left (north side) shoulder to improve sight distance; no change in travel distance  *Typical rock slope with no ditch on US 64 (looking west)*
9	11.06	0.1	Widen existing bridge over Maddens Branch. Requires retaining walls to build up shoulder along river; no change in travel distance

Site No.	M.P. to M.P.	Distance (mile)	Improvement Description
10	11.1 to 11.4	0.3	Select rock removal along left (north side) shoulder to improve sight distance; no change in travel distance
11	11.46 to 11.6	0.15	Construction a 760' radius curve for 45 mph to eliminate a 30 mph curve; Reduces travel distance by 0.01 mile. Construction would be along a significant rock slope.
12	11.75 to 11.9	0.15	Construct a 760' radius curve for 45 mph to eliminate a 25 mph curve; Reduces travel distance by 0.02 mile. Construction would be along a significant rock slope.
13	12.6 TO 12.8	0.15	Construct a 760' radius curve for 45 mph to eliminate a 30 mph curve; Reduces travel distance by 0.02 mile. Construction would be along a significant rock slope.
14	14.5+/- TO 14.7+/-	0.3	New location construction with significant rock cut for a 760' radius curve for 45 mph posted speed. Eliminates the 15 mph curve on the project and reduces the travel distance by 0.08 mile. Addresses the safety and mobility issues of the sharp curve where vehicles have to stop for large trucks that must utilize both lanes to get through the curve. The rock face adjacent to the inside lane of this curve was cut back 8-10 feet in 2010 while the road was closed. This did not change the posted speed at this location, but did provide additional width to maneuver through the curve.
15	16.0 +/-	0.3	New location construction for tunnel or significant rock cut with 760' curve for 45 mph posted speed. Eliminates one 30 mph and one 40 mph curve on the project and reduces the travel distance by 0.41. Addresses the safety and mobility issues of curves and limited sight distance; old road could be used for parking or enhanced river access.
16	17.1	0.1	New location construction of flatter curve for 45 mph posted speed to eliminate a 25 mph curve. Reduces travel distance by 0.02 miles.

Site No.	M.P. to M.P.	Distance (mile)	Improvement Description
17	17.9 to 18.1	0.20	Unable to eliminate this series of 25-30 mph curves without affecting the Ocoee No. 2 Dam and creating two new river crossings. Maintain existing alignment, widen existing lanes and shoulders, and provide rock catchment area in ditch. No reduction in travel distance.  *Maintain alignment through curve (<45 mph) but widen road, add shoulders and ditch catchment area*
18	19.25 to 19.40	0.15	Construct the largest radius curve that would not affect Little Frog Mountain Wilderness Area to eliminate a 20 mph curve; Reduces travel distance up to 0.02 mile; This improvement is at the western end of the 4-lane section where the existing pavement could extend the parking area for the Ocoee Whitewater Center. 

Site No.	M.P. to M.P.	Distance (mile)	Improvement Description
19	23.04 to 23.14	0.1	Widen existing bridge over Brush Creek for adequate shoulders; no change in travel distance.
20	24.85 to 24.95	0.1	Widen existing bridge over Hiwassee River RR for adequate shoulders; no change in travel distance.

As identified in Table 7, areas where a new location alignment eliminates a sharp curve, it would be possible to continue to utilize the old road as a scenic overlook or parking area away from traffic, thus improving access to recreational areas. Rather than create a loop road, it is recommended that only one connection be made to the new alignment with turn lanes provided at that location. The other end would have a cul de sac for vehicles to turn around. This would reduce the number of intersections along the route and not create additional safety issues.

5.2.5.2 Typical Section

Much of the existing typical section would be maintained through the length of the proposed project. Improvements that include a new alignment, such as the elimination of a sharp curve, would be two 12-foot lanes with 12-foot shoulders (10 feet stabilized) per TDOT standards for 2-lane rural arterial highways. Other spot improvements would widen shoulders to allow for better pedestrian use and continued parking along the road for river recreation. Roadside ditches would be wider to provide for rockfall catchment areas. Pavement would be widened on curves to provide an additional lane width per AASHTO criteria or lanes would be increased to the minimum 12-foot width. The roadway construction width would vary from eighty eight (88) feet to as much as four hundred (400) feet depending on cut and fill limits.

5.2.5.3 Early Environmental Screening

The EES evaluation for Option 2a was similar to Option 2. This option was evaluated to identify notable effects only in areas listed for improvements. The potential to affect community resources, including historic and archaeological sites, were equivalent to those described for Option 2. This option would be expected to have similar effects on natural resources as Option 2 including; known wetland areas, park and public lands, and TDEC Scenic Waterways. The potential to affect terrestrial and aquatic species would be expected to be less for Option 2a than with Option 2 since these species may be located in areas that would not be improved with this option. The potential for ARD would also be expected to be less than Option 2 in anticipation of a smaller area of disturbance. In reviewing the GIS mapping, Sites 4 and 11-15 each have at least one species identified at each location.

5.2.5.4 Environmental Concerns

A significant number and variety of endangered plant species are located along the rock cliffs adjacent to US 64 through the Ocoee River Gorge. Field verification would confirm the locations where mapping indicated the plant species along the river and roadside. Potential effects at these locations could be avoided if the existing conditions are retained, otherwise improvements to the road could remove their habitat.

Effects on other biological resources would be expected to be less than that associated with Option 2 and new location options as disturbance to probable wildlife crossings are anticipated to be less than what would be experienced with the other options. Steep rock cuts along US 64 and the river appear to deter the north-south movement of larger wildlife through the gorge area where roadway improvements associated with this option are the most prevalent. Roadway

improvements would not be as notable in the eastern and western portion of the study area where wildlife crossings are suspected to be the greatest. This corridor option would be expected to have less affect on wildlife crossings when compared to other corridor options particularly if existing drainage pipes and box culverts can be enhanced to promote wildlife crossing at these locations rather than across the road.

As with Option 2, there would be no additional Ocoee River crossings with this option. Other US 64 bridges would remain in place and be widened. A new bridge could encroach upon floodplains and affect wetlands, but a new crossing may span these resources reducing both the magnitude and duration of effects.

If all the spot improvements were to be completed, it is likely that at least 11 streams would be affected. These effects would likely be associated with the extension of existing pipe or box culverts with the widened typical section.

Water quality could be affected by this option, but to a lesser degree than other build options because of the limited number of new stream crossings. Existing drainage would be extended on the upstream end in widening to the north. Pyritic rock would be encountered with rock cuts necessary to develop the typical section. With construction so close to the Ocoee River, space to construct and maintain erosion control measures for construction runoff would be more limited than for new location options.

Forest management could benefit from options along the existing US 64 corridor. This would allow the USFS to maintain larger tracts of the CNF, which is better for prescribed burns and timber management.

An increase in noise levels would be expected in the gorge as traffic increases into the design year 2034. This increase would be similar to Options 1 and 2.

Air quality effects associated with Option 2A could be anticipated to be similar to the No-Build option (Option 1) and Improve Existing US 64 option (Option 2).

5.2.5.5 Community Concerns

This option could have notable short-term effects to the community during construction, but less than Option 2 because of the reduced amount of construction. The same temporary road closures and detours may be warranted, but construction may last from two to four years depending on the number and complexity of the spot improvements made.

Nearly all construction could occur to the north of existing US 64 allowing existing recreational activities along the river to continue, but construction would possibly result in limited or no access to areas along US 64. Construction could be phased along the corridor to allow for access to select areas, but normal rafting schedules would be difficult to maintain with road construction through the gorge. Coordination with TVA would be warranted for any construction adjacent to the river occurring during lower flow days.

As with Option 2, the movement of people and goods across Polk County and into the three state region would likely be affected during construction. Residents would experience increased user costs from delays and detour routes. Access to healthcare and county services would be reduced.

Once completed, an improved US 64 would provide better access to facilities that exist on each side of Polk County, potentially eliminating the need for duplicate services (courthouse, high school, jail) that currently exist. This decision would be made by County representatives.

Property effects associated with Option 2A would be identical in nature to the 2-lane typical section of Option 2. The number of potentially affected property tracts would be approximately 35. Parts of the existing US 64 outside the gorge are currently built to acceptable design standards and would not need additional right-of-way. No relocations or total takes are expected for this option. Most of the impacted tracts with additional property acquisition would be roadway frontage for Right-of-Way or easement.

This option would enhance the existing recreational opportunities along the river by improving the road that serves them. Wider shoulders at the improved areas would provide additional room away from traffic for hikers, bikers and boaters that park and walk or ride along the road. Maintaining the existing alignment would not provide access to new recreational opportunities within the CNF, but would preserve the wilderness and solitude that exists to the north and south of the river.

5.2.5.6 Anticipated Operational Performance

The design speed of this option would be a minimum of 50 mph for the improvement locations through the gorge area and 60 mph on the west and east ends. This closely matches the existing design speeds through the project with posted speeds of 45 mph and 55 mph.

The travel time would be reduced due to fewer areas with slower posted speeds and shorter travel distance. An estimated travel time savings of up to one minute could be realized depending on the number of spot improvements completed along the route. The time savings may be slightly less than Option 2 since the standard typical section is not being constructed for the entire length through the gorge, but the posted speed and distance are still similar to this option.

This option does not fully address the issue of long delays from temporary road closures (major and minor) that would require a long distance detour due to a rockfall unless all rockfall hot spots are improved. Not all sites were included in the list of improvement locations and therefore, some areas would have to be addressed through the Rockfall Mitigation Program. There would be no significant change to the existing profile and existing grades would generally be maintained through the entire length.

All business and recreational traffic would continue to utilize the same route, allowing the same mix of traffic. Wider shoulders would only be constructed in some areas and would provide additional room for cars that will continue to park along the river and for pedestrian and bicycle use, but much of the road through the gorge would remain as is.

Traffic analysis indicates essentially equal LOS as Option 1 No-Build and Option 2 Improve Existing US 64. Option 2A has a LOS of C for 2014 traffic and LOS C for the design year 2034. Like with the other two options, the analysis was done for 13 segments along existing US 64 with a LOS ranging from A to C in 2014 and A to D in 2034. With no significant change in profile grade, the truck passing lanes on the west side of the project would be retained. For a 2-lane typical section, passing lanes within the gorge would allow cars to maintain speed would improve the operation, however the design year LOS is at an acceptable level without them.

Table 8 details the anticipated operational performance with spot improvements made to US 64.

Table 8: Performance Measures for Option 2A: Spot Improvements to Existing US 64

	No of Lanes	Vehicles per Hour	LOS	Distance (mi)	Estimated Ave. Speed (mph)	Travel Time (min)
Year 2014	2	324-577	C	22.4	49	27
Year 2034	2	412-843	C	22.4	48	28

5.2.5.7 Estimated Construction Costs

The estimated construction cost for this option would be $198,884,000 for all sites to be improved.

5.2.6 OPTION 3 – CORRIDOR N-4 (SEGMENTS 4-2-3)

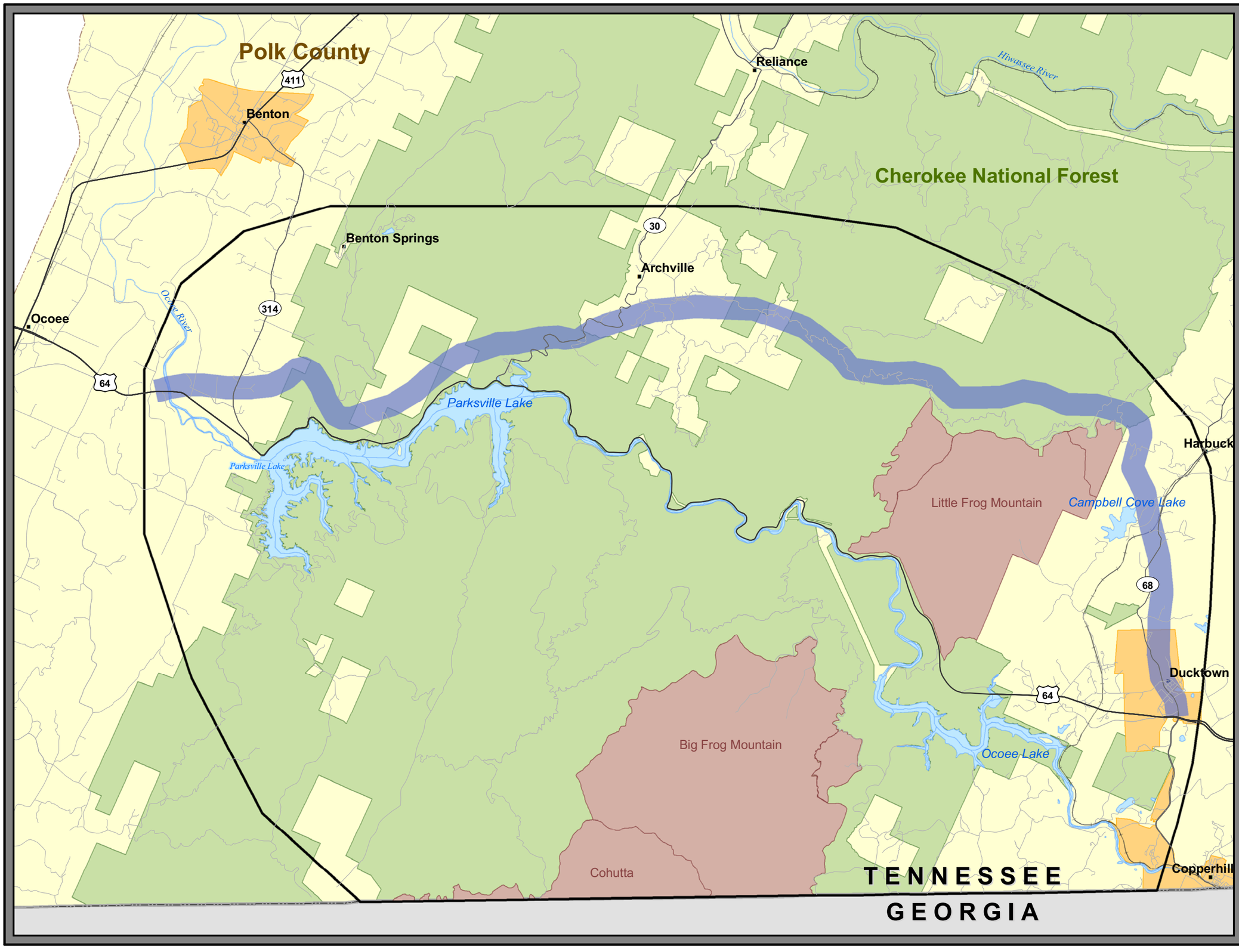
5.2.6.1 Concept

Option 3 (see Figures 16 and 20) consists of a new location build alternative through the CNF north of the Ocoee River (Figure 20). It was suggested by the CRT as a potential corridor. The route follows Segments 4, 2 and 3 and is described as follows: (Segment 4) After crossing the Ocoee River on the existing bridge that would be widened or a new bridge(s) just north of the existing bridge, the corridor stays to the north of existing US 64 for approximately 2.5 miles before following along the base of Little Mountain and past the Sugarloaf Mountain lookout and turning south to run along the southern base of Chilhowee Mountain. Segment 2 continues for the next 4.6 miles in a northeasterly direction toward Rock Creek Scenic Gorge before intersecting SR 30 south of Archville. Segment 3 completes the corridor continuing through the Archville community and for the next 10 miles generally following in the direction of the Kimsey Highway along the north side of the Little Frog Mountain Wilderness Area. In the northeast corner of this wilderness area, QUANTM output indicated a tunnel could be more cost effective in one area. Once past this wilderness area, the corridor turns south toward Ducktown in the general direction of SR 68 for the final 5.2 miles before reaching the existing interchange with US 64.

QUANTM output indicated a series of long bridges in the corridor coming down from the higher elevation north of Ducktown and east of Little Frog Mountain. These bridges would replace significant fill heights required to maintain the grade controls for the desired design speed.

This corridor follows a higher elevation than others corridors, peaking around two thousand fifty (2,050) feet above sea level northwest of Little Frog Mountain. The viewshed of this route would vary depending on the location. West of SR 30 would overlook the Ocoee River Watershed. The eastern portion would overlook the Hiwassee River Watershed.

The average profile grade through this corridor is the steepest of all options with two locations over the north side of Little Frog Mountain Wilderness Area with continuous grades averaging four percent or more for 3.8 and 5.0 miles each. Approximately 14.5 miles of the corridor (approximately 61 percent) have grades steeper than three percent.



US 64 | CORRIDOR K

OCOEE RIVER GORGE SECTION

Legend

- City/Municipality/Town
- Option 3: Corridor N-4
- Railroad
- Secondary Route
- Local Road
- River
- Waterbody
- Municipality
- Cherokee National Forest (Polk Co.)
- Polk County
- Wilderness Area/Study Area
- Project Study Area

1:95,040

1 inch equals 1.5 miles

0 0.5 1 2 Miles

Source(s): Tele Atlas, ESRI, US Forest Service, and URS Corp.
Date: March 2010

TDOT Go.

FIGURE 20
OPTION 3: CORRIDOR N-4

CORRIDOR K

SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown Polk County, Tennessee

The existing US 64 route through the Ocoee River Gorge would continue to provide access to the river and other existing recreational facilities adjacent to the route. This road would connect to the new corridor on the west end of the project. On the east end, the existing US 64 route from the US 64/SR 68 interchange would be used.

5.2.6.2 Typical Section

The typical section would follow the standard design for a 2-lane or 4-lane divided rural arterial highway. Lanes would be twelve (12) feet wide. For the 2-lane typical section, the outside shoulder widths would be ten (10) feet with eight (8) feet paved. For the 4-lane typical section, the outside shoulders would be twelve (12) feet with ten (10) feet paved and the inside shoulders would be six (6) feet with four (4) feet paved for a 4-lane with depressed median.

Construction on new location would require significant cut depths and fill heights through the mountainous terrain. Geotechnical analysis would be performed for final design to provide any additional side slope and benching recommendations beyond TDOT standard design.

The roadway construction width for a 2-lane typical section would vary from eighty eight (88) feet to as much as five hundred (500) and the 4-lane would vary from one hundred eighteen (118) feet to eight hundred (800) feet or more. The final width would depend on the type of divided median for the 4-lane and the cut and fill limits.

On SR 68, the existing typical section through Ducktown is a 4-lane divided with curb and gutter and sidewalks and flush median as a center turn lane. The posted speed is 40 mph with the slower speed required for traffic flowing through downtown Ducktown with numerous driveway connections on each side of SR 68. Either proposed typical section for a 2-lane or 4-lane rural arterial could transition into this section of SR 68. The existing speed limit could be maintained for the new US 64/SR 68 route designation, but notable effects through Ducktown would warrant an increase in the posted speed to a minimum to 45 mph and better access control. A new location route with either the standard 2-lane or 4-lane typical section could be constructed for a higher speed facility that bypasses around Ducktown before tying back to the existing 4-lane divided section of SR 68 just north of the US 64 interchange or to US 64 west of this interchange. The bypass route would affect existing residential and industrial properties on the west side of Ducktown and the Burra Burra mine site on the east side.

These typical section designs are the same for all new location options.

5.2.6.3 Early Environmental Screening

The EES evaluation identified the following resources within the APE of Corridor N-4:

Archaeological/Historical Architecture

Archaeological/Historic Sites – There are three potentially eligible archaeology sites and one potentially eligible historic site located within Segment 4 of this corridor. In Segment 2 there is one potentially eligible archaeological site. All five sites would require additional studies and coordination with Tennessee's State Historic Preservation Office (SHPO) to assess if they could become eligible or listed sites.

In Segment 3 there are four registered historic sites including the Ducktown Historic District, Burra Burra Mine Historic District, Buzzards Roost Historic District, and Kimsey

Junior College. These sites are in or near Ducktown, north of the eastern end of the project.

Potential affects to any sites within this corridor that were listed or deemed to be eligible for listing on the National Register are not anticipated due to the overall flexibility within the corridor to design alignments that could avoid these sites if warranted.

Option 3 has the fewest number of recorded historic sites within the CNF of the new location options.

Cemeteries – Three known and named cemeteries are located within Segment 3: Runyon, Greasy Creek and Ducktown Cemeteries. Given the overall flexibility within the corridor to design alignments to avoid community resources, effects on these cemeteries are not anticipated.

Churches – Two churches are within Segment 3 in the Archville community: Greasy Creek House of Prayer and Calvary Church of God. Five churches are located with the Ducktown limits of this segment. The corridor is wide enough to design an alignment that could avoid all of these churches.

Community

Railroad – The corridor crosses the old CSX line currently being used by the Hiwassee River Railroad excursion train. The crossing would occur north of Ducktown near Campbell Cover Lake. The existing US 64 bridge crossing would remain unchanged.

Ecology

Wetlands – There are greater than two acres of known wetlands within the 4,000 foot EES corridor. There are 12 wetland sites within the 4,000 foot corridor, but only three within Segment 3 of the corridor. A designed alignment could avoid affects to these areas. Addressing wetland effects would be the same as described in previous options.

Terrestrial Species – There are 16 locations of a known federally protected terrestrial species or a state protected species located within the 4,000 foot EES corridor. Large areas of habitat for the Seepage Salamander and the plant species; Sedum Nevii and Mountain Bush Honeysuckle are within the corridor limits. Clingman's Hedge-nettle and Broadleaf Bunchflower along with Swanson's Warbler are also within Segment 3 of this corridor. A survey for these species and others afforded protection would be warranted to confirm their location within the APE of this option.

Aquatic Species – There is a known occurrence of a rare or state listed aquatic species located within the 10,000 foot EES corridor. Eight locations were identified by the EES and further evaluation of the GIS data identified the Tennessee Dace and Seepage Salamander within the corridor. A survey for these species and others afforded protection by the state would be warranted to confirm their location within the APE of this option.

TDEC Conservation Sites – There are two TDEC conservation sites within the corridor: Ducktown School Conservancy and William L. Davenport Refuge Natural Area. Of these two sites the Ducktown School Conservancy would have the greatest potential to be

affected by Option 3. Kimsey Junior College is located on the Ducktown School Conservancy.

Hazardous Substance/Geology

Pyritic Rock – This option has a potential to disturb pyritic rock during construction related activities. The same construction and maintenance issues as the previous options are applicable, but to a greater extent with a longer project on new location.

Ten locations were identified by the EES with four different formations within the corridor (Sandsuck Formation, Walden Creek Group, Dolomite – Knox Group, Great Smoky Group).

Construction of this option is not anticipated to affect karst and cave systems.

There are no known Superfund areas located within this option.

Parks and Public Lands

Wildlife Management Areas – The CNF and the William L. Davenport Refuge Natural Area are within the corridor. It may be possible to avoid effects to the refuge as described previously. The potential for indirect effects (audible and visual) would warrant further assessment should this option advance to the federal NEPA review process.

Tennessee Natural Areas Program – The William L. Davenport Refuge Natural Area is not expected to be encroached upon.

Campgrounds – Camp McCroy, a 4-H camp, is located within Segment 3 of this corridor. Context sensitive design and stakeholder coordination would be warranted should this option be advanced to the federal NEPA review process to avoid or reduce potential affects to this campground.

5.2.6.4 Environmental Concerns

Affects on water quality associated with the crossing of Ocoee River, its tributaries, tributaries of the Hiwassee River, floodplains, and wetlands could occur. Improvements would be made to the north of the existing road where effects to the Ocoee River through the gorge would be minimal. Option 3 represents the greatest potential for water quality degradation of all build options located to the north of US 64. Segment 3 of this option affects the surface waters of two watersheds: the Hiwassee River Watershed and the Ocoee River Watershed. It is also located within the headwaters of Campbell Cove Lake. Segment 2 of this option is located in the headwaters of Parksville Lake.

Option 3 could encroach upon the CNF lands north of the Ocoee River, fragmenting an area that is greater than 90 percent forested (USFS, 1990). Segment 3 of this option borders the northern boundaries of the Little Frog Mountain Wilderness Area, but could be constructed below the ridge line to avoid affects to this protected area.

Habitat fragmentation within the project study area is anticipated due to land use changes typically associated with roadway construction on new location. Option 3 is anticipated to affect terrestrial communities to a greater degree than the No-Build and Options 2 and 2A. Of the build corridors, Option 3 has the greatest potential for habitat fragmentation of the northern build

corridors due to it being located the farthest distance north of US 64. Segment 3 near Little Frog Mountain would fragment black bear habitat in particular, creating a barrier that would require wildlife crossings at appropriate locations. This option is expected to have the highest effect to upland species, namely large and small mammal habitat as opposed to aquatic species habitat as any of the options with notable displacement of black bears, especially in the Big Lost Creek area. Hunting is popular on the west side of the gorge and could be affected by construction and a new road along Segment 2 of the corridor. Most of the bear hunting in Polk County is north of the Ocoee River due to the Ocoee Bear Reserve located south of the river. All new location corridors to the north would have an impact to this bear hunting area.

There are 40 different streams within this 2000 foot corridor. Not all of them would be crossed by an alignment, but many cannot be avoided. Potential effects would be greater with a 4-lane typical section than the 2-lane. Alignments could be designed to cross perpendicular to the streams to reduce effects.

Effects to aquatic species such as Rainbow trout in Rock Creek (Segment 2), stocked trout in Big Lost Creek (Segment 3), and Tennessee Dace in three streams (Segment 3) could occur without mitigation efforts as part of the design. Mitigation options could include bridging the streams or constructing oversized culverts that are buried in the stream to allow for a natural stream bed at the bottom.

Adverse noise and air quality within the CNF would be anticipated to the north of the Ocoee River due to the introduction of traffic to a new location route. With a fairly continuous route through the CNF, the air quality effects would be low with few stopped vehicles. The existing terrain would create significant uphill and downhill grades for trucks to climb or brake, creating more noise than on a level grade. The reduction in traffic along existing US 64 should improve both the noise and air quality through the gorge.

5.2.6.5 Community Concerns

This option could have minimal short-term effects along US 64 during construction with most of the alignment on new location and all traffic maintained on the existing route. Construction traffic effects would be greatest along SR-68 where the corridor travels south toward Ducktown, particularly if any of the existing alignment is utilized. The corridor crosses numerous existing roads, both public and forest service roads. Segment 4 crosses Welcome Valley Road, SR 314 (Parksville Road), and NFSR 1308. Segment 2 crosses NFSR 77 and SR 30. Within the CNF, Segment 3 crosses County Road 2332, NFSR 68, Kimsey Highway, NFSR 80 Rymer Camp South, NFSR 60 Smith Mountain, NFSR 66 Ditney Mountain to SR 68, and NFSR 1176 -1 (Forest Service administrative access only). Outside the CNF, Segment 3 could cross a number of dead end roads that tie to SR 68 as well as SR 68, depending on the proposed alignment toward the eastern project end point. The long bridges required north of Ducktown would have a safety concern for winter conditions and icing common in this area.

For every build option on new location, each Forest Service road that is affected would need to be evaluated individually for its purpose and how it would be affected by a new road. In order to meet the design criteria for a new location route within the corridors, NFSR roads would be affected differently, whether bridged over, crossed at grade, or even crossed under where an overpass could be warranted or the road relocated to tie at grade. Coordination with the US Forest Service and the CNF Management Plan would be warranted for this and all other new location build options.

This new location option would slightly enhance the existing recreational opportunities along the river primarily by reducing the overall traffic volume and number of trucks that drive through the gorge. No improvements to the existing road would occur, so many of the current concerns of parking and pedestrians close to the road would continue. The nature of the old road would change where most of the users would be recreational rather than the east-west through traffic across Polk County.

The new location option could provide access to new recreational opportunities within the CNF, but would fragment the wilderness and reduce the solitude that exists between Ocoee and Hiwassee Rivers. The campground at Camp McCroy is located within the corridor and access could change with a new location route. Segment 3 of this corridor option crosses the Benton MacKaye Trail which could provide another access point to the trail on the north side of Little Frog Mountain, but decrease the valued remoteness of this trail. Near SR 30, Segment 2 crosses through the Rock Creek scenic gorge area which is a popular spot to see waterfalls. This area also has Clemmer Trail, its Scenic Spur and Clemmer Spur Trail, and Clear Creek Trail. This new location option would provide additional access to all of these trails, but additional studies would be warranted to assess if trailhead parking should be provided along the new route and/or retaining the existing trailheads on US 64 and SR 30. Where the corridor crosses hiking trails, the preference is for a more perpendicular crossing than running parallel to the road to better serve the recreational purpose by limiting the hiker's exposure to noise and paved surfaces. For recreational vehicles, the corridor intersects NFSR 77 (Chilhowee Scenic Spur) where it could improve access for RV traffic going to the Chilhowee Recreation Area.

New scenic views at higher elevations overlooking Parksville Lake could result from an alignment along Segment 2 of this corridor. This new road would likely affect the view from the lake with potentially large cuts and fills visible from below. Additional studies would determine the vistas and potential for enhanced sightseeing opportunities. A new location road would also visually affect the view from the Chilhowee Recreation Area at the end of NFSR 77. Segment 2 runs through an area that has cascading waterfalls and quality hiking trails which could be notably affected without careful design.

Forest management could be notably affected by Option 3. Segment 3 crosses through highly operable timber management land and would reduce the acreage available for this purpose. This route would also increase the public visibility of these timber management areas. Regular prescribed burning of approximately 10,000 acres occurs annually within the southern CNF. This new location corridor affects these efforts by reducing a larger area into two tracts and narrowing the opportunity for controlled fires away from populations and smoke along the road.

Corridor N-4 could affect as many as 128 property tracts, the largest one being the CNF. Effects would be greater for the 4-lane typical section than the 2-lane with relocations and property takes possible for either typical section. Segment 4 is on new location through a primarily agricultural and forested area around SR 314. Up to 16 tracts could be affected by this segment with the possibility of one to two residential relocations. The number of relocations would be reduced or eliminated with detailed alignment studies within the corridor that would avoid these sites. This corridor could notably affect the Archville community. Segment 3 passes where Greasy Creek Road and Kimsey Highway intersect SR 30. The residential property tracts are fairly large (more than two acres), but even the improved roadway design for a high speed 2-lane typical section, would have a high potential relocation effects due to wider slope limits. An alignment through this corridor could effect as many as 37 tracts. Segment 3 continues eastward through CNF land before turning south toward Ducktown. As it approaches Ducktown, the corridor could affect at least 75 tracts. Some of the smaller tracts could be total takes and

involve relocations. For either typical section where SR 68 may only be widened, the additional property acquired would be roadway frontage for Right-of-Way or easement. A bypass around Ducktown would effect the Burra Burra Mine site east of downtown or the residential properties on the west side of downtown.

The movement of people and goods across Polk County and into the region would be improved with this option, even with the additional travel length. Compared to the other new location options being considered to the north of the Ocoee River, Option 3 would likely not see as high a percentage of east-west traffic as the other options that are shorter and closer to the existing alignment. However, Option 3 would still provide better access to facilities that exist on each side of Polk County, potentially eliminating the need for duplicate services (courthouse, high school, jail) that currently exist. This decision would be made by County representatives.

5.2.6.6 Anticipated Operational Performance

The design speed for this option would be 60 mph for the length of the corridor if it is entirely on new location. Slower speeds may be needed through Ducktown, but access control can provide for improved LOS by limiting driveway or side road connections. The existing US 64 route would retain its current posted speeds. Current and future traffic volumes were analyzed for both the new location corridor and the existing route. For the new location route, the LOS was calculated for both a 2-lane and a 4-lane divided typical section and was separated into three segments based on changes in traffic volumes at SR 314 and SR 30. The existing route was divided into the same 13 segments as the previous Options 1, 2 and 2A based on changes in typical section and traffic volumes. The new location route has a LOS of C for both 2014 and 2034 traffic with the 2-lane typical section and a LOS A for both 2014 and 2034 for the 4-lane typical section. The capacity analysis was also performed for both typical sections to analyze areas of sustained grades of five percent and greater and its impact to LOS and average speed. The resulting LOS was still within the acceptable values for a mountainous rural arterial route with the same LOS A for the 4-lane and LOS C for the 2-lane.

The proposed corridor has long sections of uphill/downhill grades at and near the design maximum. Truck passing lanes would be studied to determine applicable locations to help improve the operations of a 2-lane corridor and allow safer passing of slower vehicles. Winter operation would be impacted by ice and snow particularly with the long bridges on the east end of the corridor north of Ducktown.

The travel time would not be reduced significantly over existing conditions with the route length approximately the same as the existing route at 23 miles. A longer length of the corridor would have a posted speed of 55 mph but speeds on the east end of the corridor at Ducktown could be reduced to 45 mph or lower. Long lengths of sustained grades are the primary factor for the lower average speeds. The addition of passing lanes would increase the average speed of the two-lane typical section.

Table 9 indicates the anticipated performance measures for this option with a 2-lane or 4-lane typical section.

Table 9: Performance Measures for Option 3: Corridor N-4

	No of Lanes	Vehicles per Hour	LOS	Distance (mi)	Est. Ave Speed (mph)	Travel Time (min)
Year 2014	2	299-384	C	23.5	49	29
Year 2034	2	380-487	C	23.5	48	29
Year 2014	4	299-384	A	23.5	53	27
Year 2034	4	380-487	A	23.5	53	27
Year 2014	Exist	199-271	C	23.1	48	29
Year 2034	Exist	254-302	C	23.1	46	30

Existing US 64 along the river would connect to this corridor on each end and continue to be utilized by traffic. The new route would be used more by businesses and commuters while the existing route would be used more for recreational and rafting buses. It is estimated that 40 percent of the total Annual Average Daily Traffic (AADT) would continue to utilize the existing US 64 route. This option would see a higher volume of through traffic on existing US 64 than other new location options due to the greater travel distance to the new location route. Most of the traffic on existing US 64 would be for boating, recreation, and tourism. This split in volume reduces the amount traffic on each route and improves the LOS for both, plus it separates the business and through traffic from the recreational traffic.

5.2.6.7 Estimated Construction Costs

The estimated cost for this option would be $826,527,000 for a 2-lane section and $1,289,515,000 for a 4-lane section.

5.2.7 OPTION 4 – CORRIDOR N-5 (SEGMENTS 4-2-6-7)

5.2.7.1 Concept

Option 4 (See Figures 16 and 21) is a new location build alternative through the CNF north of the Ocoee River. It was developed using QUANTM output. The first 7.8 miles of the route is same as Option 3, sharing Segments 4 and part of Segment 2 before it splits off to the south near SR 30 on to Segment 6 for 0.8 miles. The final 12.2 miles is Segment 7, which continues in a southeasterly direction toward the southwest corner of the Little Frog Mountain Wilderness Area, then follows US 64 between the southern boundary of Little Frog Mountain Wilderness Area and the Ocoee River before turning due east along existing US 64 to the SR 68 interchange. This corridor could have as many as four bridges spanning seven hundred (700) to eight hundred (800) feet as well as a new Ocoee River crossing north of the existing US 64 crossing at the beginning of the project.

Retaining walls may be warranted where the corridor runs between the Little Frog Mountain Wilderness Area and the Ocoee River. The walls would maintain construction outside the Wilderness Area boundary and away from the river. The posted speed through here may need to be reduced to better follow the existing alignment near the Ocoee Whitewater Center and avoid the river.

This corridor is within the Ocoee River Watershed. Its highest elevation is nearly one thousand seven hundred (1,700) feet above sea level near the Little Frog Mountain Wilderness Area. Nearly 60 percent of the profile grade is greater than three with five locations where there is a

continuous grade uphill/downhill for more than two miles. Less than two miles of the corridor are at or near the maximum design grades.

The existing road through the gorge would continue to provide access to the river and other existing recreational facilities adjacent to the river and within the CNF. New connections would be made on the west end near the beginning of the project and near the Ocoee Whitewater Center.

5.2.7.2 Typical Section

The typical section would follow the same design for a 2-lane or 4-lane divided rural arterial highway described in Option 3.

Construction would require significant cut depths and fill heights through the mountainous terrain. Geotechnical analysis would be performed for final design to provide any additional side slope and benching recommendations beyond TDOT standard design.

The roadway construction width for the 2-lane section would vary from eighty eight (88) feet to as much as five hundred (500) feet and the 4-lane section would vary from one hundred eighteen (118) feet to eight hundred (800) feet or more. The final width would depend on ultimate cut and fill limits.

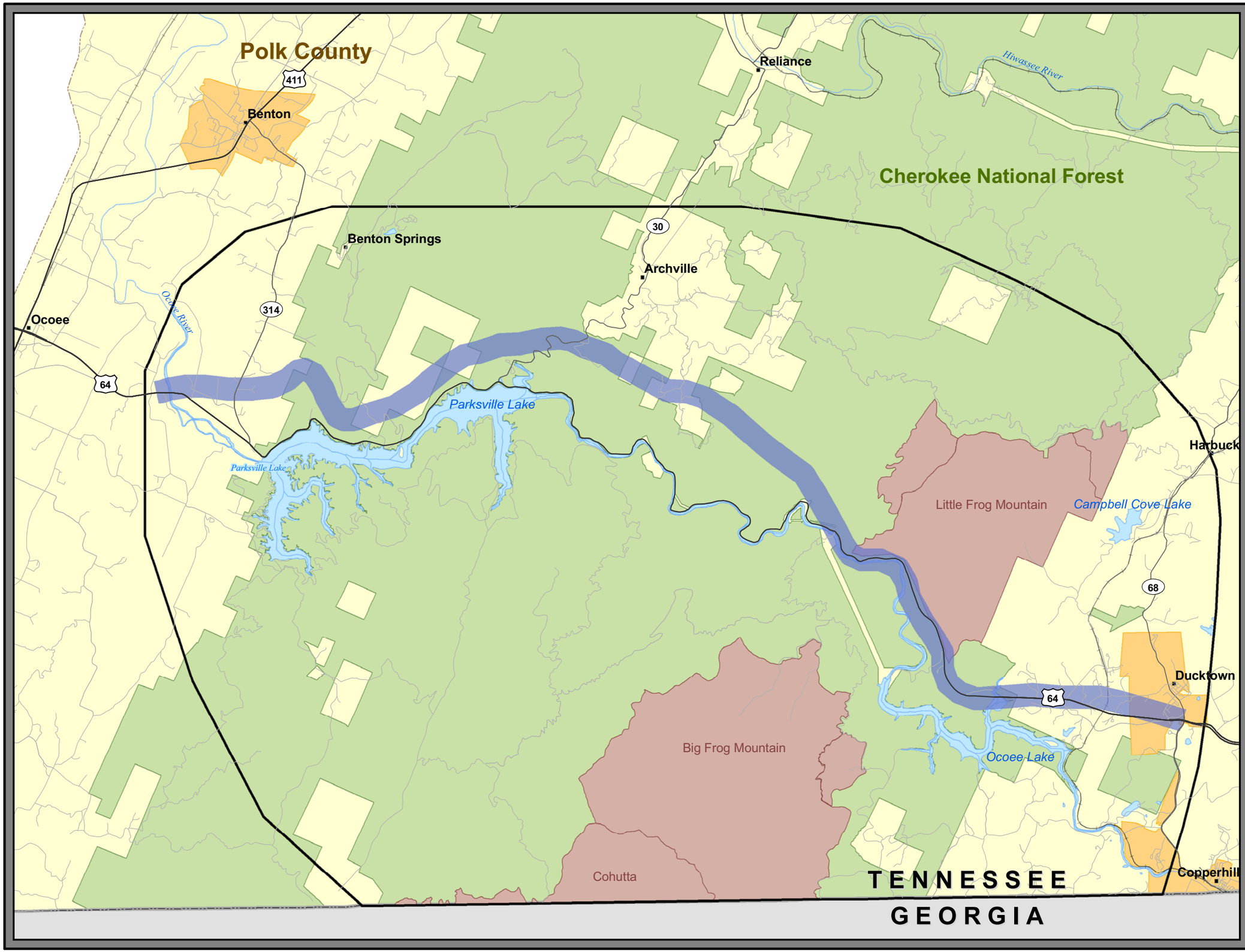
5.2.7.3 Early Environmental Screening

The EES evaluation identified the following resources within the APE of Corridor N-5:

Archaeological/Historical Architecture

Archaeological/Historic Sites – There are two listed historic sites and two that are eligible for the National Register located within Segment 7 of this corridor. The registered sites include Buzzards Roost Historic District, located in Ducktown and the Ocoee Hydroelectric Plant No. 2 on the river. The potentially eligible sites are the Ocoee Hydroelectric Plant No. 3 and flume and the Old Copper Road, both on the river. No effects are anticipated to either of the registered sites or Ocoee Plant No. 3 by either the 2-lane or 4-lane typical section because no widening would occur toward the Ocoee River where the power plants are located. Buzzards Roost Historic District is on the edge of the corridor in downtown Ducktown, away from any reasonable alignment within this corridor. Old Copper Road could be affected by widening away from Little Frog Mountain Wilderness Area, where additional coordination with SHPO would be required.

There are six archaeological sites also located within segment 7, five are potentially eligible and one, Old Copper Road, is eligible. Most locations are not likely to be affected considering the flexibility within the corridor that allow for the avoidance of these sites, but the 4-lane typical section could potentially affect the Old Copper Road if wide construction slopes were needed through this area.



US 64 CORRIDOR K
OCOEE RIVER GORGE SECTION

Legend

- City/Municipality/Town
- Option 4: Corridor N-5
- Railroad
- Secondary Route
- Local Road
- River
- Waterbody
- Municipality
- Cherokee National Forest (Polk Co.)
- Polk County
- Wilderness Area/Study Area
- Project Study Area

N

1:95,040
1 inch equals 1.5 miles

0 0.5 1 2 Miles

Source(s): Tele Atlas, ESRI, US Forest Service, and URS Corp.
Date: March 2010

TDOT Go.

FIGURE 21
OPTION 4: CORRIDOR N-5

CORRIDOR K

SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown Polk County, Tennessee

Community

Railroad – The corridor crosses the old CSX line currently being used by the Hiwassee River Railroad excursion train. The crossing would be at or near the existing US 64 crossing and effects and mitigation would be the same as other options.

Church – Fairview Church is located within Segment 7 of this corridor. Given the overall flexibility within the corridor to allow for the design of potential alignments that could avoid Fairview Church, effects to this site are unlikely.

Ecology

Wetlands – Based on GIS data review there are no known acres within the corridor and 11 locations within the 4,000 foot EES corridor. Additional jurisdictional wetlands or other waters of the U.S. (streams, ponds) may be identified within the corridor with further assessment and field investigation.

Terrestrial Species – There are 25 locations of known federally protected terrestrial species or a state protected species within the 4,000 foot EES corridor. It is possible to avoid or reduce any effects to the species as the design is refined within the 2,000 foot corridor. Large areas of habitat for the plants Southern Lobelia, Sedum Nevii, and Mountain Bush Honeysuckle are within the corridor limits.

Aquatic Species – Fourteen locations were identified by the EES as a known occurrence of a rare or state listed aquatic species located within the 10,000 foot EES corridor. A survey for the species would be warranted to confirm the location of a rare or state listed aquatic species. Further evaluation of the GIS data identified the Tennessee Dace and Seepage Salamander within the 2,000 foot corridor.

TDEC Conservation Sites – The Little Frog Mountain and Ocoee River Gorge, both TDEC Conservation Sites, are within Segment 7 of the corridor. Potential effects to the Little Frog Mountain Wilderness Area are likely to be avoided or substantially reduced during alignment development should this option be advanced to the federal NEPA review process. The boundary of the conservation site through the gorge is further down river from where there would be some potential for noteworthy effects to the Ocoee River from construction of a higher speed 4-lane typical section. Additional design efforts would be warranted with the analysis, coordination, and negotiation to resolve Section 4(f) issue(s) associated with the crossing of a Scenic Waterway.

Hazardous Substance/Geology

Pyritic Rock – This option has the potential to disturb pyritic rock which is often associated with subsequent ARD. Segment 4 is partially within dolomite geology and Segment 2 of this corridor does cross a geologic area that is not classified as pyritic.

Eleven locations were identified by the EES with four different formations within the corridor (Sandsuck Formation, Walden Creek Group, Dolomite – Knox Group, Great Smoky Group).

Construction of this option is not anticipated to affect karst and cave systems.

There are no known Superfund areas located within this option.

Parks and Public Lands

Wildlife Management Areas – The potential to encroach upon the CNF is considered to be high as the corridor runs through the CNF and Wildlife Management Area (WMA). The potential for indirect effects (audible and visual) would warrant further assessment should this option advance to the federal NEPA review process.

Campgrounds – Parksville Lake Campground and 4-H Camp McCroy are located within Segment 6 of this corridor. Coordination would be warranted to address any future plans for this USFS campground and youth educational camp.

5.2.7.4 Environmental Concerns

Effects on water quality associated with the crossing of Ocoee River tributaries, floodplains, and wetlands are anticipated. The entire corridor is located within the Ocoee River Watershed. Streams and tributaries in the Ocoee River Basin north of existing US 64 have the greatest potential for water quality effects. Segment 2 of this option is located in the headwaters of Parksville Lake.

Option 4 would encroach upon the CNF lands. Segment 7 of this option is located between the southern boundary of the Little Frog Mountain Wilderness Area and the northern boundary of the Ocoee River. In order to avoid effects to Little Frog Mountain, two new river crossings would be warranted to meet the criteria of a 60 mph design speed, but a design speed of 50 mph in this area would not require a new crossing and river effects could be reduced or avoided as the design is developed.

Habitat fragmentation within the project study area is anticipated due to land use changes typically associated with roadway construction on new location. Option 4 is anticipated to affect terrestrial communities to a greater degree than the No-Build and Option 2 and 2A along existing US 64. Of the build corridors, Option 4 has a lower potential for habitat fragmentation of the northern build corridors due to it being located fairly close to existing US 64 with Option 5 being the closest. Primary black bear movement between the Smoky Mountain National Park and Cohutta Wilderness occurs near Boyd Gap within Segment 7 of this corridor. Effects could be reduced if road improvements involved only widening US 64 through this area.

Construction of Option 4 on new location is expected to introduce a higher volume of traffic with an improved route. Higher traffic volumes would be expected to increase ambient noise levels within the proposed corridor but may reduce noise levels on existing US 64 as traffic (including most trucks) is diverted to the new location route.

There are 44 streams within the corridor some of which have the potential to be affected by construction. Within Segment 7 there are 11 streams crossed by existing US 64 between the Ocoee Whitewater Center and Ducktown. If the existing alignment was utilized, effects to these streams would be at the existing crossings with pipes, box culverts and/or bridges widened to a new typical section. On new location, streams should be crossed perpendicular to reduce any effects.

Adverse noise and air quality within the CNF would be anticipated to the north of the Ocoee River due to the introduction of traffic to a new location route. With a fairly continuous route through the CNF, the air quality effects would be low with so few stopped vehicles. The existing

terrain would create significant uphill and downhill grades for trucks to climb or brake, creating more noise than on a level grade. The reduction in traffic along existing US 64 should improve both the noise and air quality through the gorge and along the river.

5.2.7.5 Community Concerns

This option would be expected to have less short-term community effects during construction than Options 2 and 2A along existing US 64. The eastern 7.5 miles of the corridor closely follows the existing route, so this option would have greater effects to US 64 than Option 3, but none of the issues on SR 68.

This new location option could enhance the existing recreational opportunities along the river primarily by reducing the overall traffic volume and number of trucks that drive through the gorge. Within the gorge, no improvements to the existing road would occur, so many of the current concerns of parking and pedestrians close to the road would continue. The nature of the old road would change where most of the users would be recreational rather than east-west through-traffic across Polk County.

The new location portion of Option 4 would provide access to new recreational opportunities within the CNF, but would fragment the wilderness and reduce the solitude that exists between Ocoee and Hiwassee Rivers. The corridor crosses SR 30 near the existing Parksville Lake campground and would become the primary access to this facility. Access to Camp McCroy campground could also be changed from SR 30 to a new location route. The Benton MacKaye Trail crosses Segment 7 of this corridor close to the trailhead on existing US 64 where a new trailhead may not be warranted. Segment 7 also crosses Brush Creek Trail, Boyd Gap Trail, and Old Copper Hill Road Trail which are hiking and biking trails as well as the hiking trails Roger Branch Trail and Rock Creek Trail.

Option 4 could affect as many as 79 property tracts, with the largest one being the CNF. Effects would be greater for the 4-lane typical section than the 2-lane. Segment 4 is on new location through a primarily agricultural and forested area. Up to 16 tracts could be affected by this segment with the possibility of one to two residential relocations. The number of relocations could be reduced or eliminated with detailed alignment studies within the corridor that would avoid home sites. Segment 7 also crosses the southern portion of the Archville community through the Caney Creek Road/Fairview Road area and could effect as many as 12 tracts, including possible relocations. At the eastern end of the project, all houses and businesses are far enough from the existing road where asymmetric widening could avoid additional relocations as the corridor approaches Ducktown. Improvements to a 2-lane section would reduce the number of affected tracts as parts of the existing road outside the gorge are currently built to acceptable standards and minor shoulder widening could be done within the existing Right-of-Way. For either typical section where the road is only being widened, the additional property acquired would be roadway frontage for Right-of-Way or easement.

Hunting is popular in Polk County and could be affected by this new location corridor. The more developed areas near SR 314 on the west side of the CNF in Segment 2 and in the Boyd Gap area of Segment 7 are traditional hunting areas. Bear hunting in Polk County is done north of the Ocoee River with the protected Ocoee Bear Reserve located south of the river.

The movement of people and goods across Polk County and into the region would be improved with this option. Once completed, this new location road would provide better access to facilities that exist on each side of Polk County, potentially eliminating the need for duplicate services

(courthouse, high school, jail) that currently exist. This decision would be made by County representatives.

5.2.7.6 Anticipated Operational Performance

The design speed of this option would be 60 mph for the length of the new location corridor. A lower design speed may be used in the area between Little Frog Mountain Wilderness Area and the Ocoee River (near the Ocoee Whitewater Center) to reduce effects to the river. The sections of existing US 64 through the gorge that remain would retain their current posted speeds.

Current and future traffic volumes were analyzed for both the new location corridor and the existing route. For the new location route, the LOS was calculated for both a 2-lane and a 4-lane divided typical section and was separated into four segments based on changes in traffic volumes along the proposed corridor. The segments run from the beginning of the project to SR 314, then to SR 30, and then to the point where the corridor ties to US 64 near the Ocoee Whitewater Center. The existing route was divided into six segments based on changes in typical section and traffic volumes. The new location portion of the corridor ties back to existing US 64 near the Ocoee Whitewater Center and would continue either along the existing route with the existing typical section or upgraded to a 4-lane typical section. The new location route has a LOS of C for both 2014 and 2034 traffic levels with the 2-lane typical section and a LOS A for both 2014 and 2034 for the 4-lane typical section.

This option includes five sections with continuous uphill/downhill grades longer than two miles. Truck passing lanes would be constructed where applicable to help improve the operations of the corridor and allow safer passing of slower vehicles. Like the other new location options, winter weather would create additional maintenance requirements.

The travel time would be reduced due to shorter distance and higher posted speed than the existing route. Speeds would be very similar for the 2-lane and 4-lane new location option with turn lanes at intersections and truck passing lanes on long and steep grades. With a posted speed of 55 mph on the new location route and tying to the existing route east of the Ocoee Whitewater Center with a posted speed of 55 mph, the travel time for this corridor would be less than 23 minutes. This is a reduction of six minutes or 20 percent over the existing route.

This option does provide a convenient detour route to address the issue of temporary road closures along existing US 64 that would require a long-term (weeks or months) detour. Access between routes would be provided at three locations: near SR 314, at SR 30, and a short, new location road connecting the new and existing roads near the Ocoee Whitewater Center.

Table 10: Performance Measures for Option 4: Corridor N-5

	No of Lanes	Vehicles per Hour	LOS	Distance (mi)	Estimated Ave. Speed (mph)	Travel Time (min)
Year 2014	2	327-570	C	20.9	51	25
Year 2034	2	412-682	C	20.9	51	25
Year 2014	4	327-570	A	20.9	55	23
Year 2034	4	412-682	A	20.9	55	23
Year 2014	Exist	199-271	C	23.1	48	29
Year 2034	Exist	254-302	D	23.1	46	30

Existing US 64 along the river would connect to this corridor on each end and continue to be utilized by traffic. The new route would be used more by businesses and commuters while the existing route would be used more for recreational and rafting buses. It is estimated that 35 percent of the total AADT would continue to utilize the existing route. This reduction in volume improves the LOS for both routes and separates the business and through traffic from the recreational and river traffic.

5.2.7.7 Estimated Construction Costs

The estimated cost for this option would be $373,776,000 for a 2-lane section and $673,986,000 for a 4-lane section.

5.2.8 OPTION 5 – CORRIDOR N-6 (SEGMENTS 4-5-7)

5.2.8.1 Concept

Option 5 (See Figures 16 and 22) is similar to Option 4 with Segment 5 replacing Segments 2 and 6. From the end of Segment 4 on the east side of the Sugarloaf Mountain lookout, Segment 5 continues further south than Segment 2 then turns east to run nearly parallel to Segment 2 for 5.5 miles. The corridor crosses SR 30 near the Parksville Lake campground and continues for 1.5 miles east to tie to Segment 7 which goes to the end of the project as described in Option 4.

This corridor is all within the Ocoee River Watershed. Its highest elevation is nearly one thousand seven hundred (1,700) feet above sea level near the Little Frog Mountain Wilderness Area. QUANTM identified bridges to be more cost effective at several places to cross deep valleys. This corridor could have as many as four bridges spanning seven hundred (700) to eight hundred (800) feet as well as the possibility of a new Ocoee River crossing north of the existing US 64 crossing at the beginning of the project. Like Option 4, retaining walls and a lower design speed may be warranted in Segment 7 near the Ocoee Whitewater Center.

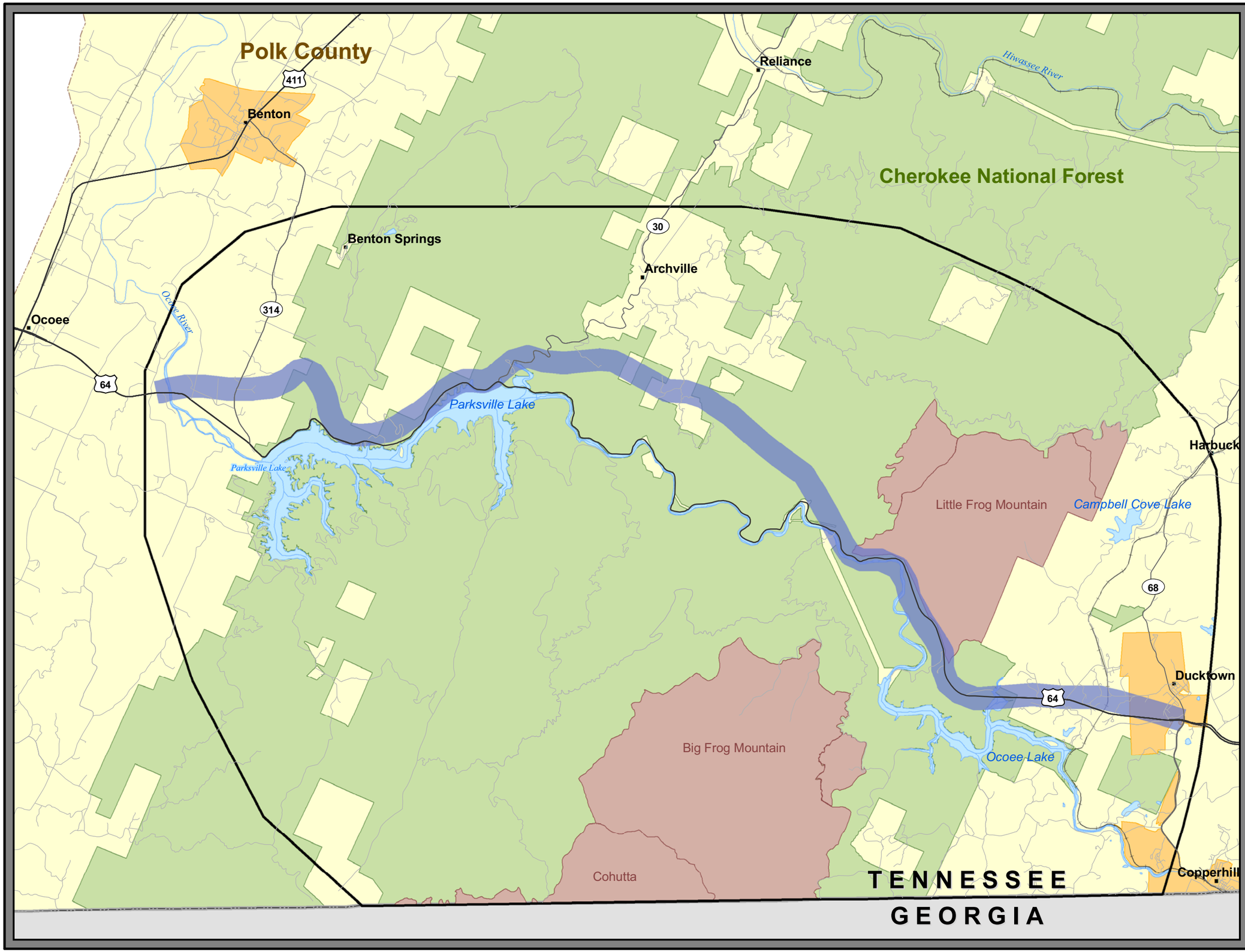
The average profile grade through this corridor is slightly improved over Option 4 with more grades of approximately 3% or less. Segment 5 provides a better opportunity for grades less than six percent, but overall there is still approximately 2.7 miles that would be above 5% grade. There are four locations with a long continuous grade. Two of these four are less than two miles in length with the longest at approximately 2.5 miles.

5.2.8.2 Typical Section

The typical section would follow the standard design for a 2-lane or 4-lane divided rural arterial highway. Lane and shoulder widths would be the same as the other new location build options.

Construction would require significant cut depths and fill heights through the mountainous terrain. Geotechnical analysis would be performed for final design to provide any additional side slope and benching recommendations beyond TDOT standard design.

The roadway construction width for a 2-lane would vary from eighty eight (88) feet to as much as five hundred (500 feet) and the 4-lane would vary from one hundred eighteen (118) feet to eight hundred (800 feet) or more. The final width would depend on cut and fill limits determined as the design is being developed.



US 64 CORRIDOR K
OCOEE RIVER GORGE SECTION

Legend

- City/Municipality/Town
- Option 5: Corridor N-6
- Railroad
- Secondary Route
- Local Road
- River
- Waterbody
- Municipality
- Cherokee National Forest (Polk Co.)
- Polk County
- Wilderness Area/Study Area
- Project Study Area

N

1:95,040
1 inch equals 1.5 miles

0 0.5 1 2 Miles

Source(s): Tele Atlas, ESRI,
US Forest Service, and URS Corp.
Date: March 2010

TDOT Go.

FIGURE 22
OPTION 5: CORRIDOR N-6

CORRIDOR K

SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown Polk County, Tennessee

5.2.8.3 Early Environmental Screening

The EES evaluation identified the following resources within the APE of Corridor N-6:

Archaeological/Historical Architecture

Archaeological/Historic Sites – The same two listed historic sites and two eligible sites as in Option 4 are also within Option 5 with Segment 7 common to both options. The issues and effects are the same as described in Option 4 with no effects to the registered sites, Plant No. 3, and potential effects to Old Copper Road, where additional coordination with SHPO would be required.

There are six archaeological sites also located within Segment 7, five are potentially eligible and one, Old Copper Road, is eligible. Most locations are not likely to be affected considering the flexibility within the corridor that allow for the avoidance of these sites, but the 4-lane typical section could potentially affect the Old Copper Road if wide construction slopes were needed through this area.

Community

Railroad – The corridor crosses the old CSX line currently being used by the Hiwassee River Railroad excursion train. The crossing would be at or near the existing US 64 crossing. Effects and maintenance issues would be the same as other options.

Church – Fairview Church is located within Segment 7 of this corridor. Effect would be similar to Option 4.

Ecology

Wetlands – There are greater than two acres of known wetland sites within the 4,000 foot EES corridor. There are 19 sites identified within the EES corridor. Additional jurisdictional wetlands or other waters of the U.S. (streams, ponds) may be identified within the corridor with further assessment and field investigation.

Terrestrial Species – There are 26 locations of known federally protected terrestrial species or a state protected species located within the 4,000 foot EES corridor. It is possible to avoid or reduce any effects to the species as the design is refined within the 2,000 foot corridor. A survey for the species would be warranted to confirm the existence of federally listed terrestrial species. Additional design may be warranted if additional populations are found during required field surveys. Large areas of habitat for the plants Sedum Nevii and Mountain Bush Honeysuckle are within the corridor limits.

Aquatic Species – There is a known occurrence of a rare or state listed aquatic species located within the 10,000 foot EES corridor. A survey for the species would be warranted to confirm the existence of rare or state-listed aquatic species. Eleven locations were identified by the EES and further evaluation of the GIS data identified the Tennessee Dace and Seepage Salamander within the corridor.

TDEC Conservation Sites – The Little Frog Mountain and Ocoee River Gorge, both TDEC Conservation Sites, are within Segment 7 of the corridor. An effect to the Scenic Waterway is likely to be avoided with a lower design speed alignment in the area south of the Little Frog Boundary along the existing alignment should this corridor advance to

the federal NEPA review process. A higher speed 4-lane typical section may have notable effects with two new Ocoee River crossings in order to meet the criteria of a higher design speed. Additional design efforts would be warranted with the analysis, coordination, and negotiation to resolve Section 4(f) issue(s) associated with the crossing of a Scenic Waterway.

Hazardous Substance/Geology

Pyritic Rock – This option has the potential to disturb pyritic rock which is often associated with subsequent ARD. Potential effects would be slightly higher than Option 4 with the all of Segment 5 within a geology formation containing acid producing rock. Issues and mitigation efforts would be the same as other options.

Nine locations were identified by the EES with four different formations within the corridor (Sandsuck Formation, Walden Creek Group, Dolomite – Knox Group, Great Smoky Group).

Construction of this option is not anticipated to affect karst and cave systems.

There are no known Superfund areas located within this option.

Parks and Public Lands

Wildlife Management Areas – CNF lies within this corridor. Additional assessment of indirect effects may be warranted to design appropriate mitigation measures. The potential for indirect effects (audible and visual) would warrant further assessment should this option advance to the federal NEPA review process.

Campgrounds – USFS Parksville Lake Campground and 4-H Camp McCroy are located within Segment 6 of this corridor. Coordination with the USFS would be warranted to address any future plans for their campground.

5.2.8.4 Environmental Concerns

Effects to water quality associated with the crossing of Ocoee River tributaries, floodplains, and wetlands would be anticipated. Improvements would be north of existing US 64 with no direct effects to the Ocoee River through the gorge. Section 5 of this option is located in the headwaters of Parksville Lake. Option 5 would encroach upon nearly the same amount of the CNF lands as Option 4 with the two segments being similar in length.

Habitat fragmentation within the project study area is anticipated due to land use changes typically associated with roadway construction on new location. Option 5 is anticipated to affect terrestrial communities to a greater degree than the No-Build or Option 2 and 2A along existing US 64. Of the build corridors, Option 5 has the least potential for habitat fragmentation of the northern build corridors due to being located closest to existing US 64. This option would be expected to affect upland habitat, namely large and small mammal habitat as opposed to aquatic species habitat to a lesser degree than the southern build corridors because of its close proximity to existing US 64. Primary black bear movement occurs near Boyd Gap in Segment 7 of this corridor. Effects could be reduced if road improvements involved only widening US 64 through this area.

There are 43 streams within the corridor, but not all would be affected by construction. As in Option 4, within Segment 7 there are 11 streams crossed by existing US 64 between the Ocoee Whitewater Center and Ducktown. If the existing alignment was utilized, effects to these streams would be at the existing crossings with pipes, box culverts and/or bridges widened to a new typical section. On new location, streams should be crossed perpendicular to reduce any effects.

Construction of Option 5 on new location is expected to have a higher volume of traffic than existing US 64 would have because of the improved road inducing more traffic with better service. Higher traffic volumes would increase ambient noise levels within the proposed corridor but may reduce noise levels on existing US 64 as more traffic (including a substantial amount of large trucks) would use the new location route rather than drive through the gorge.

Adverse noise and air quality within the CNF could be anticipated to the north of the Ocoee River due to the introduction of traffic to a new location route. With a fairly continuous route through the CNF, the air quality effects would be low with so few stopped vehicles. The existing terrain would create significant uphill and downhill grades for trucks to climb or brake, creating more noise than on a level grade. The reduction in traffic along existing US 64 should improve both the noise and air quality through the gorge.

5.2.8.5 Community Concerns

This option could have the same short-term affects to the community during construction as described for Option 4. Segment 5 is the only alignment that is different from Option 4, but is still on new location away from the existing US 64 where traffic could be maintained throughout construction.

Also like Option 4, this new location option could enhance the existing recreational opportunities along the river primarily by reducing the overall traffic volume and number of trucks that drive through the gorge. Within the gorge, no improvements to the existing road would occur, so many of the current concerns of parking and pedestrians close to the road would continue. The nature of the old road would change where most of the users would be recreational rather than east-west through-traffic across Polk County.

The new location portion of Option 5 would provide access to many of the same new recreational opportunities within the CNF as Option 4. Because it is closer to existing US 64, it would not fragment the wilderness and reduce the solitude within the CNF as much as Option 4. The corridor crosses SR 30 near the existing Parksville Lake Campground and could become the primary access to this facility. The Benton MacKaye Trail crosses Segment 7 of this corridor close to the trailhead on existing US 64 where a new trailhead may not be warranted. Segment 7 also crosses Brush Creek Trail, Boyd Gap Trail, and Old Copper Hill Road Trail which are hiking and biking trails as well as the hiking trails Roger Branch Trail and Rock Creek Trail. Near SR 30, Segment 5 crosses Clemmer Trail, its Scenic Spur, and Clear Creek Trail. A new location option would provide additional access to all of these trails, but additional studies would be warranted to assess if trailhead parking should be provided along the new route.

The Right-of-Way impacts associated with Option 5 are nearly identical to Option 4. There is only a slight difference in length between Segment 5 and Segments 2 and 6 and the Right-of-Way required is essentially the same. The CNF is the only property owner in these three corridor segments. Segments 4 and 7 are common to both options, so the effects within these are identical to Option 4.

Hunting effects at Boyd Gap and the west side of CNF are expected to be the same as Option 4 as it shares Segments 4 and 7.

The movement of people and goods across Polk County and into the region would be improved with this option. Issues including better access to facilities and potentially eliminating the need for duplicate services are the same as Option 4.

5.2.8.6 Anticipated Operational Performance

With only one Option 5 segment different than Option 4, the operational performance is essentially identical for both options. The design speed of Option 5 could be 60 mph for the length of the new location corridor. The existing corridor would retain its current posted speeds.

Current and future traffic volumes for Option 5 were analyzed for both the new location corridor and the existing route, exactly as Option 4. For the new location route, the LOS was calculated for both a 2-lane and a 4-lane divided typical section and was separated into the same four segments as Option 4 based on changes in traffic volumes along the proposed corridor. The existing route was divided into six segments based on changes in typical section and traffic volumes. The new location portion of the corridor ties back to existing US 64 near the Ocoee Whitewater Center and would continue either along the existing route with the existing typical section or upgraded to a 4-lane typical section. The new location route has a LOS of C for both 2014 and 2034 traffic levels with the 2-lane typical section and a LOS A for both 2014 and 2034 for the 4-lane typical section.

This option has fewer and shorter long continuous grades along the corridor than Option 4, but still has the same effects and winter maintenance issues. Truck passing lanes would be constructed where applicable to help improve the operations of the corridor and allow safer passing of slower vehicles.

The travel time would be reduced due to shorter distance and higher posted speed than the existing route. Speeds would be very similar for the 2-lane and 4-lane new location option with turn lanes at intersections and truck passing lanes on long and steep grades. With a posted speed of 55 mph on the new location route and tying to the existing route west of the Ocoee Whitewater Center with a posted speed of 55 mph, the travel time for this corridor would be less than 23 minutes. This is a reduction of six minutes or 20 percent over the existing route.

This option does provide a convenient detour route to address the issue of temporary road closures along existing US 64 that would require a long-term (weeks or months) detour. Access between routes would be provided at three locations: near SR 314, at SR 30, and near the Ocoee Whitewater Center.

Table 11: Performance Measures for Option 5: Corridor N-6

	No of Lanes	Vehicles per Hour	LOS	Distance (mi)	Estimated Ave. Speed (mph)	Travel Time (min)
Year 2014	2	327-570	C	21.0	51	25
Year 2034	2	412-682	C	21.0	51	25
Year 2014	4	327-570	A	21.0	55	23
Year 2034	4	412-682	A	21.0	55	23
Year 2014	Exist	199-271	C	23.1	48	29
Year 2034	Exist	254-302	D	23.1	46	30

[1]Average per lengths of 45 mph and 55 mph posted speeds

Existing US 64 along the river would connect to this corridor on each end and continue to be utilized by traffic. The new route would be used more by businesses and commuters while the existing route would be used more for recreational and rafting buses. It is estimated that 35 percent of the total AADT would continue to utilize the existing route. This reduction in volume improves the LOS for both routes and separates the business and through traffic from the recreational traffic.

5.2.8.7 Estimated Construction Costs

The estimated cost for this option would be $370,115,000 for a 2-lane section and $638,970,000 for a 4-lane section.

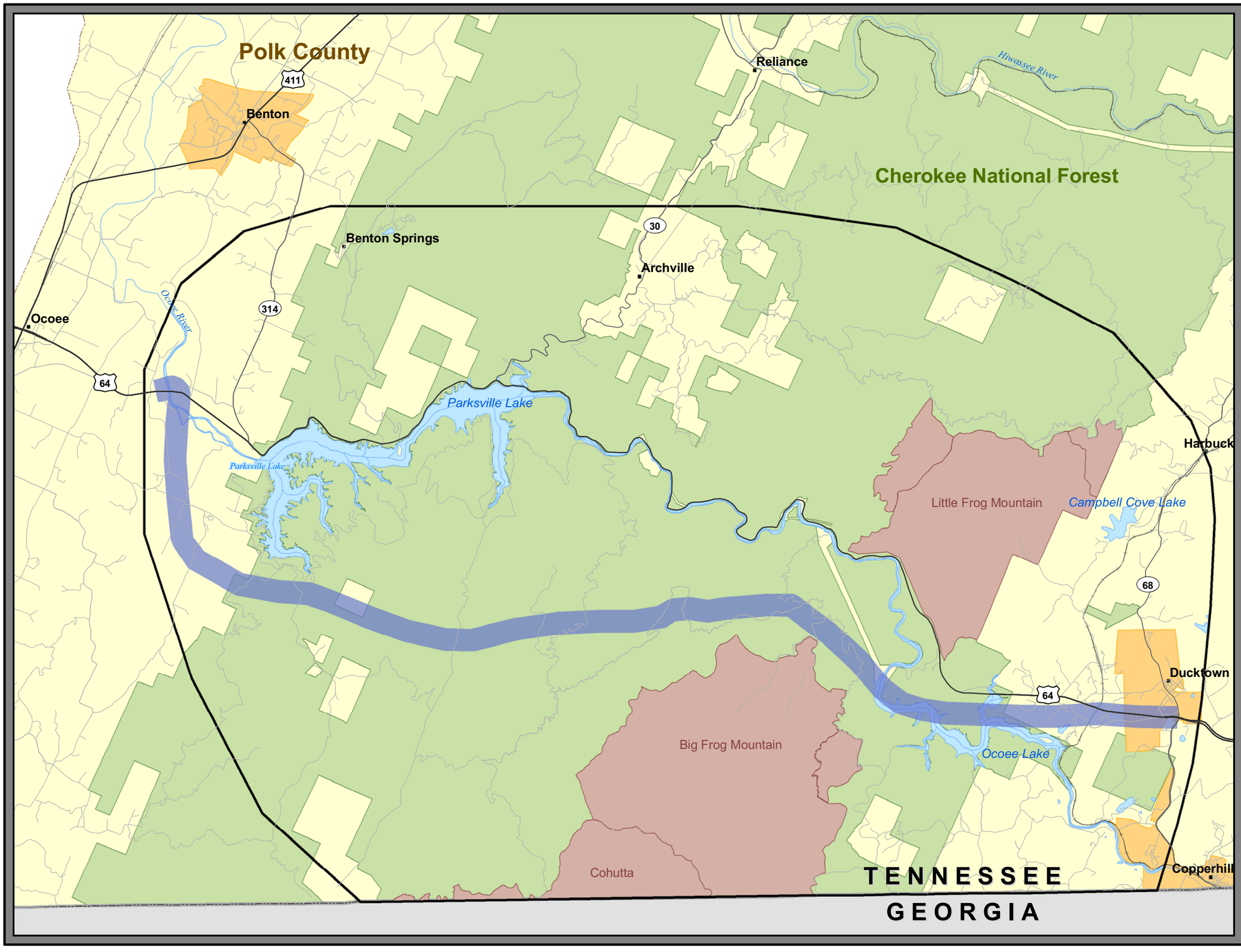
5.2.9 OPTION 6 – CORRIDOR S-5 (SEGMENTS 17-18-12-13-10-11)

5.2.9.1 Concept

Option 6 (see Figures 16 and 23) is a corridor that stays south of Parksville Lake and the Ocoee River. It is within the Ocoee River Watershed. Starting with Segment 17, it would require two Ocoee River crossings on the west end of the project as it avoids the Ocoee River Estates subdivision and turns due south for 2.9 miles. The corridor then runs between the Ocoee Ridge subdivision and the Darden Property, which is a conservation easement with the Land Trust of Tennessee, before turning east on Segment 18 along the southern boundary of the Darden property and continues in an easterly direction for 10.3 miles along Segments 12 and 13, crossing over Sylco Ridge and spanning the valley with a bridge that could be as long as two thousand two hundred (2,200) feet and five hundred (500) feet high. As it approaches the historic TVA water flume on Segment 10 it turns south on Segment 11 and crosses the Ocoee River and Ocoee Lake behind Ocoee Dam No. 3 with a series of bridges and runs nearly parallel to existing US 64 approximately two thousand (2,000) feet to the south before tying back to the US 64 west of the SR 68 interchange.

For the profile, there are approximately two miles where grades are at or near the design maximum and almost 12 miles where the grade is three percent or less, mostly at higher elevations to the west. This option has four locations with long continuous grades at five percent or greater for more than one mile. The longest is approximately 2.1 miles.

US 64 would remain in service to provide continued access to the Ocoee River and adjacent recreational sites. New roads would be constructed near the beginning and ending of the project at each end of the new location corridor to connect the new and the old roads and provide access to recreational activities along the river.



US 64 CORRIDOR K

OCOEE RIVER GORGE SECTION

Legend

- City/Municipality/Town
- Option 6: Corridor S-5
- Railroad
- Secondary Route
- Local Road
- River
- Waterbody
- Municipality
- Cherokee National Forest (Polk Co.)
- Polk County
- Wilderness Area/Study Area
- Project Study Area

1:95,040

1 inch equals 1.5 miles

0 0.5 1 2 Miles

Source(s): Tele Atlas, ESRI, US Forest Service, and URS Corp.
Date: March 2010

TDOT Go.

FIGURE 23
OPTION 6: CORRIDOR S-5

CORRIDOR K

SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown
Polk County, Tennessee

5.2.9.2 Typical Section

The typical section would follow the standard design for a 2-lane or 4-lane divided rural arterial highway. Lanes and shoulder widths would be the same as the other build options.

Construction would require significant cut depths and fill heights through the mountainous terrain. Geotechnical analysis would be performed for final design to provide any additional side slope and benching recommendations beyond TDOT standard design.

The roadway construction width for a 2-lane would vary from eighty eight (88) feet to as much as five hundred (500) feet and the 4-lane would vary from one hundred eighteen (118) feet to one thousand (1,000) feet or more. The slope limits for this corridor could be wider than the other corridors due to the terrain along Segment 5 of this corridor. The final width would depend on cut and fill limits determined as the design is being developed.

5.2.9.3 Early Environmental Screening

The EES evaluation identified the following resources within the APE of Corridor S-5:

Archaeological/Historical Architecture

Archaeological/Historic Sites – There is one National Register historic property (Copeland House) and one potentially eligible historic site located on Crookson Creek Road which would require further evaluation. Both are within Segment 17 of this corridor. At a corridor level review it seems probable to avoid a taking of either these properties. The potential for indirect effects (audible and visual) would warrant further assessment, and further evaluation and coordination with SHPO should this option advance to the federal NEPA review process.

Segments 18-12-13 include four archaeological sites that have not been fully investigated. Additional studies and possibly field investigation, along with coordination with SHPO would be warranted to assess the significance of these sites.

Segments 10 and 11 include four archaeological sites that have not been fully evaluated to assess their significance plus the Ocoee Hydroelectric Plant No. 3, which is eligible for the National Historic Register. Effects are not anticipated for this eligible site due to its location on the river and possible alignment design that would stay south of the river at this location.

Though not confirmed or mapped, the USFS anticipates the existence of other cemeteries within the corridors south of the Ocoee River.

Community

Railroad – The corridor crosses the Hiwassee River Railroad. The crossing would be at or near the existing US 64 crossing with potential concerns being the same as other build options.

Ecology

Wetlands – There are greater than two acres of known wetlands within the 4,000 foot EES corridor. There are 24 wetland sites located, but most of them are outside the 2,000 foot corridor. Additional jurisdictional wetlands or other waters of the U.S. (streams, ponds) may be identified within the corridor with further assessment and field investigation.

Terrestrial Species – There are eight locations of known federally protected terrestrial species or a state protected species located within the 4,000 foot EES corridor. Avoidance of listed species and their habitat may be possible in consideration of the flexibility within the corridor to develop alignments that avoid these species and their habitat.

Aquatic Species – There is a known occurrence of a rare or state listed aquatic species located within the 10,000 foot EES corridor. A survey for the species is likely to be warranted to confirm locations and existence. Six locations were identified by the EES and further evaluation of the GIS data identified the Tennessee Dace and Seepage Salamander within the corridor.

TDEC Conservation Sites – Little Frog Mountain and Walkertown Branch Bog are located within the corridor. Effects to the Little Frog Mountain Wilderness Area would not be expected due to possible alignments to the south of this area. Walkertown Branch Bog, a cranberry bog with notable plant population, is within Segment 11.

Hazardous Substance/Geology

Pyritic Rock – This option has the potential to disturb pyritic rock which is often associated with subsequent ARD. Dolomite is the primary geology of Segment 17, but other segments run through pyritic geology, so effects would still be high for this option.

Ten locations were identified by the EES with four different formations within the corridor (Sandsuck Formation, Walden Creek Group, Knox Group, and Great Smoky Group).

Construction of this option is not anticipated to affect karst and cave systems.

Superfund Sites – The corridor crosses Ocoee Reservoir #3 which is included in the North Potato Creek Superfund Site.

Parks and Public Lands

Wildlife Management Areas – CNF lies within the corridor. The Fourth Fractional Township Wildlife Management Area is also within 4,000 foot EES corridor of Segment 11. This 1,107 acre site is not likely to be affected as it is outside the corridor limits to the south. Additional assessment of indirect effects may be warranted to design appropriate mitigation measures. The potential for indirect effects (audible and visual) would warrant further assessment should this option advance to the federal NEPA review process.

5.2.9.4 Environmental Concerns

Construction effects associated with the crossing of Ocoee River and its tributaries and floodplains are anticipated. Most of the improvements could be made to the south of the river,

but this corridor crosses the river south of the Ocoee Powerhouse No. 1 and dam on the east side and again on the west end of the corridor. This option is within the Ocoee River Watershed, but better access to the wilderness area south of the Ocoee River could create an indirect effect to the Conasauga River Watershed. Section 11 is located in the headwaters of Ocoee Lake. Option 6 represents a much greater potential for water quality degradation of all new location build options as much of the corridor crosses wilderness areas in addition to the construction effects to Ocoee Lake behind Dam No. 3.

Option 6 could have notable encroachment effects to the CNF lands, fragmenting an area that is currently 90 to 100 percent forested. Construction could result in the loss of as much as 712 acres of mixed mesophytic forest and 35 acres of riverfront forest from an alignment along this corridor.

Segments 18, 12, 13, 10 and parts of 11 run east-west through the Ocoee Bear Reserve located to the south of the Ocoee River. The total area is shown in Figure 5. Habitat fragmentation within the project study area could occur due to land use changes typically associated with roadway construction on new location. Option 6 is anticipated to affect terrestrial communities to a greater degree than the No-Build and build options along the existing US 64 corridor. Of the build corridors, the southern options, including Option 6, have the greatest potential for habitat fragmentation. This option would be expected to affect upland species habitat, namely large and small mammal habitat as opposed to aquatic species habitat to the same degree as Option 7 with the expected disruption of bear habitat connectivity as well as the highest probability of notable black bear displacements according to habitat quality models. The southern corridor options are the least compatible with the Black Bear Prescription Land Management Plan to provide optimal habitat for black bear and other wide ranging area sensitive species. These management activities are designed to provide a secluded and diverse habitat.

There are 48 streams within the corridor, but not all are anticipated to be affected by construction. On new location, streams should be crossed perpendicular to reduce any effects. Effects to aquatic species such including Hellbender in Rough Creek; Rainbow trout in Laurel Creek, Brown Camp Branch, Big Creek and Baker Creek; and Tennessee Dace in Segments 18-12-13-10. Mitigation efforts such as bridging would be studied as part of the design.

Option 6 could notably affect hunting and angling use. Wildlife partnerships between the USFS and other agencies to improve habitat and provide stewardship project opportunities would need to be reevaluated for the new conditions created by the corridor within the CNF south of the Ocoee River.

Segment 10 passes through the area known as Old Dutch Settlement. Effects to this 145 acre site may not be avoidable due to its size. Mitigation efforts could be warranted once effects are determined. Within the bear reserve, there is no bear hunting south of the Ocoee River.

Adverse noise and air quality within the CNF could occur to the south of the Ocoee River due to the introduction of traffic to a new location route. With a fairly continuous route through the CNF, the air quality effects would be low with so few stopped vehicles. The existing terrain would create significant uphill and downhill grades for trucks to climb or brake, creating a higher noise level than on a flatter grade. The reduction in traffic along existing US 64 are expected to improve both the noise and air quality through the gorge.

5.2.9.5 Community Concerns

This option would have the same short-term effects to the community during construction as the new location Options 4 and 5 to the north. Most of the construction is away from existing US 64 and traffic would be maintained there. On the west side of the project, Cookson Creek Road is the primary road within Segment 17. Part of this road could be improved to become part of the new route, or it may tie into the new location route.

This new location option could enhance the existing recreational opportunities along the river primarily by reducing the overall traffic volume and number of trucks that drive through the gorge. Within the gorge, no improvements to the existing road would occur, so many of the current concerns of parking and pedestrians close to the road would continue. The nature of the old road would change where most of the users would be recreational with the river as a destination rather than the only east-west route across Polk County.

The new location portion of Option 6 traverses the area south of the Ocoee River, notably reducing the solitude, wilderness, and desired remote backcountry of this area. Segment 18 crosses numerous hiking and biking trails including Sylco, Big Creek, Yellow Stand Lead, West Fork, and Licklog Ridge Trail. Segment 11 crosses the Brush Creek and Boyd Gap trails as well as the Benton MacKaye Trail. The Brush Creek section of the Tanasi Mountain Bike Trail system is one of the most popular sections because it is considered “easy” and provides access and views to Ocoee No. 3 Lake. The new crossing of the Benton MacKaye Trail is approximately 2.5 trail miles from the trailhead on existing US 64 but on the other side of the Ocoee River. Additional studies would be warranted to assess if a new trailhead and access would be warranted. Due to the terrain, the new road would not be able to cross all of these trails at their existing elevation, but additional studies would be done to maintain a continuous trail, whether it is relocated for an at grade crossing or cross over the trail with a bridge or larger culvert.

The Low Gap trailhead is within Segment 11 located at the base of Big Frog Mountain. Road construction would decrease the remote and primitive character of this area. The gravel road that originates at Thunder Rock Campground and Ocoee #3 Powerhouse connects US 64 to Low Gap. A new road along the Option 6 corridor would likely increase activity on this trail and improvements to this connecting road may be warranted to better facilitate the increased use. Access to NFSR 221 (Tumbling Creek and TN 68) and NFSR 45 (Thunder Rock) is also affected within this segment.

Corridor S-5 could impact as many as 61 property tracts, with the largest one being the CNF south of the Ocoee River. Effects would be greater for the 4-lane typical section than the 2-lane with relocations and total property takes possible for either typical section on new locations. Segment 17 is on new location through a primarily agricultural land containing property with larger tracts of land (more than two acres). Up to 30 tracts could be affected by this segment with the possibility of one or more relocations. This could be eliminated as detailed alignment studies within the corridor are done to avoid home sites. Segments 18-12-13-10 could affect as many as five tracts. The CNF is the largest property owner along this segment. As Segment 11 approaches the eastern end of the project, it aligns to the south of US 64 before tying to an existing location to be determined. As it approaches Ducktown, it could affect as many as 26 tracts. Depending on the typical section, there could be total property takes and relocations in this area. Property tracts are fairly large (more than two acres) and additional alignment studies would be done to reduce effects to properties. Once the new location ties to existing US 64 with

either typical section and the road is only being widened, the additional property acquired would be roadway frontage for Right-of-Way or easement.

The movement of people and goods across Polk County and into the region would be improved with this option. Once completed, this new location road would provide better access to facilities that exist on each side of Polk County, potentially eliminating the need for duplicate services (courthouse, high school, jail) that currently exist. This decision would be made by County representatives.

Forest management could be notably affected by Option 6. Segments 10 and 11 cross highly operable timber management land which would be expected to increase the public visibility of these managed areas. The road through this segment would also affect the view from Boyd Gap overlook.

5.2.9.6 Anticipated Operational Performance

The design speed of Option 6 would be 60 mph for the length of the new location corridor. The existing US 64 corridor would retain its current posted speeds.

Current and future traffic volumes were analyzed for both the new location corridor and the existing route. For the new location route, the LOS was calculated for both a 2-lane and a 4-lane divided typical section. Only one analysis was required with the entire corridor on new location with no change in volume or typical section. The existing route was divided into the same 13 segments as Options 1, 2, and 3. These segments are based on changes in typical section and traffic volumes. The new location route has a LOS of C for both 2014 and 2034 traffic with the 2-lane typical section and a LOS A for both 2014 and 2034 for the 4-lane typical section. Table 12 indicates the anticipated performance measures for this option with a 2-lane or 4-lane typical section.

The profile grades for corridors to the south are not quite as steep on average as corridors north of the river, but still have long sections with steeper grades. Truck passing lanes would be constructed where applicable to help improve the operations of the corridor and allow safer passing of slower vehicles. Winter operations would be affected by these long grades requiring early maintenance to provide safer conditions on the road.

The travel time would be reduced due to the shorter distance and higher posted speed than the existing route. Speeds would be very similar for the 2-lane and 4-lane new location option with turn lanes at intersections and truck passing lanes on long, steep grades. The entire corridor would have a posted speed of 55 mph allowing the travel time for this corridor to be 22.5 minutes. This is a reduction of six minutes or more than 20 percent faster than the existing route.

This option does provide a convenient detour route to address the issue of temporary road closures along existing US 64 that would require a long-term (weeks or months) detour.

Table 12: Performance Measures for Option 6: Corridor S-5

	No of Lanes	Vehicles per Hour	LOS	Distance (mi)	Estimated Ave. Speed (mph)	Travel Time (min)
Year 2014	2	249	C	20.5	49	25
Year 2034	2	317	C	20.5	49	25
Year 2014	4	249	A	20.5	55	23
Year 2034	4	317	A	20.5	55	23
Year 2014	Exist	249-391	D	23.1	48	29
Year 2034	Exist	317-494	D	23.1	46	30

5.2.9.7 Estimated Construction Costs

The estimated cost for this option would be $381,212,000 for a 2-lane section and $686,764,000 for a 4-lane section.

5.2.10 OPTION 7 – CORRIDOR S-6 (SEGMENTS 17-19-10-11)

5.2.10.1 Concept

Option 7 (see Figures 16 and 24) also stays south of Parksville Lake and the Ocoee River. It is all within the Ocoee River Watershed. The only difference between this corridor and the Option 6 corridor is Segment 19 which is aligned south of Segments 18-12-13. From the end of Segment 17, Segment 19 continues in a southeasterly direction for 3.1 miles before turning east toward Big Frog Mountain for 6.7 miles at which point it ties to Segments 10 and 11 as described in Option 6. Within Segment 19, QUANTM output indicates the corridor crossing over Sylco Ridge and spanning the valley with a bridge nearly three thousand (3,000) feet long and as much as eight hundred (800) feet high.

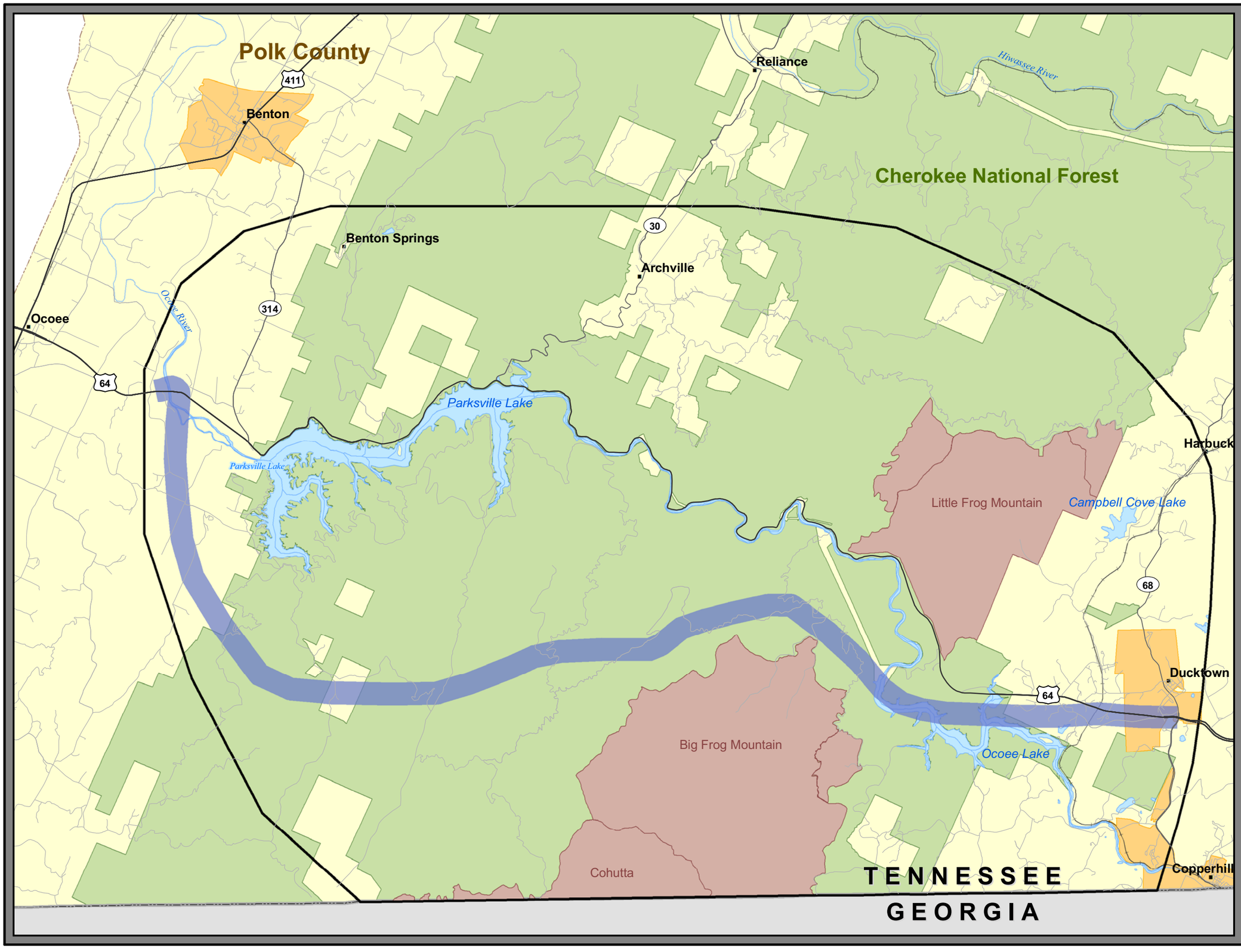
Profile grades are very similar to Option 6 with almost two miles of grades at or near the design maximum. Almost 60 percent of the total corridor grades are three percent or less, mostly at higher elevations to the west. This option does have three long continuous uphill/downhill grades at four to six percent for more than one mile. The longest is approximately 2.1 miles.

5.2.10.2 Typical Section

The typical section would follow the same standard design for a 2-lane or 4-lane divided rural arterial highway as the other build options.

Construction would require significant cut and fill heights through the mountainous terrain. Geotechnical analysis would be performed for final design to provide any additional side slope and benching recommendations beyond TDOT standard design.

The roadway construction width for a 2-lane would vary from eighty eight (88) feet to as much as sic hundred (600) feet and the 4-lane would vary from one hundred eighteen (118) feet to thousand (1,000) feet or more. The slope limits for this corridor could be wider than the other corridors due to the terrain south of the Ocoee River. The final width would depend on cut and fill limits determined as the design is being developed.



US 64 CORRIDOR K

OCOEE RIVER GORGE SECTION

Legend

- City/Municipality/Town
- Option 7: Corridor S-6
- Railroad
- Secondary Route
- Local Road
- River
- Waterbody
- Municipality
- Cherokee National Forest (Polk Co.)
- Polk County
- Wilderness Area/Study Area
- Project Study Area

1:95,040

1 inch equals 1.5 miles

0 0.5 1 2 Miles

Source(s): Tele Atlas, ESRI, US Forest Service, and URS Corp.
Date: March 2010

TDOT Go.

FIGURE 24
OPTION 7: CORRIDOR S-6

CORRIDOR K

SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown
Polk County, Tennessee

5.2.10.3 Early Environmental Screening

The EES evaluation identified the following resources within the APE of Corridor S-6:

Archaeological/Historical Architecture

Archaeological/Historic Sites – There is one National Register historic property (Copeland House) and one potentially eligible historic site located on Crookson Creek Road which would require further evaluation. Both are within Segment 17 which is common to both Option 6 and 7. At a corridor level review it seems probable to avoid a taking of either of these properties. Additional assessment of indirect effects may be warranted to design appropriate mitigation measures. The potential for indirect effects (audible and visual) would warrant further assessment should this option advance to the federal NEPA review process.

Segments 10 and 11 include four archaeological sites that have not been evaluated as well as the Ocoee Hydroelectric Plant No. 3, which is eligible for the historic register. Effects are not anticipated to this eligible site due to its location on the river and possible alignments that would stay south of the river at this location.

Segment 19 includes four archaeological sites that have not been evaluated. Additional studies and possibly field investigation, along with coordination with Tennessee's SHPO may be warranted to assess the eligibility of the site. Potential affects to any sites within this corridor that were listed or deemed to be eligible for listing on the National Register are not anticipated due to the overall flexibility within the corridor to design alignments that could avoid these sites if warranted.

Community

Railroad – The corridor crosses the Hiwassee River Railroad. The crossing would be at or near the existing US 64 crossing with issues and effects being the same as other options.

Cemetery – The Carden Cemetery is located within Segment 19 of this corridor. The potential to affect this resource has yet to be determined and would warrant further assessment should alignments be developed for this option. Given the overall flexibility within the corridor to design alignments that could avoid this community resource it would seem likely that effects to Carden Cemetery could be avoided. Though not confirmed or mapped, the USFS anticipates the existence of other cemeteries within the corridors south of the Ocoee River.

Ecology

Wetlands – There are greater than two acres of known wetlands within the 4,000 foot EES corridor. Based on GIS data review there are 22 sites within the 4,000 foot corridor. Additional jurisdictional wetlands or other waters of the U.S. (streams, ponds) may be identified within the corridor with further assessment and field investigation.

Terrestrial Species – There are 11 locations of a known federally protected terrestrial species or a state protected species located within the 4,000 foot EES corridor. Avoidance of listed species and their habitat may be possible in consideration of the

flexibility within the corridor to develop alignments that avoid these species and their habitat.

Aquatic Species – There is a known occurrence of a rare or state-listed aquatic species located within the 10,000 foot EES corridor. A survey to confirm species locations may be warranted. Six locations were identified by the EES and further evaluation of the GIS data identified the Tennessee Dace and Seepage Salamander within the corridor.

TDEC Conservation Sites – Affects and issues for this option would be same as Option 6.

Hazardous Substance/Geology

Pyritic Rock – This option has the potential to disturb pyritic rock which is often associated with subsequent ARD. The same geologic formations exist in this option as that of Option 6.

Ten locations were identified by the EES with four different formations within the corridor (Sandsuck Formation, Walden Creek Group, Knox Group, and Great Smoky Group).

Construction of this option is not anticipated to affect karst and cave systems.

Superfund Sites – The corridor crosses Ocoee Reservoir #3 which is included in the North Potato Creek Superfund Site.

Parks and Public Lands

Wildlife Management Areas – CNF lies within the corridor. The Fourth Fractional Township Wildlife Management Area is also within the 4,000 foot EES corridor of Segment 11. This 1,107 acre site is not likely to be affected as it is outside the corridor limits to the south. Additional assessment of indirect effects may be warranted to design appropriate mitigation measures. The potential for indirect effects (audible and visual) would warrant further assessment should this option advance to the federal NEPA review process. The Fourth Fractional Township Wildlife Management Area is outside the 2,000 foot corridor boundary.

5.2.10.4 Environmental Concerns

Effects to water quality associated with the crossing of Ocoee River and its tributaries and floodplains could occur. Most all of the same environmental issues and effects as Option 6 would be expected to occur. This corridor runs further to the south than Option 6 providing even greater opportunity within the wilderness area for activity that would affect the Conasauga River Watershed.

Option 7 could have notable encroachment effect on the CNF lands, fragmenting an area that is currently 90 to 100 percent forested. Construction could result in the loss of as much as 731 acres of mixed mesophytic forest and 35 acres of riverfront forest from an alignment along this corridor.

Segments 19 and 10 run east-west through the Ocoee Bear Reserve located to the south of the Ocoee River. Habitat fragmentation within the project study area could occur due to land use changes typically associated with roadway construction on new location. Option 7 is anticipated

to affect terrestrial communities to a greater degree than the No-Build and Build options along existing US 64. The two southern corridors have the greatest potential for habitat fragmentation. These options affect upland species habitat, namely large and small mammal habitat as opposed to aquatic species habitat with the expected disruption of bear habitat connectivity. They have the highest probability of notable black bear displacement according to habitat quality models and are the least compatible with the Black Bear Prescription Land Management Plan to provide optimal habitat for black bear and other wide ranging area sensitive species.

There are 50 streams within the corridor, although not all would warrant crossing. Potential effects to aquatic species including Hellbender in Rough Creek and Rainbow trout in Rough Creek, Baker Creek, Brown Camp Branch, Big Creek, Dutch Creek, and Pace Creek. Mitigation efforts such as bridging would be studied as part of the design for this project.

Option 7 could have notable effects to hunting and angling use. Wildlife partnerships between the USFS and other agencies to improve habitat and provide stewardship project opportunities would need to be reevaluated for the new conditions within the CNF south of the Ocoee River. Within the bear reserve, there is no bear hunting south of the Ocoee River.

Noise and Air quality affects and issues would be similar as those of Option 6.

5.2.10.5 Community Concerns

Community effects associated with this option would be similar to Option 6 as it is also on new location with only Segment 19 running further south than Segment 18. Short-term effects during construction would be minimal to existing US 64 traffic with some on the west side of the project around Cookson Creek Road.

This new location option could enhance the existing recreational opportunities along the river primarily by reducing the overall traffic volume and number of trucks that drive through the gorge. Within the gorge, no improvements to the existing road would occur, so many of the current concerns of parking and pedestrians close to the road would continue. The nature of the old road would change where most of the users would be recreational with the river as a destination rather than the only east-west route across Polk County.

The new location portion of Option 7 also traverses the area south of the Ocoee River, notably reducing the solitude and wilderness in this area. Located further south than Option 6 it retains a larger portion of the wilderness adjacent to the Ocoee River. Segment 19 crosses the same hiking and biking trails as Segment 18 in Option 6 (Sylco, Big Creek, Yellow Stand Lead, West Fork, and Licklog Ridge Trail). Segment 11 crosses the Brush Creek and Boyd Gap trails as well as the Benton MacKaye Trail. Effects and issues with the trail systems would be the same as Option 6.

The Low Gap trailhead is within Segment 11 located at the base of Big Frog Mountain. Road construction would decrease the remote and primitive character of this area. The gravel road that originates at Thunder Rock Campground and Ocoee No. 3 Powerhouse connects US 64 to Low Gap. A new road along the Option 7 corridor would likely increase activity on this trail and improvements to this connecting road may also be warranted to better facilitate the increased use. Access to NFSR 221 (Tumbling Creek and TN 68) and NFSR 45 (Thunder Rock) is also affected within this segment.

Option 7 Right-of-Way affects would be expected to be very similar to Option 6. It could affect as many as 68 property tracts, with the largest one being the CNF south of the Ocoee River.

Effects would be greater for the 4-lane typical section than the 2-ane with relocations and total property takes possible for either typical section on new locations. Segment 17 is common to both southern corridors and up to 30 tracts could be affected with the possibility of at least one relocation. Segment 19 is the only difference between Options 6 and 7. It could affect as many as 12 tracts, potentially seven more than Option 6. The CNF is the largest property owner along this segment, but this corridor runs through an area of private property within the National Forest boundary near Baker Creek Road and could therefore affect as many of six of these tracts. Segments 10 and 11 are the same for both southern options with potential to affect as many as 26 tracts before tying to existing US 64. Once the new location ties in with either typical section and the road is only being widened, the additional property acquired would be roadway frontage for Right-of-Way or easement.

The movement of people and goods across Polk County and into the region would be improved with this option. Once completed, this new location road would provide better access to facilities that exist on each side of Polk County, potentially eliminating the need for duplicate services (courthouse, high school, jail) that currently exist. This decision would be made by County representatives.

Forest management could be notably affected by Option 7. Segments 10 and 11 cross highly operable timber management lands increasing the public visibility of these areas. The road through this segment would also affect the view from Boyd Gap overlook. Segment 19 also affects a number of Forest Service roads including Access to NFSR 67 (Sina Branch), NFSR 55, NFSR 99 (Blue Ridge), NFSR 221 (Peavine Sheeds Creek), NFSR 374 (Falls Branch), NFSR 1333, as well as NFSR 334201, NFSR 1372, and NFSR 333501 for administrative access only. Additional design studies would be warranted to assess an appropriate design that would maintain and control access these existing roads for continued use.

5.2.10.6 Anticipated Operational Performance

With only minor differences between Option 7 and Option 6 segments, the operational performance is the nearly identical for both. The length of the corridor is 1.1 mile longer than Option 6. The design speed of Option 7 would also be 60 mph for the length of the new location corridor. The existing corridor would retain its current posted speeds.

Current and future traffic volumes were analyzed for both the new location corridor and the existing route. For the new location route, the LOS was calculated for both a 2-lane and a 4-lane divided typical section. Only one analysis was required with the entire corridor on new location with no change in volume or typical section. The existing route was divided into the same 13 segments as Options 1, 2, 3 and 6. These segments are based on changes in typical section and traffic volumes. The new location route has a LOS of C for both 2014 and 2034 traffic with the 2-lane typical section and a LOS A for both 2014 and 2034 for the 4-lane typical section.

Table 13 indicates the anticipated performance measures for this option with a 2-lane or 4-lane typical section.

The profile grades for corridors have the same issues as all other new location options with long sections with steep grades and winter driving and maintenance. Truck passing lanes would be constructed where applicable to help improve the operations and allow safer passing of slower vehicles.

The travel time would be reduced due to the shorter distance and higher posted speed than the existing route. Time would be very similar for the 2-lane and 4-lane new location option with turn

lanes at intersections and truck passing lanes on long, steep grades. The entire corridor would have a posted speed of 55 mph allowing the travel time for this corridor to be 23.7 minutes. This is a reduction of more than five minutes or more than 18 percent faster than the existing route and more than one minute slower than Option 6 due to the additional corridor length.

This option does provide a convenient detour route to address the issue of temporary road closures along existing US 64 that would require a long-term (weeks or months) detour.

Table 13: Performance Measures for Option 7: Corridor S-6

	No of Lanes	Vehicles per Hour	LOS	Distance (mi)	Estimated Ave. Speed (mph)	Travel Time (min)
Year 2014	2	249	C	21.9	49	27
Year 2034	2	317	C	21.9	49	27
Year 2014	4	249	A	21.9	55	24
Year 2034	4	317	A	21.9	55	24
Year 2014	Exist	249-391	D	23.1	48	29
Year 2034	Exist	317-494	D	23.1	48	30

5.2.10.7 Estimated Construction Costs

The estimated cost for this option would be $389,840,000 for a 2-lane section and $743,795,000 for a 4-lane section.

5.2.11 OPTION 8 – CORRIDOR N-7 (COMBINATION: EXISTING-SEGMENTS 20-2-6-7-EXISTING)

5.2.11.1 Concept

Option 8 (see Figure 25) combines the concepts of multiple options to create a corridor that would have improvements to existing US 64 like Option 2, but a new location corridor to the north of the Ocoee River Gorge like Option 4 (Figure 21). This option reduces the length of corridor on new location and utilizes existing sections of US 64 that currently have a 60 mph design speed. This corridor would include the use of both 2-lane and 4-lane typical sections. In general, where the corridor is on new location a 2-lane typical section would be constructed with truck climbing and passing lanes where applicable and a 4-lane typical section constructed where the corridor follows the existing alignment. The existing road along the lake and river would be retained, with the new location corridor creating an alternative route around the gorge while maintaining access along the water. The 4-lane sections would be constructed by adding additional lanes parallel to the existing road with improvements for safety and mobility that would include widened existing shoulders on both the road and the bridges as necessary to meet a rural arterial design. The new location portion of this corridor would begin near the dam at Parksville Lake, run north of the river, then tie back to the existing road west of the Ocoee Whitewater Center. The new location section would also be designed to meet the criteria for a rural arterial.

QUANTM runs were made to determine feasible routes between MP 5 and MP 19. The output established Segment 20 which connects the existing route near MP 5 to the point where Segment 4 ends and Segments 2 and 5 begin. From there, the Option 8 corridor follows Segments 2, 6 and 7, like Option 4, then ties to the existing alignment west of the Ocoee Whitewater Center and continues along the existing route to the end at SR 68.

The design would provide a minimum posted speed of 45 mph with a design speed of 50 to 60 mph. Most of the route would be designed for a posted speed of 55 mph (60 mph design speed). Passing lanes would be added where applicable to improve level of service. Construction outside the gorge to the east and west would primarily involve bridge widening and roadway shoulder and ditch widening as identified in Table 14 and located on Figure 25.

Table 14: Option 8: Improvements to Existing US 64

Site No.	M.P. to M.P.	Distance (mile)	Improvement Description
1	3.12 to 3.22	0.10	Widen the existing bridge over the Ocoee River or new location construction of a new bridge to the north of the existing bridge; new bridge alignment would add 0.1 miles to the travel distance.
4	5.00 to 5.2	0.2	Construct a 1205' radius curve that would eliminate a 25 mph curve and extend the 55 mph posted speed approaching the marina; existing road could be used for additional parking at existing pullover; reduces travel distance by 0.08 mile.
19	23.04 to 23.14	0.1	Widen existing bridge over Brush Creek for adequate shoulders; no change in travel distance.
20	24.85 to 24.95	0.1	Widen existing bridge over Hiwassee River Railroad for adequate shoulders; no change in travel distance.

5.2.11.2 Typical Section

A combination of typical sections with a 2-lane and 4-lane rural arterial would be utilized in this corridor. The 2-lane typical section would have two 12-foot lanes and 10 foot shoulders (eight (8) feet stabilized) per TDOT standards. The 4-lane typical section would have four 12-foot lanes and 12 foot shoulders (ten (10) feet stabilized) to the outside. The roadway construction width would vary from eighty eight (88) feet to as much as five hundred (500) feet, depending on cut and fill limits.

5.2.11.3 Early Environmental Screening

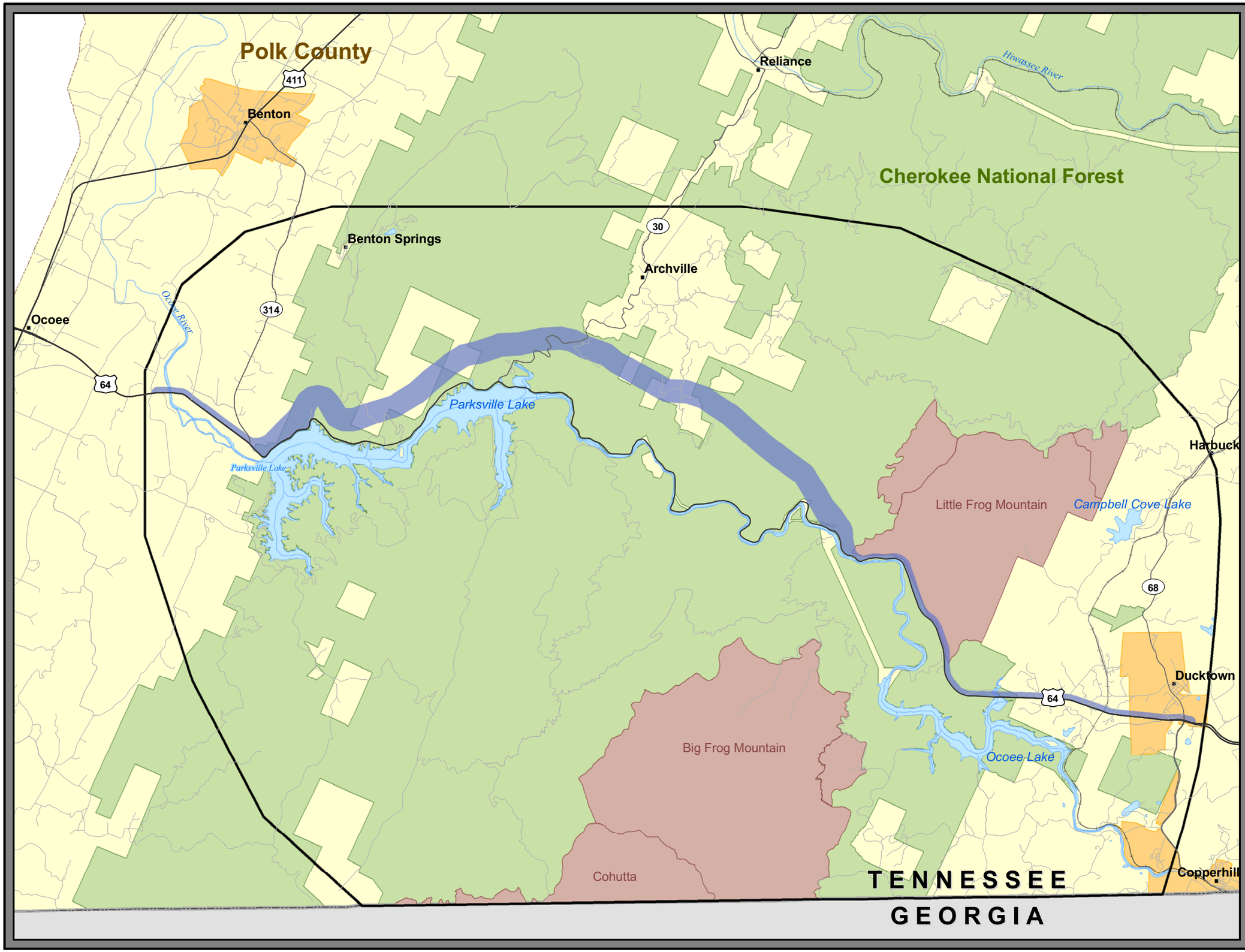
EES evaluation identified the following resources within the APE of the Option 8 which included both the existing US 64 and new location corridors from Option 4:

Archaeological/Historical Architecture

Archaeological/Historic Sites – There is one historic site located within this corridor at Ocoee No. 1 Hydroelectric Station, located on the south side of the river. The proposed improvements would be located north of the river. One eligible and two potentially eligible archaeological sites are located within the corridor. All of these would require additional studies and coordination with SHPO. US 64 crosses these two sites near the west end of Parksville Lake and both could be impacted by construction, with greater impacts from a 4-lane typical section.

Community

Railroad – The corridor crosses an old CSX railroad currently being used by the Hiwassee River Railroad excursion train. Any new crossing is anticipated to be a grade separation requiring coordination with Hiwassee River Railroad, the TDOT Safety.



US 64 CORRIDOR K
OCOEE RIVER GORGE SECTION

Legend

- City/Municipality/Town
- Option 8: Corridor N-7
- Railroad
- Secondary Route
- Local Road
- River
- Waterbody
- Municipality
- Cherokee National Forest (Polk Co.)
- Polk County
- Wilderness Area/Study Area
- Project Study Area

1:95,040
1 inch equals 1.5 miles

0 0.5 1 2 Miles

Source(s): Tele Atlas, ESRI, US Forest Service, and URS Corp.
Date: March 2010

TDOT Go.

FIGURE 25
OPTION 8: CORRIDOR N-7

CORRIDOR K

SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown Polk County, Tennessee

Planning and Travel Data Office and the TDOT Right-of-Way Division - Utilities Section. Potential effects associated with roadway construction activities at railroad crossings include stormwater drainage issues, grade separations, and possible railroad property acquisition. Acquisition of railroad property is likely to require extensive coordination and may involve the development of a maintenance agreement.

Public Institutions – The Polk County 9-1-1 facility is located within this corridor, adjacent to US 64 near the west end of Parksville Lake. This building would not likely be impacted with only shoulder widening on existing alignment occurring in this area, however widening to 4-lane while maintaining the existing alignment would impact this facility.

Ecology

Water Resources – There are 11 known wetland sites within the 4,000 foot EES corridor. Based on GIS data review most of these sites are beyond the limits of the 2,000 foot corridor. Additional jurisdictional wetlands or other waters of the U.S. (streams, ponds) may be identified within the corridor with further assessment and field investigation.

Terrestrial Species – There are 26 locations of a known federally protected terrestrial species or a state protected species located within the 4,000 foot EES corridor. Areas of habitat for the plant species; Southern lobelia, Lysimachia Fraseri, and Sedum Nevii are within the corridor limits. Further investigation such as field surveys would be warranted to confirm locations of any federally protected terrestrial species within the APE of this corridor option.

Aquatic Species – There is a recorded occurrence of a rare or state-listed aquatic species located within the 10,000 foot EES corridor. 14 locations were identified through the EES evaluation and GIS data indicate the presence of Tennessee Dace and Seepage Salamander within the APE of this corridor. A survey for these species and others that are afforded protection by the state would be warranted to confirm their location within the APE of this option.

TDEC Conservation Sites & Scenic Waterways – This option has the potential to encroach upon two TDEC Conservation sites including the Little Frog Mountain and Walkertown Branch Bog, a cranberry bog with a substantial plant population. All these TDEC Conservation Sites are along the existing route. The potential to affect a Scenic Waterway through construction activities is considered to be low with this option due to the utilization of the existing alignment on the eastern end of the corridor.

Hazardous Substance/Geology

Pyritic Rock – This option has the potential to disturb pyritic rock which is often associated with subsequent ARD. Formations containing pyritic rock disturbed by construction activities may warrant encapsulation and/or other mitigation measures to reduce the potential for ARD. With only shoulder widening outside the gorge, exposure of pyritic rock in these areas to the east and west would be less than other build options on new location segments.

The EES identified 10 locations where pyritic rock occurs within the project study area with three different formations (Sandsuck Formation, Walden Creek Group, and Great Smoky Group).

Construction of this option is not anticipated to impact karst systems and caves.

There are no known Superfund areas located within this option.

Parks and Public Lands

Wildlife Management Areas – This option would encroach upon CNF and Wildlife Management Areas. The encroachment effects could be reduced through context sensitive design solution. The potential for indirect effects and cumulative impacts associated with construction of this option would warrant further assessment should this option advance to the federal NEPA review process. The Fourth Fractional Township is located within four thousand (4,000) feet of the corridor but outside the corridor limits.

Campgrounds – Parksville Lake Campground and 4-H Camp McCroy are located within Segment 6 of this corridor. Coordination would be warranted to address any future plans for this USFS campground and youth educational camp.

There are no listed TWRA managed lakes in Polk County

5.2.11.4 Environmental Concerns

Effects on water quality associated with the crossing of Ocoee River tributaries, floodplains, and wetlands are anticipated, but to a lesser degree with a shorter length of the corridor on new location. The entire corridor is located within the Ocoee River Watershed. Streams and tributaries in the Ocoee River Basin north of existing US 64 have the greatest potential for water quality effects. Segments 20, 2, and 6 of this option are located in the headwaters of Parksville Lake.

Option 8 would encroach upon the CNF lands along both the existing and new location sections of this corridor. The corridor ties back to existing US 64 west of Little Frog Mountain Wilderness Area. Maintaining the existing 2-lane alignment between Little Frog Mountain and the Ocoee River could avoid impacts to this wilderness area and the river. Improvements such as shoulder widening to US 64 along its alignment would also impact the CNF adjacent to the existing road. Widening to a 4-lane typical section in these areas would increase the impacts.

Habitat fragmentation within the EES corridor is anticipated due to land use changes typically associated with roadway construction on new location. Option 8 is anticipated to affect terrestrial communities to a greater degree than the No-Build, but not more than Options 2 and 2A. Of the build corridors, Option 8 has a similar potential for habitat fragmentation to Option 4, sharing the same segments through the gorge. However, due to its use of the existing alignments to the east and west, the impacts in these areas would reduce the overall impacts of any of the northern build corridors. Black bear movement between the Great Smoky Mountains National Park and Cohutta Wilderness occurs near Boyd Gap, which existing US 64 crosses within this corridor. Impacts would be reduced with road improvements involving only shoulder widening along US 64 in this area, but would be greater with a 4-lane typical section with a larger width for the wildlife to cross without establishing a wildlife linkage to accommodate them.

Construction of Option 8 is expected to increase the volume of traffic with an improved route and better service. Higher traffic volumes would be expected to increase ambient noise levels within the proposed corridor but may reduce noise levels on existing US 64 as traffic (including most trucks) is diverted to the new location route through the gorge.

There are 26 streams within the corridor. Some of the streams have potential to be impacted by construction. There are 14 streams crossed by existing US 64. Effects to these streams would be at the existing crossings with pipes, box culverts, and/or bridges widened as necessary for an improved typical section. On new location, streams should be crossed perpendicular to reduce any effects.

Adverse noise and air quality within the CNF would be anticipated to the north of the Ocoee River due to the introduction of traffic to a new location route. With a fairly continuous route through the CNF, the air quality effects would be low with so few stopped vehicles. The existing terrain would create significant uphill and downhill grades for trucks to climb or brake, creating more noise than on a level grade. The reduction in traffic along existing US 64 should improve both the noise and air quality through the gorge and along the river.

5.2.11.5 Community Concerns

This option would be expected to have less short-term community effects during construction than Options 2 and 2A along existing US 64. The western two miles and eastern seven miles of the corridor follow the existing route where construction would be adjacent to the road, requiring temporary daytime lane closures with flagmen in areas where there is enough room to work. Otherwise, longer road closure periods may be required for any significant rock cuts. If a 4-lane typical section is constructed, the new lanes could be used to help maintain traffic through the work zone. Through the gorge, traffic could be maintained on existing US 64 with construction occurring on new location. The largest impact from construction would be where the new location corridor would connect to the existing route corridor near the western end of Parksville Lake. Road closures would be likely with construction so close to the existing road. For the eastern tie near the Ocoee Whitewater Center, the existing 4-lane section could be restriped and utilized to maintain separate lanes of two-way traffic during construction of the connection between existing and a new location route.

This new location option could enhance the existing recreational opportunities along the river primarily by reducing the overall traffic volume and number of trucks that drive through the gorge. Within the gorge, no improvements to the existing road would occur, so many of the current concerns of parking and pedestrians close to the road would continue, but the nature of the old road would change where most of the users would be recreational with the river as a primary destination rather than the only east-west route across Polk County.

The new location portion of Option 8 could provide access to new recreational opportunities within the CNF, but would fragment the wilderness and reduce the solitude that exists between the Ocoee and Hiwassee Rivers. The corridor crosses SR 30 near the existing Parksville Lake campground and would become the primary access to this facility. Access to Camp McCroy campground could also be changed from SR 30 to a new location route. The Benton MacKaye Trail crosses Segment 7 of this corridor close to the trailhead on existing US 64 where a new trailhead may not be warranted.

Option 8 could affect as many as 69 property tracts, with the largest one being the CNF, with the possibility of residential relocations along Segment 7 of the corridor which crosses the

southern portion of the Archville community through the Caney Creek Road/Fairview Road area. This could affect as many as 12 tracts, though not all would be relocations. At the eastern end of the project, all residences and business are far enough from the existing road where shoulder widening is not expected to allow for impacts approaching Ducktown, but could be impacted by widening for a 4-lane typical section. For either typical section where the road is being widened on existing alignment, the additional property acquired would be roadway frontage for Right-of-Way or easement.

Hunting is popular in Polk County and could be affected by this corridor, but to a lesser degree than other build options to the north because it is further away from the areas near SR 314 on the west side of the CNF than Options 3, 4 and 5. For the hunting areas around the Boyd Gap area of Segment 7 improvements would be made along the existing road, reducing any new impacts in this area.

The movement of people and goods across Polk County and into the region would be improved with this option. Once completed, this new location road would provide better access to facilities that exist on each side of Polk County, potentially eliminating the need for duplicate services (courthouse, high school, jail) that currently exist. This decision would be made by County representatives.

5.2.11.6 Anticipated Operational Performance

The design speed of this option would be a minimum of 50 mph on new location and maintains the existing fifty-five (55) mph speed limits on each end of the corridor. With no change in horizontal and vertical alignments, the truck passing lanes on the west side of the project would be retained if a 2-lane typical section is utilized. Passing lanes within the new location section would allow cars to maintain speed to improve the operation, however the design year LOS is at an acceptable level without them.

The travel time would be reduced over the existing time with the elimination of all reduced speed curves through the gorge. An estimated travel time savings of two to three minutes could be realized over the existing route. The travel distance would be reduced by as much as one mile. A standard typical section for the length of this option would improve the operation of the entire corridor with wider shoulders and ditches, address rock slide areas by providing wider catchment ditches, eliminating or greatly reducing the chance for temporary road closures that would require a long-term off-site detour.

This option does provide a convenient detour route to address the issue of temporary road closure on US 64 through the gorge that would require a long-term (weeks or months) detour. Access between the old and new routes would be provided at three locations: near the marina, at SR 30, and near the Ocoee Whitewater Center.

Traffic analysis indicates essentially the same LOS as the other northern build Options 4 and 5 with an acceptable LOS of C for 2014 traffic and LOS C for the design year 2034. Segments for the existing and proposed corridor were analyzed based on the changes in traffic volumes or typical section. The capacity analysis was also performed to analyze areas of sustained grades of five percent or greater and its impact to LOS and average speed. The resulting LOS was still within the acceptable values for mountainous rural arterial route with the same LOS C.

Table 15: Performance Measures for Option 8: Combination: Existing-New Location-Existing

	No of Lanes	Vehicles per Hour	LOS	Distance (mi)	Estimated Ave. Speed (mph)	Travel Time (min)
Year 2014	2/4	324-577	C	22.4	50	27
Year 2034	2/4	412-843	C	22.4	49	27

The new location route north of the gorge would be used more by business, commercial and commuters where the existing route would be used more for recreational and rafting buses. It is estimated that 35 percent of the total AADT would continue to utilize the existing route. This reduction in volume improves the LOS for both routes and separates the business and through traffic from the recreational and river traffic.

5.2.11.7 Estimated Construction Costs

The estimated cost for this option would be $383,413,000 for the combination of the 2-lane and 4-lane typical sections.

5.2.12 OPTION 8A – CORRIDOR N-8 (COMBINATION: EXISTING-SEGMENTS 20-5-7-EXISTING)

5.2.12.1 Concept

Option 8A (see Figures 16 and 26) is similar to Option 8 where it combines the use of existing US 64 to the east and west of the Ocoee River Gorge but has a different new location segment through the gorge (Figure 26). For this option, Segment 5 is used instead of Segments 2 and 6 (Figure 16). All other concepts are the same as Option 8 with the potential use of 2-lanes on new location and 4-lanes on existing, both with rural arterial design criteria. The new location corridor would begin near the dam at Parksville Lake, run north of the river, then tie back to the existing road west of the Ocoee Whitewater Center. Improvements for safety and mobility along the existing alignment outside the gorge would also be done as described in Option 8.

QUANTM runs were made to determine feasible routes between MP 5 and MP 19. The output established Segment 20 which connects the existing route near MP 5 to the point where Segment 4 ends and Segments 2 and 5 begin. From there, the Option 8A corridor follows Segments 5 and 7, like Option 5, then ties to the existing alignment west of the Ocoee Whitewater Center and continues along the existing route to the end at SR 68.

Like Option 8, the design would provide a minimum posted speed of 45 mph with a design speed of 50 to 60 mph. Most of the route would be posted for 55 mph. Passing lanes would be added where applicable to improve level of service. Construction of the 4-lane typical section outside the gorge to the east and west would also involve existing bridge widening and roadway shoulder and ditch widening as identified in Table 16 and located on Figure 26. With a 4-lane typical section in these areas, these improvements would still be needed on the existing alignment. The additional lanes would be constructed parallel to the existing road.

Table 16: Option 8A: Improvements to Existing US 64

Site No.	M.P. to M.P.	Distance (mile)	Improvement Description
1	3.12 to 3.22	0.10	Widen the existing bridge over the Ocoee River or new location construction of a new bridge to the north of the existing bridge; new bridge alignment would add 0.1 miles to the travel distance.
4	5.00 to 5.2	0.2	Construct a 1,205' radius curve that would eliminate a 25 mph curve and extend the 55 mph posted speed approaching the marina; existing road could be used for additional parking at existing pullover; reduces travel distance by 0.08 mile.
19	23.04 to 23.14	0.1	Widen existing bridge over Brush Creek for adequate shoulders; no change in travel distance.
20	24.85 to 24.95	0.1	Widen existing bridge over Hiwassee River Railroad for adequate shoulders; no change in travel distance.

5.2.12.2 Typical Section

A combination of typical sections with a 2-lane rural arterial and 4-lane rural arterial would be utilized in this corridor. The 2-lane typical section would have two 12-foot lanes and 10 foot shoulders (eight (8) feet stabilized) per TDOT standards. The 4-lane typical section would have four 12-foot lanes and 12 foot shoulders (ten (10) feet stabilized) to the outside. The roadway construction width would vary from eighty eight (88) feet to as much as five hundred (500) feet, depending on cut and fill limits. The steep terrain along Segment 5 may require additional retaining walls or create wider construction slopes than Segment 2 of Option 8.

5.2.12.3 Early Environmental Screening

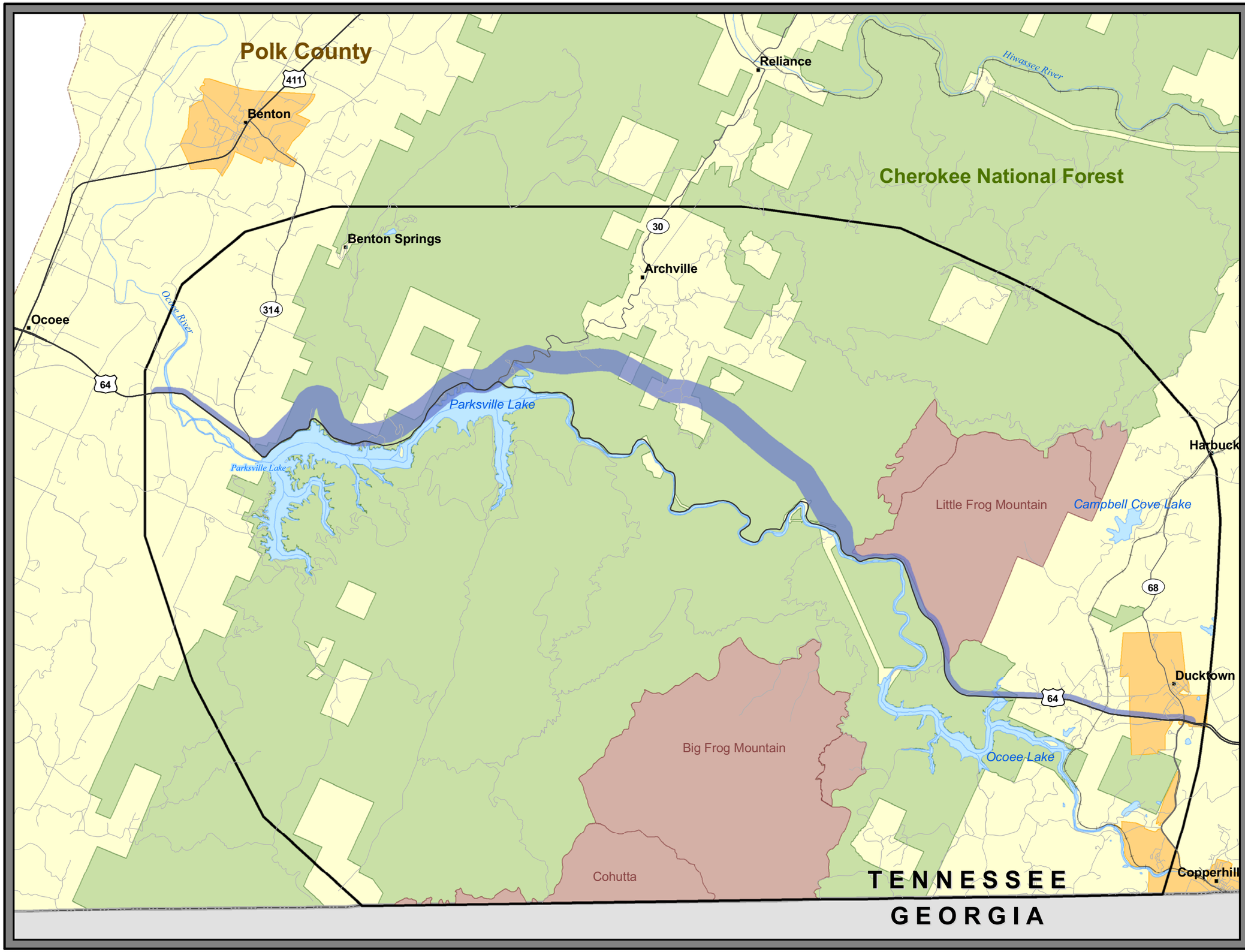
EES and GIS evaluation identified very similar types and quantity of resources within the APE of Option 8A corridor as it did for Option 8. The differences are noted below with all other impacts the same.

Ecology

Water Resources – There are 19 known wetland sites within the 4,000 foot EES corridor. Based on GIS data review most of these sites are beyond the limits of the 2,000 foot corridor. Additional jurisdictional wetlands or other waters of the US (streams, ponds) may be identified within the EES corridor with further assessment and field investigation.

Terrestrial Species – There are 27 locations of a known federally protected terrestrial species or a state protected species located within the 4,000 foot EES corridor. Areas of habitat for the plant species; Southern lobelia, Lysimachia Fraseri, and Sedum Nevii are within the corridor limits. Further investigation such as field surveys would be warranted to confirm locations of any federally listed terrestrial species within the APE of this corridor option.

Aquatic Species – There is a recorded occurrence of a rare or state listed aquatic species located within the 10,000 foot EES corridor. 11 locations were identified through the EES evaluation and GIS data indicated the presence of Tennessee Dace and Seepage Salamander within the APE of this corridor. A survey for these species and others that are afforded protection by the state would be warranted to confirm their location within the APE of this option.



US 64 | CORRIDOR K

OCOEE RIVER GORGE SECTION

Legend

- City/Municipality/Town
- Option 8A: Corridor N-8
- Railroad
- Secondary Route
- Local Road
- River
- Waterbody
- Municipality
- Cherokee National Forest (Polk Co.)
- Polk County
- Wilderness Area/Study Area
- Project Study Area

N

1:95,040

1 inch equals 1.5 miles

0 0.5 1 2 Miles

Source(s): Tele Atlas, ESRI, US Forest Service, and URS Corp.
Date: March 2010

TDOT

FIGURE 26
OPTION 8A: CORRIDOR N-8

CORRIDOR K

SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown Polk County, Tennessee

5.2.12.4 Environmental Concerns

Effects on water quality associated with the crossing of Ocoee River tributaries, floodplains, and wetlands are anticipated, but to a lesser degree with a shorter length of the corridor on new location. The impacts would be greater than Option 8 with Segment 5 closer to Parksville Lake than Segments 2 and 6. The entire corridor is located within the Ocoee River Watershed. Streams and tributaries in the Ocoee River Basin north of existing US 64 have the greatest potential for water quality effects. Segments 20 and 5 of this option are located in the headwaters of Parksville Lake.

Option 8A would encroach upon the CNF lands along most of the corridor. The corridor ties back to existing US 64 west of Little Frog Mountain Wilderness Area. Maintaining the existing alignment between Little Frog Mountain and the Ocoee River could avoid direct impacts to this wilderness area. Improvements such as shoulder widening to US 64 along its alignment would also impact the CNF adjacent to the existing road. Widening to a 4-lane typical section in these areas would increase these impacts.

Habitat fragmentation within the EES corridor is anticipated due to land use changes typically associated with roadway construction on new location. Option 8A is anticipated to affect terrestrial communities to a greater degree than the No-Build and Option 2 and 2A. Of the build corridors, Option 8A has a similar potential for habitat fragmentation to Option 5, sharing Segments 5 and 7 through the gorge. However, due to its use of the existing alignments to the east and west like Option 8, the impacts in these areas would reduce the overall impacts of any of the northern build corridors. Black bear movement between the Great Smoky Mountains National Park and Cohutta Wilderness occurs near Boyd Gap, which existing US 64 crosses within this corridor. Impacts would be reduced with road improvements involving only shoulder widening along US 64 in this area, but would be greater with a 4-lane typical section with a larger width to cross without establishing a wildlife linkage to accommodate them.

Construction of Option 8A is expected to increase the volume of traffic with an improved route and better service. Higher traffic volumes would be expected to increase ambient noise levels within the proposed corridor but may reduce noise levels on existing US 64 as traffic (including most trucks) is diverted to the new location route through the gorge.

There are 27 streams within the corridor, some of which have the potential to be impacted by construction. There are 14 streams crossed by existing US 64 within this corridor. Effects to these streams would be at the existing crossings with pipes, box culverts, and/or bridges widened as necessary for an improved new typical section. On new location, streams should be crossed perpendicular to reduce any effects.

Adverse noise and air quality within the CNF would be anticipated to the north of the Ocoee River due to the introduction of traffic to a new location route. With a fairly continuous route through the CNF, the air quality effects would be low with so few stopped vehicles. The existing terrain would create significant uphill and downhill grades for trucks to climb or brake, creating more noise than on a level grade. The reduction in traffic along existing US 64 should improve both the noise and air quality through the gorge and along the river.

5.2.12.5 Community Concerns

This option would be expected to have less short-term community effects during construction than Options 2 and 2A along existing US 64. The western two miles and eastern seven miles of the corridor follow the existing route where construction would be adjacent to the road requiring

temporary daytime lane closures with flagmen where there is working room. If larger rock cuts are required, longer term closures (weeks or months) could be necessary. Impacts through the gorge may be greater than Option 8 because Segment 5 is closer to the existing alignment. For most of the road along the river, traffic could be maintained on existing US 64 with construction occurring on new location. The largest impact from construction would be where the new location corridor would connect to the existing route corridor near the western end of Parksville Lake, near the marina. Road closures would be likely with construction so close to the existing road. For the eastern tie near the Ocoee Whitewater Center, the existing 4-lane section could be restriped and utilized to maintain separate lanes of two-way traffic during construction of the connection between existing and a new location route.

This new location option could enhance the existing recreational opportunities along the river primarily by reducing the overall traffic volume and number of trucks that drive through the gorge. Within the gorge, no improvements to the existing road would occur, so many of the current concerns of parking and pedestrians close to the road would continue, but the nature of the old road would change where most of the users would be recreational with the river as a primary destination rather than the only east-west route across Polk County.

The new location portion of Option 8A could provide access to new recreational opportunities within the CNF, but would fragment the wilderness and reduce the solitude that exists between Ocoee and Hiawassee Rivers. The corridor crosses SR 30 near the existing Parksville Lake campground and would become the primary access to this facility. Access to Camp McCroy campground could also be changed from SR 30 to a new location route. The Benton MacKaye Trail crosses Segment 7 of this corridor close to the trailhead on existing US 64 where a new trailhead may not be warranted.

Option 8A could affect as many as 69 property tracts, with the largest one being the CNF with the possibility of residential relocations along Segment 7 of the corridor which crosses the southern portion of the Archville community through the Caney Creek Road/Fairview Road area. This could affect as many as 12 tracts, though not all would be relocations. At the eastern end of the project, all residences and business are far enough from the existing road where shoulder widening is not expected to allow for impacts approaching Ducktown. For either typical section where the road is only being widened on existing alignment, the additional property acquired would be roadway frontage for Right-of-Way or easement.

Hunting is popular in Polk County and could be affected by this corridor, but to a lesser degree than other build options to the north because it is further away from the areas near SR 314 on the west side of the CNF than Options 3, 4, and 5. For the hunting areas around the Boyd Gap area of Segment 7, improvements would be made along the existing road, reducing any new impacts in this area.

The movement of people and goods across Polk County and into the region would be improved with this option. Once completed, this new location road would provide better access to facilities that exist on each side of Polk County, potentially eliminating the need for duplicate services (courthouse, high school, jail) that currently exist. This decision would be made by County representatives.

5.2.12.6 Anticipated Operational Performance

The anticipated operational performance for Option 8A is nearly identical to Option 8 as it is only 0.2 miles longer. The design speed of this option would be a minimum of 50 mph on new

location. The existing 55 mph speed limits on each end of the corridor would be maintained. With no change in horizontal and vertical alignments, the truck passing lanes on the west side of the project would be retained unless a 4-lane typical section is constructed. Passing lanes on a 2-lane typical section within the new location section would allow cars to maintain speed to improve the operation, however the design year LOS is at an acceptable level without them.

The travel time would be reduced over the existing time with the elimination of all reduced speed curves through the gorge. An estimated travel time savings of two to three minutes could be realized. The travel distance would be reduced by as much as 0.8 miles. A standard typical section for the length of this option would improve the operation of the entire corridor with adequate shoulders and wider ditches at potential rockfall areas to provide catchment areas and eliminate or greatly reducing the chance for temporary road closures that would require a long-term off-site detour.

This option does provide a convenient detour route to address the issue of temporary road closure on US 64 through the gorge that would require a long-term (weeks or months) detour. Access between the old and new routes would be provided at three locations: near Parksville Dam and the marina, at SR 30, and near the Ocoee Whitewater Center.

Traffic analysis indicates essentially the same LOS as the other northern build Options 4, 5 and 8 with an acceptable LOS of C for 2014 traffic and LOS C for the design year 2034. Segments for the existing and proposed corridor were analyzed based on the changes in traffic volumes or typical section. The capacity analysis was also performed to analyze areas of sustained grades of five percent or greater and its impact to LOS and average speed. The resulting LOS was still within the acceptable values for mountainous rural arterial route with the same LOS C.

Table 17: Performance Measures for Option 8A: Combination: Existing-New Location-Existing

	No of Lanes	Vehicles per Hour	LOS	Distance (mi)	Estimated Ave. Speed (mph)	Travel Time (min)
Year 2014	2/4	324-577	C	22.6	50	27
Year 2034	2/4	412-843	C	22.6	49	27

Existing US 64 along the river and lake would connect to this corridor on each end and continue to be utilized by traffic. The new location route would be used more by business, commercial, and commuters where the existing route would be used more for recreational and rafting buses. It is estimated that 35 percent of the total AADT would continue to utilize the existing route. This reduction in volume improves the LOS for both routes and separates the business and through traffic from the recreational and river traffic.

5.2.12.7 Estimated Construction Costs

The estimated cost for this option would be $379,109,000 for the combination of a 2-lane and 4-lane typical sections.

5.2.13 OPTIONS ELIMINATED

As data were collected, updated, and processed during preparation of this TPR, corridor segments were identified that made up the various corridor options along existing US 64 and to the north and south of the Ocoee River. As additional information became available by way of public comment, data from the various resource and regulatory agencies, field observation, or

other methods, initial segments identified for potential corridors were eliminated in order to maintain build corridors that meet the purpose and need of the proposed project. QUANTM output was used to help identify conceptual corridor segments. As more and detailed information was obtained, the location of potential corridor routes generated by QUANTM changed. Each set of potential routes was analyzed to assess if enough routes fell within the proposed corridor and to determine the reason why the potential routes changed. Figure 15 shows all of the corridor options and corridor segments.

Table 18 identifies each eliminated segment along with an explanation of why it was eliminated.

Table 18: Eliminated Corridor Segments

Segment No.	Corridor Option Affected	Reason
1	N-1, N-2, N-3	Although potential routes continued to be identified along Segment 1, additional species data to the north pushed more routes south along Segment 4. Segment 1 was also longer than Segment 4.
8	S-1, S-2, S-3, S-4	At Public Workshop #1, the location of a recently created 393 acre conservation easement and YMCA camp was identified by the public on the west side of Parksville Lake. This area was subsequently run in QUANTM as a High Avoidance area. The output was originally running through this property, and then routes shifted to the east and west of the area to avoid effects. Routes to the east ran too close to the lake and were not considered a viable segment. Most of the routes ran to the west of the tract, and then turned east along its southern boundary. This new grouping created Segments 17 and 18.
9	S-1	As more data was obtained, it was determined that Segment 9 fell within the Conasauga River Watershed.
14	S-3, S-4	Although a few of the potential routes continued to be located within Segment 14, additional data input into QUANTM pushed more segments to the south along Segment 12 and 13. Many of the routes came together from different locations to form the grouping along Segment 14, so it was eliminated due to less route continuity and more routes following other segments.
15	S-3	Segment 14 split into Segments 15 and 16. With Segment 14 eliminated, there was no connection to Segment 15.
16	S-4	Segment 14 split into Segments 15 and 16. With Segment 14 eliminated, there was no connection to Segment 16.

Other corridor options were suggested through input from public comment and stakeholders, including alternatives within the limits of the corridors developed. The TPR does not evaluate alternative alignments, but they can be studied in the next phases of the NEPA process if they are within the various corridor segments. A large number of corridors could be developed within the project study area, but many of them would not meet the preliminary purpose and need, or would create a negative impact identified by a regulatory agency. Many corridor options were considered but not evaluated in detail because for one or more reasons they were not likely to provide for an alternative that would be permitted by one of these agencies.

6.0 ASSESSMENT OF OPTIONS

6.1 SEVEN GUIDING PRINCIPLES

TDOT has adopted seven guiding principles against which all transportation projects are to be evaluated. These guiding principles address concerns for system management, mobility, economic growth, safety, community, environmental stewardship, and fiscal responsibility.

During the development of this TPR, extensive coordination efforts have been made between TDOT, resource/regulatory agencies and stakeholders to identify the issues, concerns, goals, objectives, and needs of the project relative to these guiding principles. The groups include:

- Federal Highway Administration (FHWA)
- Appalachian Regional Commission (ARC)
- US Forest Service (USFS)
- Tennessee Wildlife Resources Agency (TWRA)
- US Army Corp of Engineers (USACE)
- Environmental Protection Agency (EPA)
- Tennessee Valley Authority (TVA)
- Tennessee Department of Environment and Conservation (TDEC)
- US Fish and Wildlife Service (USFWS)
- Citizen's Resource Team (CRT) made up of local citizens with varied backgrounds and interests
- Local Officials including business and elected leaders from Polk and Bradley Counties
- Economic/Environmental/Utilities Leadership group
- General public

Input from these stakeholders was used to help develop the corridors and the seven guiding principles are discussed as they relate to the proposed options for Corridor K in Polk County.

6.1.1 GUIDING PRINCIPLE 1: PRESERVE AND MANAGE THE EXISTING TRANSPORTATION SYSTEM

All of the build options would upgrade the deficient US 64 alignment and enhance the existing area transportation network.

All options provide a link between eastern and western Polk County along the designated Corridor K route.

The build options provide a corridor that is wide enough to allow for an appropriate alignment and typical section to be constructed to current highway design and safety standards.

For the new location build options, the section of US 64 along the Ocoee River could continue to function under the existing transportation system providing access to the recreational facilities within the gorge or be removed from the State Highway System where the responsibility for its maintenance could be assigned to Polk County or the USFS.

6.1.2 GUIDING PRINCIPLE 2: MOVE A GROWING, DIVERSE, AND ACTIVE POPULATION

Improvements from the build options would provide the opportunity for better access to recreational activities within the CNF, Ocoee River, and Parksville Lake. Recreational activities

include boating, hiking, mountain biking, and camping. Being on new location would better separate the through traffic, such as trucks and commuters, from the recreational traffic such as rafting buses, boaters, and others with interests along the Ocoee River and Parksville Lake. Build options with a fully constructed typical section would also provide additional width for bicycle and pedestrian traffic and reduce traffic volumes along existing US 64 in areas where pedestrians walk along the road adjacent to the Ocoee River.

Build options on new location would reduce the chance for road closures due to rock slides and trees falling in the road. The typical section would be constructed wide enough to allow more room to accommodate these natural occurrences. A new road would also provide a more convenient detour route for a temporary road closures on existing US 64.

In order to reduce the average travel time, either the route length must be reduced or the posted speed increased. The existing route is approximately 23.2 miles with posted speeds of 45 mph and 55 mph and curves posted from 15 mph to 35 mph. Option 2A would not reduce the travel length notably, but could reduce the number of curves with lower posted speeds where some time improvement would occur. Southern corridor Options 6 and 7 range from 20.6 to 21.7 miles in length. Northern corridor Options 3, 4 and 5 range from 20.8 to 23.0 miles in length. The posted speed for these corridors would be 55 mph with the possibility of some short stretches of road at 45 mph where unimpeded travel times would range between 22 and 31 minutes. Design factors for the build options that would affect travel time include curves requiring reduced speeds, length and steepness of vertical grades, and the number of lanes and intersections.

Polk County is the 76th most populated of Tennessee's 95 counties, but with the CNF covering much of the county, particularly in the center, most of the population lives on either side of the county with Benton to the west and Ducktown and Copperhill to the east. Due to the lack of safe, adequate east-west transportation, the county has essentially been bisected, resulting in duplicate services on each side of the county. Such duplicate services include two courthouses, two jails, and two public libraries. This provides convenience to residents who do not have to travel on US 64 for these services, but is an economic burden to the county government having to provide for nearly twice as many services as a county of similar population, but with sufficient roads. Improvements to Corridor K will provide a better way for traffic to get across the county, reducing or eliminating the need for services to the east and west of the forest lands.

No option would create a substantial reduction to the overall travel time through the project study area and one option would extend the travel time. However, the build options on new location would provide an alternative east-west route to existing US 64 that could be used as a detour should either road be closed.

6.1.3 GUIDING PRINCIPLE 3: SUPPORT THE STATE'S ECONOMY

US 64 is the primary east-west route through Polk County and serves the needs of commuters, area and regional businesses, and tourists from around the world. Build options that would improve the route to reduce travel time and support businesses transporting goods along Corridor K. According to the Corridor K Economic Development and Transportation Study, the proposed Corridor K would increase job attraction due to the improved east-west highway connections that would improve highway travel times, airport, rail, and port access and therefore support business. The proposed project has the potential to expand the labor market by nearly 7,000 new jobs in the region within five years. This economic effect includes Polk and Bradley Counties in Tennessee where the October 2009 unemployment rate was 11.8 percent and 9.1 percent respectively.

With the project study area all within the CNF, the build options are not likely to create development directly along the route; however improvements to this section of Corridor K in Polk County will improve the regional roadway network serving Tennessee as well as Georgia and North Carolina.

Tourism along the river could benefit from new location options that would separate through traffic such as commercial or logging trucks and commuters from the recreational traffic such as rafting buses and tourists who are better served by existing US 64 along the Ocoee River.

Business growth resulting from improvements to Corridor K in Polk County could support the expanded use of moving freight by rail on the Hiwassee River Railroad. This rail line owned by the Tennessee Overhill Heritage Association connects to the east Tennessee CSX line that could provide service throughout the south and east.

6.1.4 GUIDING PRINCIPLE 4: MAXIMIZE SAFETY AND SECURITY

US 64 within the project study area has a long history of safety issues due to lack of adequate sight distance, horizontal curves that require large trucks to cross the centerline to avoid the rock cliffs along the edge of the highway, and inadequate shoulder widths. Rock slides and trees falling in the road create temporary hazards that must be removed before the road can be reopened fully to traffic.

An analysis of crash data between 2004 and 2007 identified 201 crashes within the project study area which calculates into a crash rate of 1.51 for the 2-lane sections compared to a statewide average for a similar 2-lane highway of 1.65 and 3.09 for the 4-lane sections compared to a statewide average of 0.80. When analyzed in segments, two of the four 2-lane sections had crash rates that were higher than the statewide average. Overall, a majority of the crashes occurred under no adverse weather conditions.

The 2006 TDOT Road Safety Audit Report identified 14 sites within the Corridor K project limits where safety improvements could be made. As of October 2009, these improvements were to be completed by TDOT maintenance crews. These improvements included additional advanced signage, new pavement markers, additional guardrail, new turn lanes, shoulder widening, and removal of rock close to the travel way.

Boaters commonly park along the shoulders to access the river. This becomes a safety issue with a narrower travel way, reduced site distance, and cars pulling on and off the road at unexpected locations. Build options on new location would shift through traffic away from the existing road along the river, eliminating the interaction with the high volume of parked vehicles. Option 2 could widen the existing shoulders to provide additional room that would allow vehicles to park further away from the travel lane as well as improve sight distance for vehicles pulling off and back onto the road. Option 2A would accomplish this in some areas through the gorge. The build options on new location would not improve US 64 along the river, but would reduce the volume of traffic through the gorge with commercial and commuter traffic on the new road and recreation traffic primarily using the old alignment.

6.1.5 GUIDING PRINCIPLE 5: BUILD PARTNERSHIPS FOR LIVABLE COMMUNITIES

TDOT's approach to environmental planning for the Corridor K project follows the principles of Context Sensitive Solutions. Input from stakeholders helped in the decision-making process and was gathered in various ways, including the forming of a 15-member Citizens Resource Team (CRT) who met with TDOT and their representatives on five separate occasions to provide input

regarding matters pertinent to the development of this TPR. The CRT was made up of individuals who live or work in Polk County, or the surrounding area. These individuals represented a cross section of interests, including business, environmental, rafting, hiking, tourism, and others. Their local knowledge provided insight to the area. Each CRT member served as a liaison between TDOT and citizens, and at times CRT Members acted as project ambassadors at meetings. CRT members were available for consultation by the public and other interested parties at Agency Committee meetings, Local Officials Committee meetings, Economic, Environmental and Utility Committee meetings, and public meetings.

TDOT and their representatives met with the Local Officials Committee (RPO, elected city, county and state officials) on two separate occasions (17 June 2009 and 26 January 2010) to review project history, to provide an overview of the current study process, and to facilitate input from local officials on the values and goals of the project.

The Environmental, Economic, and Utility Committee (i.e. TVA, Chamber of Commerce, WaysSouth) also met with TDOT and their representatives on two separate dates (21 July 2009 and 17 February 2010). Meetings focused on resource and utility information and gaining input regarding values and goals of the proposed project.

In addition to facilitating meetings with project committee members, TDOT met with regulatory agencies (i.e. TWRA, USFS, TDEC) both independently and as part of TDOT's Tennessee Environmental Streamlining Agreement (TESA) process. A meeting aimed at assessing wildlife habitat linkages was held on 28 October 2009 at the TDOT District office in Chattanooga, Tennessee to bring together local wildlife biologists, botanists, fish biologists, engineers, planners, CRT members, and others interested or knowledgeable about ecological issues within the project study area.

TDOT provided information to the media and public through project emails and mailing lists and the development of an interactive website (http://www.tdot.state.tn.us/corridork/). The website provides current project information and allows the public to submit comments regarding the project online. Two series of Public Information Meetings (20 & 21 July 2009 and 16 &17 February 2010) were held in Polk County to obtain comments and input on the project, the project study area, and the preliminary corridors. Public Information Meetings were held on either end of the project area in an effort to reach all area residents.

If the decision to continue with alternative analysis is made after the TPR process, public involvement would continue as part of the development of the NEPA documentation.

Appendix D at the end of this document contains responses to comments received from ARC, FHWA, and the US Forest Service. The Comment Summary Report (see Appendix E) provides a summary of comments received throughout the TPR process.

6.1.6 GUIDING PRINCIPLE 6: PROMOTE STEWARDSHIP OF THE ENVIRONMENT

Areas of environmental concern are located within the corridors; however this does not mean they would all be affected. At two thousand (2,000) feet, the new location corridors are wide enough to provide space to avoid or reduce affects as the planning process continues. The Early Environmental Screening performed by TDOT and presented in the TPR identifies the known environmental resources present within each corridor. Other data collected within the study area was also analyzed to help identify environmental concerns. Special coordination between the permitting agencies has already occurred, including meetings to identify and discuss potential wildlife crossing locations for each corridor. Detailed environmental studies are

still warranted to fully address effects within any of the corridors. In the further development of the corridors, sensitive environmental areas should be avoided or effects reduced where possible. These areas are listed in Table 21.

6.1.7 GUIDING PRINCIPLE 7: PROMOTE FINANCIAL RESPONSIBILITY

Cost estimates for each option were developed on a per mile expense of major items for roadways with similar typical sections. The cost estimates in this TPR are offered for comparison purposes and would fluctuate with inflation and any unforeseen circumstances. TDOT's goals are to follow a comprehensive transportation planning process, promote coordination among public and private operators of transportation systems, and support efforts to provide stable funding for the public component of the transportation system by exercising financial responsibility in the development and implementation of roadway projects and minimizing costs to taxpayers.

6.2 SUMMARY OF OPTIONS

A summary of each corridor is provided in the following tables. The Early Environmental Screening identifies potential environmental impacts within each corridor. The more subjective categories were evaluated by comparing the potential impacts of one category relative to the same category in the other options to list whether an impact would be considered high, moderate, low, or none. Careful evaluation in reviewing the results are needed because a high impact may be positive to one person but negative to another.

Table 19 provides a summary of the effects for each option based on the results of the early environmental screening process. Table 19 is a comparison matrix for goals and objectives identified for the project and it also notes the measure of effect for each corridor. Table 21 is another comparison matrix that summarizes the Early Environmental Screening effects for each corridor.

Table 19: Comparison Matrix: Purpose and Need

Known Resource	Measure / Scale (High-Moderate-Low-None)	Criteria	Option 1 No-Build	Option 2 Improve US 64	Option 2A US 64 Spot Improvements	Option 3 Northern Corridor N-4	Option 4 Northern Corridor N-5	Option 5 Northern Corridor N-6	Option 6 Southern Corridor S-5	Option 7 Southern Corridor S-6	Option 8 Combination Corridor N-7	Option 8A Combination Corridor N-8
Transportation and Mobility												
Travel Time (2-lane)	Miles/Mins	Length of project / Average Travel Time	23.1 / 29	22.4 / 27	22.4 / 27	23.5 / 29	20.9 / 25	21.0 / 25	20.5 / 25	21.9 / 27	22.4 / 27	22.6 / 27
Travel Time (4-lane)	Miles/Mins	Length of project / Average Travel Time	-	22.4 / 24	-	23.5 / 27	20.9 / 23	21.0 / 23	20.5 / 23	21.9 / 24	-	-
Level of Service (2-lane)	A-F	Developed from Highway Capacity Software	C	C	C	C	C	C	C	C	C	C
Level of Service (4-lane)	A-F	Developed from Highway Capacity Software	-	A	-	A	A	A	A	A	-	-
Traffic Volume (2014)	Vehicles Per Hour (VPH)	Projected volumes based on historic volume trends	324-577	324-577	324-577	299-384	327-570	327-570	249	249	327-570	327-570
Traffic Volume (2034)	VPH	Projected volumes based on historic volume trends	412-843	412-843	412-843	380-487	412-682	412-682	317	317	412-682	412-682
Potential to improve deficiencies on existing US 64	High-Mod-Low-None	Ability to provide a faster and safer route along the ex. US 64 through the Ocoee River Gorge	None	High Full design thru gorge meets design criteria	Mod Entire route not improved	Low Ex. US 64 thru gorge not improved	Low Ex. US 64 thru gorge not improved	Low Ex. US 64 thru gorge not improved	Low Ex. US 64 thru gorge not improved	Low Ex. US 64 thru gorge not improved	Mod Some but not all of US 64 thru gorge improved	Mod Some but not all of US 64 thru gorge improved
Potential for options to meet design standards	High-Mod-Low-None	Ability to provide a route that meets rural arterial design	Low All of ex. route does not meet stds.	High Entire route would meet stds.	Mod Only improved sections would meet stds.	High Entire route would meet stds.	High Entire route would meet stds.	High Entire route would meet stds.	High Entire route would meet stds.	High Entire route would meet stds.	High Entire route would meet stds.	High Entire route would meet stds.
Potential to accommodate sufficient and safe parking areas	High-Mod-Low-None	Ability to provide parking for recreation and river usage	Low No change to existing	Mod Shoulder wider than ex. would be provided	Low Only improved sections would have wider shldrs	Mod More traffic would be on new location	Mod More traffic would be on new location	Mod More traffic would be on new location	Low Southern route away from river	Low Southern route away from river	Mod More traffic would be on new location	Mod More traffic would be on new location
Pedestrian & bike safety and mobility	High-Mod-Low-None	Ability to provide additional width for ped/bike usage along corridor and/or existing US 64	Low No change to existing	Mod Shoulder wider than ex. would be provided	Low Only improved sections would have wider shldrs	Mod More traffic would be on new location	Mod More traffic would be on new location	Mod More traffic would be on new location	Mod More traffic would be on new location	Mod More traffic would be on new location	Mod More traffic would be on new location	Mod More traffic would be on new location
System Connectivity North-South	High-Mod-Low-None	Ability to provide N-S access within Polk County	Low No change to existing	Low No new N-S routes; does intersect SR's 314, 30 & 68	Low No new N-S routes; does intersect SR's 314, 30 & 68	Low No new N-S routes; does intersect SR 's 314, 30 & 68	Low No new N-S routes; does intersect SR's 314, 30 & 68	Low No new N-S routes; does intersect SR's 314, 30 & 68	None No new N-S routes; does not intersect SR's 314, 30 & 68	None No new N-S routes; does not intersect SR's 314, 30 & 68	Low No new N-S routes; does intersect SR's 314, 30 & 68	Low No new N-S routes; does intersect SR's 314, 30 & 68
System Connectivity East-West	High-Mod-Low-None	Ability to provide E-W access within Polk County	Low No change to existing	High Improvements made to entire route	Mod Improvements only made to spot locations	Mod New location further to the north	High Improvements made to entire route	High Improvements made to entire route	High Improvements made to entire route	Mod New location further to the sorth	High Improvements made to entire route	High Improvements made to entire route
Economic												
Conceptual Costs	$1 mil (2-ln / 4-ln)	Based on 2009 Bid Averages	Maintenance	$304.6 $497.8	$198.9	$826.5 $1,289.5	$373.8 $674.0	$370.1 $639.0	$381.2 $686.8	$389.8 $743.8	$383.4	$379.1
Transportation Cost Savings	High-Mod-Low-None	Ability to reduce user costs with lower travel time & eliminate potential road closures	None No change to existing	Low No significant change in route length, but rockfall issues addressed	Low Minor change in route length, but not all rockfall issues may be addressed	Low Route length does not change, but rockfall issues addressed	Mod Shorter route length and rockfall issues addressed	Mod Shorter route length and rockfall issues addressed	Mod Shorter route length and rockfall issues addressed	Mod Shorter route length and rockfall issues addressed	Mod Shorter route length and rockfall issues addressed	Mod Shorter route length and rockfall issues addressed

Table 20: Comparison Matrix: Goals and Objectives

Resource	Measure / Scale (H-M-L-N)	Criteria	Option 1 No-Build	Option 2 Improve US 64	Option 2A US 64 Spot Improvements	Option 3 Northern Corridor N-4	Option 4 Northern Corridor N-5	Option 5 Northern Corridor N-6	Option 6 Southern Corridor S-5	Option 7 Southern Corridor S-6	Option 8 Combination Corridor N-7	Option 8A Combination Corridor N-8
Economic and Land Use												
Access to Developable Land	H-M-L-N	Route provides new access to land outside of CNF	None No change in route	None No significant change in route	None No change in route	Low Corridor on new location outside of CNF	Low Corridor on new location outside of CNF	Low Corridor on new location outside of CNF	Mod Corridor on new location outside of CNF in area being developed now	Mod Corridor on new location outside of CNF in area being developed now	None No change in route outside of CNF	None No change in route outside of CNF
Human and Social												
Local Connections/Access to essential community services and facilities												
• Schools	H-M-L-N	Ability to improve access to Polk County schools	Low	Mod	Low	Low	Mod	Mod	Mod	Mod	Mod	Mod
• Fire, Police, EMS	H-M-L-N	Ability to improve access for emergencies across county	Low	Mod	Low	Mod	Mod	Mod	Mod	Mod	Mod	Mod
• Other Govt / Public Services & Facilities	H-M-L-N	Ability to improve access for/to public services	Low	Mod	Low	Low	Mod	Mod	Mod	Mod	Mod	Mod
			No change	Entire route improved	Not all of route improved	Corridor around gorge	Corridor around gorge	Corridor around gorge	Corridor around gorge	Corridor around gorge	Corridor around gorge	Corridor around gorge
Natural, Cultural and Visual												
Potential for new scenic views	H-M-L-N	Ability to provide new vistas at higher elevations	None No change in route	None No change in route	None No change in route	High New location route at high elev overlooking Ocoee and Hiwassee	High New location route at high elev overlooking Ocoee	High New location route at high elev overlooking Ocoee	Mod New location route with new vista, but too far south of river	Mod New location route with new vista, but too far south of river	High New location route at high elev overlooking Ocoee	High New location route at high elev overlooking Ocoee
Potential for effects to existing scenic views	H-M-L-N	Route would detract from existing vistas of undisturbed land within CNF	None No change in route	Mod Route thru gorge would be changed with road improvements	Low Select locations in gorge would be changed with road improvements	High New location route at high elev could be seen from lake	High New location route at high elev could be seen from lake/river	High New location route at high elev could be seen from lake/river	Mod New location route is too far south to see from lake/river	Mod New location route is too far south to see from lake/river	High New location route at high elev could be seen from lake/river	High New location route at high elev could be seen from lake/river
Access to Recreational Resources												
• Hiking Trails	H-M-L-N	Ability to provide or enhance access to trailheads (ex. or new)	Mod No change in route	High Improvements to existing route and trailheads	Mod Spot improvements to existing route and trailheads	Mod New location crosses few existing trails for new access	High New location crosses existing trails for new access	High New location crosses existing trails for new access	Low New location crosses some trails for new access	Low New location crosses some trails for new access	High New location crosses existing trails for new access	High New location crosses existing trails for new access
• Bike Trails	H-M-L-N	Ability to provide or enhance access to bike trailheads (ex. or new)	Mod No change in route	High Improvements to existing route at trailheads	Mod Spot improvements to existing route and trailheads	Mod Route improved near bike trail access	Mod Route improved near bike trail access	Mod Route improved near bike trail access	Mod Route improved near bike trail access	Mod Route improved near bike trail access	Mod Route improved near bike trail access	Mod Route improved near bike trail access
• Lakes & Marinas	H-M-L-N	Ability to provide direct access to Parksville Lake	Mod No change in route	High Improvements to existing route near marina	Mod Spot improvements to existing route	Mod Ex. access maintained, but new location north of lake	Mod Ex. access maintained, but new location north of lake	Mod Ex. access maintained, but new location north of lake	Low Ex. access maintained, but new location far sorth of lake	Low Ex. access maintained, but new location far sorth of lake	High Improvements to existing route near marina	High Improvements to existing route near marina
• Ocoee River	H-M-L-N	Ability to provide direct access to Ocoee River	Mod No change in route	High Improvements to existing route along river	Mod Spot improvements to existing route along river	Mod Access maintained, but new location corridor to north	Mod Access maintained, but new location to corridor north	Mod Access maintained, but new location corridor to north	Low Access maintained, but new location corridor to far south	Low Access maintained, but new location corridor to far south	Mod Access maintained, but new location corridor to north	Mod Access maintained, but new location corridor to north
• Ocoee Whitewater Center	H-M-L-N	Ability to provide direct access to OWWC	High No change in route	High Improvements to entire route	Mod Spot improvements to existing route	Low Ex. access maintained, but new location far to north	High Improved access from both east and west	High Improved access from both east and west	Low Ex. access maintained, but new location far to south	Low Ex. access maintained, but new location far to south	High Improved access from both east and west	High Improved access from both east and west
• CNF	H-M-L-N	Ability to improve or enhance access into CNF lands	None No change in route	Mod Improvements to entire route	Low Spot improvements to existing route	High New location route thru CNF	High New location route thru CNF	High New location route thru CNF	High New location route thru CNF	High New location route thru CNF	High New location route thru CNF	High New location route thru CNF
Trail Effects	H-M-L-N	Direct impacts to existing trail systems (crossing or running parallel to trail)	None No change in route	Low No significant change in route but road improved	Low No change in route but road improved	Mod New location crosses few trails north of river	High New location crosses trails north of river	High New location crosses trails north of river	Mod New location crosses trails south of river	Mod New location crosses trails south of river	High New location crosses trails north of river	High New location crosses trails north of river
Solitude / Wilderness Experience Effects	H-M-L-N	Direct impact to undisturbed area	None No change in route	None No significant change in route	None No significant change in route	High New location route thru CNF	Mod New location route thru CNF not as far north as Opt. 3	Mod New location route thru CNF not as far north as Opt. 3	High New location route thru CNF	High New location route thru CNF	Mod New location route thru CNF not as far north as Opt. 3	Mod New location route thru CNF not as far north as Opt. 3
Watershed Effects (River name)	H-M-L-N	Proportional degree of land impacts from road & construction, including adjacent watersheds	Low No change in route	Low (Ocoee) No significant change in route	Low (Ocoee) No significant change in route	High (Ocoee & Hiwassee) Corridor within two watersheds	Mod (Ocoee) Corridor on new location	Mod (Ocoee) Corridor on new location	High (Ocoee and Conasauga) Corridor within two watersheds	High (Ocoee and Conasauga) Corridor within two watersheds	Mod (Ocoee) Corridor on new location	Mod (Ocoee) Corridor on new location

Table 21: Matrix of TDOT Early Environmental Screening

Resource	Measure / Scale (H-M-L-N)	Criteria	Option 1 No-Build	Option 2 Improve US 64	Option 2A US 64 Spot Improvements	Option 3 Northern Corridor N-4	Option 4 Northern Corridor N-5	Option 5 Northern Corridor N-6	Option 6 Southern Corridor S-5	Option 7 Southern Corridor S-6	Option 8 Combination Corridor N-7	Option 8A Combination Corridor N-8
Archeology / Historic Architecture (Potential Effects)												
Historic/Archaeology Sites	Qty	No. of sites / potential for new impact	0	6 (Mod) Some cannot be avoided	6 (Mod) Some cannot be avoided	9 (Mod) Could be impacted	10 (Low) Not likely impacted	10 (Low) Not likely impacted	11 (Mod) Could be impacted	11 (Mod) Could be impacted	4 (Mod) Some cannot be avoided	4 (Mod) Some cannot be avoided
Cemetery	Qty	No. of sites / potential for new impact	0	1 (Mod) Could be impacted	1 (Low) Could be impacted	3 (Low) Could be impacted	0	0	Possible (Mod)	1 or more (Mod)	0	0
Community (Potential Effects)												
Public Institution	Qty	No. of sites / potential for new impact	0	2 (Mod) 9-1-1 bldg could be impacted	1 (Low) 9-1-1 bldg could be impacted with spot improvement	2 (Low) Churches within corridor, but can be avoided	1 (None) Church within corridor, but can be avoided	1 (None) Church within corridor, but can be avoided	0	0	1 (None) Church within corridor, but can be avoided	1 (None) Church within corridor, but can be avoided
Railroad	Yes/No	Impact to existing railroad?	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R.O.W. Tracts / Relocation	Qty / Qty	Number potentially impacted within corridor	0 / 0	65 / 1	35 / 0	128 / 5 - 8	79 / 3	79 / 3	61 / 3 - 4	68 / 3 - 4	64 / 1	63 / 1
Ecology (Potential Effects)												
Wetlands Sites	Qty	No. of sites / potential for new impact	0	21 (Low) Within corridor but most can be avoided	21 (Low) Within corridor but most can be avoided	12 (Low) Within corridor but most can be avoided	11 (Low) Within corridor but most can be avoided	19 (Low) Within corridor but most can be avoided	24 (Mod) Within corridor but most can be avoided except river	22 (Mod) Within corridor but most can be avoided except river	8 (Low) Within corridor but most can be avoided	19 (Low) Within corridor but most can be avoided
Watershed Effects (River name)	H-M-L-N	Proportional degree of land impacts from road & construction, including adjacent watersheds	Low Any exist water quality issues would not be addressed	Low (Ocoee) Construction adjacent to river could address water quality issues	Low (Ocoee) Construction adjacent to river could address water quality issues	High (Ocoee & Hiwassee) New location construction within two watersheds	Mod (Ocoee) New location construction within watershed	Mod (Ocoee) New location construction within watershed	High (Ocoee & Conasauga) New location construction within two watersheds	High (Ocoee & Conasauga) New location construction within two watersheds	Mod (Ocoee) New location construction within watershed	Mod (Ocoee) New location construction within watershed
Bats	Yes/No	Within Area of Potential Effect?	No	No	No	No	No	No	No	No	No	No
Terrestrial Species	No. Sites	No. of sites / potential for new impact	0	60 (Low) No new location construction	60 (Low) No new location construction	16 (High) Most new location construction thru CNF (more than Opts 4 & 5)	25 (Mod) New location construction thru CNF, but less than Opt 3	26 (Mod) New location construction thru CNF, but less than Opt 3	8 (High) New location construction thru Ocoee Bear Reserve	11 (High) New location construction thru Ocoee Bear Reserve	26 (Mod) New location construction thru CNF, but less than Opts 3-5	27 (Mod) New location construction thru CNF, but less than Opts 3-5
Aquatic Species	No. Sites	No. of sites / potential for new impact	0	0	0	8 (Mod) Most new location construction thru more wilderness area than Opt 4 & 5	14 (Mod) New location construction thru CNF, but less than Opt 3	11 (Mod) New location construction thru CNF, but less than Opt 3	6 (Mod) New location construction thru southern CNF	6 (Mod) New location construction thru southern CNF	14 (Low) New location construction but less than other new location options	11 (Low) New location construction but less than other new location options
TWRA Lakes	Yes/No	Within Area of Potential Effect?	No	No	No	No	No	No	No	No	No	No
Cave	Yes/No	Within Area of Potential Effect?	No	No	No	No	No	No	No	No	No	No
TDEC Scenic Waterway	Yes/No	Within Area of Potential Effect?	No	Yes	Yes	No	Yes	Yes	No	No	No	No
TDEC Conservation Sites	Yes/No	Within APE? / potential for new impact	No	5 (High) Likely impact to sorth side of Little Frog Mtn and ex plant species on cliffs	5 (Mod) Likely impact but less than Option 2	2 (Low) Sites may be avoided	2 (Low) Sites may be avoided	2 (Mod) Sites may be avoided or minimized	2 (Mod) Sites may be avoided or minimized	2 (Mod) Sites may be avoided or minimized	2 (Low) Sites may be avoided	2 (Low) Sites may be avoided
Tennessee Natural Area Program	Yes/No	Within APE? / potential for new impact	No	No	No	Yes (Low) Can be avoided	No	No	No	No	No	No
Stream Crossings	Qty	No. of impacted crossings	0	44	11	40	44	43	48	50	26	27
Cliff Lines/Habitat	Yes/No	Within APE? / Significance of new impact along ex. US 64	Yes (Low) Potential for rockfall remains	Yes (High) Entire route improved would have impacts	Yes (High) Spot improvements would have impacts	No	No	No	No	No	Yes (Low) Some ex. areas would be impacted	Yes (Low) Some ex. areas would be impacted
100 Yr Floodplain	Yes/No	Within APE? / potential for new impact to floodplain	No	Yes (Low) Construction adjacent to river	Yes (Low) Construction adjacent to river	Yes (Low) Construction adjacent to river	Yes (Mod) Construction adjacent to river	Yes (Mod) Construction adjacent to river	Yes (High) Construction adjacent and new river crossing	Yes (High) Construction adjacent and new river crossing	Yes (Mod) Construction adjacent to river	Yes (Mod) Construction adjacent to river

Table 21: Matrix of TDOT Early Environmental Screening (continued)

Resource	Measure / Scale (H-M-L-N)	Criteria	Option 1 No-Build	Option 2 Improve US 64	Option 2A US 64 Spot Improvements	Option 3 Northern Corridor N-4	Option 4 Northern Corridor N-5	Option 5 Northern Corridor N-6	Option 6 Southern Corridor S-5	Option 7 Southern Corridor S-6	Option 8 Combination Corridor N-7	Option 8A Combination Corridor N-8
Hazardous Substance / Geology (Potential Effects)												
Pyritic Rock	H-M-L-N	Within Area of Potential Effect? / significance of impact	Yes (Low) Ex. rock faces and rockslides expose pyritic rock	Yes (High) Ex. route is through areas of known pyritic rock	Yes (Mod) Less of ex. route would be disturbed than Option 2	Yes (High) Corridor runs through areas of known pyritic rock	Yes (High) Corridor runs through areas of known pyritic rock	Yes (High) Corridor runs through areas of known pyritic rock	Yes (High) Corridor runs through areas of known pyritic rock	Yes (High) Corridor runs through areas of known pyritic rock	Yes (High) Corridor runs through areas of known pyritic rock	Yes (High) Corridor runs through areas of known pyritic rock
Superfund Site	Yes/No	Within Area of Potential Effect?	No	No	No	No	No	No	Yes	Yes	No	No
Parks and Public Lands (Potential Effects)												
Cherokee National Forest land	Acreage	Approx. area within USFS based on a 2-lane typ. section	0	281	127	559	489	490	508	539	193	194
Wildlife refuge or management area sites	Qty/ H-M-L-N	No. of sites / potential for new impact	0	1 (Low) Impacts to CNF along existing route	1 (Low) Impacts to CNF along existing route	2 (High) New impacts to CNF along new location	1 (High) New impacts to CNF along new location	1 (High) New impacts to CNF along new location	2 (High) New impacts to CNF and Bear Reserve along new location	2 (High) New impacts to CNF and Bear Reserve along new location	1 (High) New impacts to CNF along new location	1 (High) New impacts to CNF along new location

7.0 REFERENCES

Appalachian Regional Commission. 2004. Moving Appalachia Forward, Appalachian Regional Commission, Strategic Plan, 2005-2016. October 1, 2004. Available URL: http://www.arc.gov/index.do?nodeId=1006. Accessed on 2/2/09.

Environmental Laboratory. 1987. "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS

Ruediger, 2010. An Assessment of Wildlife Habitat Linkages. Draft Technical Memorandum, January 2010.

Southeast Tennessee Development District. 2009. Available URL: http://www.sedev.org/www/docs/6.22/. Accessed on 2/2/09.

Southeast Tennessee Development District. 2008. Corridor K Economic Development and Transportation Study. Developed in conjunction with Appalachian Regional Commission and Southeast Industrial Development Association. Available URL: http://www.sedev.org/downloads/FinalReport.pdf. Accessed on 10/1/09.

TRB. 2000. Highway Capacity Manual. Transportation Research Board, National Research Council. Washington DC.

URS, 2010. US 64 Travel Time Study. Technical Memorandum, March 2010.

URS, 2010. US 64 Detours Travel Time Study. Draft Technical Memorandum, March 2010.

US Census. 2000. American Factfinder. Available URL: http://factfinder.census.gov. Accessed on 2/5/09.

US Department of Transportation, Federal Highway Administration, and Tennessee Department of Transportation. 2003. Appalachian Development Highway System Corridor K (Relocated US 64) from West of the Ocoee River to State Route 68 Near Ducktown, Polk County, Tennessee. Draft Environmental Impact Statement and Draft Section 4 (f) Evaluation. September 22, 2003.

USFS. 1990. NLCD Spreadsheet.

USFS. 2008. Ocoee and Hiwassee River Corridor Management Plan. CNF. United States Department of Agriculture, United States Forest Service, Region 8. Center for Design and Implementation. February 2008.

USFS. 2007. NFS Acreage by State, Congressional District, and County. Updated 10/10/07. Available URL: http://www.fs.fed.us/land/staff/lar/2007/TABLE_6.htm. Accessed on 5/7/09.

USFWS. 1988. National Wetlands Inventory. US Fish and Wildlife Service. 1988.

Wilbur Smith Associates. 2008. Corridor K Economic Development and Transportation Study – Final Report. Southeast Industrial Development Association/Appalachian Regional Commission.

Wildernet. 2009. Available URL: http://www.wildernet.com/pages/area/cfm?areaID=TNWALF&CU_ID=1. Accessed on 5/4/09.

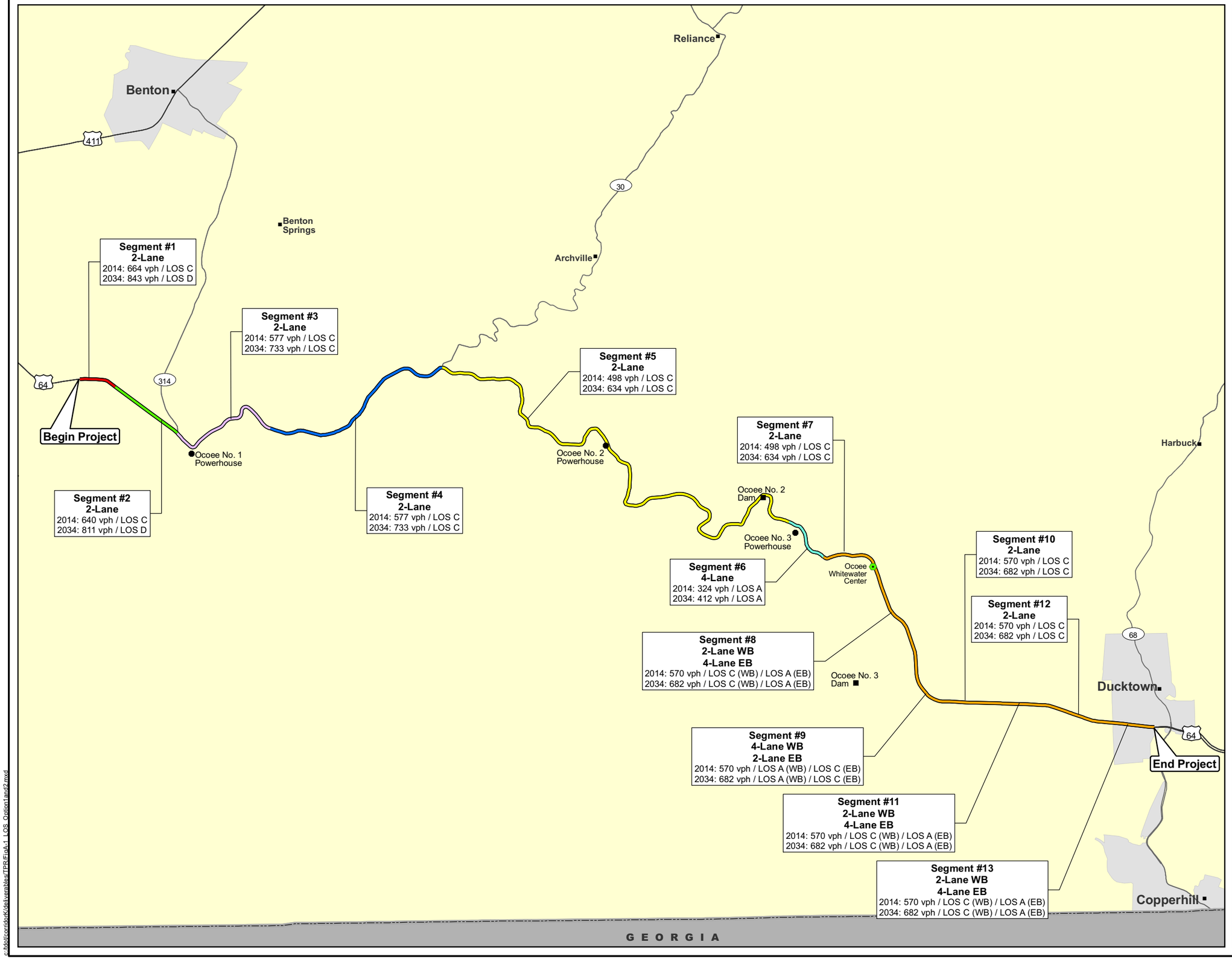
12/07/09 Record of Conversation Jeff Koontz with Tim Andrews with Tennessee Overhill Heritage Assoc. re: Hiwassee River Railroad history

03/04/10 Record of Conversation Jeff Koontz with Vanessa Bateman with TDOT re: Corridor K geology, rock falls and pyritic rock

2004, Revised Land and Resource Management Plan, Cherokee National Forest.

Appendices

Appendix A: Levels of Service Maps



Legend

- City/Municipality/Town
- Landmark
- Dam
- Powerhouse
- Secondary Route
- Municipality
- Polk County Boundary
- State Boundary

Note(s):
1) vph = peak hour vehicles per hour
2) Traffic volumes shown reflect vph in one direction.
3) EB = east bound traffic
4) WB = west bound traffic

DRAFT

US 64 CORRIDOR K
OCOEE RIVER GORGE SECTION

Source(s): Teleatlas, Streetmap, U.S. Forest Service, Tennessee Department of Environment and Conservation (TDEC) and URS Corporation

1:90,000

0 0.5 1 Miles

TDOT Go.

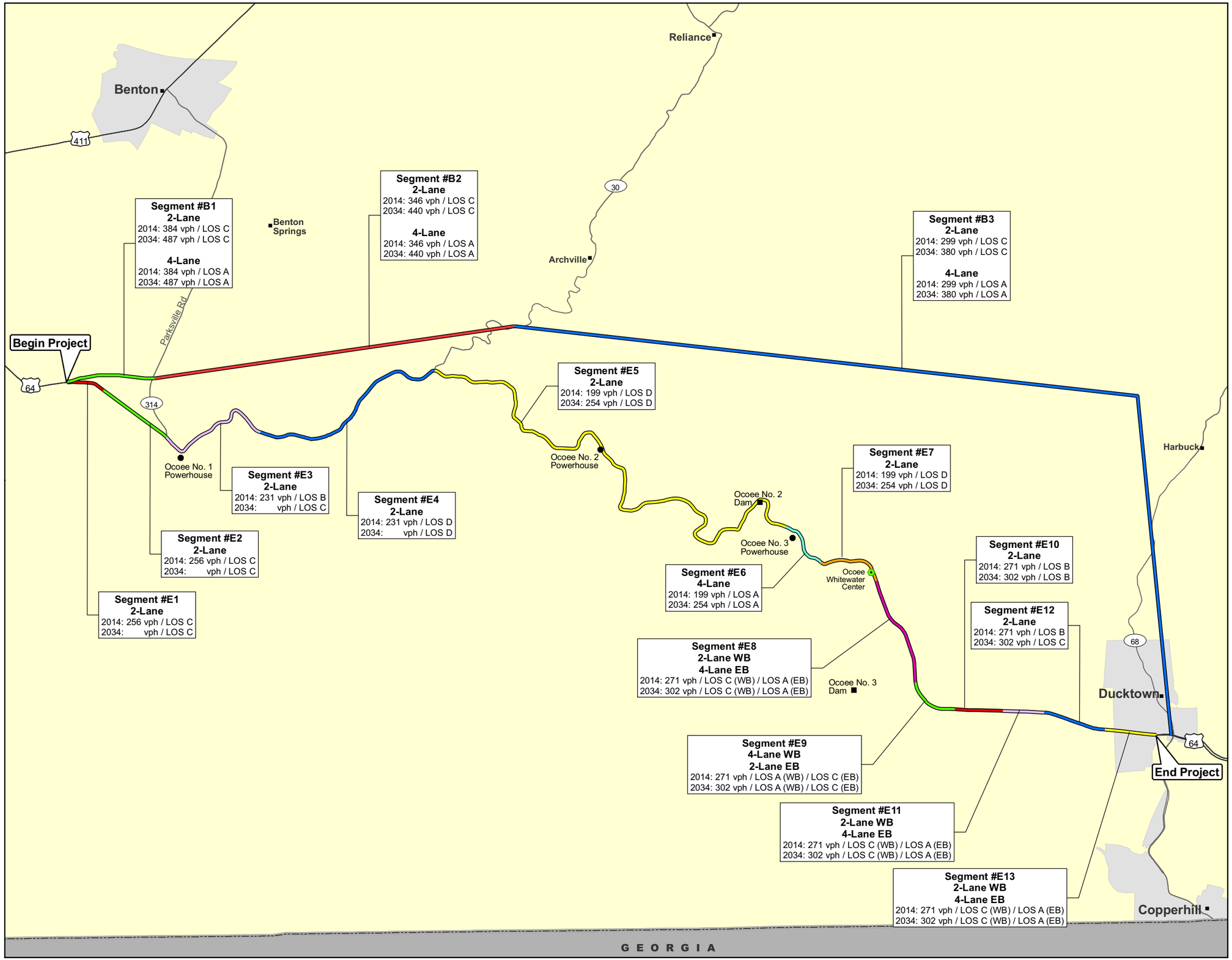
Corridor K

SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown Polk County, Tennessee

Exhibit A-1

Options1, 2 and 2a Level of Service (LOS)

c:/tdot/corridorK/deliverables/TPR/FigA-1_LOS_Option1and2.mxd



Legend

- City/Municipality/Town
- Landmark
- Dam
- Powerhouse
- Secondary Route
- Municipality
- Polk County Boundary
- State Boundary

Note(s):
1) vph = peak hour vehicles per hour
2) Traffic volumes shown reflect vph in one direction.
3) EB = east bound traffic
4) WB = west bound traffic

DRAFT

US 64 CORRIDOR
OCOEE RIVER GORGE SECTION

Source(s): Teleatlas, Streetmap, U.S. Forest Service, Tennessee Department of Environment and Conservation (TDEC) and URS Corporation

1:90,000

0 0.5 1 Miles

TDOT Go.

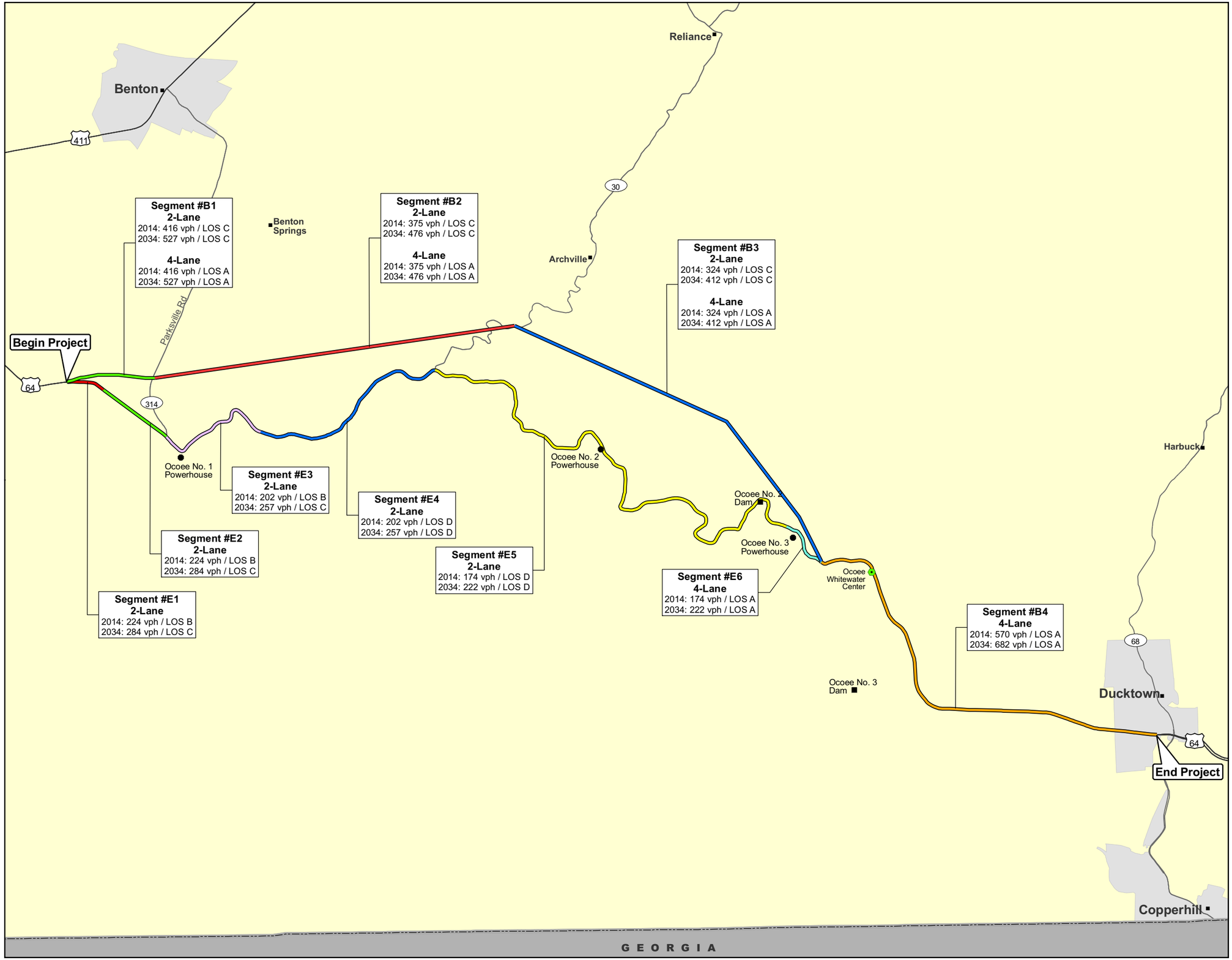
Corridor K

SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown Polk County, Tennessee

Exhibit A-2

Option 3
Level of Service (LOS)

c:/tdot/corridorK/deliverables/TPR/FigA-2_LOS_Option3.mxd



Legend

- City/Municipality/Town
- Landmark
- Dam
- Powerhouse
- Secondary Route
- Municipality
- Polk County Boundary
- State Boundary

Note(s):
1) vph = peak hour vehicles per hour
2) Traffic volumes shown reflect vph in one direction.
3) EB = east bound traffic
4) WB = west bound traffic

DRAFT

US 64 CORRIDOR K
OCOEE RIVER GORGE SECTION

Source(s): Teleatlas, Streetmap, U.S. Forest Service, Tennessee Department of Environment and Conservation (TDEC) and URS Corporation

1:90,000
0 0.5 1 Miles

TDOT Go.

Corridor K

SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown Polk County, Tennessee

Exhibit A-3

Options 4 and 5
Level of Service (LOS)

c:/tdot/corridorK/deliverables/TPR/FigA-3_LOS_Option4and5.mxd

Reliance
Benton
411
Benton Springs
30
Archville
Begin Project
64
314
Segment #E1
2-Lane
2014: 391 vph / LOS C
2034: 494 vph / LOS C
Ocoee No. 1 Powerhouse
Segment #E3
2-Lane
2014: 328 vph / LOS C
2034: 416 vph / LOS C
Segment #E2
2-Lane
2014: 391 vph / LOS C
2034: 494 vph / LOS C
Segment #E4
2-Lane
2014: 328 vph / LOS D
2034: 416 vph / LOS D
Segment #E5
2-Lane
2014: 249 vph / LOS D
2034: vph / LOS D
Ocoee No. 2 Powerhouse
Segment #E6
4-Lane
2014: 249 vph / LOS A
2034: 317 vph / LOS A
Ocoee No. 2 Dam
Ocoee No. 3 Powerhouse
Segment #E7
2-Lane
2014: 249 vph / LOS D
2034: 317 vph / LOS D
Ocoee Whitewater Center
Segment #E8
2-Lane WB
4-Lane EB
2014: 321 vph / LOS C (WB) / LOS A (EB)
2034: 365 vph / LOS C (WB) / LOS A (EB)
Harbuck
Segment #E9
4-Lane WB
2-Lane EB
2014: 321 vph / LOS A (WB) / LOS C (EB)
2034: 365 vph / LOS A (WB) / LOS C (EB)
Segment #E10
2-Lane
2014: 321 vph / LOS B
2034: 365 vph / LOS C
Segment #E12
2-Lane
2014: 321 vph / LOS C
2034: 365 vph / LOS C
68
Ocoee No. 3 Dam
Ducktown
64
End Project
Segment #B1
2-Lane
2014: 249 vph / LOS C
2034: 317 vph / LOS C
4-Lane
2014: 249 vph / LOS A
2034: 317 vph / LOS A
Segment #E11
2-Lane WB
4-Lane EB
2014: 321 vph / LOS C (WB) / LOS A (EB)
2034: 365 vph / LOS C (WB) / LOS A (EB)
Segment #E13
2-Lane WB
4-Lane EB
2014: 321 vph / LOS C (WB) / LOS A (EB)
2034: 365 vph / LOS C (WB) / LOS A (EB)
Copperhill
GEORGIA

c:/tdot/corridorK/delivverables/TPR/FigA-4_LOS_Option6and7.mxd

Legend

- City/Municipality/Town
- Landmark
- Dam
- Powerhouse
- Secondary Route
- Municipality
- Polk County Boundary
- State Boundary

Note(s):
1) vph = peak hour vehicles per hour
2) Traffic volumes shown reflect vph in one direction.
3) EB = east bound traffic
4) WB = west bound traffic

DRAFT

US 64 CORRIDOR K
OCOEE RIVER GORGE SECTION

Source(s): Teleatlas, Streetmap, U.S. Forest Service, Tennessee Department of Environment and Conservation (TDEC) and URS Corporation

1:90,000
0 0.5 1 Miles

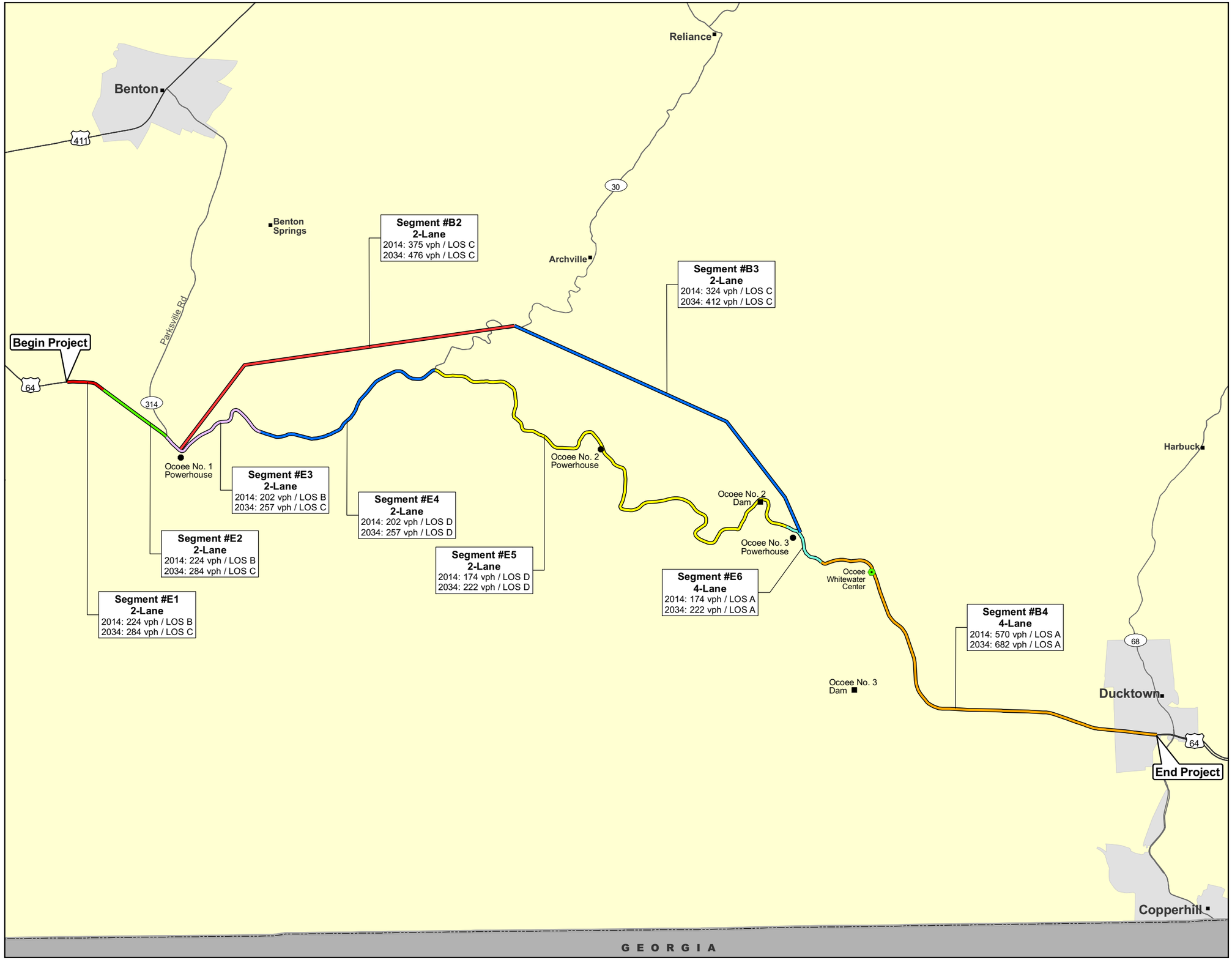
TDOT Go.

Corridor K

SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown Polk County, Tennessee

Exhibit A-4

Options 6 and 7
Level of Service (LOS)



Legend

- City/Municipality/Town
- Landmark
- Dam
- Powerhouse
- Secondary Route
- Municipality
- Polk County Boundary
- State Boundary

Note(s):
1) vph = peak hour vehicles per hour
2) Traffic volumes shown reflect vph in one direction.
3) EB = east bound traffic
4) WB = west bound traffic

DRAFT

US 64 CORRIDOR K
OCOEE RIVER GORGE SECTION

Source(s): Teleatlas, Streetmap, U.S. Forest Service, Tennessee Department of Environment and Conservation (TDEC) and URS Corporation

1:90,000
0 0.5 1 Miles

TDOT Go.

Corridor K

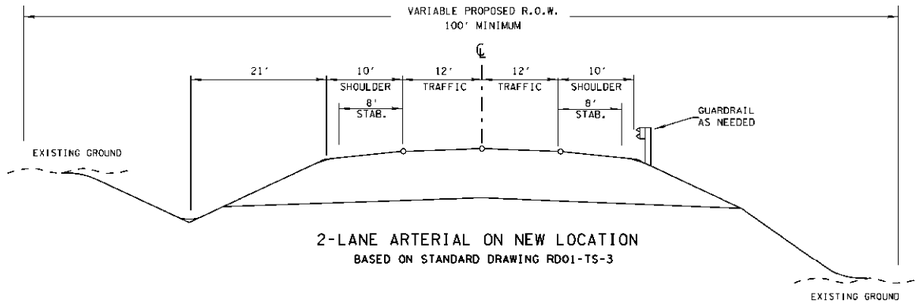
SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown Polk County, Tennessee

Exhibit A-5

Options 8 and 8A
Level of Service (LOS)

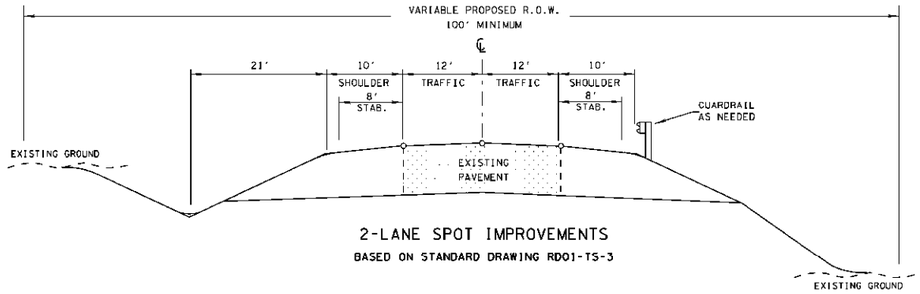
c:/tdot/corridorK/deliverables/TPR/FigA-5_LOS_Option8.mxd

Appendix B: Typical Sections



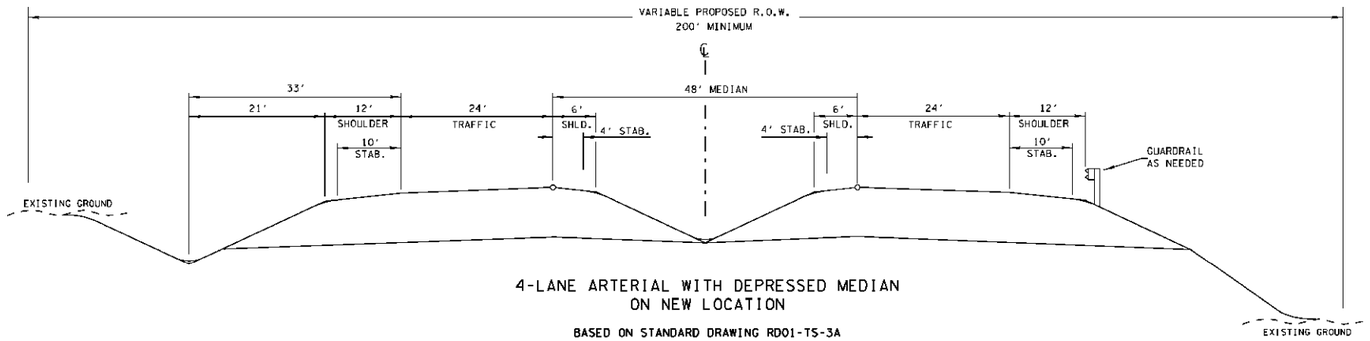
2-LANE ARTERIAL ON NEW LOCATION

BASED ON STANDARD DRAWING RD01-TS-3



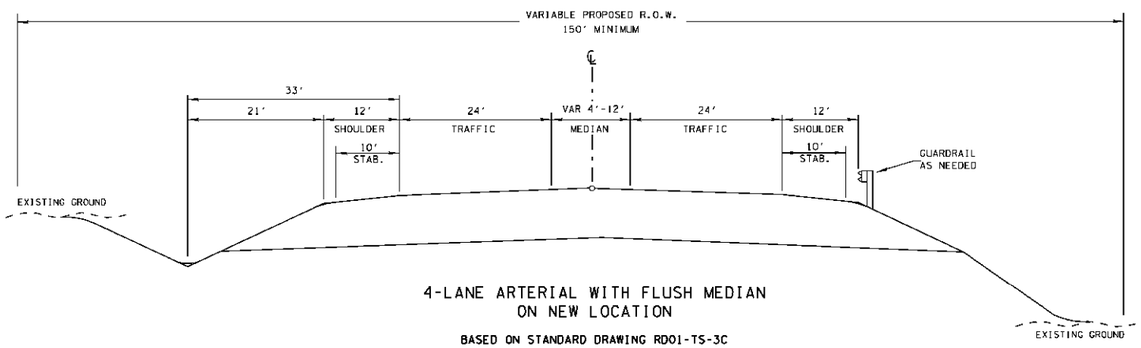
2-LANE SPOT IMPROVEMENTS

BASED ON STANDARD DRAWING RD01-TS-3



4-LANE ARTERIAL WITH DEPRESSED MEDIAN
ON NEW LOCATION

BASED ON STANDARD DRAWING RD01-TS-3A



4-LANE ARTERIAL WITH FLUSH MEDIAN
ON NEW LOCATION

BASED ON STANDARD DRAWING RD01-TS-3C

DRAFT

US 64 CORRIDOR K
OCOEE RIVER GORGE SECTION

Source(s): URS Corporation

NOT TO SCALE

TDOT Go.

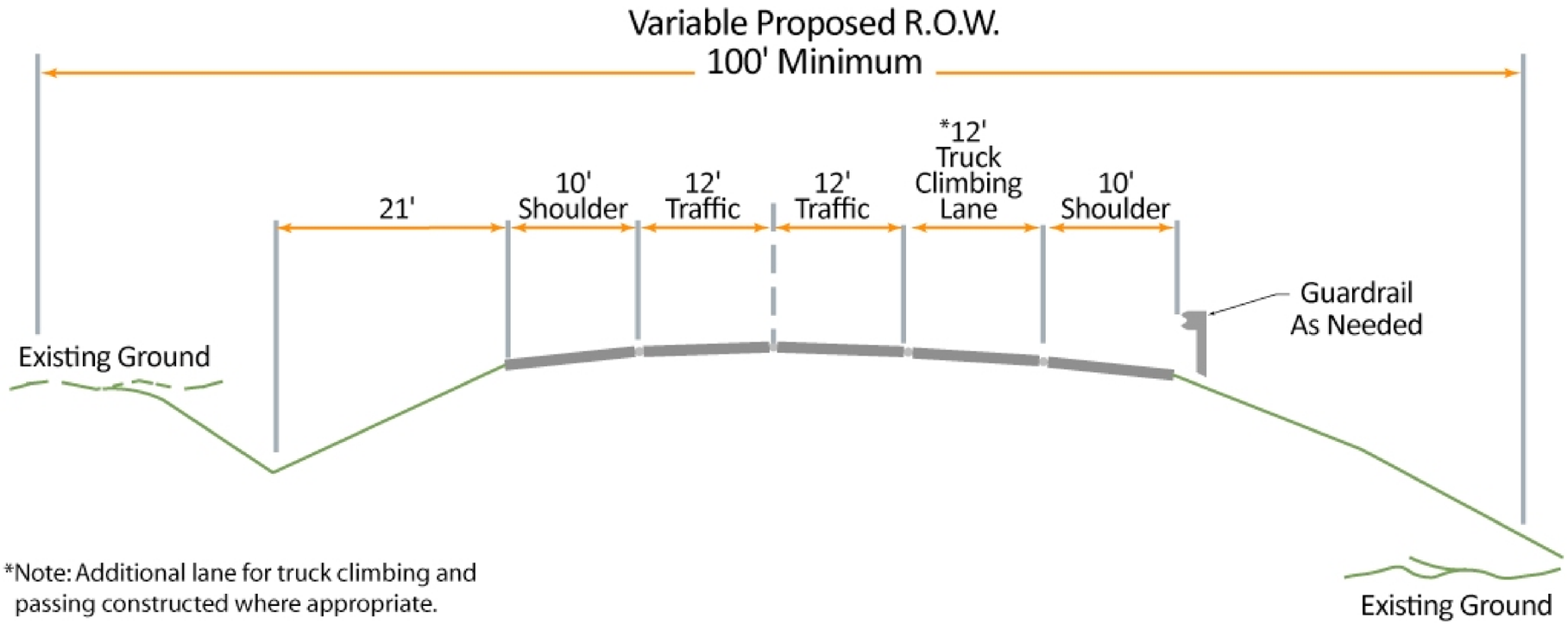
Corridor K

SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown Polk County, Tennessee

Exhibit B-1

Typical Section Options

c:/tdot/corridorK/deliverables/tpr/11x17 TypicalSection.mxd



*Note: Additional lane for truck climbing and passing constructed where appropriate.

"SUPER" TWO-LANE TYPICAL SECTION

US 64 | CORRIDOR K
OCOEE RIVER GORGE SECTION

NOT TO SCALE

Source(s): URS Corporation
Date: March 2010

TDOT Go.

EXHIBIT B-2
TYPICAL SECTION DETAIL

CORRIDOR K

SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown
Polk County, Tennessee

Appendix C: Cost Estimates

COST DATA

Route:	**Corridor K - US 64 / SR 40**
Description:	**Option 2 - Improvements to Existing US 64**
	2-lane Typical Section
County:	**Polk**
Length:	**22.4 mile**
Date:	**May 2010**

RIGHT-OF-WAY	**$**	**7,620,000**
CLEAR AND GRUBBING	**$**	**9,500,000**
EARTHWORK	**$**	**67,880,000**
PAVEMENT REMOVAL	**$**	**50,000**
DRAINAGE	**$**	**2,900,000**
STRUCTURES	**$**	**5,648,000**
TUNNEL		**82,500,000**
RAILROAD CROSSING OR SEPARATION	**$**	**150,000**
PAVING	**$**	**22,284,000**
RETAINING WALLS	**$**	**9,750,000**
MAINTENANCE OF TRAFFIC	**$**	**1,500,000**
TOPSOIL	**$**	**76,000**
SEEDING	**$**	**65,000**
SODDING	**$**	**23,000**
SIGNING	**$**	**50,000**
LIGHTING	**$**	**0**
SIGNALIZATION	**$**	**0**
FENCE	**$**	**50,000**
GUARDRAIL	**$**	**348,000**
RIP RAP OR SLOPE PROTECTION	**$**	**1,188,000**
OTHER CONST. ITEMS (15%)	**$**	**31,291,000**
MOBILIZATION	**$**	**6,319,000**
CONSTRUCTION COST	**$**	**241,572,000**
10% ENG. & CONT.	**$**	**24,158,000**
TOTAL CONSTRUCTION COST	**$**	**265,730,000**
10% PRELIMINARY ENGINEERING	**$**	**26,573,000**
UTILITIES (POWER, GAS, PHONE)	**$**	**4,640,000**
TOTAL COST *	**$**	**304,563,000**

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

COST DATA

Route:	**Corridor K - US 64 / SR 40**
Description:	**Option 2 - Improvements to Existing US 64**
	4-lane Typical Section
County:	**Polk**
Length:	**22.4 mile**
Date:	**May 2010**

RIGHT-OF-WAY	**$**	**13,837,000**
CLEAR AND GRUBBING	**$**	**13,030,000**
EARTHWORK	**$**	**134,612,000**
PAVEMENT REMOVAL	**$**	**50,000**
DRAINAGE	**$**	**5,800,000**
STRUCTURES	**$**	**30,924,000**
TUNNEL		**107,250,000**
RAILROAD CROSSING OR SEPARATION	**$**	**150,000**
PAVING	**$**	**27,840,000**
RETAINING WALLS	**$**	**11,375,000**
MAINTENANCE OF TRAFFIC	**$**	**1,500,000**
TOPSOIL	**$**	**180,000**
SEEDING	**$**	**153,000**
SODDING	**$**	**54,000**
SIGNING	**$**	**63,000**
LIGHTING	**$**	**0**
SIGNALIZATION	**$**	**0**
FENCE	**$**	**50,000**
GUARDRAIL	**$**	**464,000**
RIP RAP OR SLOPE PROTECTION	**$**	**1,579,000**
OTHER CONST. ITEMS (15%)	**$**	**50,934,000**
MOBILIZATION	**$**	**10,253,000**
CONSTRUCTION COST	**$**	**396,261,000**
10% ENG. & CONT.	**$**	**39,627,000**
TOTAL CONSTRUCTION COST	**$**	**435,888,000**
10% PRELIMINARY ENGINEERING	**$**	**43,589,000**
UTILITIES (POWER, GAS, PHONE)	**$**	**4,480,000**
TOTAL COST *	**$**	**497,794,000**

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

COST DATA

Route:	**Corridor K - US 64 / SR 40**
Description:	**Option 2A - Spot Improvements to Existing US 64**
	2-lane Typical Section
County:	**Polk**
Length:	**22.4 mile**
Date:	**May 2010**

RIGHT-OF-WAY	**$**	**3,351,000**
CLEAR AND GRUBBING	**$**	**2,925,000**
EARTHWORK	**$**	**38,538,000**
PAVEMENT REMOVAL	**$**	**10,000**
DRAINAGE	**$**	**761,000**
STRUCTURES	**$**	**1,248,000**
TUNNEL		**82,500,000**
RAILROAD CROSSING OR SEPARATION	**$**	**150,000**
PAVING	**$**	**4,874,000**
RETAINING WALLS	**$**	**3,250,000**
MAINTENANCE OF TRAFFIC	**$**	**800,000**
TOPSOIL	**$**	**31,000**
SEEDING	**$**	**27,000**
SODDING	**$**	**9,000**
SIGNING	**$**	**25,000**
LIGHTING	**$**	**0**
SIGNALIZATION	**$**	**0**
FENCE	**$**	**25,000**
GUARDRAIL	**$**	**80,000**
RIP RAP OR SLOPE PROTECTION	**$**	**683,000**
OTHER CONST. ITEMS (15%)	**$**	**20,543,000**
MOBILIZATION	**$**	**4,279,000**
CONSTRUCTION COST	**$**	**160,758,000**
10% ENG. & CONT.	**$**	**16,076,000**
TOTAL CONSTRUCTION COST	**$**	**176,834,000**
10% PRELIMINARY ENGINEERING	**$**	**17,684,000**
UTILITIES (POWER, GAS, PHONE)	**$**	**1,015,000**
TOTAL COST *	**$**	**198,884,000**

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

COST DATA

Route:	**Corridor K - US 64 / SR 40**
Description:	**Option 3 - Corridor N-4 (Segment 4-2-3)**
	2-lane Typical Section
County:	**Polk**
Length:	**23.5 mile**
Date:	**May 2010**

RIGHT-OF-WAY	**$**	**22,402,000**
CLEAR AND GRUBBING	**$**	**18,800,000**
EARTHWORK	**$**	**259,195,000**
PAVEMENT REMOVAL	**$**	**146,000**
DRAINAGE	**$**	**8,211,000**
STRUCTURES	**$**	**167,733,000**
TUNNEL		**70,125,000**
RAILROAD CROSSING OR SEPARATION	**$**	**150,000**
PAVING	**$**	**22,533,000**
RETAINING WALLS	**$**	**5,187,000**
MAINTENANCE OF TRAFFIC	**$**	**150,000**
TOPSOIL	**$**	**1,018,000**
SEEDING	**$**	**853,000**
SODDING	**$**	**607,000**
SIGNING	**$**	**82,000**
LIGHTING	**$**	**0**
SIGNALIZATION	**$**	**0**
FENCE	**$**	**718,000**
GUARDRAIL	**$**	**469,000**
RIP RAP OR SLOPE PROTECTION	**$**	**1,210,000**
OTHER CONST. ITEMS (15%)	**$**	**84,636,000**
MOBILIZATION	**$**	**16,916,000**
CONSTRUCTION COST	**$**	**658,739,000**
10% ENG. & CONT.	**$**	**65,874,000**
TOTAL CONSTRUCTION COST	**$**	**724,613,000**
10% PRELIMINARY ENGINEERING	**$**	**72,462,000**
UTILITIES (POWER, GAS, PHONE)	**$**	**7,050,000**
TOTAL COST *	**$**	**826,527,000**

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

COST DATA

Route:	**Corridor K - US 64 / SR 40**
Description:	**Option 3 - Corridor N-4 (Segments 4-2-3)**
	4-lane Typical Section
County:	**Polk**
Length:	**23.5 mile**
Date:	**May 2010**

RIGHT-OF-WAY	**$**	**31,169,000**
CLEAR AND GRUBBING	**$**	**27,907,000**
EARTHWORK	**$**	**446,279,000**
PAVEMENT REMOVAL	**$**	**146,000**
DRAINAGE	**$**	**9,376,000**
STRUCTURES	**$**	**242,015,000**
TUNNEL		**91,163,000**
RAILROAD CROSSING OR SEPARATION	**$**	**150,000**
PAVING	**$**	**44,466,000**
RETAINING WALLS	**$**	**7,202,000**
MAINTENANCE OF TRAFFIC	**$**	**155,000**
TOPSOIL	**$**	**1,462,000**
SEEDING	**$**	**1,226,000**
SODDING	**$**	**871,000**
SIGNING	**$**	**103,000**
LIGHTING	**$**	**0**
SIGNALIZATION	**$**	**0**
FENCE	**$**	**718,000**
GUARDRAIL	**$**	**468,000**
RIP RAP OR SLOPE PROTECTION	**$**	**1,606,000**
OTHER CONST. ITEMS (15%)	**$**	**132,355,000**
MOBILIZATION	**$**	**26,460,000**
CONSTRUCTION COST	**$**	**1,034,128,000**
10% ENG. & CONT.	**$**	**103,413,000**
TOTAL CONSTRUCTION COST	**$**	**1,137,541,000**
10% PRELIMINARY ENGINEERING	**$**	**113,755,000**
UTILITIES (POWER, GAS, PHONE)	**$**	**7,050,000**
TOTAL COST *	**$**	**1,289,515,000**

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

COST DATA

Route:	**Corridor K - US 64 / SR 40**
Description:	**Option 4 - Corridor N-5 (Segments 4-2-6-7)**
	2-lane Typical Section
County:	**Polk**
Length:	**20.9 mile**
Date:	**May 2010**

RIGHT-OF-WAY	**$**	**13,818,000**
CLEAR AND GRUBBING	**$**	**13,388,000**
EARTHWORK	**$**	**149,144,000**
PAVEMENT REMOVAL	**$**	**60,000**
DRAINAGE	**$**	**5,685,000**
STRUCTURES	**$**	**57,096,000**
TUNNEL		**0**
RAILROAD CROSSING OR SEPARATION	**$**	**150,000**
PAVING	**$**	**14,210,000**
RETAINING WALLS	**$**	**2,756,000**
MAINTENANCE OF TRAFFIC	**$**	**300,000**
TOPSOIL	**$**	**751,000**
SEEDING	**$**	**630,000**
SODDING	**$**	**448,000**
SIGNING	**$**	**64,000**
LIGHTING	**$**	**0**
SIGNALIZATION	**$**	**0**
FENCE	**$**	**783,000**
GUARDRAIL	**$**	**345,000**
RIP RAP OR SLOPE PROTECTION	**$**	**937,000**
OTHER CONST. ITEMS (15%)	**$**	**37,953,000**
MOBILIZATION	**$**	**7,603,000**
CONSTRUCTION COST	**$**	**292,303,000**
10% ENG. & CONT.	**$**	**29,231,000**
TOTAL CONSTRUCTION COST	**$**	**321,534,000**
10% PRELIMINARY ENGINEERING	**$**	**32,154,000**
UTILITIES (POWER, GAS, PHONE)	**$**	**6,270,000**
TOTAL COST *	**$**	**373,776,000**

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

COST DATA

Route:	**Corridor K - US 64 / SR 40**
Description:	**Option 4 - Corridor N-5 (Segments 4-2-6-7)**
	4-lane Typical Section
County:	**Polk**
Length:	**20.9 mile**
Date:	**May 2010**

RIGHT-OF-WAY	**$**	**23,246,000**
CLEAR AND GRUBBING	**$**	**20,367,000**
EARTHWORK	**$**	**222,200,000**
PAVEMENT REMOVAL	**$**	**60,000**
DRAINAGE	**$**	**6,724,000**
STRUCTURES	**$**	**147,474,000**
TUNNEL		**0**
RAILROAD CROSSING OR SEPARATION	**$**	**150,000**
PAVING	**$**	**33,579,000**
RETAINING WALLS	**$**	**14,287,000**
MAINTENANCE OF TRAFFIC	**$**	**300,000**
TOPSOIL	**$**	**1,118,000**
SEEDING	**$**	**938,000**
SODDING	**$**	**667,000**
SIGNING	**$**	**80,500**
LIGHTING	**$**	**0**
SIGNALIZATION	**$**	**0**
FENCE	**$**	**783,000**
GUARDRAIL	**$**	**416,000**
RIP RAP OR SLOPE PROTECTION	**$**	**1,260,000**
OTHER CONST. ITEMS (15%)	**$**	**68,502,000**
MOBILIZATION	**$**	**13,713,000**
CONSTRUCTION COST	**$**	**532,619,000**
10% ENG. & CONT.	**$**	**53,262,000**
TOTAL CONSTRUCTION COST	**$**	**585,881,000**
10% PRELIMINARY ENGINEERING	**$**	**58,589,000**
UTILITIES (POWER, GAS, PHONE)	**$**	**6,270,000**
TOTAL COST *	**$**	**673,986,000**

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

COST DATA

Route:	**Corridor K - US 64 / SR 40**
Description:	**Option 5 - Corridor N-6 (Segments 4-5-7)**
	2-lane Typical Section
County:	**Polk**
Length:	**21.0 mile**
Date:	**May 2010**

RIGHT-OF-WAY	**$**	**13,812,000**
CLEAR AND GRUBBING	**$**	**13,368,000**
EARTHWORK	**$**	**154,120,000**
PAVEMENT REMOVAL	**$**	**60,000**
DRAINAGE	**$**	**5,852,000**
STRUCTURES	**$**	**38,916,000**
TUNNEL		**0**
RAILROAD CROSSING OR SEPARATION	**$**	**150,000**
PAVING	**$**	**9,667,000**
RETAINING WALLS	**$**	**17,316,000**
MAINTENANCE OF TRAFFIC	**$**	**670,000**
TOPSOIL	**$**	**749,000**
SEEDING	**$**	**628,000**
SODDING	**$**	**446,000**
SIGNING	**$**	**69,000**
LIGHTING	**$**	**0**
SIGNALIZATION	**$**	**0**
FENCE	**$**	**789,000**
GUARDRAIL	**$**	**421,000**
RIP RAP OR SLOPE PROTECTION	**$**	**942,000**
OTHER CONST. ITEMS (15%)	**$**	**37,570,000**
MOBILIZATION	**$**	**7,525,000**
CONSTRUCTION COST	**$**	**289,258,000**
10% ENG. & CONT.	**$**	**28,926,000**
TOTAL CONSTRUCTION COST	**$**	**318,184,000**
10% PRELIMINARY ENGINEERING	**$**	**31,819,000**
UTILITIES (POWER, GAS, PHONE)	**$**	**6,300,000**
TOTAL COST *	**$**	**370,115,000**

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

COST DATA

Route:	**Corridor K - US 64 / SR 40**
Description:	**Option 5 - Corridor N-6 (Segment 4-5-7)**
	4-lane Typical Section
County:	**Polk**
Length:	**21.0 mile**
Date:	**May 2010**

RIGHT-OF-WAY	**$**	**22,762,000**
CLEAR AND GRUBBING	**$**	**19,850,000**
EARTHWORK	**$**	**222,906,000**
PAVEMENT REMOVAL	**$**	**60,000**
DRAINAGE	**$**	**6,796,000**
STRUCTURES	**$**	**109,296,000**
TUNNEL		**0**
RAILROAD CROSSING OR SEPARATION	**$**	**150,000**
PAVING	**$**	**33,958,000**
RETAINING WALLS	**$**	**27,560,000**
MAINTENANCE OF TRAFFIC	**$**	**420,000**
TOPSOIL	**$**	**1,083,000**
SEEDING	**$**	**908,000**
SODDING	**$**	**646,000**
SIGNING	**$**	**83,000**
LIGHTING	**$**	**0**
SIGNALIZATION	**$**	**0**
FENCE	**$**	**789,000**
GUARDRAIL	**$**	**420,000**
RIP RAP OR SLOPE PROTECTION	**$**	**1,269,000**
OTHER CONST. ITEMS (15%)	**$**	**64,875,000**
MOBILIZATION	**$**	**12,986,000**
CONSTRUCTION COST	**$**	**504,055,000**
10% ENG. & CONT.	**$**	**50,406,000**
TOTAL CONSTRUCTION COST	**$**	**554,461,000**
10% PRELIMINARY ENGINEERING	**$**	**55,447,000**
UTILITIES (POWER, GAS, PHONE)	**$**	**6,300,000**
TOTAL COST *	**$**	**638,970,000**

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

COST DATA

Route:	**Corridor K - US 64 / SR 40**
Description:	**Option 6 - Corridor S-5 (Segments 17-18-11)**
	2-lane Typical Section
County:	**Polk**
Length:	**20.5 mile**
Date:	**May 2010**

RIGHT-OF-WAY	**$**	**15,841,000**
CLEAR AND GRUBBING	**$**	**12,730,000**
EARTHWORK	**$**	**133,304,000**
PAVEMENT REMOVAL	**$**	**15,000**
DRAINAGE	**$**	**7,175,000**
STRUCTURES	**$**	**70,290,000**
TUNNEL		**0**
RAILROAD CROSSING OR SEPARATION	**$**	**150,000**
PAVING	**$**	**19,690,000**
RETAINING WALLS	**$**	**3,198,000**
MAINTENANCE OF TRAFFIC	**$**	**71,000**
TOPSOIL	**$**	**650,000**
SEEDING	**$**	**545,000**
SODDING	**$**	**387,000**
SIGNING	**$**	**41,000**
LIGHTING	**$**	**0**
SIGNALIZATION	**$**	**0**
FENCE	**$**	**925,000**
GUARDRAIL	**$**	**410,000**
RIP RAP OR SLOPE PROTECTION	**$**	**1,056,000**
OTHER CONST. ITEMS (15%)	**$**	**38,519,000**
MOBILIZATION	**$**	**7,720,000**
CONSTRUCTION COST	**$**	**296,876,000**
10% ENG. & CONT.	**$**	**29,688,000**
TOTAL CONSTRUCTION COST	**$**	**326,564,000**
10% PRELIMINARY ENGINEERING	**$**	**32,657,000**
UTILITIES (POWER, GAS, PHONE)	**$**	**6,150,000**
TOTAL COST *	**$**	**381,212,000**

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

COST DATA

Route:	**Corridor K - US 64 / SR 40**
Description:	**Option 6 - Corridor S-5 (Segments 17-18-11)**
	4-lane Typical Section
County:	**Polk**
Length:	**20.5 mile**
Date:	**May 2010**

RIGHT-OF-WAY	**$**	**25,159,000**
CLEAR AND GRUBBING	**$**	**19,120,000**
EARTHWORK	**$**	**238,313,000**
PAVEMENT REMOVAL	**$**	**19,000**
DRAINAGE	**$**	**8,200,000**
STRUCTURES	**$**	**141,089,000**
TUNNEL		**0**
RAILROAD CROSSING OR SEPARATION	**$**	**150,000**
PAVING	**$**	**38,889,000**
RETAINING WALLS	**$**	**7,183,000**
MAINTENANCE OF TRAFFIC	**$**	**81,000**
TOPSOIL	**$**	**936,000**
SEEDING	**$**	**785,000**
SODDING	**$**	**558,000**
SIGNING	**$**	**55,000**
LIGHTING	**$**	**0**
SIGNALIZATION	**$**	**0**
FENCE	**$**	**925,000**
GUARDRAIL	**$**	**410,000**
RIP RAP OR SLOPE PROTECTION	**$**	**1,401,000**
OTHER CONST. ITEMS (15%)	**$**	**69,640,000**
MOBILIZATION	**$**	**13,944,000**
CONSTRUCTION COST	**$**	**541,698,000**
10% ENG. & CONT.	**$**	**54,170,000**
TOTAL CONSTRUCTION COST	**$**	**595,868,000**
10% PRELIMINARY ENGINEERING	**$**	**59,587,000**
UTILITIES (POWER, GAS, PHONE)	**$**	**6,150,000**
TOTAL COST *	**$**	**686,764,000**

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

COST DATA

Route:	**Corridor K - US 64 / SR 40**
Description:	**Option 7 - Corridor S-6 (Segments 17-19-11)**
	2-lane Typical Section
County:	**Polk**
Length:	**21.9 mile**
Date:	**May 2010**

RIGHT-OF-WAY	**$**	**17,484,000**
CLEAR AND GRUBBING	**$**	**14,158,000**
EARTHWORK	**$**	**152,054,000**
PAVEMENT REMOVAL	**$**	**15,000**
DRAINAGE	**$**	**7,665,000**
STRUCTURES	**$**	**52,875,000**
TUNNEL		**0**
RAILROAD CROSSING OR SEPARATION	**$**	**150,000**
PAVING	**$**	**21,035,000**
RETAINING WALLS	**$**	**2,769,000**
MAINTENANCE OF TRAFFIC	**$**	**71,000**
TOPSOIL	**$**	**730,000**
SEEDING	**$**	**612,000**
SODDING	**$**	**435,000**
SIGNING	**$**	**45,000**
LIGHTING	**$**	**0**
SIGNALIZATION	**$**	**0**
FENCE	**$**	**1,002,000**
GUARDRAIL	**$**	**438,000**
RIP RAP OR SLOPE PROTECTION	**$**	**1,128,000**
OTHER CONST. ITEMS (15%)	**$**	**39,263,000**
MOBILIZATION	**$**	**7,856,000**
CONSTRUCTION COST	**$**	**302,301,000**
10% ENG. & CONT.	**$**	**30,231,000**
TOTAL CONSTRUCTION COST	**$**	**332,532,000**
10% PRELIMINARY ENGINEERING	**$**	**33,254,000**
UTILITIES (POWER, GAS, PHONE)	**$**	**6,570,000**
TOTAL COST *	**$**	**389,840,000**

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

COST DATA

Route:	**Corridor K - US 64 / SR 40**
Description:	**Option 7 - Corridor S-6 (Segments 17-19-11)**
	4-lane Typical Section
County:	**Polk**
Length:	**21.9 mile**
Date:	**May 2010**

RIGHT-OF-WAY	**$**	**25,141,000**
CLEAR AND GRUBBING	**$**	**22,075,000**
EARTHWORK	**$**	**304,114,000**
PAVEMENT REMOVAL	**$**	**19,000**
DRAINAGE	**$**	**8,760,000**
STRUCTURES	**$**	**110,282,000**
TUNNEL		**0**
RAILROAD CROSSING OR SEPARATION	**$**	**150,000**
PAVING	**$**	**41,544,000**
RETAINING WALLS	**$**	**5,005,000**
MAINTENANCE OF TRAFFIC	**$**	**81,000**
TOPSOIL	**$**	**1,107,000**
SEEDING	**$**	**928,000**
SODDING	**$**	**660,000**
SIGNING	**$**	**56,000**
LIGHTING	**$**	**0**
SIGNALIZATION	**$**	**0**
FENCE	**$**	**1,002,000**
GUARDRAIL	**$**	**438,000**
RIP RAP OR SLOPE PROTECTION	**$**	**1,502,000**
OTHER CONST. ITEMS (15%)	**$**	**75,644,000**
MOBILIZATION	**$**	**15,132,000**
CONSTRUCTION COST	**$**	**588,499,000**
10% ENG. & CONT.	**$**	**58,850,000**
TOTAL CONSTRUCTION COST	**$**	**647,349,000**
10% PRELIMINARY ENGINEERING	**$**	**64,735,000**
UTILITIES (POWER, GAS, PHONE)	**$**	**6,570,000**
TOTAL COST *	**$**	**743,795,000**

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

COST DATA

Route:	**Corridor K - US 64 / SR 40**
Description:	**Option 8 - Corridor N-7 (Exist-Segments 20-2-6-7-Exist)**
	Combination 2-lane and 4-lane Typical Sections
County:	**Polk**
Length:	**22.4 mile**
Date:	**May 2010**

RIGHT-OF-WAY	**$**	**14,645,000**
CLEAR AND GRUBBING	**$**	**15,490,000**
EARTHWORK	**$**	**156,709,000**
PAVEMENT REMOVAL	**$**	**30,000**
DRAINAGE	**$**	**5,500,000**
STRUCTURES	**$**	**54,984,000**
TUNNEL		**0**
RAILROAD CROSSING OR SEPARATION	**$**	**150,000**
PAVING	**$**	**14,250,000**
RETAINING WALLS	**$**	**2,730,000**
MAINTENANCE OF TRAFFIC	**$**	**300,000**
TOPSOIL	**$**	**770,000**
SEEDING	**$**	**645,000**
SODDING	**$**	**459,000**
SIGNING	**$**	**67,000**
LIGHTING	**$**	**0**
SIGNALIZATION	**$**	**0**
FENCE	**$**	**910,000**
GUARDRAIL	**$**	**389,000**
RIP RAP OR SLOPE PROTECTION	**$**	**1,397,000**
OTHER CONST. ITEMS (15%)	**$**	**38,820,000**
MOBILIZATION	**$**	**7,844,000**
CONSTRUCTION COST	**$**	**301,444,000**
10% ENG. & CONT.	**$**	**30,145,000**
TOTAL CONSTRUCTION COST	**$**	**331,589,000**
10% PRELIMINARY ENGINEERING	**$**	**33,159,000**
UTILITIES (POWER, GAS, PHONE)	**$**	**4,020,000**
TOTAL COST *	**$**	**383,413,000**

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

COST DATA

Route:	**Corridor K - US 64 / SR 40**
Description:	**Option 8A - Corridor N-8 (Exist-Segments 20-5-7-Exist)**
	Combination 2-lane and 4-lane Typical Sections
County:	**Polk**
Length:	**22.6 mile**
Date:	**May 2010**

RIGHT-OF-WAY	**$**	**14,639,000**
CLEAR AND GRUBBING	**$**	**15,470,000**
EARTHWORK	**$**	**161,448,000**
PAVEMENT REMOVAL	**$**	**30,000**
DRAINAGE	**$**	**5,570,000**
STRUCTURES	**$**	**38,824,000**
TUNNEL		**0**
RAILROAD CROSSING OR SEPARATION	**$**	**150,000**
PAVING	**$**	**14,413,000**
RETAINING WALLS	**$**	**10,790,000**
MAINTENANCE OF TRAFFIC	**$**	**375,000**
TOPSOIL	**$**	**768,000**
SEEDING	**$**	**644,000**
SODDING	**$**	**462,000**
SIGNING	**$**	**67,000**
LIGHTING	**$**	**0**
SIGNALIZATION	**$**	**0**
FENCE	**$**	**916,000**
GUARDRAIL	**$**	**392,000**
RIP RAP OR SLOPE PROTECTION	**$**	**1,401,000**
OTHER CONST. ITEMS (15%)	**$**	**38,370,000**
MOBILIZATION	**$**	**7,752,000**
CONSTRUCTION COST	**$**	**297,842,000**
10% ENG. & CONT.	**$**	**29,785,000**
TOTAL CONSTRUCTION COST	**$**	**327,627,000**
10% PRELIMINARY ENGINEERING	**$**	**32,763,000**
UTILITIES (POWER, GAS, PHONE)	**$**	**4,080,000**
TOTAL COST *	**$**	**379,109,000**

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

Appendix D: Comments

Summary of ACR Comments (03/26/2010); Corridor K, TPR

Comment	Disposition
Suggest that in the Executive Summary on page 2 under Option 2 - Improvements to Existing US 64 that you strike the last sentence in paragraph 1. Because the entire corridor is not improved, funding from the Appalachian Regional Commission (ARC) could not be used. Based on what we are saying at this point in time I see ARC funds being able to be used. It is Option 2A - Spot Improvements to Existing US 64 that definitely ARC funds could not be used - based on what I am reading. Given this is a TPR, I am not sure that it is important to the process at this stage to say anything - but that is a TDOT decision.	Sentence removed as recommended from the Executive Summary. TPR checked for consistency-no additional revision necessary.

Summary of FHWA Comments (03/18/2010); Corridor K, TPR

Comment	Disposition
General Comments	
1. It would be helpful to label the town of Ocoee on the maps throughout the document.	The town of Ocoee were added to maps throughout the document (ex. Figure 2)
2. Many of the figures and tables are difficult to read because of the scale size. A larger sheet of paper will need to be used for each of the figures/tables to make them easy to read.	Figures were reformatted to a larger size as requested.
3. The type of access control assumed for each option when calculating LOS should be disclosed.	Added to Section 4.1: Each of the build options was analyzed with no access control for the new location corridors. A higher number of access points for a "worst case" analysis was performed, even though much of the corridor is within CNF.
4. It would be helpful to have the figure for each option near the pages where it is described and the segments identified in that particular option (similar to Figure 16 which shows all option segments). Segments utilized for each individual option could remain color coded the same as shown on Figure 16.	Figures for each option have been places where they are described and referencing back to a Figure 16 with segments.
5. There should be a disclosure that the report discusses impacts that are currently known or suspected, but that other potential impacts may be discovered upon in-depth studies performed as part of the National Environmental Policy Act studies.	Disclosure statement added to Section 1,0 of TPR
Specific Comments	
7. Section 2.1.3, Corridor K Project Timeline, Page 8: Expand the fifth paragraph of the section to explain why "funds were not made available to advance the project."	Text revised to state that TDOT funds were not available to advance the project.

Comment	Disposition
8. Section 2.1.3, Corridor K Project Timeline, Page 9: In the last full paragraph on the page, the correct name for the 1998 bill is Transportation Equity Act for the 21st Century. Did the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users affect ADHS funding?	Text was modified to state: "These Acts provided a guaranteed funding source from the Highway Trust Fund and provided funds to the State for use on the ADHS.
9. Section 2.1.3, Corridor K Project Timeline, Page 9: The last sentence of the paragraph at the top of the page (regarding cost estimates) has nothing to do with the rest of the paragraph's content (regarding environmental studies). It is suggested that the sentence regarding completion of ADHS cost estimates be moved elsewhere in the section, or as a stand alone sentence.	Sentence removed from 8th paragraph of Section 2.1.3 and added to 7th paragraph of that section.
10. Section 2.1.3, Corridor K Project Timeline, Page 9: In the first full paragraph on the page, what is meant by "wholesale" improvements? The last sentence of this same paragraph does not make sense as written. Please reword/revise accordingly.	The word "wholesale" was removed from sentence in Section 2.1.3.
11. Section 2.1.3, Corridor K Project Timeline, Page 9: Provide reasons why the bulleted alternatives were deemed "unreasonable."	Reason for deeming alternatives unreasonable were described in the rescinded EIS and are not considered to be a part of this study.
12. Section 2.4.6, Wildlife Habitat Linkages, Page 17: The term, "Context Sensitive Solutions," should be defined before it is used in the text of the report.	Definition of CSS process was added to Section 2.4.6.
13. Section 2.4.10, Geology and Soils, Page 25: In the sixth paragraph of the	Sentence revised as recommended by FHWA

Comment	Disposition
section, it seems that is would be more accurate to state that the detour time for a roundtrip during closures due to rockslides is nearly two hours instead of the "more than one hour." (This is based on information on travel times during detours provided on page 27.)	
14. Section 2.5.3 Recent Improvements, Page 37: In the second paragraph, define the limits of Section 4, or refer back to Table 3 on page 34 which lists the limits of the section.	Option Limits were added to second paragraph as recommended by FHWA
15. Section 5.2.3.1 Concept, Page 48: It should be mentioned that there will be no improvements within the project study area other than routine maintenance activities.	Sentence added to Section 5.2.3.1 replacing previous text.
16. Section 5.2.3.2 Typical Section, Page 48: This section should simply state that there would be no changes to the current US-64 typical section.	Sentence revised as recommended by FHWA
17. Section 5.2.3.4 Environmental Concerns, Page 48: Clarify in the last sentence of the section that there would be a potential for air quality to worsen. (Air quality doesn't "decrease.")	Sentence clarified to indicate the potential for air quality to worsen
18. Section 5.2.3.6 Anticipated Operational Performance, Page 49: In the first full paragraph on the page, combine the first two sentences such that it is easily understood that travel time increases by only one minute in the design year. (If not read carefully, the reader might think travel time would increase an additional 30 minutes.)	Section 5.2.3.6 was revised to clarify that travel time increased by only one minute in design year.
19. Section 5.2.4.1 Concept, Page 49:	Potential alternatives and associated

Comment	Disposition
The first paragraph states there would be realignment on US-64 on new location "potentially with a tunnel." It seems that the option should either commit to building a tunnel, or not commit to a tunnel. A tunnel is not mentioned later in the section. If it is unclear whether or not the option will have a tunnel, split this option into two different options – one with a tunnel and one without a tunnel.	infrastructure will be assessed in the NEPA phase of project development.
20. Section 5.3.13 Options Eliminated, Page 113: Clarify in the second sentence of the first paragraph of this section that these were various "resource or regulatory" agencies.	Sentence clarified to indicate participation from both resource and regulatory agencies in the TPR process.
21. Section 6.1 Seven Guiding Principles, Page 114: Consider revising the second paragraph as, "…TDOT, resource/regulatory agencies, and/or stakeholders to identify the issues, concerns, goals, objectives, and needs of the project relative to these guiding principles. These groups include:" The last sentence of the section could replace the word "stakeholders" with the word "groups." (Not all of the listed groups are truly stakeholders.) It is suggested that the "general public" be listed as a bulleted group since their input was provided during several meetings.	Second paragraph of Section 6.1 was revised as recommended.
22. Section 6.1.5 Guiding Principle 5: Build Partnerships for Livable Communities, Page 117: It would be beneficial to point out in the next to last paragraph of the section that the Public Information Meetings were held on either end of the project area (such as in Benton and Copper Hill)	Text added as recommended by FHWA to Section 6.1.5

Comment	Disposition
to point out that an effort was made to reach all area residents.	
23. Section 6.2 Summary of Options, Page 118: If possible, provide a better explanation of how something was rated low, moderate, or high on the table. What were the criteria? While subjective, there must have been some criteria used to distinguish between the three rankings.	Matrix was revised to provide a better explanation rating system.
Editorial Comments	
24. Executive Summary, Option 3 – Northern Corridor N-4: Reword the first sentence as, "Option 3 is a 2,000 foot corridor on nearly all new location north of the Ocoee River."	Revision Complete
25. Executive Summary, for <u>all</u> options <u>except</u> Option 2: Change "projects purpose and need" to "project's purpose and need."	Revision Complete
26. Executive Summary, Option 7 – Southern Corridor S-6: The first sentence of the section does not make sense as written.	Revision Complete
27. Section 2.1.3.1 Scenic Byway Program, Page 10: In the first bullet, add the word "the" in front of the word, "visitor's."	Revision Complete
28. Section 2.4.1 The Ocoee River/Ocoee River Gorge, Page 13: In the first full paragraph on the page, the last sentence should simply state that "during the months of March through October…" since this timeframe is longer than the "summer" months.	Revision Complete
29. Section 2.4.9.2 Other Properties/Sites of Historic Significance, Page 19:	Revision Complete

Comment	Disposition
The first sentence of the section is an incomplete sentence and should be corrected.	
30. Section 5.2.4.1 Concept, Page 49: The second sentence of the second paragraph of the section should be corrected from "2-ane" to "2-lane."	Revision Complete
31. Section 5.2.5.4 Environmental Concerns, Page 61: In the last sentence of the section, clarify that these are Options 1 and 2.	Revision Complete
32. Section 5.6.6.4 Environmental Concerns, Page 67: The last sentence of the second full paragraph that appears on this page is incomplete, or the punctuation at the end is incorrect.	Revision Complete
33. Section 2.1.3, Corridor K Project Timeline, Page 9: Within the second full paragraph on this page, the second sentence should state, "environmental effects" rather than "affects." Further in the paragraph, it should be "visual effects."	Revision Complete

Summary of USFS Comments (03/26/2010); TPR Draft 8

Comment	Disposition
Purpose and Need: USFS requests further involvement in drafting the project's Purpose and Need Statement.	TDOT welcomes the opportunity to coordinate further of the preliminary project purpose and need as stated in the TPR.
Please consider further linking the Purpose and Need to a performance measure such as consistency with a natural resource Plan, specifically the 2004 Revised land and Resource Management Plan, Cherokee national Forest (RLRMP).	Language that further links the preliminary purpose and need as stated in the TRP was added to Section 3.3 in the *Other Goals and Objectives* portion of the report. "The proposed project should strive to be consistent with the 2004 revised Cherokee National Forest, Land and Resource Management Plan (RLRMP) in a way that will integrate with the unique and significant natural resource and social attributes of the Cherokee National Forest."
Language revision could include an addition to the second sentence: "in a way that will integrate with (complements, enhances) the unique and significant natural resource and social attributes of the Cherokee National Forest, as set forth in the 2004 RLRMP."	See comment above
It is important to describe early intent on how this road will function	The TPR focused on options at a corridor level. Roadway functionality will be one of many issues assessed early in the NEPA project review phase.

Range of Alternatives- In the final paragraph of the Executive Summary, the sentence "*Other* considered corridor options that satisfy all or portions of the purpose and need should be included as reasonable corridor alternatives in the DEIS …" could be interpreted to read that Option 2.a, Spot Improvements, would not be included as an alternative addressed in some manner during the NEPA process. We recommend that this statement be clarified. From a strictly natural resource perspective, a reasonable range of alternatives would likely include a vetting of Option 2a, regardless of whether it is carried forward as a viable alternative in the NEPA document.	This section has been clarified to indicate that Option 2.a will be advanced to the NEPA review phase: "Build options would meet the purpose and need for improvements to Corridor K US 64 through the Ocoee River Gorge with the exception of Option 2A-Spot Improvements to Existing US 64 and the No Build Option. These options do not support the regional transportation goals of a safe, reliable and efficient east-west route which is critical to the project *however, these options will be carried forward into the NEPA review process.* *Considered corridor options that satisfy all or portions of the purpose and need should be included as reasonable corridor alternatives in the Draft Environmental Impact Statement since these options support the regional transportation goals of a safe, reliable and efficient east-west route.* Options satisfying critical elements of the stated purpose and need but only portions of the overall purpose and need merit future analysis of cost, environmental impact and context sensitive design solutions the facilitate flexibility in project decision making."
The TPR contains conflicting statements on pages 43 and 114 related to disposition of existing: "A decision made by TDOT after discussion with local government officials" vs. "removed from the State Highway System where the responsibility for its maintenance could be assigned to Polk County or the USFS". Obviously, TVA, TDEC, and the whitewater community have a very high vested interest in access to facilities along the Ocoee River. While we agree with FHWA that it is important to maintain opportunities to utilize some source of federal funding for long-term maintenance, it is critical that creative solutions be sought out across a consortium of governmental and possibly private constituents early in the process.	Text has been modified to clarify the possibility that US 64 may become the responsibility of other entities through the coordinative efforts of TDOT and other interested parties.

Most, if not all discussions of the new location options do not address hazard and safety concerns on the existing route.	A more detailed assessment of hazards and safety concerns will be conducted for a full range of alternatives during the NEPA review phase. This includes options identified during the TPR process. The TPR is intended to identify options to carry forward into NEPA and not necessarily to evaluate the severity or magnitude of hazards or safety issues.
The removal of the of the existing U.S. 64 from the State Highway System may not be consistent with Guiding Principal #1, Preserve and Manage the Existing Transportation System.	TDOT will strive for consistency with Guilding Principles and will assess existing U.S. 64 along with a full range of options in the NEPA review phase.
p. 17 Section 2.4.6. Please consider inserting the Habitat Linkage document's Executive Summary findings here since the Linkage Report findings are not consistently inserted into each individual option discussion. There is no reference to invertebrates, yet they have the same status as many of the cited plants. By including the Linkage Summary, the document acknowledges this issue.	Information from the *Assessment of Wildlife Habitat Linkages (2009*) was included in Section 2.4.6.
The TPR should recognize that some options would result in loss of or impacts to significant Forest Service facilities and infrastructure, including the Ocoee Ranger District office and Work Center, Parksville Beach, Parksville Boat Ramp, Parksville Campground, Thunder Rock Campground, several overlooks and boat ramps, and the Ocoee Whitewater Center.	The TPR took a broad stroke approach to identify 500 ft to 2000 ft corridors. An assessment of various alignments and their potential to directly impact existing infrastructure will occur in the NEPA phase of project review.
p. 10 Section 2.1.3.1 …a reasonable Forest Service and project goal would be to designate any newly constructed highway as part of the National Scenic Byway system.	Noted
p. 19 Section 2.4.9.2 The TVA flume may have historic significance status.	Text was modified to indicate that the historic significance of the TVA would require further assessment.

p. 12 Section 2.4.1. Sentence "The global distribution of Ruth's golden aster (a federally listed endangered species) is contained within the corridors of the Ocoee River." is incorrect. It should state "The global distribution of Ruth's golden aster (a federally listed endangered species) is contained within the corridors of the Ocoee *and Hiwassee Rivers of southeastern TN."*	Text was modified as recommended.
p. 12 Section 2.4.1(and throughout document). Delete references to "Wilderness Areas" – i.e, correct citations are Little Frog Mountain Wilderness and Big Frog Wilderness. The CNF Forest Plan does not prohibit use of motorized vehicles. The Wilderness Act (federal law) prohibits use of motorized and mechanized equipment in all designated Wildernesses.	Reference was deleted to "Wilderness Areas" throughout the document and corrected to cite the Little Frog Mountain Wilderness and Big Frog Wilderness. Sentence is Section 2.4.1 was modified to indicate that the Wilderness Act prohibits use of motorized and mechanized equipment in all designated Wildernesses.
p. 12 Section 2.4. "*There are 314 stream miles and 2,881 lakes recorded..."* Should read 2,881 acres of lakes.	Text was modified as recommended.
p . 13 Section 2.4.1 *Most of the riverbed is nearly dry in the 10 mile stretch...* Most of the streambed has some perennial flow and supports a diverse aquatic community.	Text was modified as recommended.
p. 13 Section 2.4.1 Replace sentence with reference to a primitive area with "The Conasauga River is an Eligible Wild and Scenic River and contains designated Critical Habitat for the Conasauga logperch and 6 federally-listed mussels".	Text was modified as recommended.
p. 13 Section 2.4.1 *Ongoing remediation efforts are helping alleviate problems upstream and species diversity is possible once the entire Ocoee system is able to recover.* Ongoing remediation has greatly improved the aquatic community throughout the Ocoee River. At least 14 fish species occur at the Ocoee Whitewater Center and 22 fish species have been recorded below Powerhouse #2.	Text added

p. 13 Section 2.4.1 *South of the Ocoee River Watershed is the Conasauga River Watershed. The portion ... and subsequent protection efforts support and sustain it.* On National Forest ownership, forest-wide riparian standards serve to protect water quality.	Text added
p. 16 Section 2.4.4 The National Forest has been proclaimed by Tennessee Wildlife Resources Agency as the state's largest Wildlife Management Area.	Text added
Further coordination is needed to reach an understanding of Forest Service procedural and substantive requirements related to rare species during the NEPA process, including planning for field surveys.	Noted
There is no mention of Regional Forester's Sensitive or viability concern species within the various descriptions of "Environmental Concerns" provided for each of the major corridor options within this document. Instead, the terms "endangered", "federally protected", and "federally listed" are used. In order to avoid provide consistency, the following terms should be used: • Federally listed – To describe a species listed under the Endangered Species Act (example Ruth's golden aster – *Pityopsis ruthii*) • Forest Service Sensitive – To describe a species on the Regional Forester's Sensitive Species list (example Nevius's stonecrop – *Sedum nevii*) • Viability Concern – To describe a species listed in Appendix E of the Final EIS for the Cherokee NF Revised Land and Resource Management Plan (example southern lobelia – *Lobelia amoena*)	Noted. Text modified to improve consistency with those commonly used by USFS. Terms as described will be incorporated into future studies and assessments involving CNF resources.
p. 93, Section 5.2.11.3, and throughout document. Correct reference to field surveys for "federally protected" species only.	References corrected throughout document

p. 17 Section 2.4.5 Although records of red-cockaded woodpecker are known from Polk County as recently as 1997, based on direction provided by the FWS, the Cherokee National Forest no longer considers affects of projects on this species (RLRMP).	Reference of the red-cockaded woodpecker was removed from table.
p. 18 Section 2.4.9.1 *The Ocoee Hydroelectric Plant No. 2 and Ocoee No. 1 ...* Should also include the flume between Ocoee Dam #2 and Ocoee Hydroelectric Plant No. 2.	Text modified
p. 19 Section 2.4.9.2 The Old Dutch Settlement is eligible for listing on the National Register of Historic Places, as well as *a Priority Heritage Asset.*	Text added
p. 25 Section 2.4.10 Data source is U.S. Geological Survey rather than Forest Service.	Text modified
p. 30 Section 2.4.13 Glimmer Trail – correct reference is Clemmer Trail	Text modified
p. 35 Section 2.5. Corrections to statements related to animal crash data. No single repository of site-specific animal crash data is available in Tennessee. Although the exact locations of the crashes are not known, TWRA and USFS documented at least seven bear roadkill mortalities in a 4- year period (2006-2009) within the general project area. Roadkill accounts for the largest percentage of non-harvest mortality of black bear in Tennessee.	Text modified as follows; No single repository of site-specific animal crash data is available in Tennessee and according to USFS the exact locations of the crashes are not known. Yet, TWRA and USFS documented at least seven bear roadkill mortalities in a four year period(2006-2009) within the general project area. Roadkill accounts for the largest percentage of non-harvest mortality of black bear in Tennessee.

p. 38 Section 3.1 See discussion above of Purpose and Need	Language that further links the preliminary purpose and need as stated in the TRP was added to Section 3.3 in the *Other Goals and Objectives* portion of the report. "The proposed project should strive to be consistent with the 2004 revised Cherokee National Forest, Land and Resource Management Plan (RLRMP) in a way that will integrate with the unique and significant natural resource and social attributes of the Cherokee National Forest."
p. 39 Section 3.1 Address linkage to Forest Service Road System and RLRMP, to provide appropriate and desired levels of public and administrative access.	Potential linkage to Forest Service Road System will be addressed during the NEPA phase of project review as corridor level options are refined into project alternatives.
p. 40 Section 3.3 The proposed project should provide the *appropriate* level of access to natural areas and provide recreational opportunities consistent with the RLRMP.	See response above
p. 43 Section 5.1.5 Access Control should be consistent with comment on Section 3.1 above.	Access control will be addressed during the NEPA phase of project review as corridor level options are refines into project alternatives.
Page 51. Sec. 5.2.4.3. Paragraph entitled "Terrestrial Species". This paragraph includes terms like "federally protected" and "highly ranked" to describe species that fall into the three categories described in Section 2.4.5 above.	Noted. Text modified to improve consistency with those commonly used by USFS. Terms as described will be incorporated into future studies and assessments involving CNF resources.
Page 52. Sec. 5.2.4.4. First sentence currently reads "Construction of this option could potentially affect a notable number and variety of endangered plant species located along the rock cliffs adjacent to the existing route, including Ruth's golden-aster, *Sedum nevii* and *Lysimcahia fraseri*. Widening the road for the standard typical section may require removal of their existing habitat. Attempts to propagate and relocate these species have not been successful to date."	Sentence and supporting paragraph was removed.

p. 51 Section 5.4.2.3. What sections does the Scenic Waterway status apply to – the entire Ocoee River or only at the existing bridge crossing?	The application of Scenic Waterway status will be assessed during the NEPA phase of project review.
p. 60 Section 5.2.5.4 Please delete the statement "According to the USFS attempts to propagate and relocate (rare plants) have not been successful to date". This does not reflect the position of the Forest Service. Delete here and throughout document.	Text was removed
p. 60. Section 5.2.5.4. Same basic comments above in Section 5.2.4.4. The word "endangered" should be replaced with "Forest Service Sensitive" in the first sentence. The sentence that reads "According to the USFS attempts to propagate and relocate these species have not been successful to date" is not factual and should be deleted.	Sentence and supporting paragraph was removed.
p. 61, Section 5.2.5.4 *Steep rock cuts along US 64 and the river appear to deter the north-south movement of larger wildlife through the gorge...* The TVA flume trestle locations may play a significant role in concentrating crossings of larger mammals.	Information added to Section 5.2.5.4
p. 61 Section 5.2.5.4 In all options involving spot improvements, are there opportunities to replace existing stream crossing pipes, culverts, etc. instead of extending existing features? Pages 65, 72, 77, 82, 88, 93, and 98. The terms "Federally Protected" and "Federally Listed" are misapplied. See comment above.	Stream crossings and associated infrastructure will be assessed in greater detail during the Nepa phase of project review. Text has been modified to more closely match terminology commonly used by the USFS.
p. 63, p. 70 and throughout. References to Rock Creek Scenic Gorge. All options that contain Segment 2 should address potential impacts in a consistent manner. (This area received a special designation in 1965, and it is currently managed as a Scenic Area with specific management goals (RLRMP, 2004). Option 8A avoids better than Option 8.	All options that contain Segment 2 were modified to address potential impacts to Rock Creek Scenic Gorge in a consistent manner.

p. 66, Section 5.2.6.3 Statements about Davenport Refuge are conflicting.	Text modified for consistency
p. 67, Section 5.2.6.5. Discussion related to crossings of multiple Forest Service System Roads. FS wants to avoid increasing the mileage of its transportation system (Gary).	Noted
p. 68, Section 5.2.6.5 Prescribed burning on 10,000 acres of *southern* CNF (20,000+ acres forest wide).	Text modified
p. 71, Section 5.2.7.3 The Forest Service has a Memorandum of Agreement and a Historic Preservation Plan with the TN SHPO for the management of the Old Copper Road, a National Register eligible site and a Priority Heritage Asset of the Cherokee National Forest.	Text added to Section 5.2.7.3
p. 72, p. 83, p. 93 and throughout. At crossing of Ocoee River on new location, all options. "not anticipated to affect karst". Topographic quadrangle maps indicate presence of sinkholes across western terminus of project area.	Text modified for all new location options to indicate the potential to impact sinkholes, across western terminus of project area.
p. 78, Section 5.2.8.4. "Effects could be reduced if road improvements involved only widening through area." Better to say "options that optimize passage would minimize effects"; it is possible that a new alignment with crossing structure would be a better option.	Text modified as recommended.

p. 81, Section 5.2.9.1 "*As it approaches the historic TVA water flume on Segment 10...*" Segment 10 does not cross the historic TVA flume, but does cross the TVA tunnel that transfers water from Ocoee Dam #3 to Ocoee Hydroelectric Plant No. 3. This tunnel was bored through bedrock at a depth of up to several hundred feet below the surface. It is only exposed where is crosses major stream channels (Rough Creek) where it looks like a rounded, concrete dam.	Text modified and added to Section 5.2.10.1.
p. 82, Section 5.2.9.3 Very little existing survey for rare species, further biological surveys would be needed during environmental analysis phase (see revised Section 2.4.5)	Noted and addressed in previous comments.
p. 83, Section 5.2.9.4 and throughout. Reference to wilderness probably refers to "remoteness". Term wilderness should be reserved for Congressionally-designated Wildernesses. See also p. 89, Section 5.2.10.5 "solitude and wilderness".	Where appropriate the word "wilderness" has been replaced with "remotness" as recommended.
p. 84, Section 5.2.9.4. The location of the road through or near the Old Dutch Settlement, a National Register eligible historic district, would create adverse effects that are extremely challenging to mitigate.	Noted. Effects such as the one mentioned will be assessed to a greater magnitude in the NEPA phase of project review.
p. 87 Section 5.2.10.3 *Segments 10 and 11 include four archaeological sites that have not been evaluated...* Is Old Dutch Settlement within this corridor?	An assessment to determine the inclusion of the Old Dutch Settlement will be a part of the NEPA phase of project review.
p. 95 Section 5.2.11.5 Ocoee Whitewater Center. Viability of center operations during and/or after construction? Temporary or permanent loss of parking during and/or after construction?	The magnitude and severity of potential impacts associated with proposed alignments will be included in the NEPA phase of project review. The TPR represents a preliminary look of potential effects to identify project corridors that will be advanced in to the NEPA phase.

p. 95 Section 5.2.11.4 "However, due to its use of the existing alignments to the east and west, the impacts in these areas would reduce the overall impacts of any of the northern build corridors *except Option 8A which would be similar*. Add Big Frog and Cohutta Wildernesses.	Text modified as requested in section 5.2.12.4.
p. 100 Section 5.2.12.5 Impacts through the gorge may be greater in Option 8A – visual?	Sentence has been modified to indicate that traffic maintenance impacts through the gorge may be greater in Option 8A.
p. 114 Section 6.1.2 "Better access". More is not always better. Level of access would be better described as desired, sustainable, consistent with Forest Service Recreation Opportunity Spectrum defined in RLRMP.	Noted.
p. 115 Section 6.1.2 Clarify statement about pedestrian and bicycle traffic--does this refer to existing or also to new alignment? Possible on a new alignment with a posted design speed of 50-60 mph?	Text clarified as stated: "Build options with a fully constructed typical section would also provide additional width for the consideration of bicycle and pedestrian amenities and reduce traffic volumes along existing US 64 in areas where pedestrians walk along the road adjacent to the Ocoee River."
p. 117 Section 6.1.5 Last sentence. Public *and interagency* involvement would continue as part of the development of NEPA.	Text modified as requested. Matrix has been modified to indicate that resources discussed are known resources. Additional resources including the cranberry bog and Rock Creek Scenic Area will be assessed for project associated impacts in the NEPA phase of environmental review.
p. 121 *Superfund Site,* Correct Table 21. Options 6 and 7 both cross Ocoee Reservoir #3 which is included in the North Potato Creek Superfund Site.	Matrix has been corrected to indicate potential impacts with North Potato Creek Superfund Site.
p. 122 References. Add 2004, Revised Land and Resource Management Plan, Cherokee National Forest citation.	Reference Added

Appendix E: Comment Summary

Comment Summary Report

US 64/Corridor K
SR 40 (US 64) from west of the Ocoee River to SR 68 Near Ducktown

POLK COUNTY
PIN# 102420.00
Federal Project No. APD-NHE-40(15)

PREPARED BY
URS CORPORATION
For the
TENNESSEE DEPARTMENT OF TRANSPORTATION

Summary

Corridor K Comments

This report provides a general overview of approximately 2,950 public and agency comments received during the development of the Corridor K Transportation Planning Report (TPR). Comments received have been entered into a project-specific database. This database records critical data such as the:

- Comment date;
- Type of comments (i.e. letter, e-mail, public meeting comment form, newsletter form);
- Category (specific Topic) of comment; and

A scanned copy of the original comment is attached to each database entry. Each comment was categorized into 35 project specific topics allowing for the grouping and tallying of similar comments and responses. In addition to recording project comments, the database provides a summary of commenter's zip codes allowing us to visually see what areas were represented in our public involvement efforts (see Appendix A).

TDOT's approach to the development of the Corridor K TPR included early and continuous involvement of various stakeholders and coordination with Federal, State and natural resource agencies. Input gained via the stakeholder involvement process is considered to be paramount in gaining broad public support of TPR recommendations. Public and agency comments were gathered in various ways, including coordination with the media and public through project emails and mailing lists and the development of an interactive website (http://www.tdot.state.tn.us/corridork/). The website provides current project information and allows the public to submit comments regarding the project online. Two series of public meetings (20 & 21 July 2009 and 16 & 17 February 2010) were held in Polk County to obtain comments and input on the project, the project study area, and the preliminary corridors. The initial public meetings in July of 2009 were attended by at least 175 individuals; 95 in Ducktown on July 20th and 80 in Benton on July 21st. Attendance more than doubled at the second series of public meetings in February 2010. At least 516 individuals attended; 188 in Benton on February 16th and 328 in Ducktown on February 17th. A rockslide which occurred in November of 2009 led to the temporary closure of US 64 through the Gorge. This closure is believed to have been a catalyst which heightened interest in the project for the second round of meetings.

The following information serves to summarize comments received since the initiation of the Transportation Planning Report process. Summarized comments are categorized according to the timeframe in the process in which the comment was received and the stakeholder affiliation such as; general public, government representatives, local agencies or special interest groups.

Table of Contents

List of Tables

List of Appendices

1.0 COMMENTS RECEIVED FOLLOWING INITIAL PUBLIC MEETING (JULY, 2009)

The following information serves to summarize comments to questions numbered one through four posed to stakeholders via the public meting comment sheets on July 20th and 21st, 2009 (see Appendix B). In some cases, comments were not suited for the four question format which is why a detailed summary of all comments, (i.e. letters, official transcripts and e-mail messages) categorized by subject matter, is attached in Appendix C.

1.1 GENERAL PUBLIC

1) What traffic, safety or economic issues do you think the US 64 / Corridor K project needs to address?

Most notable concerns involved safety issues. Almost all comments agree that truck traffic, parking, and curves in the road are dangerous. Some want new road to take truck traffic off existing, some want improvements to existing only, and some want new road and improvements to existing. Tunnels along the existing roadway at curve locations were a common request.

- Project is not needed. Benefits are not worth the cost in dollars and environmental impacts (4 comments).
- There is no need for an additional corridor. There is no need to disturb the natural environment in this area. Another road is not more important than saving forests and other natural resources. Build tunnels along the existing using Alpine Design. Tunnels will allow the preservation of pristine environment and bear habitat (9 comments).
- The road is dangerous. There are too many pedestrians (kayakers, tourists) combined with too much, too fast, and too large traffic. Widen existing section through Ocoee Gorge to provide passing areas to allow commuters to flow around slow traffic (5 comments).
- While the integrity of the Scenic Byway needs protecting, the proposed project is needed for safety (sharp curves) and economic improvements. Weekend truck use should be limited (14 comments).
- Interstates through rural areas negatively affect the local economy because they act as a bypass. Against project (3 comments).
- The area needs a well-planned scenic highway to increase tourism. Build new road to take commercial traffic off existing, and then improve existing for economic benefit (3 comments).
- The project is needed for safety reasons and to improve connectivity; it will reduce congestion and significantly reduce tractor trailer traffic on the existing (23 comments).
- The road is needed for faster travel. Most Polk County residents are disenchanted with ‘River Road.’ Too many curves and the road are dangerous. The speed limit is not enforced (7 comments).
- Project goals could be accomplished through curve straightening along the existing road with the addition of tunnels, pull-offs, shoulders, pedestrian pathways, and increased roadside parking (5 comments).

2) **What economic, natural, cultural, recreational, community or environmental features in the study area do you value most? Please identify resources in the area that are important to you.**

Answers to the question varied, but a large number mentioned the Kimsey Mountain Highway and its protective regulations, the inclusion of wildlife crossings (tunnels), Brush Creek mountain bike trail, the bear reserve and Big and Little Frog Wilderness areas, and the protection of the Hiwassee watershed.

- The project should provide better access for outdoor recreation in the area. Hiking trails, trout streams, hunting areas. Should focus on providing access to areas previously not accessible to the public and the elderly (6 comments).
- The economic niche of Polk County has transitioned from industry to eco-tourism and second homes. The new roadway will protect the county's natural resources and tourist industry (4 comments).
- Kimsey Mountain Highway should not be considered. Construction in the area violates protective regulations (1 comment).
- Get the road off the river, away from the river, away from Ocoee River Gorge. The road should not affect the use of the river (2 comments).
- The most valued resources are the sensitive watersheds. The forests and trails bring in tourism, enhance the economy, and provide scenery (2 comments).
- The area is full of resources. Care should be taken to protect cultural resources, endangered species, protect wildlife corridors (crossings and tunnels), water quality, natural areas, sensitive ecosystems, National Forest Land (16 comments).
- Too much emphasis has been put on the kayakers and rafters. Tax/financial benefit from them are less than the real economic need. NEED better traffic flow (1 comment).
- The project will help the economy and help develop the region (4 comments).
- Economic, recreational, and other benefits are secondary. Safety is #1 (2 comments).
- The project will have a negative impact on mountain biking, hiking, and hunting on Chilhowee Mountain. Any disturbance to trails, etc should be mitigated with new trails (2 comments).
- The project should strive to promote community events, festivals, and entertainment (1 comment).
- The Ocoee River Gorge and the pristine National Forest surrounding the Hiwassee watershed are valuable resources (7 comments).
- Avoid the family farm, beginning at the Ocoee River Bridge, working farmland (1 comment).
- Brush Creek Trail, Ocoee #3 lake, Ocoee Gorge, Ocoee Whitewater Center trails, back country and bear reserve south of the Ocoee River, and all other recreation areas are valuable resources (7 comments).
- Trail crossings should be integrated for safety and the sight of the highway should be reduced as much as possible. Tunnel or trail overpass? (1 comment)
- Project will enhance all categories (1 comment).
- The project introduces longer routes, more disturbances, and risks the introduction of aggressive, invasive species. No natural communities or protected species are shown on the maps (1 comment).

- The economic impact will be negative. Project benefits the metropolitan areas outside of the basin, greatest to the area is isolation and small town spirit, will be lost with the project (1 comment).
- Maps do not display Big and Little Frog Wilderness on the north side (near Kimsey Mountain Highway) (3 comments).

3) Please provide comments on the Project Vision. How could this corridor benefit you and your community?

Comments were mixed. Many just want it built, now. While others don't see how building a new 4-lane road is going to enhance anything in the area – natural or otherwise. In general, all comments support something being done – just not all agree that it needs to be a new roadway on new location.

- Why is this taking so long? Build it already! (5 comments).
- Don't need a road for the purpose of transporting freight; alternative modes of transportation (rail) are becoming increasingly more prevalent (2 comments).
- The project will provide safety for travel and new opportunities for growth on the basin side, new opportunities to ship goods east to west (11 comments)
- Fail to see how the project will 'enhance access to natural areas and recreational opportunities.' This can be done by improving the existing facilities. The natural environment should be preserved. The project is destructive, not helpful (9 comments).
- What is 'appropriate access?' (1 comment).
- The area does not need another highway. Social and economic needs are paramount. Fix the existing roadway (7 comments).
- Would be nice to have a quicker route to Asheville, safer also (3 comments).
- The corridor would open the area for consideration to prospective industries and jobs (6 comments).
- A better roadway would improve mobility in the area, ease access to healthcare, education, and widen the job market. Would improve the quality of life (9 comments).
- If the roadway is needed, care should be taken to protect the environment and enhance the assets already in the region – promote Ecotourism (6 comments).
- The area needs a safe, reliable road from the Basin area to Cleveland (4 comments).
- The scenic roadway, as is, provides a better benefit to the community than a super-highway. Make small improvements to existing and leave untouched forest alone (2 comments).
- The project will reduce tractor trailer traffic on the existing route (3 comments).
- Support safer and more functional roadways. Don't support 'economic development highways' with the goal of making mountain communities have transport linkages similar to big cities (1 comment).
- If all areas are considered, as stated in the vision plan, the project will be a huge benefit for the area (1 comment).
- Minimal impact does not mean "no impact". (1 comment).
- Get commercial (truck) traffic off the existing road; preserve the unique aspects of the gorge (1 comment).
- Project will destroy the region's primary economic resource of outdoor recreation and tourism (kayaking, rafting, mountain biking, hiking, etc) (1 comment).

- The uncritical incorporation of ARC objectives is not appropriate. ARC corridors were proposed 50 years ago. Little assessment of negative impacts or reassessment of current needs has been done (1 comment).
- What are ARC's objectives? Not listed in project materials (1 comment).
- The project will cause habitat fragmentation for black bear (1 comment).

4) Do you have any comments on the corridors shown on the map or on the community or environmental criteria that may be used to compare corridors? Are there additional criteria or corridors you would like to see considered?

Comments on the preferred corridor were mixed. Many preferred improving the existing, or staying as close as possible to the existing. There was strong opposition for the southern corridors that will disturb wilderness areas and also against the Kimsley Mountain Highway route since it will disturb protected lands.

- Shortest distance, cheapest, safest (3 comments).
- Improve existing. Improve, straighten, and add some tunnels. Do not need 4 lanes! Add some passing lanes. Provide more parking along the road below the dam, so people don't park on the road. No new disturbance to forest land is needed (24 comments).
- Prefer routes closest to existing. Others are too far out of the way, least amount of damage. Other routes negatively affect mountain biking trails and adversely affect wildlife (3 comments).
- Important to look at the project as a whole, not parts. If it all can't be done, why do part of it? (1 comment).
- The middle route is the most easily accomplished (2 comments).
- The southern route is the most beneficial if accompanied by state resort development along Brasstown, Georgia model (2 comments).
- Orange route is the most feasible, with modifications (4 comments).
- Northern route already has a road in place. Will be beneficial and serve more communities. Route has less 90-degree stream crossings than the other routes (3 comments).
- Use Glenwood Canyon as an example for planning and design (1 comment).
- Project maps don't show elevations. Cannot decide on route when it is unclear how the area/corridor location will be impacted (1 comment).
- The existing roadway is not highlighted as being under serious consideration for upgrades as a corridor (2 comments).
- No additional corridors should be considered (1 comment).
- Prefer any route that does not cross the river (5 comments).
- Opposed to corridor along HWY 60 through the Kimsey Mountain pristine area, this area should be left untouched (4 comments).
- Southern route doesn't benefit the citizens of Greasy Creek. Any northern route is good for the people except Kimsey Mountain route – it will relocate families (1 comment).
- Will the project have sound barriers? (1 comment).
- Prefer yellow corridor towards Harbuck, along the edge of Frog Wilderness area (1 comment).
- The gold corridor is not feasible due to topography! It is ludicrous, has the corridor even been walked/driven? (1 comment).

- Value needs to be placed on environmental issues and efforts should be made to add or increase value back to the development of a new corridor. Need local stakeholder input (2 comments).
- Integrate 2 corridors or blue corridor integrated into the orange corridor (1 comment).
- Doesn't matter, start digging (1 comment).
- Southern corridors will not hold up to the project vision. Southern area filled with trout streams and wilderness. Wilderness areas and bear reserve already have economic benefit and should not be disturbed (4 comments).
- Not enough information has been presented to choose a corridor. No impact tables (1 comment).
- Clean restroom facilities should be provided for weekend hikes (1 comment).

1.2 LOCAL AGENCY OR GOVERNMENT REPRESENTATIVE

Government or agency responses were received from representatives of the Southeast Tennessee Rural Planning Organization (STRPO), Polk County Chamber of Commerce, and the City of Ducktown.

1. **What traffic, safety or economic issues do you think the US 64 / Corridor K project needs to address?**
   - Removing large vehicles such as 18-wheelers from the Gorge.
2. **What economic, natural, cultural, recreational, community or environmental features in the study area do you value most? Please identify resources in the area that are important to you.**
   - We need Corridor K to be completed to enhance economic, natural, cultural, recreational, community and environmental features.
   - We need to look towards our future.
3. **Please provide comments on the Project Vision. How could this corridor benefit you and your community?**

- "This will increase business by allowing goods to be transported more efficiently. Visitors will be able to use the Gorge as a scenic route therefore increasing tourism. It will save lives by removing most of the 18-wheelers."
- "Potential growth for my community and financial growth for our citizens to relieve the tax burden and hopefully create jobs."

4. **Do you have any comments on the corridors shown on the map or on the community or environmental criteria that may be used to compare corridors? Are there additional criteria or corridors you would like to see considered?**

- "…not concerned as to where the route goes as in being ignored and put on a shelf again. With the money that has been wasted on this so far the road could have been built."
- "…the route south does not seem to benefit the citizens of Greasy Creek, and route north of the River would be good for the people, except Kimsey option which would relocate families."

General comments from RPO:

"We want to stand in favor of the project based on this being the Regional No. 1 priority for the RPO, for the last three years running—or close about—and for economic development, and to move traffic from east to west across the region."

1.3 SPECIAL INTEREST ORGANIZATIONS

General comments from interest groups/organizations (Sierra Club of TN, Cherokee Forest Voices, Wilderness Society, Southern Appalachian Forest Coalition, and TN Citizens for Wilderness Planning) were as follows:

- Majority of comments from interest groups are against any corridor except improving the existing. The majority indicate that the ARC reasons for the roadway are null now that I-40, I-75 and other roadways are in place. These organizations object to the destruction of National Forest and wilderness areas when the reasons for the new location roadway no longer exist.
- Corridor K was originally drafted in the 1960's by ARC. This was before I-40 and I-75 and many other 4-lane roadways in NC and TN. This corridor is out of date. There is no need to disturb pristine forest, especially wilderness areas and bear reserves.
- The 1960's ARC study is incorrect. Suitable trucking routes already exist to ports. It has also been suggested recently that freight will increasingly use rail as the primary mode of transport.
- Typical ARC corridors bring uncontrolled sprawl, destruction of communities, and natural resource degradation.
- ARC goals are not applicable today. Their assumptions that roads are economic development tools are out-dated. Fuel costs alone have made their assumptions in-applicable.
- Corridor K would be of little assistance for shipping freight to and from ports.
- The Ocoee area contains significant proportions of pyritic and pyrite-containing rocks that produce sulfidic acid drainage. Also weathers quickly and is subject to slope failure.
- Ocoee River is 303(d) listed.
- The existing route should be improved. Need to look at projects occurring in NC and TN and use a holistic approach.
- There should be no construction in the Hiwassee River Watershed because of aesthetic deterioration, heritage loss, and acid rock concerns. Ocoee River bed is saturated with industrial contaminants which are likely to cause fish kills.
- The historic Old Copper Road and archaeology sites are potentially eligible for listing on NRHP. These include burial sites and cultural resources.
- Road construction in the mountains is extremely expensive and environmentally and aesthetically damaging.
- Safety corrections on existing US 64 roadway through the Ocoee River Gorge should have highest priority for funding.
- Concern about impacts to trails in the Cherokee National Forest.

2.0 COMMENTS RECEIVED FOLLOWING US 64 ROCKSLIDE

2.1 GENERAL PUBLIC

Following the US 64 rock slide on November 10, 2009, ten comments were received from eight individuals. These comments were received between 11/19/2009 and 2/13/2010. The comment categories were Socioeconomic Impacts (four comments), Corridor Alternatives (three comments), Safety (two comments), and Social Impacts (one comment). General comments received were as follows:

- The recent rockslides prove that building a four-lane highway through these fragile mountains is a reckless option, placing the lives of construction workers now, and roadway passengers forever at risk.
- The people of East Polk County are isolated from the rest of the county by the Ocoee River Gorge. The road closure due to the rock slide has been an incredible hardship on people, adding hours each day to our commute to work, as well as medical services and shopping.
- A new highway is needed for improved commerce, jobs, tourism, etc. as well as access to industry, hospitals, and commerce outlets.
- A new route is needed for safety alone; the gorge is a very dangerous road and the TN 68 detour is also very dangerous. Both routes are sometimes blocked by accidents.
- Taxpayer money being spent on this project is needed elsewhere. How about fixing the existing pot holes.
- Opposed to any highway on new location because of environmental impacts to the Cherokee National Forest, water pollution, fragmentation of wildlife habitat, soil erosion and increased air pollution. Favor improvements to existing highway, US 64.

3.0 CITIZENS RESOURCE TEAM

To date, four Citizens Resource Team (CRT) members have submitted comments regarding the Corridor Comparison Matrix and three CRT members have submitted comments regarding the TPR. The comments on the Corridor Comparison Matrix pertained to preference for a corridor option and cross-section:

- Two CRT members prefer Option 8 or 8A, but with a four-lane alternative rather than two-lane.
- Two CRT members prefer Option 2 and Option 2A, but stated that Option 8A would be preferred over any of the other new locations.
- Primary concerns with all of the new location options were permanent loss of remaining forest and ecological impact, construction costs, exposure of pyritic rock, and higher elevation roadways that may be prone to more snow and ice in winter.

Comments on the TPR pertained to corridor option preference, screening criteria, purpose and need, economic need, and existing conditions.

- One commenter prefers Option 8A with four lanes instead of two.
- Mobile phone service on the route should be added to screening criteria as a safety issue.
- Why do some of the options include a road grade percent and others do not?
- Existing route does not meet federal highway standards.
- Purpose and Need – include unification of Polk County
- Purpose and Need – include “major accidents” with travel time delays
- Option 2 – road closures during construction
- Option 2A – would not meet federal highway standards and would not be eligible for ARC funding.
- Polk County – more in-depth analysis of the economy of the county following closure of the copper industry and alleviation of poverty.

4.0 COMMENTS RECEIVED FOLLOWING SECOND PUBLIC MEETING (FEBRUARY, 2010)

The following information serves to summarize comments to questions numbered one through five posed to stakeholders via the public workshop Comment Sheets on February 16th and 17th, 2010 (see Appendix B). In some cases, comments were not suited for the five-question format which is why a detailed summary of all comments, (i.e. letters, official transcripts and e-mail messages) categorized by subject matter, is attached in Appendix C.

At least 516 individuals attended the second series of public meetings; 188 in Benton on February 16th, 2010, and 328 in Ducktown on February 17th 2010. A rock slide which occurred in November of 2009 led to the temporary closure of US 64 through the Gorge. This closure is believed to have been a catalyst which heightened interest in the project for the second round of meetings.

A total of 199 individuals submitted comments following the second series of public meetings. These submittals included a total of 604 comments received (Table 1). This includes comments received between February 16th and March 10th, 2010, which was the cut-off date for comment submittal. Comments were classified according to the following 32 primary categories. They were also assigned secondary categories if applicable. The categories with the most comments were Corridor Alternatives (153 comments), Socioeconomic Impacts (57 comments), Purpose and Need (57 comments) and TPR Process and Scope (49 comments).

Table 1. Number of comments received in each primary category following the February 2010 public meetings.

Event Category	Comments received after 2nd Public Meeting
1. Purpose and Need	55
2. Corridor Alternatives	153
3. Noise	0
4. Land Use	0
5. Social Impacts	12
6. Socioeconomic Impacts	57
7. Farmland	0
8. Tourism	12
9. Air Quality	4
10. Hazardous Materials / Pyritic Rock	12
11. Water Quality	13
12. Section 4(f)	22
13. Historic, Architectural, and Archeological	4
14. Natural Environment	28
15. Threatened and Endangered Species	8
16. Wetlands	0
17. Energy and Natural Resources	3
18. Construction Impacts	6
19. Public Involvement	14
20. Cost Considerations	38
21. TPR Process and Scope	49
22. EIS Process and Scope	13

Event Category	Comments received after 2nd Public Meeting
23. Quality of Life	20
24. Environmental Justice	0
25. Traffic	6
26. Context Sensitive Design	11
27. Safety	19
28. Permitting	1
29. Aesthetics	8
30. Recreation	19
31. Scenic Views	7
32. Other	10
Total Number of Comments	**604**

Comments were received from a wide geographical area, representing at least 60 different zip codes. The majority of the comments were received from Copperhill, which had almost double the percentage of any other single zip code (Table 2). Turtletown and Ducktown were also well-represented, followed by Murphy NC, Reliance, and Benton. Approximately 34% of the comments were received from other zip codes. The remainder (22.47%) was blank or unknown.

Table 2. Top zip codes submitting comments.

City, State	Zip Code	Percentage
Copperhill, TN	37317	17.39%
Turtletown, TN	37391	8.78%
Ducktown, TN	37326	6.37%
Murphy, NC	28906	3.86%
Reliance, TN	37369	3.39%
Benton, TN	37307	3.36%
All other zip codes	--	34.38%
Blank or unknown	--	22.47%

4.1 GENERAL PUBLIC-COMMENT FORM SUMMARY AND ANALYSIS

1) What traffic, safety or economic issues do you think the US 64 / Corridor K project needs to address?

- There were 232 comments for Question #1 (the most of any question).
- The greatest response was for Roadway hazards and Accidents/Vehicular Safety.
- The following table shows the percentage of people who circled each of the 8 issues presented.

Table 3. Comment Form Question No. 1 Responses

Issue	Number selected	Percent selected
Roadway hazards	174	87.44%
Accidents/Vehicular Safety	170	85.43%
Congestion	154	77.39%
Delays	140	70.35%

Issue	Number selected	Percent selected
Lack of detours	132	66.33%
Lack of turn-around locations	101	50.75%
Safety - Pedestrian/Bicycle	94	47.24%
Parking/ Access to rec. areas	57	28.64%

2) Please respond to the following questions about how US 64 serves local and regional needs.

- There were 182 comments for Question #2.
- More people thought that local traffic, regional traffic, local businesses, and regional businesses would be served by an improved US 64/Corridor K than are served by the existing US 64.
- Nearly 98% of people thought that regional traffic would be served by an improved US 64/Corridor K.

Table 4. Comment Form Question No. 2 Responses

Local and regional Needs	Yes	No	No Response	Circled Yes (out of forms with response)
Served by existing US 64				
Local Traffic	119	34	46	77.78%
Regional Traffic	105	45	49	70.00%
Local Businesses	113	37	49	75.33%
Regional businesses	101	43	55	70.14%
Would be served by improved US 64 / Corridor K				
Local Traffic	164	6	29	96.47%
Regional Traffic	170	4	25	97.70%
Local Businesses	162	6	31	96.43%
Regional businesses	166	6	27	96.51%

3) What resources should be considered when comparing options for US 64 Corridor K?

- There were 182 comments for Question #3.
- The responses were distributed fairly evenly between resources of the human environment, natural environment, and recreation. The responses ranged 21-38%.
- The dominant selections were River/Water resources and Community Facilities.
- The least common selections were Protected Species, Archaeological Resources, and Viewsheds/Scenery.
- Some commenter's did not circle any resources and stated that none of these resources should be considered if they slow down the building of a new road.
- The table below shows the number and percent of circled responses for each resource.

Table 5. Comment Form Question No. 3 Responses

Resource	Number selected	Percent selected
Human Environment		

Resource	Number selected	Percent selected
Historic Resources	61	30.65%
Archaeological Resources	47	23.62%
Community Facilities	73	36.68%
Natural Environment		
Wildlife Habitat/Species	65	32.66%
Protected Species	43	21.61%
Vegetation/Forests	51	25.63%
River/Water Resources	76	38.19%
Wilderness Areas	54	27.14%
Viewsheds/Scenery	47	23.62%
Recreation Resources		
Rafting	70	35.18%
Hiking	62	31.16%
Biking	53	26.63%
Fishing	60	30.15%
Boating	57	28.64%

4) Please rate and comment on the Public Meeting materials and activities.

Information obtained from this question was forwarded to the project team to reference in future public involvement activities.

5) Please rank the Corridor Options for US 64 / Corridor K in order of your preference in the ranking boxes below.

The least popular option is Option 1 (No Build) followed by Option 3 and then Option 2a. The tallys were compiled in two ways because not all options included a response.

Of forms that gave a rating of 1 (most preferred), the majority (24.87%) put that rating next to Option 4, followed by Option 8a (19.58%) and Option 8 (16.40%).

- Of the forms that had a response for Option 4, 40.52% rated it number 1.
- Of the forms that had a response for Option 8a, 31.09% rated it number 1.
- Of the forms that had a response for Option 8, 29.25% rated it number 1.

Of forms that gave a rating of 10, (least preferred), the majority (52.33%) put that rating next to Option 1, followed by Option 3 (15.12%) and Option 2a (8.14%).

- Of the forms that had a response for Option 1, 59.21% rated it number 10.
- Of the forms that had a response for Option 3, 14.94% rated it number 10.
- Of the forms that had a response for Option 2a, 9.09% rated it number 10.

4.2 LOCAL AGENCY OR GOVERNMENT REPRESENTATIVE

Government or agency responses were received from representatives of the Southeast Tennessee Rural Planning Organization (STRPO), the Cleveland Urban Area Metropolitan Planning Organization (CUAMPO) Polk County Chamber of Commerce, and the City of Ducktown. General comments received were as follows:

- The STRPO submitted that the completion of Corridor K has been the number one priority of the STRPO since its inception in 2006. The STRPO is fully supportive of TDOT's efforts to create a viable, economic corridor for the citizens of this area.
- The CUAMPO wrote a letter stating that the CUAMPO, the City of Cleveland, and Bradley County offer their continued support of Corridor K. Attachments included four resolutions passed in 2005 by the CUAMPO and City of Cleveland stating support of Corridor K. Also attached was a portion of the MPO's Long Range Transportation Plan, which calls for engagement in the Corridor K project to bring it to fruition.
- Comments received from the attorney representing Bradley County and Polk County Governments were in support of Corridor K for economic and cultural development, as well as access to medical services.

4.3 SPECIAL INTEREST ORGANIZATIONS

General comments from interest groups/organizations (Southern Environmental Law Center, WaysSouth, Sierra Club, The Wilderness Society, Southern Appalachian Forest Coalition) were as follows:

- Every special interest organization that responded was in favor of considering improvements along the current alignment during the NEPA process.
- Safety and reliability appear to constitute a local need for the proposed project, yet the purpose and need statement proposed for the Transportation Planning Report warrants further consideration and refinement.
- A review of the Appalachian Regional Commission's economic study for Corridor K conducted in 2008 is fatally flawed and designed to support a predetermined conclusion – namely that the Corridor K project was needed to support the economic development of eastern Polk County and SW North Carolina. In reality, Corridor K in intended to drive, not support, economic and business development in these areas. It is not proper for TDOT to assume the role of economic development in the State and to use taxpayer's monies to subsidize private special interests.
- Impacts of a new road cut through the Southern Appalachia Mountains, with the attendant water pollution, destruction of forest lands, damage to wildlife and endangered species far outweigh the benefits of cutting tow to four minutes off the travel time between Ducktown and Benton. It is believed that the safety issues brought forward related to the existing alignment can be addressed by reengineering and rebuilding targeted points along the Ocoee Gorge, and at a cost to taxpayers far less than the estimates for construction along new alignments.
- Several of the project goals identified in the TPR provide little value to TDOT as it weighs competing options moving forward.
- The project Needs Statement includes economic development or the desire to support future growth in the community and region which seems to be TDOT's driving motive for carrying forward the 4-lane options. The perceived generality of conclusions from previous economic studies data and the lack of travel time savings posed in the TPR seem to not answer the question of why the proposed project is needed to support economic development. Data gaps related to the economic development impact of this particular segment and any lingering safety concerns should be flagged as priorities for ongoing study and disclosure.
- TDOT's alternative development has only looked at existing US 64 and new location alternative and has not included a look at options available for attaining an <u>average</u> travel speed of 50 miles per hour between major termini in the system including targeted improvements to the existing US 64.

- If, as proponents of building a new location assert, the final Corridor K solution should include two routes-US 64 plus some alternative route-then it is incumbent on TDOT to consider whether the same purpose and need can be met by existing US 64 plus existing alternative routes
- Clarification has been requested as to the flexibility of funding mechanisms for the project and ARC criteria for providing the funds. ARC funds should be placed in proper perspective and should not be the major factor in determining what alternatives should be considered and what designs are used to address the real transportation needs for this project.
- It is incumbent on TDOT as they continue this process, to fully document the known environmental impacts of the various routes. It is also essential to document the many uncertainties and unknowns. Because there is a road in the current alignment that manifests existing issues should not lead TDOT to pick an alternative where many of the issues will not be fully known.
- Information in recent handouts and meeting discussions has alluded to "substantial road closure and detours over a 4-8 year construction period" if Option 2 is chosen. On the context of the current rock slide closure, this information has exacerbated the anxiety in local communities and has cast the new alternatives being studied in the role of creating a solution that wouldn't have the problems of the existing route. A false dichotomy is being created that suggests that alternatives to the existing alignment will solve all transportation problems including future rockslides. Rock slides occur in mountainous terrain and nothing can assure that these problems will not occur on any route and on multiple routes.
- The ARC study largely ignores the fact that freight shipment is increasingly going toward rail transport. This movement to rail is entirely appropriate as rail holds many advantages over truck transport in fuel conservation, efficiency of transport, reduction of stress on existing highway transportation infrastructure, and less disruption to conservation resources than new highway construction. The TDOT and ARC should get behind this transformation of our freight infrastructure to greater reliance on rail. Planning and resources should be going toward making needed enhancements to rail transport infrastructure. Decisions on highway infrastructure should be brought into the 21st century making use of the most efficient and effective transportation options available including emerging and promising trends.
- Creativity is needed in addressing the options for construction and the long term need for alternate routes. TDOT should be well equipped to design creative solutions that would minimize road closures and provide additional options. Some possibilities include:
    - Bring alternate existing routes going north to Madison County and south into Georgia into better shape to handle traffic when needed. Use the period between the current repairs of US 64 and the ultimate US 64 upgrades to make these improvements on existing alternate routes while US 64 is open. An alternative as fast as or faster than the existing US 64 is not called for. Existing routes could allow reasonable delays if improved. Hundreds of thousands of people are dealing with major delays as the I-40 rock slide is repaired between Tennessee and North Carolina. The recent rock slide in the Glen Canyon of Colorado will cause major delays for an extended period. These types of disruptions occur in unstable geology. Our sympathy goes out to people in Polk County whose lives have been disrupted during this period. Improving existing alternate routes that could serve as reasonable alternatives when US 64 is closed for short or extended periods is needed. An entirely new route fragmenting Cherokee National Forest and degrading pristine streams is not needed.

- After improvements are made to existing alternate routes, close the existing US 64 for the minimum period needed to address the major bottlenecks of future construction. Put in the needed resources with multiple crews addressing all the bottlenecks and pinch points in the Ocoee Gorge to increase the space for ongoing work and to create at least one lane through the gorge for ongoing traffic. During this period crews would also address the potential landslide areas to neutralize all or most of these.
- Once the route is open to traffic, concentrate construction in specific areas at any one time; where traffic has to be limited to a single lane, use portable traffic lights to control the flow of traffic.
- Time the blasting and other work that requires limiting access to all traffic to well publicize times when the road would be closed.
- Utilize innovative design and construction methods to minimize the time and disruption of traffic.
- During construction, where space allows, build river recreation and scenic pull-offs, well designed to get recreation traffic safely off and back on the main route when the route is finished.

5.0 NEXT STEPS

This report provides a summary of project comments collected utilizing various communication venues in an effort to capture public and agency sentiment regarding proposed Corridor K. Key topics and points of interest derived from the received input will be considered further in future project planning and review, and will serve as a link between the TPR and NEPA processes. TDOT will continue to reach out to its constituents for input regarding the proposed Corridor K in the future NEPA phase of project review and will seek to cultivate and maintain collaborative partnerships formed during the TRP process with agencies and the general public.

-

Appendices

Appendices A- Zip Code Map

US 64 | CORRIDOR K

OCOEE RIVER GORGE SECTION

Legend

- Study Area
- Existing US Hwy 64/74
- Interstate
- State Boundary

Tennessee

North Carolina

South Carolina

Georgia

Alabama

Knoxville

Asheville

Dillsboro

Greenville

Cleveland

Chattanooga

Atlanta

38501 37716 37917 37921 37919 37920 37934 37604 28743 28804 28801 37385 37309 37325 37312 37343 37405 37307 37369 37391 37333 28906 37363 37361 37323 37311 37362 37317 37421 37419 37412 37409 30555 30559 30541 30736 30560 30512 30721 30522 30513 30576 30552 30533 28734 30327

1:1,267,017

1 inch equals 20 miles

0 5 10 20 Miles

Source(s): Tele Atlas, ESRI, US Forest Service, and URS Corp.
Date: March 2010

TDOT Ga.

Zip Code, Number of Comments

24134, 1	30576, 4	37409, 14	37421, 33	28906, 114
30736, 1	37419, 4	37343, 16	37604, 35	37391, 259
37325, 1	37716, 4	37311, 17	30513, 37	37317, 513
37385, 1	37309, 5	30541, 18	37323, 42	
38501, 1	28734, 6	28743, 18	37361, 45	
25508, 2	30522, 7	28804, 22	30560, 47	
30721, 2	37333, 7	37363, 22	37917, 47	
37919, 2	37410, 7	27513, 28	30559, 51	
30533, 3	37934, 8	28801, 28	30555, 66	
35570, 3	30327, 10	37405, 28	37312, 74	
37412, 3	30512, 10	30552, 31	37307, 99	
37920, 3	37921, 12	37362, 33	37369, 100	

COMMENT ORIGIN (BY ZIP CODE)

CORRIDOR K

SR 40 (US 64) from west of the Ocoee River to SR 68 near Ducktown
Polk County, Tennessee

Appendix B- Public Meeting Comment Forms

Comment Sheet

July, 2009

Contact Information [-Please Print-]

Name: _____

Mailing Address (including zip code): _____

Would you prefer to receive updates and newsletters electronically? ☐ **Yes** ☐ **No** E-mail Address: _____

How did you hear about the meeting? *(Please check all of the following which apply)*

☐ Newsletter ☐ Newspaper ☐ Friend/Family ☐ Other: _____

Do you represent a group or organization? If so, please check your affiliation below:

☐ Business ☐ Local Official ☐ Interest Group ☐ No Affiliation ☐ Other: _____

Your comments are important to this project. Please provide responses to the following questions, which correspond to the meeting displays and handouts. If you need more room, please attach additional sheets.

1) What traffic, safety or economic issues do you think the US 64 / Corridor K project needs to address?

2) What economic, natural, cultural, recreational, community, or environmental features in the study area do you value most? Please identify resources in the area that are important to you. *(Please use the map to mark these resources or place one of your stickers on the large workshop map and record your comment here)*

3) Please provide comments on the Project Vision. How could this corridor benefit you and your community?

4) Do you have any comments on the corridors shown on the map or on the community or environmental criteria that may be used to compare corridors? Are there additional criteria or corridors you would like to see considered? *(Please use the map to mark your suggestions or place your sticker on the large workshop map and record your comment here)*

5) Please use the following rows to rate and comment on the Public Workshop materials and activities *(rank items from 1 to 5, with 1 being poor or not effective to 5 being excellent or highly effective)*.

						Comments/Suggestions
Meeting Length/Time	1	2	3	4	5	
Power Point Presentation	1	2	3	4	5	
Displays	1	2	3	4	5	
Handout	1	2	3	4	5	
Discussion with Project Team	1	2	3	4	5	

6) Other Comments, Questions, or Concerns:

Please submit your comments tonight or mail to the address below by August 12, 2009. Thank you for your input!

Tennessee Department of Transportation
Project Comments
505 Deaderick Street, Suite 700, James K. Polk Building
Nashville, TN 37243-0332

U.S. Department of Transportation
Federal Highway Administration

ARC
APPALACHIAN REGIONAL COMMISSION

Comment Sheet

February, 2010

Contact Information [-Please Print-]

Name: _____

Mailing Address (including zip code): _____

Please check if you would like to be added to the project mailing list. ☐ Yes ☐ No

How did you hear about the meeting? *(Please check all of the following which apply)*

☐ Postcard ☐ Flyer ☐ Newspaper ☐ Radio ☐ Friend/Family ☐ Other: _____

Do you represent a group or organization? If so, please check your affiliation below:

☐ Business ☐ Local Official ☐ Interest Group ☐ No Affiliation ☐ Other: _____

Your comments are important to this project. Please respond to the following questions. If you need more room, please attach additional sheets.

General needs identified for the US 64 / Corridor K project include:

- Roadway Deficiencies (outdated design standards, lack of detours, emergency access)
- Safety (curves, lack of shoulders/guardrail, lack of facilities for bicyclists and pedestrians, high accident rates)
- System Linkage (only east-west route serving local and regional traffic, unimproved section of Corridor K)
- Economic Development (transportation network to support local and regional business opportunities)

1) What traffic and safety issues do you think the US 64 / Corridor K project needs to address? *Circle all that apply*

Congestion Accidents/Vehicular Safety Safety - Pedestrian/Bicycle Delays Lack of detours

Roadway hazards (rock slides, downed trees) Lack of turn-around locations Parking/Access to recreational areas

For any items selected, please describe problems you experience and where they occur:

_____

_____

_____

_____

2) Please respond to the following questions about how US 64 serves local and regional needs. *Circle a response for each Y/N pair*

	Served by **existing** US 64	Would be served by **improved** US 64 / Corridor K
Local Traffic	Y N	Y N
Regional Traffic	Y N	Y N
Local businesses	Y N	Y N
Regional businesses	Y N	Y N

Please describe your answers:

3) What resources should be considered when comparing options for US 64 / Corridor K? *Circle all that apply*

Human Environment:	Historic Resources		Archaeological Resources		Community Facilities
Natural Environment:	Wildlife Habitat/Species		Protected Species		Vegetation/Forests
	River/Water Resources		Wilderness Areas		Viewsheds/Scenery
Recreation Resources:	Rafting	Hiking	Biking	Fishing	Boating

For any items selected, please describe why you feel these resources are important to consider:

4) Please rate and comment on the Public Meeting materials and activities *(rank items from 1 to 5, with 1 being poor or not effective to 5 being excellent or highly effective)*.

						Comments/Suggestions
Meeting Length/Time	1	2	3	4	5	
Power Point Presentation	1	2	3	4	5	
Displays / Handouts	1	2	3	4	5	
Discussion with Project Team	1	2	3	4	5	

Option Preferences

5) Please rank the Corridor Options for US 64/Corridor K in order of your preference in the ranking boxes below. Please use the space beside your ranking for any comments.

Option 1 → No Build, No improvements would be made

RANKING ☐

(Only 2-Lane Option Available)

Comments:

Option 2 → Improvements to Existing US 64

RANKING ☐

Do you prefer 2-Lane or 4-Lane? ☐ ☐

Comments:

Option 2a → Spot Improvements along Existing US 64

RANKING ☐

(Only 2-Lane Option Available)

Comments:

Option 3 → Northern Corridor north of Gorge and Little Frog Wilderness Area

RANKING ☐

Do you prefer 2-Lane or 4-Lane? ☐ ☐

Comments:

Option 4 → Northern Corridor through Gorge and slightly north of Parksville Lake

RANKING ☐

Do you prefer 2-Lane or 4-Lane? ☐ ☐

Comments:

Options 5 through 8a on back.

Option 5 → Northern Corridor through Gorge and closer to Parksville/Ocoee Lake

RANKING ☐

Do you prefer 2-Lane or 4-Lane? ☐ ☐

Comments:

Option 6 → Southern Corridor closer to Parksville/Ocoee Lake

RANKING ☐

Do you prefer 2-Lane or 4-Lane? ☐ ☐

Comments:

Option 7 → Southernmost Southern Corridor

RANKING ☐

Do you prefer 2-Lane or 4-Lane? ☐ ☐

Comments:

Option 8 → Similar to Option 4, but utilizes more of existing US 64 to the east and the west of the Gorge

RANKING ☐

(Only 2-Lane Option Available)

Comments:

Option 8a → Similar to Option 5, but utilizes more of existing US 64 to the east and the west of the Gorge

RANKING ☐

(Only 2-Lane Option Available)

Comments:

6) Other comments, questions or concerns: _____

_____

_____

_____

Please submit your comments tonight or mail them to the address below by March 10, 2010. Thank you for your input!

Tennessee Department of Transportation, Project Comments
505 Deaderick Street, Suite 700, James K. Polk Building
Nashville, TN 37243-0332

U.S. Department of Transportation
Federal Highway Administration

ARC
APPALACHIAN REGIONAL COMMISSION