2012 Clay County
Comprehensive Transportation Plan

Published: September 2012

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Comprehensive Transportation Plan

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N.C. Department of Transportation

In Cooperation with: Clay County
Hayesville
Southwestern Rural Planning Organization

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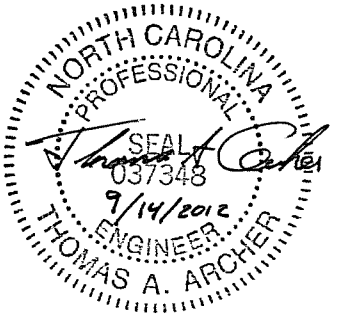

Thomas A. Archer, PE

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Executive Summary

In October of 2010, the Transportation Planning Branch of the North Carolina Department of Transportation (NCDOT) and the Southwestern Rural Planning Organization initiated a study to cooperatively develop the Clay County Comprehensive Transportation Plan (CTP), which includes Hayesville. This is a long range multi-modal transportation plan that covers transportation needs through 2035. Modes of transportation evaluated as part of this plan include: highway, public transportation and rail, bicycle, and pedestrian. This plan does not cover routine maintenance or minor operations issues. Refer to Appendix A for contact information on these types of issues.

Findings of this CTP study were based on an analysis of the transportation system, environmental screening and public input, which are detailed in Chapter 1. Figure 1 shows the CTP maps, which were mutually adopted by NCDOT in 2012. Descriptive information and definitions for designations depicted on the CTP maps can be found in Appendix B. Implementation of the plan is the responsibility of Clay County, Hayesville, and NCDOT. Refer to Chapter 2 for information on the implementation process.

This report documents the recommendations for improvements that are included in the Clay County CTP. The major recommendations for improvements are listed below. More detailed information about these and other recommendations can be found in Chapter 2.

- **US 64:** Widen to a four lane divided boulevard from Macon County to Cherokee County.

- **NC 69 (TIP Project A-0011C):** Widen to a four lane divided boulevard from US 64 to Georgia.

Adopted by:

Clay County

Date: March 1, 2012

Hayesville

Date: April 9, 2012

NCDOT

Date: June 7, 2012

Endorsed by:

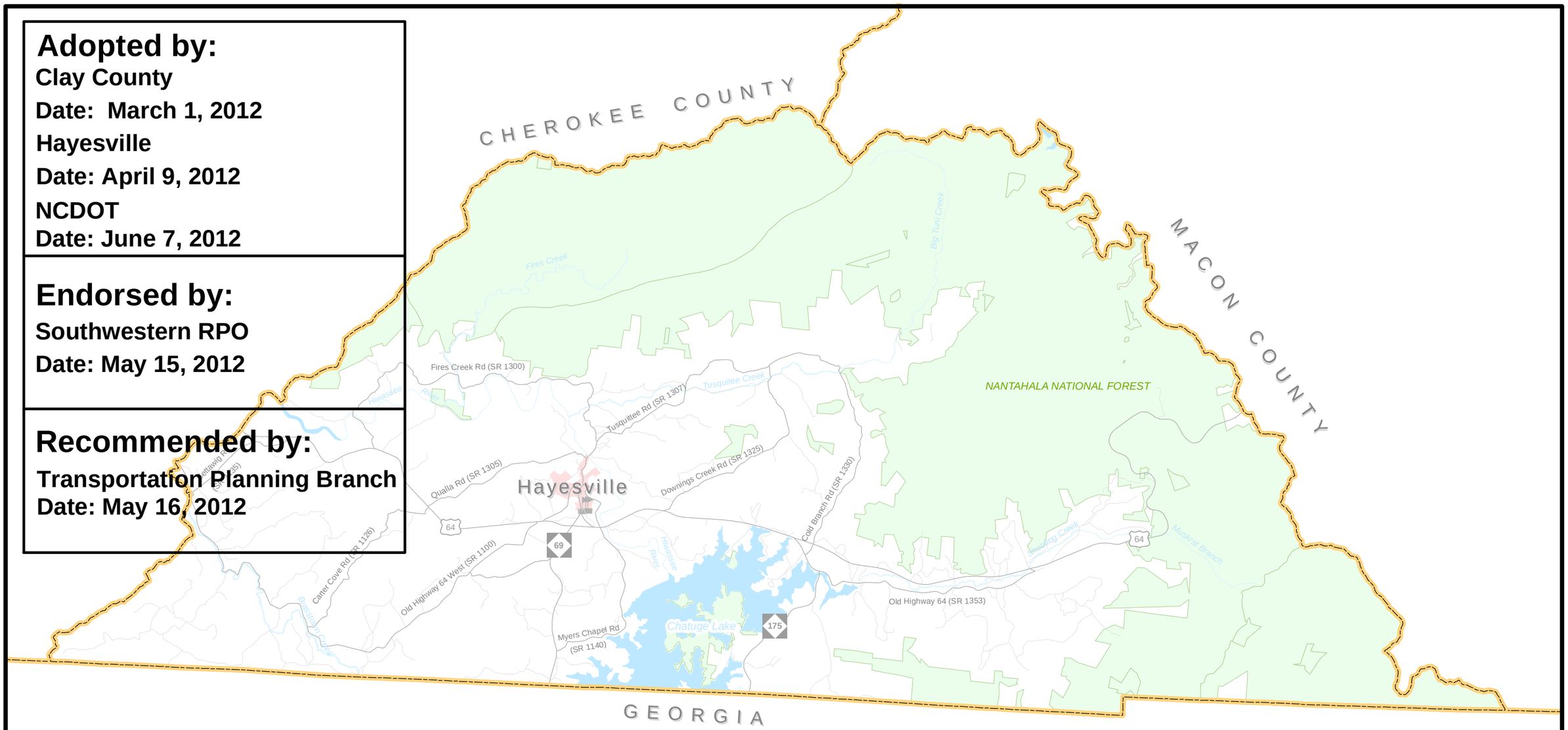
Southwestern RPO

Date: May 15, 2012

Recommended by:

Transportation Planning Branch

Date: May 16, 2012



NOTES:

Sheet 1 **Adoption Sheet**

Sheet 2 **Highway Map**

Sheet 3 **Public Transportation and Rail Map**

Sheet 4 **Bicycle Map**

Sheet 5 **Pedestrian Map**

Legend

- Schools
- Roads
- Rivers and Streams
- County Boundary
- Municipal Boundary
- National Forest
- Water Bodies

0 0.5 1 2 3 Miles

Sheet 1 of 5

N W E S

Base map date: September 28, 2011

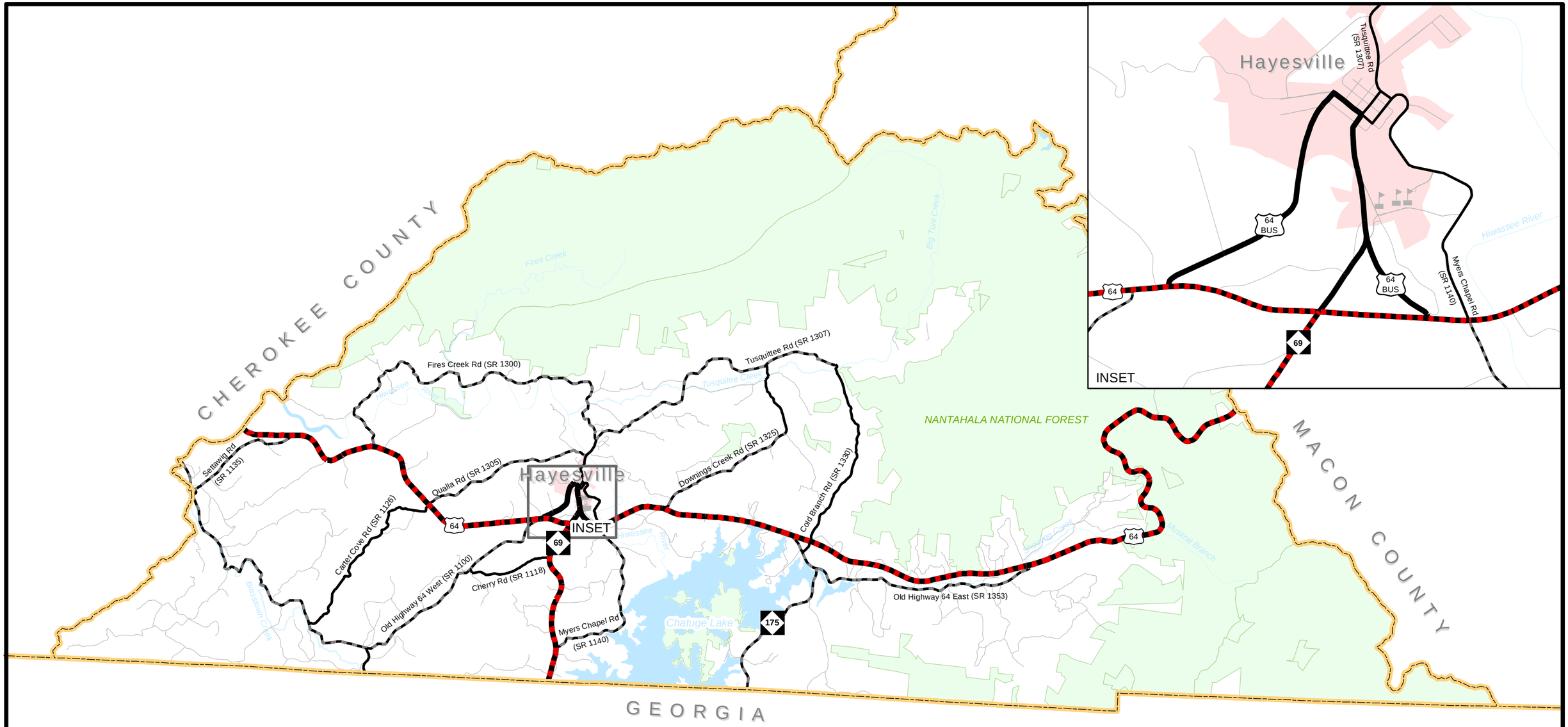
Refer to CTP document for more details

Clay County

North Carolina

Comprehensive Transportation Plan

Plan date: October 4, 2011



Freeways
- Existing
- Needs Improvement
- Recommended

Expressways
- Existing
- Needs Improvement
- Recommended

Boulevards
- Existing
- Needs Improvement
- Recommended

Other Major Thoroughfares
- Existing
- Needs Improvement
- Recommended

Minor Thoroughfares
- Existing
- Needs Improvement
- Recommended

- Existing Interchange
- Proposed Interchange
- Existing Grade Separation
- Proposed Grade Separation

0 0.5 1 2 3 Miles

Sheet 2 of 5

N W E S

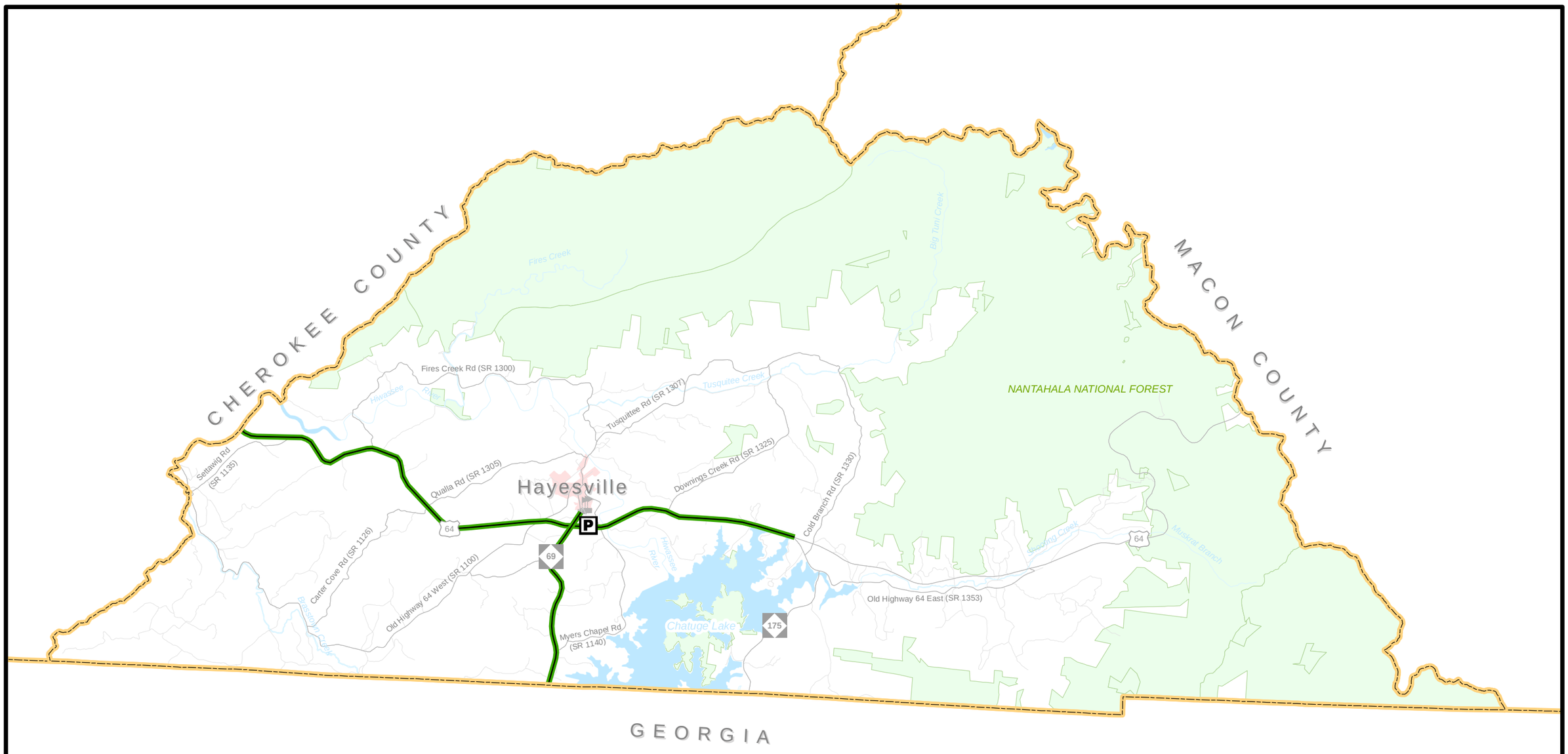
Base map date: September 28, 2011

Refer to CTP document for more details

Highway Map
Clay County

Comprehensive Transportation Plan

Plan date: October 4, 2011



Bus Routes
- Existing
- Needs Improvement
- Recommended

Fixed Guideway
- Existing
- Needs Improvement
- Recommended

Operational Strategies
- Existing
- Needs Improvement
- Recommended

Rail Corridor
- Active
- Inactive
- Recommended

High Speed Rail Corridor
- Existing
- Recommended

Rail Stops
- Existing
- Recommended

Intermodal Connector
- Existing
- Recommended

Park and Ride Lot
- Existing
- Recommended

0 0.5 1 2 3 Miles

N W E S

Sheet 3 of 5

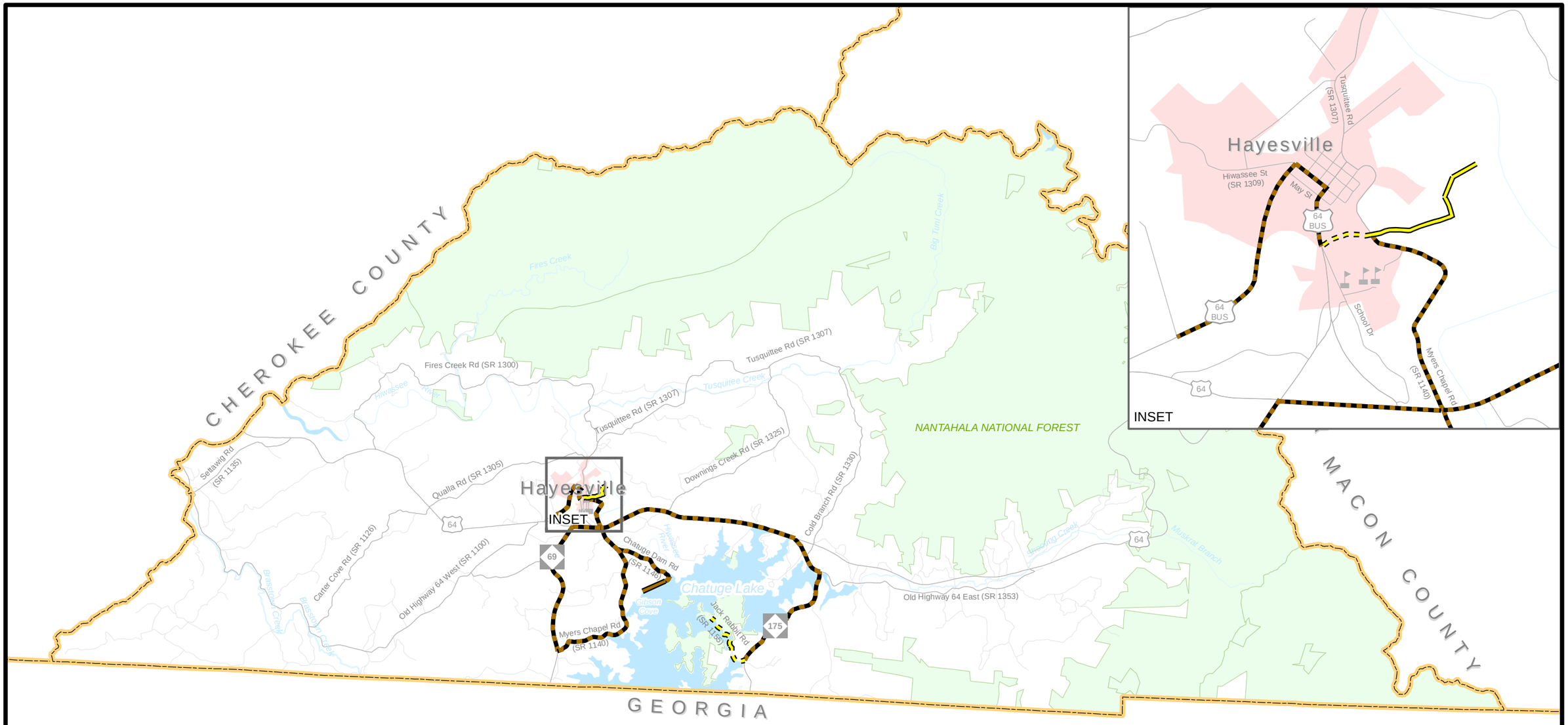
Base map date: September 28, 2011

Refer to CTP document for more details

Public Transportation and Rail Map
Clay County

Comprehensive Transportation Plan

Plan date: October 4, 2011



On Road
- Existing
- Needs Improvement
- Recommended

Off Road
- Existing
- Needs Improvement
- Recommended

Multi-Use Paths
- Existing
- Needs Improvement
- Recommended

- Existing Grade Separation
- Proposed Grade Separation

0 0.5 1 2 3 Miles

N W E S

Sheet 4 of 5

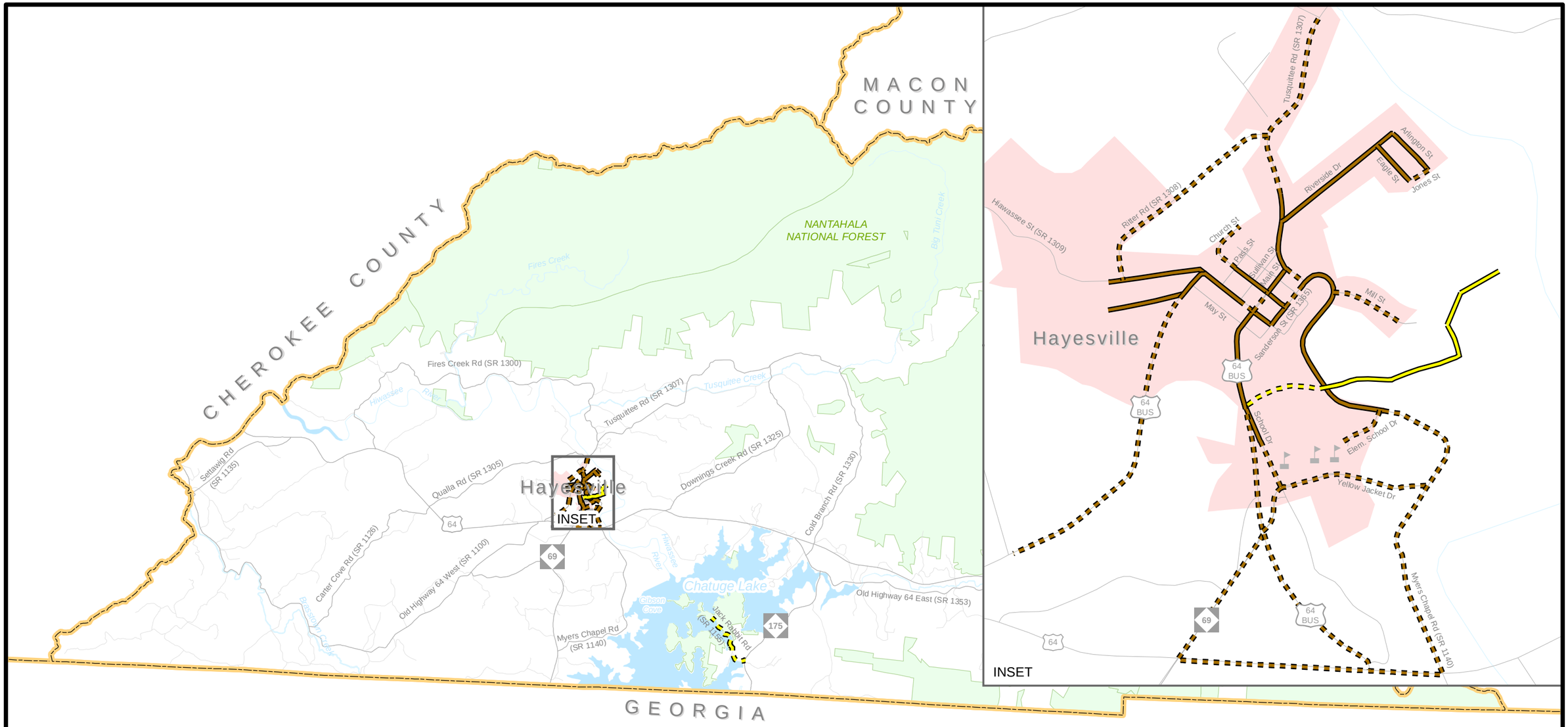
Base map date: September 28, 2011

Refer to CTP document for more details

Bicycle Map
Clay County

Comprehensive Transportation Plan

Plan date: October 4, 2011



Sidewalks
- Existing
- Needs Improvement
- Recommended

Off Road
- Existing
- Needs Improvement
- Recommended

Multi-Use Paths
- Existing
- Needs Improvement
- Recommended

- Existing Grade Separation
- Proposed Grade Separation

0 0.5 1 2 3 Miles

Sheet 5 of 5

N W E S

Base map date: September 28, 2011

Refer to CTP document for more details

Pedestrian Map
Clay County

Comprehensive Transportation Plan

Plan date: October 4, 2011

I. Analysis of the Existing and Future Transportation System

A Comprehensive Transportation Plan (CTP) is developed to ensure that the transportation system will meet the needs of the region for the planning period. The CTP serves as an official guide to providing a well-coordinated, efficient, and economical transportation system for the future of the region. This document should be utilized by the local officials to ensure that planned transportation facilities reflect the needs of the public, while minimizing the disruption to local residents, businesses and environmental resources.

In order to develop a CTP, the following are considered:

- Analysis of the transportation system, including any local and statewide initiatives;
- Impacts to the natural and human environment, including natural resources, historic resources, homes, and businesses;
- Public input, including community vision and goals and objectives.

Analysis Methodology and Data Requirements

Reliable forecasts of future travel patterns must be estimated in order to analyze the ability of the transportation system to meet future travel demand. These forecasts depend on careful analysis of the character and intensity of existing and future land use and travel patterns.

An analysis of the transportation system looks at both current and future travel patterns and identifies existing and anticipated deficiencies. This is usually accomplished through a capacity deficiency analysis, a traffic crash analysis, and a system deficiency analysis. This information, along with population growth, economic development potential, and land use trends, is used to determine the potential impacts on the future transportation system.

Roadway System Analysis

An important stage in the development of a CTP is the analysis of the existing transportation system and its ability to serve the area's travel desires. Emphasis is placed not only on detecting the existing deficiencies, but also on understanding the causes of these deficiencies. Roadway deficiencies may result from inadequacies in pavement widths, intersection geometry, or intersection controls. System deficiencies may result from missing travel links, bypass routes, loop facilities, radial routes or improvements to meet statewide initiatives.

One of those statewide initiatives is the Strategic Highway Corridor (SHC) Vision Plan[1] adopted by the Board of Transportation on September 2, 2004. The SHC Vision Plan is

[1] *For more information on the SHC Vision Plan, go to: http://www.ncdot.gov/doh/preconstruct/tpb/SHC/.*

an initiative to protect and maximize the mobility and connectivity on a core set of highway corridors throughout North Carolina, while promoting environmental stewardship through maximizing the use of existing facilities to the extent possible, and fostering economic prosperity through the quick and efficient movement of people and goods.

The primary purpose of the SHC Vision Plan is to provide a network of high-speed, safe, reliable highways throughout North Carolina. The primary goal to support this purpose is to create a greater consensus towards the development of a genuine vision for each corridor – specifically towards the identification of a desired facility type (Freeway, Expressway, Boulevard, or Thoroughfare) for each corridor. Individual CTPs shall incorporate the long-term vision of each corridor. Refer to Appendix A for contact information for the SHC Vision Plan.

In the development of this plan, travel demand was projected from 2009 to 2035 using a trend line analysis based on Annual Average Daily Traffic (AADT) from 1991 to 2009. In addition, local land use plans and growth expectations were used to further refine future growth rates and patterns. The established future growth rates were endorsed by Hayesville on October 10, 2011 and Clay County on January 5, 2012. Refer to Appendix I for more detailed information on growth expectations and the socio-economic data forecasting methodology.

Existing and future travel demand is compared to existing roadway capacities. Capacity deficiencies occur when the traffic volume of a roadway exceeds the roadway's capacity. Roadways are considered near capacity when the traffic volume is at least eighty percent of the capacity. Refer to Figures 2 and 3 for existing and future capacity deficiencies.

Capacity is the maximum number of vehicles which have a "reasonable expectation" of passing over a given section of roadway, during a given time period under prevailing roadway and traffic conditions. Many factors contribute to the capacity of a roadway including the following:

- Geometry of the road (including number of lanes), horizontal and vertical alignment, and proximity of perceived obstructions to safe travel along the road;
- Typical users of the road, such as commuters, recreational travelers, and truck traffic;
- Access control, including streets and driveways, or lack thereof, along the roadway;
- Development along the road, including residential, commercial, agricultural, and industrial developments;
- Number of traffic signals along the route;
- Peaking characteristics of the traffic on the road;

- Characteristics of side-roads feeding into the road; and
- Directional split of traffic or the percentages of vehicles traveling in each direction along a road at any given time.

The relationship of travel demand compared to the roadway capacity determines the level of service (LOS) of a roadway. Six levels of service identify the range of possible conditions. Designations range from LOS A, which represents the best operating conditions, to LOS F, which represents the worst operating conditions.

LOS E indicates "ultimate capacity" of a roadway, or the capacity at which the roadway experiences major delays. The ultimate capacity for each roadway was developed based on the 2000 Highway Capacity Manual using the *Mountain Region Capacity Methodology*[2]. Recommended improvements and overall design of the transportation plan were based upon achieving a minimum LOS E on existing facilities and a LOS C for new facilities. Refer to Appendix E for detailed information on LOS.

Traffic Crash Analysis

Traffic crashes are often used as an indicator for locating congestion and roadway problems. Crash patterns obtained from an analysis of crash data can lead to the identification of improvements that will reduce the number of crashes. A crash analysis was performed for the Clay County CTP for crashes occurring in the planning area between January 1, 2005 and December 31, 2009. During this period, a total of eight intersections were identified as high crash locations as illustrated in Figure 4. Refer to Appendix F for a detailed crash analysis.

Bridge Deficiency Assessment

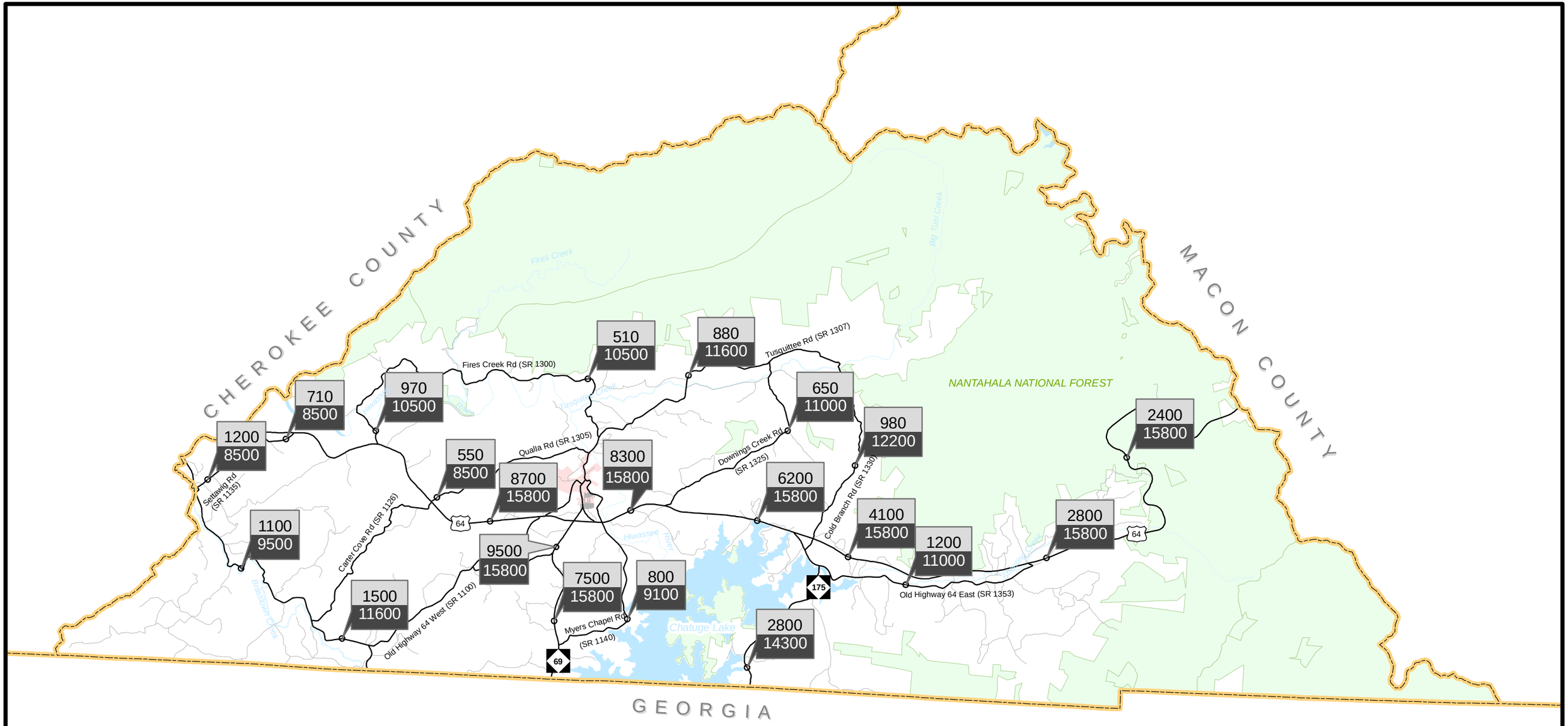
Bridges are a vital element of a highway system. First, they represent the highest unit investment of all elements of the system. Second, any inadequacy or deficiency in a bridge reduces the value of the total investment. Third, a bridge presents the greatest opportunity of all potential highway failures for disruption of community welfare. Finally, and most importantly, a bridge represents the greatest opportunity of all highway failures for loss of life. For these reasons, it is imperative that bridges be constructed to the same design standards as the system of which they are a part.

The NCDOT Structures Management Unit inspects all bridges in North Carolina at least once every two years. Bridges having the highest priority are replaced as federal and state funds become available. Eleven deficient bridges were identified on roads evaluated as part of the CTP and are illustrated in Figure 5. Of these, two are scheduled for replacement in the 2012 – 2018 State Transportation Improvement Program[3] (STIP/TIP). The remainder occur along roadways recommended for improvement in the CTP. As deficient bridges are replaced, every consideration should

[2] A methodology developed for determining systems level planning capacity for roadways in the mountains region of North Carolina.

[3] *For more information on the STIP, go to:* http://www.ncdot.gov/performance/reform/.

be given to the proposed CTP recommendation and cross section associated with the recommendation. Table 5 in Appendix G gives a listing of the deficient bridges identified in the CTP and the ID number associated with CTP project proposal. Refer to Appendix G for more detailed bridge deficiency information.



Legend

- Schools
- Roads
- Over Capacity
- Near Capacity
- Study Roads
- Rivers and Streams
- Municipal Boundary
- National Forest
- County Boundary

2010 Volumes

2010 Capacity

0 0.5 1 2 3 Miles

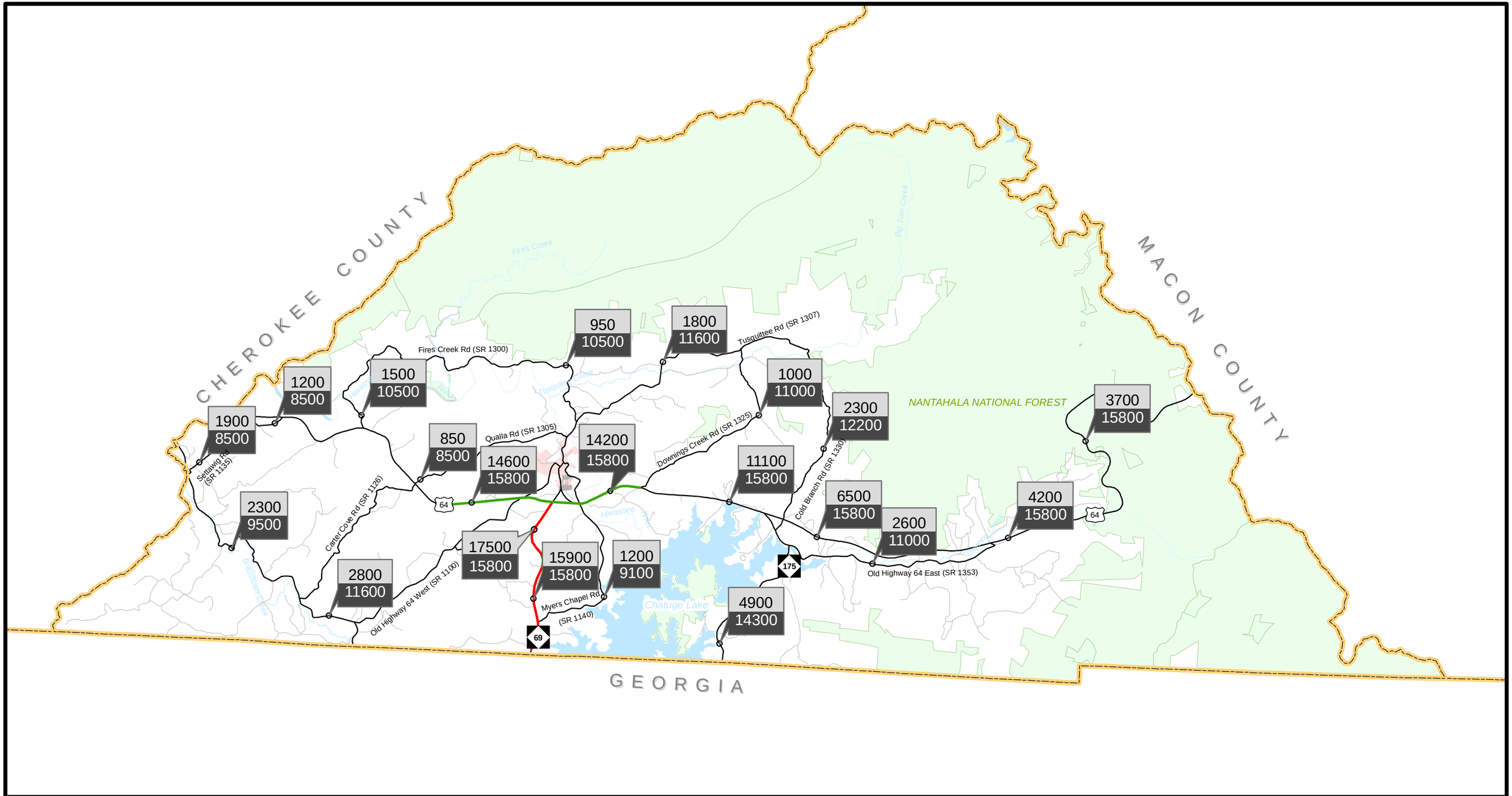
N W E S

Base map date: September 28, 2011

Figure 2

2010
Volumes and Capacity Deficiencies

Clay County
Comprehensive Transportation Plan



Legend

- Schools
- Over Capacity
- Near Capacity
- Study Roads
- Roads
- Rivers and Streams
- Municipal Boundary
- National Forest
- County Boundary

2035 Volumes

2010 Capacity

0 0.5 1 2 3 Miles

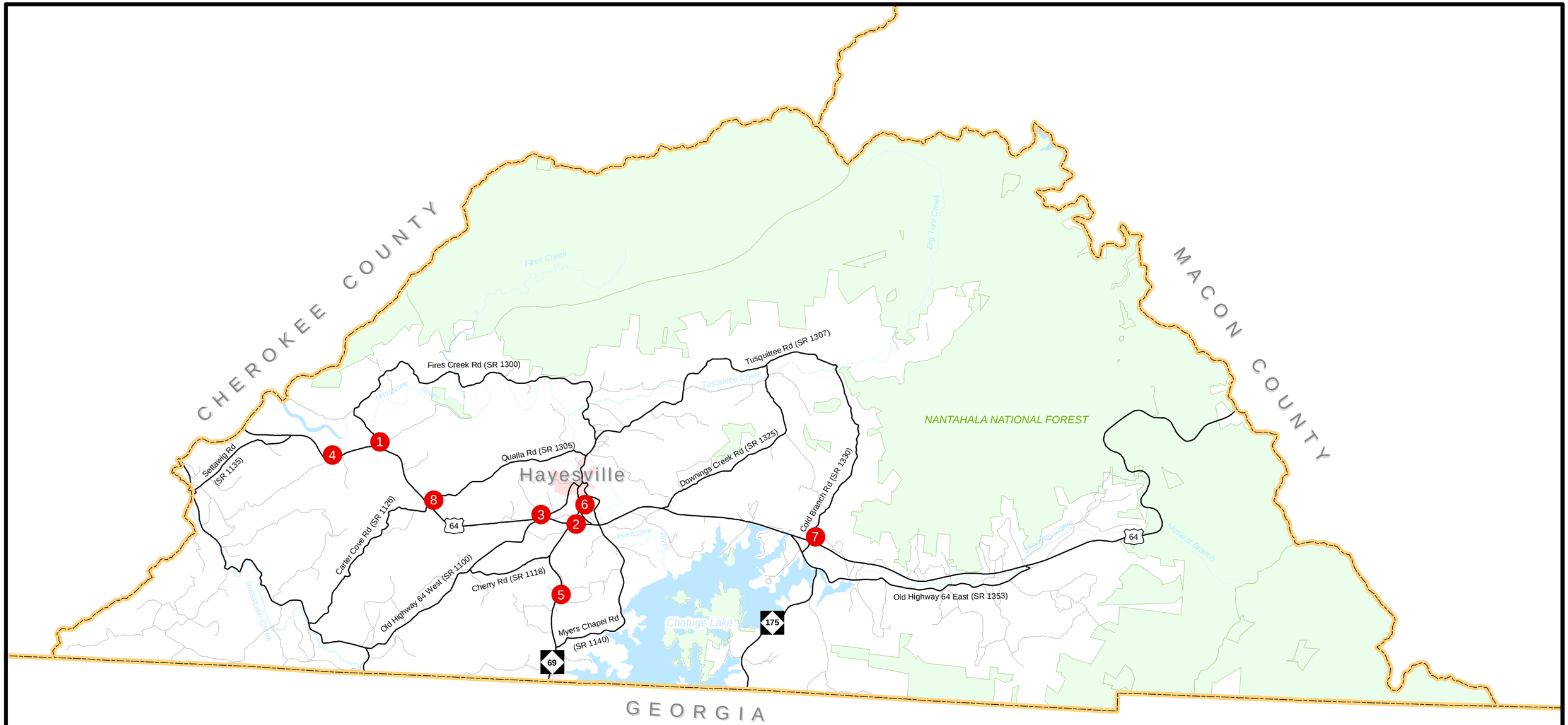
N W E S

Base map date: September 28, 2011

Figure 3

2035
Volumes and Capacity Deficiencies

Clay County
Comprehensive Transportation Plan



Legend

- Crash Locations (# Map Index)
- Schools
- Roads
- Study Roads
- County Boundary
- Rivers and Streams
- Municipal Boundary
- National Forest

0 0.5 1 2 3 Miles

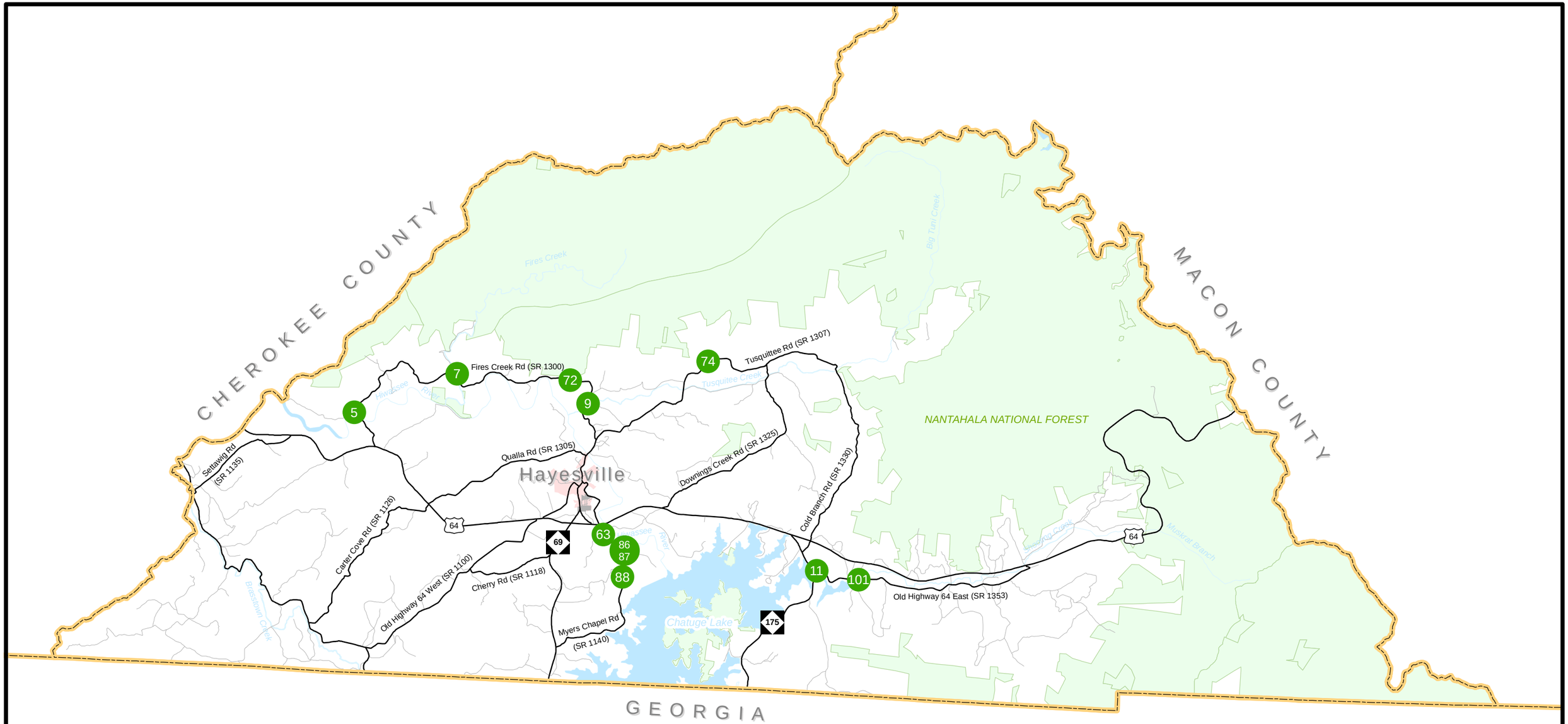
N W E S

Base map date: September 28, 2011

Refer to Table 4 in Appendix F for more details

Figure 4
Crash Locations
January 1, 2005 - December 31, 2009

Clay County
Comprehensive Transportation Plan



Legend

- # Deficient Bridge (# Bridge Number)
- Schools
- Roads
- Study Roads
- County Boundary
- Rivers and Streams
- Municipal Boundary
- National Forest

Miles
0 0.5 1 2 3

N
W E
S

Base map date: September 28, 2011

Refer to Table 5 in Appendix G for more details

Figure 5

Deficient Bridges

Clay County
Comprehensive Transportation Plan

Public Transportation and Rail

Public transportation and rail are vital modes of transportation that give alternatives for transporting people and goods from one place to another.

Public Transportation

North Carolina's public transportation systems serve more than 50 million passengers each year. Five categories define North Carolina's public transportation system: community, regional community, urban, regional urban and intercity.

- Community Transportation - Local transportation efforts formerly centered on assisting clients of human service agencies. Today, the vast majority of rural systems serve the general public as well as those clients.

- Regional Community Transportation - Regional community transportation systems are composed of two or more contiguous counties providing coordinated / consolidated service. Although such systems are not new, the NCDOT Board of Transportation is encouraging single-county systems to consider mergers to form more regional systems.

- Urban Transportation – There are currently nineteen urban transit systems operating in North Carolina, from locations such as Asheville and Hendersonville in the west to Jacksonville and Wilmington in the east. In addition, small urban systems are at work in three areas of the state. Consolidated urban-community transportation exists in five areas of the state. In those systems, one transportation system provides both urban and rural transportation within the county.

- Regional Urban Transportation - Regional urban transit systems currently operate in three areas of the state. These systems connect multiple municipalities and counties.

- Intercity Transportation - Intercity bus service is one of a few remaining examples of privately owned and operated public transportation in North Carolina. Intercity buses serve many cities and towns throughout the state and provide connections to locations in neighboring states and throughout the United States and Canada. Greyhound/Carolina Trailways operates in North Carolina. However, community, urban and regional transportation systems are providing increasing intercity service in North Carolina.

An inventory of existing and planned fixed public transportation routes for the planning area is presented on Sheet 3 of Figure 1. Clay County Transportation currently services the public in three major ways: subscription, deviated fixed route, and dial-a-ride routes. Services extend as far as Asheville, Franklin, Sylva, and Waynesville daily. Additionally, service is regularly provided to Atlanta, Gainsville, Hiawassee, and Blairsville in Georgia in addition to Chattanooga and Turtletown in Tennessee. All recommendations for public transportation were coordinated with the local governments and the Public Transportation Division of NCDOT. Refer to Appendix A for contact information for the Public Transportation Division.

Rail

Today North Carolina has 3,684 miles of railroad tracks throughout the state. There are two types of trains that operate in the state, passenger trains and freight trains.

The North Carolina Department of Transportation sponsors two passenger trains, the Carolinian and Piedmont. The Carolinian runs between Charlotte and New York City, while the Piedmont train carries passengers from Raleigh to Charlotte and back everyday. Combined, the Carolinian and Piedmont carry more than 200,000 passengers each year.

There are two major freight railroad companies that operate in North Carolina, CSX Transportation and Norfolk Southern Corporation. Also, there are more than 20 smaller freight railroads, known as shortlines.

There is no rail system within Clay County.

Bicycles & Pedestrians

Bicyclists and pedestrians are a growing part of the transportation system in North Carolina. Many communities are working to improve mobility for both cyclists and pedestrians.

NCDOT's Bicycle Policy, updated in 1991, clarifies responsibilities regarding the provision of bicycle facilities along the 77,000-mile state-maintained highway system. The policy details guidelines for planning, design, construction, maintenance, and operations pertaining to bicycle facilities and accommodations. All bicycle improvements undertaken by NCDOT are based upon this policy.

The 2000 NCDOT Pedestrian Policy Guidelines specifies that NCDOT will participate with localities in the construction of sidewalks as incidental features of highway improvement projects. At the request of a locality, state funds for a sidewalk are made available if matched by the requesting locality, using a sliding scale based on population.

NCDOT's administrative guidelines, adopted in 1994, ensure that greenways and greenway crossings are considered during the highway planning process. This policy was incorporated so that critical corridors which have been adopted by localities for future greenways will not be severed by highway construction.

Inventories of existing and planned bicycle and pedestrian facilities for the planning area are presented on Sheets 4 and 5 of Figure 1. All recommendations for bicycle and pedestrian facilities were coordinated with the local governments and the NCDOT Division of Bicycle and Pedestrian Transportation. Refer to Appendix A for contact information for the Division of Bicycle and Pedestrian Transportation.

Land Use

G.S. §136-66.2 requires that local areas have a current (less than five years old) land development plan prior to adoption of the CTP. For this CTP, the 2011-2021 Clay County Comprehensive Plan, adopted in October of 2010, was used to meet this requirement and is illustrated in Figures 6 and 7, respectively.

Land use refers to the physical patterns of activities and functions within an area. Traffic demand in a given area is, in part, attributed to adjacent land use. For example, a large shopping center typically generates higher traffic volumes than a residential area. The spatial distribution of different types of land uses is a predominant determinant of when, where, and to what extent traffic congestion occurs. The travel demand between different land uses and the resulting impact on traffic conditions varies depending on the size, type, intensity, and spatial separation of development. Additionally, traffic volumes have different peaks based on the time of day and the day of the week. For transportation planning purposes, land use is divided into the following categories:

- Residential: Land devoted to the housing of people, with the exception of hotels and motels which are considered commercial.
- Commercial: Land devoted to retail trade including consumer and business services and their offices; this may be further stratified into retail and special retail classifications. Special retail would include high-traffic establishments, such as fast food restaurants and service stations; all other commercial establishments would be considered retail.
- Industrial: Land devoted to the manufacturing, storage, warehousing, and transportation of products.
- Public: Land devoted to social, religious, educational, cultural, and political activities; this would include the office and service employment establishments.
- Agricultural: Land devoted to the use of buildings or structures for the raising of non-domestic animals and/or growing of plants for food and other production.
- Mixed Use: Land devoted to a combination of any of the categories above.

Anticipated future land development is, in general, a logical extension of the present spatial land use distribution. Locations and types of expected growth within the planning area help to determine the location and type of proposed transportation improvements.

Existing land use within Clay County is primarily residential and public lands with small pockets of commercial development along the US 64 and NC 69 corridors. Clay County anticipates growth along the NC 69 Corridor and near the intersection of NC 69 and US 64. This area has been the fastest growing area commercially in recent years. Additionally, several facilities surrounding Chatuge Lake, including NC 175, Myers

Chapel Road (SR 1140) and portions of US 64, have been designated as future recreation areas.

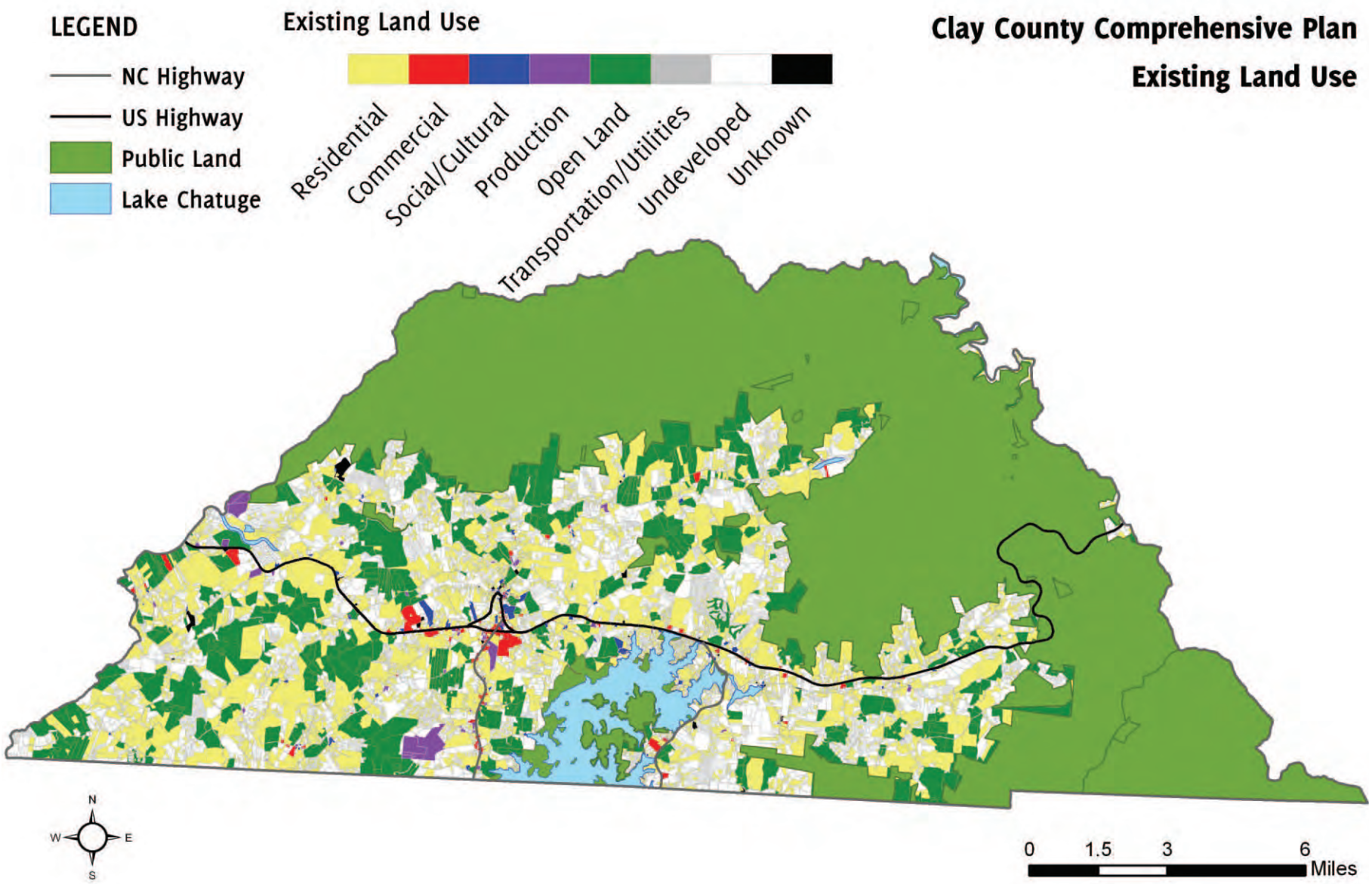

LEGEND
NC Highway
US Highway
Public Land
Lake Chatuge
Existing Land Use
Residential
Commercial
Social/Cultural
Production
Open Land
Transportation/Utilities
Undeveloped
Unknown
Clay County Comprehensive Plan
Existing Land Use
N
W
E
S
0
1.5
3
6
Miles

Figure 6

Map 5.4: Future Land Use Map

LEGEND

Town and Community
- Community / Rural Crossroad
- Hayesville

Civic Facilities
- Fire Station
- School Campus
- Future Recreation Areas

Economic Development
- Industrial Site
- Future Economic Development Area

Rural Pathways
- Scenic Paths (Proposed)
- NC Scenic Byway (Designated)

Land
- Public Land
- County Land
- Rivers, Streams, Creeks
- Lakes

0 0.450.9 1.8 2.7 3.6 Miles

N

Clay County Comprehensive Plan
Future Land Use Map

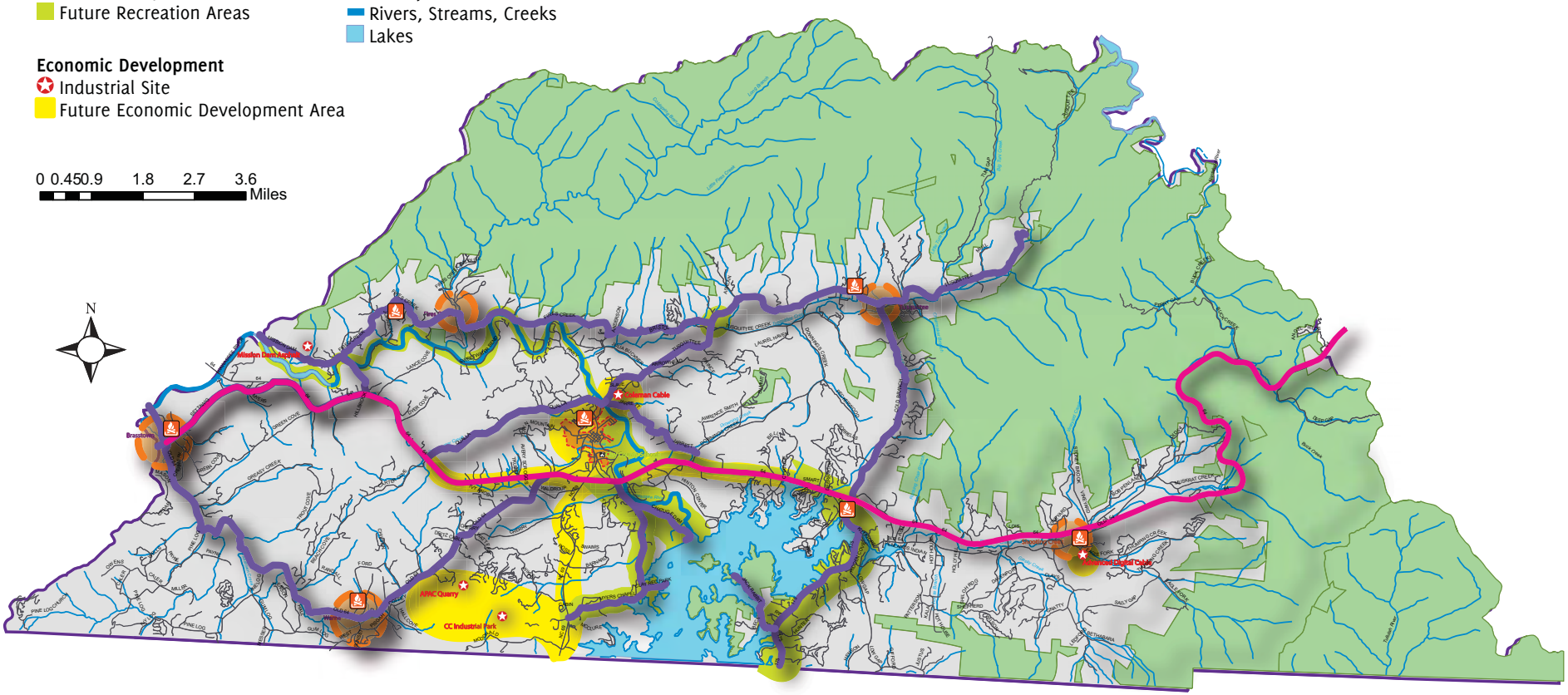


Figure 7

Consideration of Natural and Human Environment

Environmental features are a key consideration in the transportation planning process. Section 102 of the National Environmental Policy Act[4] (NEPA) requires consideration of impacts on wetlands, wildlife, water quality, historic properties, and public lands. While a full NEPA evaluation was not conducted as part of the CTP, every effort was made to minimize potential impacts to these features utilizing the best available data. Any potential impacts to these resources were identified as a part of the project recommendations in Chapter 2 of this report. Prior to implementing transportation recommendations of the CTP, a more detailed environmental study would need to be completed in cooperation with the appropriate environmental resource agencies.

A full listing of environmental features that are typically examined as a part of a CTP study is shown in the following tables. Environmental features occurring within Clay County are shown in Figure 8 and highlighted in Tables 1 and 2.

Table 1 – Environmental Features

- Anadromous Fish Spawning Areas
- Bike Routes (NCDOT)
- Conservation Tax Credit Properties
- **Emergency Operation Centers**
- **Federal Land Ownership**
- Fisheries Nursery Areas
- **Geology (including Dikes and Faults)**
- **Hazardous Substance Disposal Sites**
- Hazardous Waste Facilities
- **High Quality Water and Outstanding Resource Water Management Zones**
- **Hydrography (1:24,000 scale)**
- Land Trust Priority Areas
- **Natural Heritage Element Occurrences**
- **National Wetlands Inventory**
- Railroads (1:24,000 scale)
- Recreation Projects – Land and Water Conservation Fund
- **Sanitary Sewer Systems – Discharges, Land Application Areas, Pipes, Pumps and Treatment Plants**
- **Schools – Public and Non-Public**
- **Significant Natural Heritage Areas**
- State Parks
- Submersed Rooted Vasculars
- **Target Local Watersheds - EEP**
- **Trout Streams (DWQ)**
- **Trout Waters (WRC)**
- **Water Distribution Systems – Pipes, Pumps, Tanks, Treatment Plants, and Wells**
- **Water Supply Watersheds**
- Wild and Scenic Rivers

[4] *For more information on NEPA, go to: http://ceq.hss.doe.gov/.*

Additionally, the following environmental features were considered but are not mapped due to restrictions associated with the sensitivity of the data.

Table 2 – Restricted Environmental Features

- **Archaeological Sites**
- Historic National Register Districts
- **Historic National Register Structures**
- **Macrosite Boundaries**
- **Managed Areas**
- Megasite Boundaries

Public Involvement

Public involvement is a key element in the transportation planning process. Adequate documentation of this process is essential for a seamless transfer of information from systems planning to project planning and design.

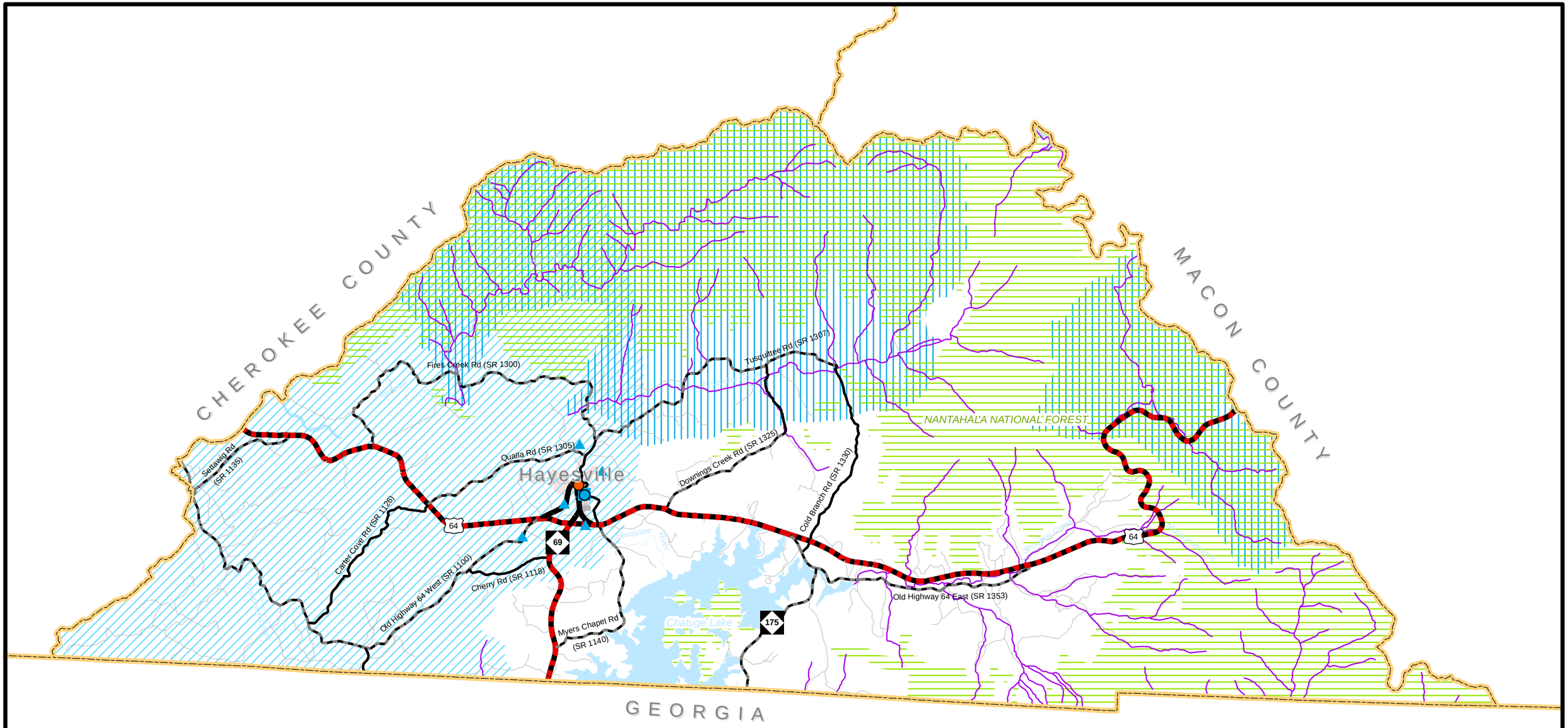
A meeting was held with the Clay County Board of Commissioners in October 2010 to formally initiate the study, provide an overview of the transportation planning process, and to gather input on area transportation needs.

Throughout the course of the study, the Transportation Planning Branch cooperatively worked with the Clay County Comprehensive Transportation Plan Committee, which included a representative from Hayesville, Clay County, the RPO and others. The committee provided information on current local plans, developed transportation vision and goals, discussed population and employment projections, and developed proposed CTP recommendations. Refer to Appendix H for detailed information on the vision statement, the goals and objectives survey and a listing of committee members.

The public involvement process included a public drop-in session in Clay County to present the proposed CTP to the public and solicit comments. The meeting was held on January 31, 2012 at the Clay County Courthouse. The session was publicized in the local newspaper and was held from 12 pm to 2 pm.

A public hearing was held on March 1, 2012 during the Clay County Commissioners meeting. The purpose of this meeting was to discuss the plan recommendations and to solicit further input from the public. The CTP was adopted during this meeting. Hayesville adopted the CTP on April 9, 2012.

The Southwestern RPO endorsed the CTP on May 15, 2012. The North Carolina Department of Transportation mutually adopted the Clay County CTP on June 7, 2012.



Legend

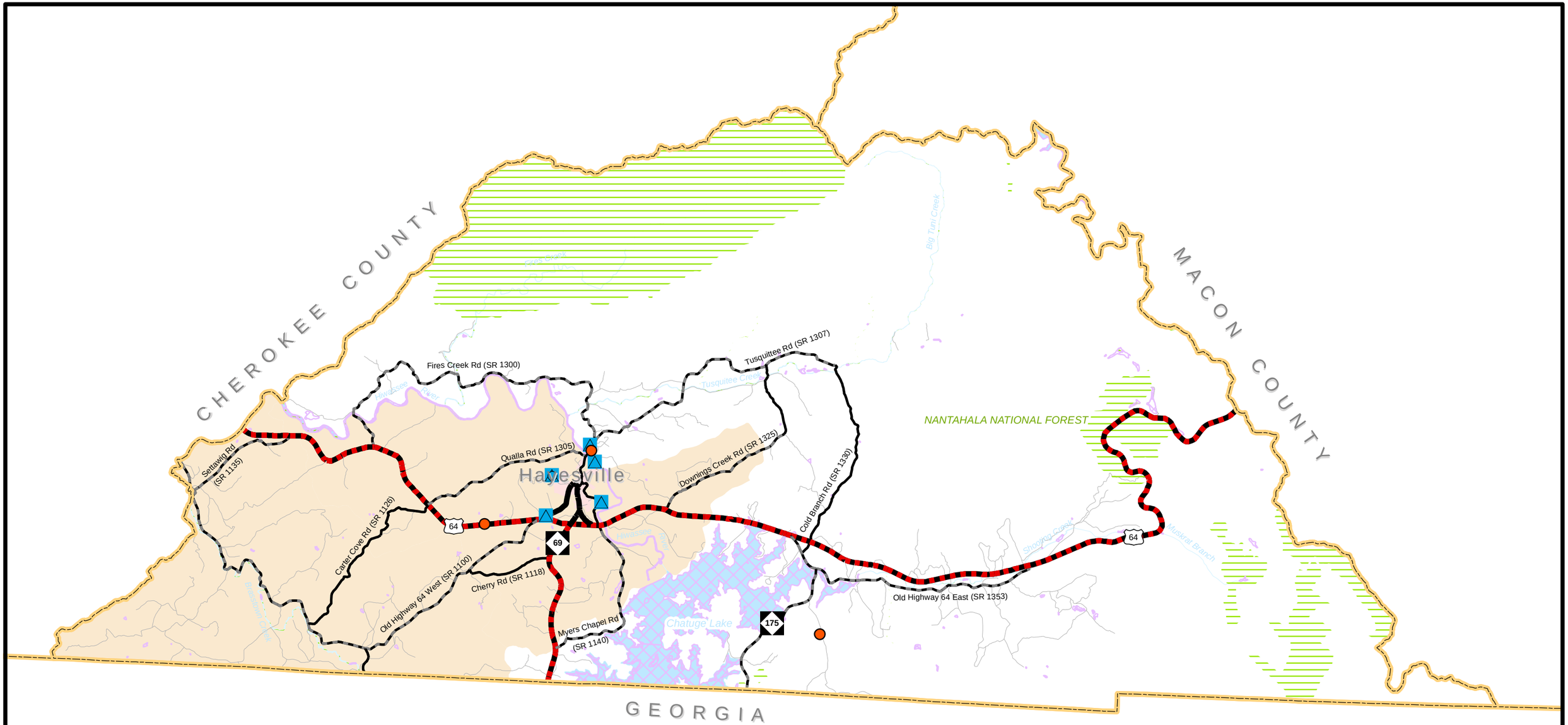
- Schools
- Emergency Operation Center
- Sanitary Sewer Discharge
- Sanitary Sewer Pumps
- Sanitary Sewer Treatment Plants
- Roads
- Rivers and Streams
- Trout Streams (DWQ)
- Fedral Land Ownership
- High Quality Water and Outstanding Resource Water Management Zones
- Water Supply Watershed
- Municipal Boundary
- County Boundary

0 0.5 1 2 3 Miles

N W E S

Base map date: September 28, 2011

Figure 8
Environmental Features
Sheet 1 of 3
Clay County
Comprehensive Transportation Plan



Legend

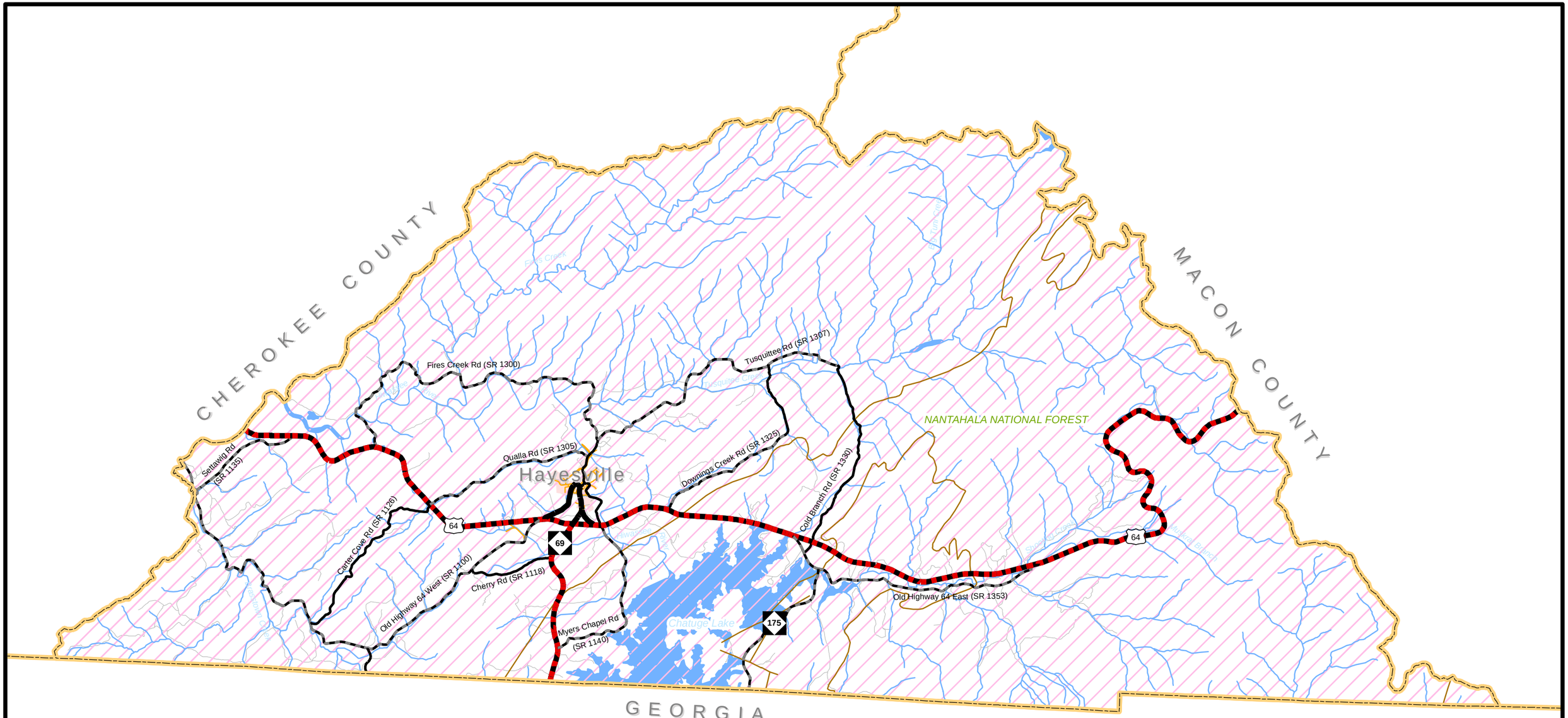
- Hazardous Substance Disposal Site
- Water Distribution Tanks
- Water Distribution Wells
- Water Distribution Treatment Plants
- Roads
- Rivers and Streams
- National Wetlands Inventory
- Significant Natural Heritage Area
- Target Local Watersheds
- Municipal Boundary
- County Boundary

0 0.5 1 2 3 Miles

N W E S

Base map date: September 28, 2011

Figure 8
Environmental Features
Sheet 2 of 3
Clay County
Comprehensive Transportation Plan



Legend

- Sanitary Sewer Pipes
- Fault Lines
- Trout Streams (WRC)
- Rivers and Streams
- Roads
- Natural Heritage Element
- Trout Waters (WRC)
- Municipal Boundary
- County Boundary

0 0.5 1 2 3 Miles

N W E S

Base map date: September 28, 2011

Figure 8
Environmental Features
Sheet 3 of 3

Clay County
Comprehensive Transportation Plan

II. Recommendations

This chapter presents recommendations for each mode of transportation in the 2012 Clay County CTP as shown in Figure 1. More detailed information on each recommendation is tabulated in Appendix C.

Implementation

The CTP is based on the projected growth for the planning area. It is possible that actual growth patterns will differ from those logically anticipated. As a result, it may be necessary to accelerate or delay the implementation of some recommendations found within this plan. Some portions of the plan may require revisions in order to accommodate unexpected changes in development. Therefore, any changes made to one element of the Comprehensive Transportation Plan should be consistent with the other elements.

Initiative for implementing the CTP rests predominately with the policy boards and citizens of Clay County and Hayesville. As transportation needs throughout the state exceed available funding, it is imperative that the local planning area aggressively pursue funding for priority projects. Projects should be prioritized locally and submitted to the Southwestern RPO for regional prioritization and submittal to NCDOT. Refer to Appendix A for contact information for regional prioritization and funding. Local governments may use the CTP to guide development and protect corridors for the recommended projects. It is critical that NCDOT and local government coordinate on relevant land development reviews and all transportation projects to ensure proper implementation of the CTP. Local governments and the North Carolina Department of Transportation share the responsibility for access management and the planning, design and construction of the recommended projects.

Prior to implementing projects from the CTP, additional analysis will be necessary to meet the National Environmental Policy Act (NEPA) or the North Carolina (or State) Environmental Policy Act[1] (SEPA). This CTP may be used to provide information in the NEPA/SEPA process.

Problem Statements

The following pages contain problem statements for each recommendation, organized by CTP modal element. The information provided in the problem statement is intended to help support decisions made in the NEPA/SEPA process. A full, minimum or reference problem statement is presented for each recommendation, with full problem statements occurring first in each section. Full problem statements are denoted by a gray shaded box containing project information. Minimum problem statements are more

[1] *For more information on SEPA, go to: http://www.doa.nc.gov/clearing/faq.aspx.*

concise and less detailed than full problem statements, but include all known or readily available information. Reference problem statements are developed for TIP projects where the purpose and need for the project has already been established.

HIGHWAY

US 64, Local ID: CLAY0001-H

US 64 through Clay County does not meet the future mobility and connectivity needs in western North Carolina and into Tennessee.

This corridor is intended to provide mobility in Clay County and, ultimately, connectivity between Tennessee and Hendersonville, North Carolina. US 64 is designated as a boulevard on NCDOT's Strategic Highway Corridor Vision (SHC) Plan adopted on September 2, 2004. The existing facility is currently a two lane highway through most of the county. From Old Highway 64 West (SR 1100) to just east of the Hiwassee River, US 64 has a five lane undivided cross section. Additionally, a crash analysis performed for the CTP identified six intersections along this corridor as having 10 or more crashes and/or having a severity index above the state's 4.56 average for the most recent three year period. Those intersections included: US 64 BUS, NC 69, Carter Cove Road (SR 1126), Cold Branch Road (SR 1130), Fires Creek Road (SR 1300), and Green Cove Road (SR 1131). Refer to Appendix F for more detailed information on these locations.

CTP project CLAY0001-H includes improving US 64 to a four lane divided boulevard from Cherokee County to Macon County. Additionally, wide paved shoulders are recommended to accommodate bicycles from NC 69 to NC 175 and sidewalks are recommended from NC 69 to Myers Chapel Road (SR 1140). As development occurs along this corridor, particularly at the intersection with NC 69 where Clay County is growing the most commercially, every effort should be made to limit access in order to maintain mobility and connectivity.

Based on a planning level environmental assessment using available GIS data, the western portion of the proposed project from Cherokee County to east of Hayesville is within the water supply watershed and the target local watershed areas. The eastern portion of the project near Macon County is within a high quality water and outstanding resource water management zone and goes through the Nantahala National Forest. The entire project is in the vicinity of natural heritage element occurrences. The proposed project also crosses several trout streams/waters and other wetland areas, including the Hiwassee River and Chatuge Lake. There is a sanitary sewer pump, a water distribution treatment plant and a water distribution well located along the project just south of Hayesville. There is also a hazardous substance disposal site located along US 64 approximately one mile west of Old Highway 64 West (SR 1100). Additionally, the proposed project crosses three fault lines in the central part of the county.

The 1972 Clay County Thoroughfare Plan recommended widening US 64 from 10 foot lanes to 12 foot lanes from NC 175 to Coker Road (SR 1145).

NC 69, TIP No. A-0011C

NC 69 from US 64 to Georgia is anticipated to be over capacity by 2035. State Transportation Improvement Program (TIP) project A-0011C is intended to address this problem. The TIP project includes widening NC 69 to a four lane divided boulevard. Additionally, the CTP recommends wide paved shoulders along this facility from US 64 to Myers Chapel Road (SR 1140) to accommodate bicycles – See Local ID: CLAY0002-B.

Several sections of TIP project A-0011 have been completed, but this section is currently unfunded. For additional information about this project, including Purpose and Need, contact the NCDOT Project Development and Environmental Analysis Branch.

Myers Chapel Road (SR 1140), Local ID: CLAY0002-H

Myers Chapel Road (SR 1140) runs east from NC 69, along the western bank of Chatuge Lake, and then continues north to US 64. Myers Chapel Road (SR 1140) is currently a two lane road with 9 foot lanes through mostly residential development. The corridor also lies near the Chatuge Shore Gold Course and the recreational facilities at Gibson Cove. Improvements are needed to improve mobility to the residential and recreational facilities in the area and to provide accommodations for bicycles.

The CTP project proposal (Local ID CLAY0002-H) is to widen Myers Chapel Road (SR 1140) from NC 69 to US 64 from 9 foot lanes to 10 foot lanes and the addition of bicycle lanes. The replacement of the narrow bridges along Myers Chapel Road is also recommended. NCDOT's Structures Management Unit has identified these bridges as functionally obsolete, which include bridge number 63 over Blair Creek; and bridges 83, 87 and 88 over Hyatt Mill Creek. These improvements would be a step towards accomplishing two of the goals set forth by the Clay County CTP Committee: first, to provide citizens and visitors of Clay County mode choices for their transportation needs; and second, to ease the citizens and visitors mobility in Clay County and the surrounding area.

Based on a planning level environmental assessment using available GIS data, the majority of the proposed project is within the target local watershed area and a small portion near US 64 is within the water supply watershed area. The entire project is within the vicinity of natural heritage element occurrences. The proposed project also crosses several trout waters and one fault line.

The 1972 Clay County Thoroughfare Plan recommended widening Myers Chapel Road (SR 1140) from 8 foot lanes to 12 foot lanes.

Minor Widening Projects

W-5119: NC 175 – Realignment of one curve and addition of paved shoulders from Georgia to US 64. This project is currently in the right of way phase with construction scheduled for 2013.

CLAY0003-H: Downings Creek Road (SR 1325) – Widen from 8 foot lanes to 10 foot lanes with paved shoulders from US 64 to Peckerwood Road (SR 1328).

CLAY0004-H: Fires Creek Road (SR 1300) – Widen from 8 foot and 9 foot lanes to 10 foot lanes with paved shoulders from US 64 to Tusquittee Road (SR 1307).

CLAY0005-H: Old Highway 64 East (SR 1353) – Widen from 9 foot lanes to 10 foot lanes with paved shoulders from NC 175 to US 64.

CLAY0006-H: Old Highway 64 West (SR 1100) – Widen from 9 foot lanes to 10 foot lanes with paved shoulders from the Cherokee County to US 64.

CLAY0007-H: Qualla Road (SR 1305) – Widen from 8 foot to 10 foot lanes with paved shoulders from US 64 to Tusquittee Road (SR 1307).

CLAY0008-H: Settawig Road (SR 1135) – Widen from 8 foot lanes to 10 foot lanes with paved shoulders from Old Highway 64 West (SR 1100) to US 64.

CLAY0009-H: Tusquittee Road (SR 1307) – Widen from 8 foot and 9 foot lanes to 10 foot lanes with paved shoulders from Fires Creek Road (SR 1300) to Cold Branch Road (SR 1330).

PUBLIC TRANSPORTATION & RAIL

Proposed Park & Ride Lot, Local ID: CLAY0001-T

Clay County Transportation operates several services for the citizens of Clay County. It operates on demand service to several destinations in and around Clay County, in addition to a deviated fixed route along US 64. The Clay County CTP Committee established the objective to create a Park and Ride Lot to provide multi-modal options in the area.

Additionally, approximately one-third of respondent to the CTP Goals & Objectives survey indicated that they would use a Park and Ride lot for public transit use, as well as carpooling.

A Park and Ride lot is recommended where US 64 Business intersects US 64, between NC 69 and Myers Chapel Road (SR 1140). This location is central to residents of the county, and in close proximity to not only the deviated fixed route operated by Clay County Transportation, but also NC 69, US 64, and NC 175 which are three of the most used corridors in the county. This location is also convenient to downtown Hayesville.

The CTP proposed project CLAY0001-H includes both bicycle and pedestrian improvements to US 64 at the proposed Park and Ride location.

BICYCLE

US 64, Local ID: CLAY0001-H

Bicycle accommodations are recommended, in the form of wide paved shoulders, as a part of this project from NC 69 to NC 175. (See Highway section)

US 64 Business, Local ID: CLAY0001-B

US 64 Business loops from US 64 into Hayesville, then back south, past the buildings housing local government entities, to US 64. Improvements are needed to accommodate bicycle and pedestrian transportation to downtown Hayesville and US 64, a major east-west corridor in Clay County.

This segment of US 64 is a 2 lane major thoroughfare with 9 foot wide lanes and no paved shoulders. The CTP project proposal (Local ID CLAY0001-B) is to add bicycle and pedestrian facilities along US 64 Business starting at the intersection with School Drive, north and following the loop made by US 64 Business, and back south to the government complex north of US 64. This would be a step towards accomplishing two of the goals set forth by the Clay County CTP Committee: first, to provide citizens and visitors of Clay County mode choices for their transportation needs; and second, to ease the citizens and visitors mobility in Clay County and the surrounding area.

NC 69, Local ID: CLAY0002-B

NC 69 stretches from US 64 south to Georgia and is a major north-south connector in Clay County. Improvements are needed to NC 69 in order to improve mobility for bicyclists.

The NC 69 corridor is the fastest growing area of Clay County commercially, and is predicted to continue to be the area with the most commercial development in the future. It will be one of the most traveled corridors in Clay County with approximately 17,500 vehicles per day (vpd) in 2035. In addition to the commercial development as NC 69 approaches US 64, there is also residential development to the south.

Myers Chapel Road (SR 1140) intersects NC 69 south of the commercial development. Myers Chapel Road (SR 1140) runs partially along the western bank of Chatuge Lake. Near the intersection of NC 69 and Myers Chapel Road (SR 1140) is Chatuge Shores Golf Course. Improvements to NC 69 would improve mobility between the recreational areas and the local residential developments and to the commercial areas to the north. The CTP project proposal (Local ID CLAY0002-B) is to add wide paved shoulders along NC 69 from Myers Chapel Road (SR 1140) to US 64 in order to accommodate bicycles. This would be a step towards accomplishing two of the goals set forth by the Clay County CTP Committee: first, to provide citizens and visitors of Clay County mode choices for their transportation needs; and second, to ease the citizens and visitors mobility in Clay County and the surrounding area. Further, respondents to the goals and objectives survey, when asked what areas they would like to see improved for bicycles; NC 69 was one of the top replies.

NC 175, Local ID: CLAY0003-B

NC 175 between US 64 and Georgia borders Chatuge Lake on its eastern bank. Chatuge Lake is a major tourist and recreation destination for visitors to Clay County and residents alike. This area of Clay County is home to residential areas as well as camp grounds along Chatuge Lake. Improvements are needed to accommodate bicycles along this facility.

NC 175 is currently a two lane road with two 10 foot wide lanes and no paved shoulders. US 64 is a major east-west route for Clay County. The fastest growing area in Clay County commercially is along NC 69 and at US 64 and NC 69. Improvements to NC 175 would improve the mobility to these commercial areas and to the Hayesville area. The CTP project proposal (Local ID CLAY0003-B) is the addition of wide paved shoulders from US 64 to Jack Rabbit Road (SR 1155) to accommodate bicycles. This would be a step towards accomplishing two of the goals set forth by the Clay County CTP Committee: first, to provide citizens and visitors of Clay County mode choices for their transportation needs; and second, to ease the citizens and visitors mobility in Clay County and the surrounding area. This project, when partnered with CLAY0001-H and CLAY0001-M will create a system which will provide bicycle access from the Chatuge Lake area to the commercial areas along US 64 and NC 69.

Chatuge Dam Road (SR 1146), Local ID: CLAY0004-B

Chatuge Dam Road (SR 1146) runs from Myers Chapel Road (SR 1140) to a recreational area on Chatuge Lake. A goal of the Clay County CTP Committee is to increase the mode choices of the residents and visitors of Clay County. Improvements are needed to Chatuge Dam Road (SR 1146) in order to accommodate bicyclists traveling from the recreation areas to downtown Hayesville and to the commercial developments along US 64 and NC 69.

Chatuge Dam Road currently is a two lane road with 8 foot lanes and no shoulder. The proposed CTP project (CLAY0004-B) is to construct wide paved shoulders along Chatuge Dam Road (SR 1146) to accommodate bicycles. This, coupled with the bicycle lanes to be constructed along Myers Chapel Road (CLAY0002-H), will greatly increase the mobility in this area of the county.

Jack Rabbit Road (SR 1155) Multi-Use Path, Local ID: CLAY0001-M

The Clay County CTP Committee set several transportation goals, including improving connectivity and mode choice in the areas surrounding recreation destinations. Improvements are needed to accommodate bicycle and pedestrian transportation along Jack Rabbit Road (SR 1155) to accomplish the goal set forth by the committee.

Jack Rabbit Road (SR 1155) currently runs from NC 175 to Chatuge Lake. This facility is used to access the lake front and other recreational facilities in the area. The proposed CTP project (CLAY0001-M) recommends the construction of a multi-use path the length of Jack Rabbit Road (SR 1155). Coupled with CLAY0003-B and CLAY0001-H, bicyclist will have access from this area to the commercial areas along US 64 and NC 69.

Myers Chapel Road (SR 1140), Local ID: CLAY0002-H

Bicycle lanes are recommended as a part of this project from NC 69 to US 64. (See Highway section)

Myers Chapel Road (SR 1140), Local ID: CLAY0005-B

The Clay County CTP Committee set several goals in order to increase the choice for modes of transportation in Clay County. An area of focus for the committee is the area surrounding the schools in Hayesville. Improvements are needed to Myers Chapel Road (SR 1140) in order to accommodate bicycles in this area.

Myers Chapel Road (SR 1140) is currently a two lane facility with 10 foot lanes and no shoulder. The CTP proposed project (CLAY0005-B) includes adding bicycle lanes along Myers Chapel Road (SR 1140) starting from US 64 north to the existing multi-use path at Veterans Park. This will improve mobility for people traveling to and from this area on bicycle. Other bicycle projects in the area include: CLAY0001-H which recommends wide paved shoulders to accommodate bicyclists on US 64; CLAY0002-H which includes the addition of bicycle lanes along Myers Chapel Road (SR 1140) from US 64 south to NC 69; and CLAY0002-M which includes extending the existing multi-use path to Veterans Park.

Veterans Park Multi-Use Path Extension, Local ID: CLAY0002-M

One of the objectives of the Clay County CTP Committee was to "Connect downtown Hayesville to the local residential areas, commercial areas, and schools with sidewalks and multiuse paths." Improvements are needed to improve connectivity and promote mode choices for the citizens of Clay County in their daily transportation needs.

Veterans Park currently has a multi-use path leading into the park from the school. It is recommended by the Clay County CTP Committee to extend this path to US 64 Business. This will improve access from the school to the recreation areas in and around Veterans Park. The existing multi-use path runs through an area designated as an archeological area.

Also proposed are pedestrian improvements with focus on the area surrounding the school, including pedestrian improvements to US 64 Business, School Drive, Yellow Jacket Drive, and Myers Chapel Road (SR 1140).

PEDESTRIAN

US 64, Local ID: CLAY0001-H

Sidewalks are recommended as a part of this project from NC 69 to Myers Chapel Road (SR 1140). (See Highway section)

US 64 Business, Local ID: CLAY0001-B

Sidewalks are recommended as a part of this project from May Street south to the government complex north of US 64. (See Bicycle section)

US 64 Business, Local ID: CLAY0001-P

The intersection of NC 69 and US 64, in addition to the area along NC 69, are the fastest growing areas for commercial development in Clay County. This trend is expected to continue into the future. Improvements are needed along these corridors to increase connectivity and mobility for pedestrians.

The Clay County CTP Committee was committed to providing connectivity, as well as mode choice, to this important section of Clay County. This CTP project (CLAY0001-P) recommends pedestrian improvements to help connect Hayesville to this area of commercial establishments. Specifically, sidewalks are recommended on US 64 Business from the intersection with US 64 north to School Drive (SR 1312).

This project is closely linked to other recommended projects in the area. Pedestrian improvements are recommended for the areas surrounding the schools. Additionally, pedestrian and bicycle improvements are recommended along US 64.

NC 69, Local ID: CLAY0002-P

The intersection of NC 69 and US 64, in addition to the area along NC 69, are the fastest growing areas for commercial development in Clay County. This trend is expected to continue into the future. Improvements are needed along these corridors to increase connectivity and mobility for pedestrians.

The Clay County CTP Committee was committed to providing connectivity, as well as mode choice, to this important section of Clay County. This CTP project (CLAY0002-P) recommends pedestrian improvements to help connect Hayesville to this area of commercial establishments. Specifically, sidewalks are recommended along NC 69, starting from the intersection with US 64, north to the roundabout at Yellow Jacket Drive (SR 1373).

This project is closely linked to other recommended projects in the area. Pedestrian improvements are recommended for the areas surrounding the schools. Additionally, pedestrian and bicycle improvements are recommended along US 64.

Jack Rabbit Road (1155) Multi-Use Path, Local ID: CLAY0001-M

This project recommends the construction of a multi-use path the length of Jack Rabbit Road (SR 1155) from NC 175 to Chatuge Lake. (See Bicycle section)

School Area Sidewalks:

One of the objectives of the Clay County CTP Committee was to “Connect downtown Hayesville to the local residential areas, commercial areas, and schools with sidewalks and multiuse paths.” This is to promote mode choices for the citizens of Clay County in their daily transportation needs. All of the schools in Clay County are located in southern Hayesville. Improvements are needed in the area surrounding the schools to create the mode choice and connectivity for pedestrians.

Elementary School Drive (SR 1204), Local ID: CLAY0004-P recommends adding sidewalks along Elementary School Drive (SR 1204) to the existing sidewalk on Myers Chapel Road (SR 1140).

Myers Chapel Road (SR 1140), Local ID: CLAY0009-P recommends adding sidewalks along Myers Chapel Road (SR 1140) from the end of the existing sidewalk to Yellow Jacket Drive.

School Drive (SR 1312), Local ID: CLAY0012-P recommends adding sidewalks along School Drive (SR 1312) from the end of the existing sidewalk to Yellow Jacket Drive.

Yellow Jacket Drive (SR 1313/1373), Local ID: CLAY0014-P recommends adding sidewalks along Yellow Jacket Drive (SR 1313/1373) from Myers Chapel Road (SR 1140) to the roundabout on US 64.

While all of these improvements are along current alignments, it is worth noting there is a registered archaeological site to the north and east of Myers Chapel Road (SR 1140). Other proposed projects in the area include the extension of a multi-use path and proposed pedestrian facilities near the school to establish connectivity for pedestrians to the commercial areas along US 64 and NC 69 to Hayesville. Bicycle accommodations are also recommended on Myers Chapel Road (SR 1140) to increase mobility options in the area (CLAY0005-B).

Hayesville Pedestrian Connectors:

An objective of the Clay County CTP Committee was to provide better access and connectivity for pedestrian facilities in the Hayesville area. Improvements are needed to expand the pedestrian facilities in the Hayesville area, and close some of the gaps which are in the existing pedestrian facilities.

The following CTP project proposals are to add new sidewalks along existing facilities in Hayesville.

- **Church Street, Local ID: CLAY0003-P** from Pass Street to the end of the road.
- **Hiawassee Street (SR 1309), Local ID: CLAY0005-P** closing the gap between Sullivan Street and Main Street.
- **Jones Street, Local ID: CLAY0006-P** from Arlington Street to Eagle Street.
- **Main Street, Local ID: CLAY0007-P** closing the gap between Church Street and Hiawassee Street (SR 1309).
- **Mill Street, Local ID: CLAY0008-P** from Myers Chapel Road (SR 1140) to the end of the road.
- **Ritter Road (SR 1308), Local ID: CLAY0010-P** from Hiawassee Street (SR 1309) to Tusquittee Road (SR 1307).
- **Sanderson Street (SR 1365), Local ID: CLAY0011-P** closing the gap between Tusquittee Road (SR 1307) to Church Street.

- **Tusquittee Road (SR 1307), Local ID: CLAY0013-P** from Sanderson Street (SR 1365) to Main Street and from north of Riverside Drive to Qualla Road (SR 1305).

These projects will contribute to the expansion of the system to the north of Hayesville. These projects will also extend the pedestrian facilities towards the residential areas and the church to the north of Hayesville. There are areas designated as archaeological sites located in the vicinity of the proposed projects. They are located along the eastern edge of Hayesville.

APPENDICES

Appendix A
Resources and Contacts

North Carolina Department of Transportation

Customer Service Office

Contact information for other units within the NCDOT that are not listed in this appendix is available by calling the Customer Service Office or by visiting the NCDOT directory:

1-877-DOT-4YOU (1-877-368-4968)
https://apps.dot.state.nc.us/dot/directory/authenticated/ToC.aspx

Secretary of Transportation

1501 Mail Service Center Raleigh, NC 27699-1501 (919) 707-2800
http://www.ncdot.org/about/leadership/secretary.html

Board of Transportation

1501 Mail Service Center Raleigh, NC 27699-1501 (919) 707-2820
http://www.ncdot.gov/about/board/

Highway Division

253 Webster Rd Sylva, NC 28779 (828) 586-2141
http://www.ncdot.gov/doh/operations/division14/

Contact the:

- Division Engineer with general questions concerning NCDOT activities within each Division and for information on Small Urban Funds.
- Division Construction Engineer for information concerning major roadway improvements under construction.
- Division Traffic Engineer for information concerning traffic signals, highway signs, pavement markings, and crash history.
- Division Operations Engineer for information concerning facility operations.
- Division Maintenance Engineer information regarding maintenance of all state roadways, improvement of secondary roads and other small improvement projects. The Division Maintenance Engineer also oversees the District Offices, the Bridge Maintenance Unit and the Equipment Unit.
- District Engineer for information on outdoor advertising, junkyard control, driveway permits, road additions, subdivision review and approval, Adopt-A-Highway program, encroachments on highway right of way, issuance of oversize/overwidth permits, paving priorities, secondary road construction program and road maintenance.

  191 Robbinsville Rd Andrews, NC 28901 (828) 321-4105

Transportation Planning Branch (TPB)

Contact the Transportation Planning Branch for information on long-range multi-modal planning services.

1554 Mail Service Center Raleigh, NC 27699-1554 (919) 707-0900
http://www.ncdot.gov/doh/preconstruct/tpb/

Southwestern Rural Planning Organization (RPO)

Contact the RPO for information on long-range multi-modal planning services.

125 Bonnie Lane Sylva, NC 28779 (828) 251-6371
http://www.regiona.org/rpo.htm

Strategic Planning Office

Contact the Strategic Planning Office for information concerning prioritization of transportation projects.

1501 Mail Service Center Raleigh, NC 27699-1501 (919) 707-4740
http://www.ncdot.gov/performance/reform/prioritization/

Project Development & Environmental Analysis (PDEA)

Contact PDEA for information on environmental studies for projects that are included in the TIP.

1548 Mail Service Center Raleigh, NC 27699-1548 (919) 707-6000
http://www.ncdot.gov/doh/preconstruct/pe/

Secondary Roads Unit

Contact the Secondary Roads Unit for information regarding the status for unpaved roads to be paved, additions and deletions of roads to the State maintained system and the Industrial Access Funds program.

1535 Mail Service Center Raleigh, NC 27699-1535 (919) 707-2500
http://www.ncdot.gov/doh/operations/secondaryroads/

Program Development Branch

Contact the Program Development Branch for information concerning Roadway Official Corridor Maps, Feasibility Studies and the Transportation Improvement Program (TIP).

1534 Mail Service Center Raleigh, NC 27699-1534 (919) 707-4610
http://www.ncdot.org/planning/development/

Public Transportation Division

Contact the Public Transportation Division for information public transit systems.

1550 Mail Service Center Raleigh, NC 27699-1550 (919) 707-4670
http://www.ncdot.org/transit/nctransit/

Rail Division

Contact the Rail Division for rail information throughout the state.

1553 Mail Service Center Raleigh, NC 27699-1553 (919) 707-4700
http://www.bytrain.org/

Division of Bicycle and Pedestrian Transportation

Contact this Division for bicycle and pedestrian transportation information throughout the state.

1552 Mail Service Center Raleigh, NC 27699-1552 (919) 707-2600
http://www.ncdot.gov/transit/bicycle/

Structures Management Unit

Contact the Structures Management Unit for information on bridge management throughout the state.

1581 Mail Service Center Raleigh, NC 27699-1581 (919) 707-6400
http://www.ncdot.gov/doh/operations/dp_chief_eng/maintenance/bridge/

Roadway Design Unit

Contact the Roadway Design Unit for information regarding design plans and proposals for road and bridge projects throughout the state.

1582 Mail Service Center Raleigh, NC 27699-1582 (919) 707-6200
http://www.ncdot.org/doh/preconstruct/highway/roadway/

Other State Government Offices

Department of Commerce – Division of Community Assistance

Contact the Department of Commerce for resources and services to help realize economic prosperity, plan for new growth and address community needs.

http://www.nccommerce.com/en/CommunityServices/

Appendix B
Comprehensive Transportation Plan Definitions

This appendix contains descriptive information and definitions for the designations depicted on the CTP maps shown in Figure 1.

Highway Map

For visual depiction of facility types for the following CTP classification, visit http://www.ncdot.gov/doh/preconstruct/tpb/SHC/facility/.

Facility Type Definitions

- **Freeways**
  - Functional purpose – high mobility, high volume, high speed
  - Posted speed – 55 mph or greater
  - Cross section – minimum four lanes with continuous median
  - Multi-modal elements – High Occupancy Vehicles (HOV)/High Occupancy Transit (HOT) lanes, busways, truck lanes, park-and-ride facilities at/near interchanges, adjacent shared use paths (separate from roadway and outside ROW)
  - Type of access control – full control of access
  - Access management – interchange spacing (urban – one mile; non-urban – three miles); at interchanges on the intersecting roadway, full control of access for 1,000ft or for 350ft plus 650ft island or median; use of frontage roads, rear service roads
  - Intersecting facilities – interchange or grade separation (no signals or at-grade intersections)
  - Driveways – not allowed

- **Expressways**
  - Functional purpose – high mobility, high volume, medium-high speed
  - Posted speed – 45 to 60 mph
  - Cross section – minimum four lanes with median
  - Multi-modal elements – HOV lanes, busways, very wide paved shoulders (rural), shared use paths (separate from roadway but within ROW)
  - Type of access control – limited or partial control of access;
  - Access management – minimum interchange/intersection spacing 2,000ft; median breaks only at intersections with minor roadways or to permit U-turns; use of frontage roads, rear service roads; driveways limited in location and number; use of acceleration/deceleration or right turning lanes
  - Intersecting facilities – interchange; at-grade intersection for minor roadways; right-in/right-out and/or left-over or grade separation (no signalization for through traffic)
  - Driveways – right-in/right-out only; direct driveway access via service roads or other alternate connections

- **Boulevards**
  - Functional purpose – moderate mobility; moderate access, moderate volume, medium speed
  - Posted speed – 30 to 55 mph
  - Cross section – two or more lanes with median (median breaks allowed for U-turns per current NCDOT *Driveway Manual*
  - Multi-modal elements – bus stops, bike lanes (urban) or wide paved shoulders (rural), sidewalks (urban - local government option)
  - Type of access control – limited control of access, partial control of access, or no control of access
  - Access management – two lane facilities may have medians with crossovers, medians with turning pockets or turning lanes; use of acceleration/deceleration or right turning lanes is optional; for abutting properties, use of shared driveways, internal out parcel access and cross-connectivity between adjacent properties is strongly encouraged
  - Intersecting facilities – at grade intersections and driveways; interchanges at special locations with high volumes
  - Driveways – primarily right-in/right-out, some right-in/right-out in combination with median leftovers; major driveways may be full movement when access is not possible using an alternate roadway

- **Other Major Thoroughfares**
  - Functional purpose – balanced mobility and access, moderate volume, low to medium speed
  - Posted speed – 25 to 55 mph
  - Cross section – four or more lanes without median *(US and NC routes may have less than four lanes)*
  - Multi-modal elements – bus stops, bike lanes/wide outer lane (urban) or wide paved shoulder (rural), sidewalks (urban)
  - Type of access control – no control of access
  - Access management – continuous left turn lanes; for abutting properties, use of shared driveways, internal out parcel access and cross-connectivity between adjacent properties is strongly encouraged
  - Intersecting facilities – intersections and driveways
  - Driveways – full movement on two lane roadway with center turn lane as permitted by the current NCDOT *Driveway Manual*

- **Minor Thoroughfares**
  - Functional purpose – balanced mobility and access, moderate volume, low to medium speed
  - Posted speed – 25 to 55 mph
  - Cross section – ultimately three lanes (no more than one lane per direction) or less without median
  - Multi-modal elements – bus stops, bike lanes/wide outer lane (urban) or wide paved shoulder (rural), sidewalks (urban)
  - ROW – no control of access

- Access management – continuous left turn lanes; for abutting properties, use of shared driveways, internal out parcel access and cross-connectivity between adjacent properties is strongly encouraged
- Intersecting facilities – intersections and driveways
- Driveways – full movement on two lane with center turn lane as permitted by the current NCDOT *Driveway Manual*

Other Highway Map Definitions

- **Existing** – Roadway facilities that are not recommended to be improved.
- **Needs Improvement** – Roadway facilities that need to be improved for capacity, safety, or system continuity. The improvement to the facility may be widening, other operational strategies, increasing the level of access control along the facility, or a combination of improvements and strategies. *"Needs improvement" does not refer to the maintenance needs of existing facilities.*
- **Recommended** – Roadway facilities on new location that are needed in the future.
- **Interchange** – Through movement on intersecting roads is separated by a structure. Turning movement area accommodated by on/off ramps and loops.
- **Grade Separation** – Through movement on intersecting roads is separated by a structure. There is no direct access between the facilities.
- **Full Control of Access** – Connections to a facility provided only via ramps at interchanges. No private driveway connections allowed.
- **Limited Control of Access** – Connections to a facility provided only via ramps at interchanges (major crossings) and at-grade intersections (minor crossings and service roads). No private driveway connections allowed.
- **Partial Control of Access** – Connections to a facility provided via ramps at interchanges, at-grade intersections, and private driveways. Private driveway connections shall be defined as a maximum of one connection per parcel. One connection is defined as one ingress and one egress point. These may be combined to form a two-way driveway (most common) or separated to allow for better traffic flow through the parcel. The use of shared or consolidated connections is highly encouraged.
- **No Control of Access** – Connections to a facility provided via ramps at interchanges, at-grade intersections, and private driveways.

Public Transportation and Rail Map

Bus Routes – The primary fixed route bus system for the area. Does not include demand response systems.

- **Fixed Guideway** – Any transit service that uses exclusive or controlled rights-of-way or rails, entirely or in part. The term includes heavy rail, commuter rail, light rail, monorail, trolleybus, aerial tramway, included plane, cable car, automated guideway transit, and ferryboats.

- **Operational Strategies** – Plans geared toward the non-single occupant vehicle. This includes but is not limited to HOV lanes or express bus service.
- **Rail Corridor** – Locations of railroad tracks that are either active or inactive tracks. These tracks were used for either freight or passenger service.
  - Active – rail service is currently provided in the corridor; may include freight and/or passenger service
  - Inactive – right of way exists; however, there is no service currently provided; tracks may or may not exist
  - Recommended – It is desirable for future rail to be considered to serve an area.
- **High Speed Rail Corridor** – Corridor designated by the U.S. Department of Transportation as a potential high speed rail corridor.
  - Existing – Corridor where high speed rail service is provided (there are currently no existing high speed corridor in North Carolina).
  - Recommended – Proposed corridor for high speed rail service.
- **Rail Stop** – A railroad station or stop along the railroad tracks.
- **Intermodal Connector** – A location where more than one mode of transportation meet such as where light rail and a bus route come together in one location or a bus station.
- **Park and Ride Lot** – A strategically located parking lot that is free of charge to anyone who parks a vehicle and commutes by transit or in a carpool.
- **Existing Grade Separation** – Locations where existing rail facilities and are physically separated from existing highways or other transportation facilities. These may be bridges, culverts, or other structures.
- **Proposed Grade Separation** – Locations where rail facilities are recommended to be physically separated from existing or recommended highways or other transportation facilities. These may be bridges, culverts, or other structures.

Bicycle Map

- **On Road-Existing** – Conditions for bicycling on the highway facility are adequate to safely accommodate cyclists.
- **On Road-Needs Improvement** – At the systems level, it is desirable for **an existing** highway facility to accommodate bicycle transportation; however, highway improvements are necessary to create safe travel conditions for the cyclists.
- **On Road-Recommended** – At the systems level, it is desirable for **a recommended** highway facility to accommodate bicycle transportation. The highway should be designed and built to safely accommodate cyclists.
- **Off Road-Existing** – A facility that accommodates only bicycle transportation and is physically separated from a highway facility either within the right-of-way or within an independent right-of-way.

- **Off Road-Needs Improvement** – A facility that accommodates only bicycle transportation and is physically separated from a highway facility either within the right-of-way or within an independent right-of-way that will not adequately serve future bicycle needs. Improvements may include but are not limited to, widening, paving (not re-paving or other maintenance activities), and improved horizontal or vertical alignment.

- **Off Road-Recommended** – A facility needed to accommodate only bicycle transportation and is physically separated from a highway facility either within the right-of-way or within an independent right-of-way.

- **Multi-use Path-Existing** – An existing facility physically separated from motor vehicle traffic that is either within the highway right-of-way or on an independent right-of-way that serves bicycle and pedestrian traffic. Sidewalks should not be designated as a multi-use path.

- **Multi-use Path-Needs Improvement** – An existing facility physically separated from motor vehicle traffic that is either within the highway right-of-way or on an independent right-of-way that serves bicycle and pedestrian traffic that will not adequately serve future needs. Improvements may include but are not limited to, widening, paving (not re-paving or other maintenance activities), and improved horizontal or vertical alignment. Sidewalks should not be designated as a multi-use path.

- **Multi-use Path-Recommended** – A facility physically separated from motor vehicle traffic that is either within the highway right-of-way or on an independent right-of-way that is needed to serve bicycle and pedestrian traffic. Sidewalks should not be designated as a multi-use path.

- **Existing Grade Separation** – Locations where existing "Off Road" facilities and "Multi-use Paths" are physically separated from existing highways, railroads, or other transportation facilities. These may be bridges, culverts, or other structures.

- **Proposed Grade Separation** – Locations where "Off Road" facilities and "Multi-use Paths" are recommended to be physically separated from existing or recommended highways, railroads, or other transportation facilities. These may be bridges, culverts, or other structures.

Pedestrian Map

- **Sidewalk-Existing** – Paved paths (including but not limited to concrete, asphalt, brick, stone, or wood) on both sides of a highway facility and within the highway right-of-way that are adequate to safely accommodate pedestrian traffic.

- **Sidewalk-Needs Improvement** – Improvements are needed to provide paved paths on both sides of a highway facility. The highway facility may or may not need improvements. Improvements do not include re-paving or other maintenance

activities but may include: filling in gaps, widening sidewalks, or meeting ADA (Americans with Disabilities Act) requirements.

- **Sidewalk-Recommended** – At the systems level, it is desirable for a recommended highway facility to accommodate pedestrian transportation **or** to add sidewalks on an existing facility where no sidewalks currently exist. The highway should be designed and built to safely accommodate pedestrian traffic.

- **Off Road-Existing** – A facility that accommodates only pedestrian traffic and is physically separated from a highway facility usually within an independent right-of-way.

- **Off Road-Needs Improvement** – A facility that accommodates only pedestrian traffic and is physically separated from a highway facility usually within an independent right-of-way that will not adequately serve future pedestrian needs. Improvements may include but are not limited to, widening, paving (not re-paving or other maintenance activities), improved horizontal or vertical alignment, and meeting ADA requirements.

- **Off Road-Recommended** – A facility needed to accommodate only pedestrian traffic and is physically separated from a highway facility usually within an independent right-of-way.

- **Multi-use Path-Existing** – An existing facility physically separated from motor vehicle traffic that is either within the highway right-of-way or on an independent right-of-way that serves bicycle and pedestrian traffic. Sidewalks should not be designated as a multi-use path.

- **Multi-use Path-Needs Improvement** – An existing facility physically separated from motor vehicle traffic that is either within the highway right-of-way or on an independent right-of-way that serves bicycle and pedestrian traffic that will not adequately serve future needs. Improvements may include but are not limited to, widening, paving (not re-paving or other maintenance activities), and improved horizontal or vertical alignment. Sidewalks should not be designated as a multi-use path.

- **Multi-use Path-Recommended** – A facility physically separated from motor vehicle traffic that is either within the highway right-of-way or on an independent right-of-way that is needed to serve bicycle and pedestrian traffic. Sidewalks should not be designated as a multi-use path.

- **Existing Grade Separation** – Locations where existing “Off Road” facilities and “Multi-use Paths” are physically separated from existing highways, railroads, or other transportation facilities. These may be bridges, culverts, or other structures.

- **Proposed Grade Separation** – Locations where “Off Road” facilities and “Multi-use Paths” are recommended to be physically separated from existing or recommended highways, railroads, or other transportation facilities. These may be bridges, culverts, or other structures.

Appendix C
CTP Inventory and Recommendations

Assumptions/ Notes:

- **Local ID:** This Local ID is the same as the one used for the Prioritization Project Submittal Tool. If a TIP project number exists it is listed as the ID. Otherwise, the following system is used to create a code for each recommended improvement: the first 4 letters of the county name is combined with a 4 digit unique numerical code followed by '-H' for highway, '-T' for public transportation, '-R' for rail, '-B' for bicycle, '-M' for multi-use paths, or '-P' for pedestrian modes. If a different code is used along a route it indicates separate projects will probably be requested. Also, upper case alphabetic characters (i.e. 'A', 'B', or 'C') are included after the numeric portion of the code if it is anticipated that project segmentation or phasing will be recommended.

- **Jurisdiction:** Jurisdictions listed are based on municipal limits, county boundaries, and MPO Metropolitan Planning Area Boundaries (MAB), as applicable.

- **Existing Cross-Section:** Listed under '(ft)' is the approximate width of the roadway from edge of pavement to edge of pavement. Listed under 'lanes' is the total number of lanes, with the letter 'D' if the facility is divided.

- **Existing ROW:** The estimated existing right-of-way is based on NCDOT's Roadway Characteristics Shapefile. These right-of-way amounts are approximate and may vary.

- **Existing and Proposed Capacity:** The estimated capacities are given in vehicles per day (vpd) based on LOS E for existing facilities and LOS C for new facilities. These capacity estimates were developed using the Mountain Methodology, as documented in Chapter I.

- **Existing and Proposed AADT** (Annual Average Daily Traffic) volumes, given in vehicles per day (vpd), are estimates only based on a systems-level analysis. The '2035 AADT E+C' is an estimate of the volume in 2035 with only existing plus committed projects assumed to be in place, where committed is defined as projects programmed for construction in the 2009 - 2015 Transportation Improvement Program (TIP). The '2035 AADT with CTP' is an estimate of the volume in 2035 with all proposed CTP improvements assumed to be in place. The '2035 AADT with CTP' is shown in bold if it exceeds the proposed capacity, indicating an unmet need. For additional information about the assumptions and techniques used to develop the AADT volume estimates, refer to Chapter I.

- **Proposed Cross-section:** The CTP recommended cross-sections are listed by code; for depiction of the cross-section, refer to Appendix D. An entry of 'ADQ' indicates the existing facility is adequate and there are no improvements recommended as part of the CTP.

- **CTP Classification:** The CTP classification is listed, as shown on the adopted CTP Maps (see Figure 1). Abbreviations are F= freeway, E= expressway, B= boulevard, Maj= other major thoroughfare, Min= minor thoroughfare.

- **Tier:** Tiers are defined as part of the North Carolina Mulitmodal Investment Network (NCMIN). Abbreviations are Sta= statewide tier, Reg= regional tier, Sub= subregional tier.

- **Other Modes:** If there is an improvement recommended for another mode of transportation that relates to the given recommendation, it is indicated by an alphabetic code (H=highway, T= public transportation, R= rail, B= bicycle, and P= pedestrian).

TABLE 3 - CTP INVENTORY AND RECOMMENDATIONS

HIGHWAY																		
					2009 Existing System						2035 Proposed System							
Local ID	Facility	Section (From - To)	Jurisdiction	Dist. (mi)	Cross-Section (ft)	Cross-Section lanes	ROW (ft)	Speed Limit (mph)	Existing Capacity (vpd)	2009 AADT	2035 AADT E+C	2035 AADT with CTP	Proposed Capacity (vpd)	Cross-Section	ROW (ft)	CTP Classification	Tier	Other Modes
CLAY0001-H	**US 64**	Cherokee County - Qualla Rd	Clay County	4.8	32	2	100	55	15800	7000	11500	11500	44500	4B	150	B	Sta	T
CLAY0001-H	**US 64**	Qualla Rd - Old US 64 W	Clay County	1.7	32	2	100	45	15800	8700	14600	14600	42900	4B	150	B	Sta	T
CLAY0001-H	**US 64**	Old US 64 W - Myers Chapel Rd	Clay County	1.3	60	5	150	45	31900	11000	14800	14800	41400	4D	110	B	Sta	B, P,T
CLAY0001-H	**US 64**	Myers Chapel Rd - Cold Branch Rd	Clay County	4.5	32	2	110	50	15800	7000	11500	11500	41400	4B	110	B	Sta	T
CLAY0001-H	**US 64**	Cold Branch Rd - Macon County	Clay County	13.7	32	2	100	55	15800	5900	10500	10500	44500	4B	150	B	Sta	
	US 64 BUS	US 64 - Hiawassee St	Clay County / Hayesville	1.1	18	2	60	35	9100	2300	3600	3600	9100	ADQ	ADQ	Maj	Reg	B, P
	US 64 BUS	Hiawassee St - Main St	Hayesville	0.1	30	2	60	20	9100	2300	3600	3600	9100	ADQ	ADQ	Maj	Reg	B, P
	US 64 BUS	Main St - NC 69	Hayesville	0.5	20	2	60	35	9100	5800	6700	6700	9100	ADQ	ADQ	Maj	Reg	B, P
	US 64 BUS	NC 69 - US 64	Clay County	0.4	20	2	60	35	14300	1200	1900	1900	14300	ADQ	ADQ	Maj	Reg	P
	NC 69	US 64 Bus - US 64	Clay County	0.3	20	2	60	35	14300	6000	9300	9300	14300	ADQ	ADQ	Maj	Reg	P, T
A-0011C	**NC 69**	US 64 - Cherry Rd	Clay County	0.8	28	2	100	50	15800	9500	17500	17500	41400	4C	110	B	Reg	B, T
A-0011C	**NC 69**	Cherry Rd - Georgia	Clay County	2.7	28	2	100	55	15800	7600	16200	16200	44500	4B	150	B	Reg	B, T
W-5119	**NC 175**	US 64 - Old Hwy 64 E	Clay County	0.9	20	2	60	45	11000	1200	2600	2600	11700	2C	50	Min	Reg	B
W-5119	**NC 175**	Old Hwy 64 E - Georgia	Clay County	3.3	20	2	60	45	11000	2800	4900	4900	11700	2C	50	Min	Reg	B
	Carter Cove Rd (SR 1126)	US 64 to Old Hwy 64 E	Clay County	4.1	20	2	60	35	11000	-	-	-	11000	ADQ	ADQ	Min	Sub	-
	Cherry Rd (SR 1118)	Old Highway 64 West - NC 69	Clay County	1.8	16	2	60	35	11000	550	1200	1200	11000	ADQ	ADQ	Min	Sub	-
	Cold Branch Rd (SR 1330)	NC 175 - Tusquittee Rd	Clay County	4.4	20	2	60	40	12200	980	2300	2300	12200	ADQ	ADQ	Min	Sub	-
CLAY0003-H	**Downings Creek Rd (SR 1325)**	US 64 - Tusquittee Rd	Clay County	4.6	20	2	60	40	11000	650	1000	1000	11700	2C	50	Min	Sub	-
CLAY0004-H	**Fires Creek Rd (SR 1300)**	US 64 - Tusquittee Rd	Clay County	8.6	16	2	60	35	10500	1200	2200	2200	11700	2C	50	Min	Sub	-

HIGHWAY																			
					2009 Existing System						2035 Proposed System							
Local ID	Facility	Section (From - To)	Jurisdiction	Dist. (mi)	Cross-Section (ft)	Cross-Section lanes	ROW (ft)	Speed Limit (mph)	Existing Capacity (vpd)	2009 AADT	2035 AADT E+C	2035 AADT with CTP	Proposed Capacity (vpd)	Cross-Section	ROW (ft)	CTP Classification	Tier	Other Modes
CLAY0002-H	**Myers Chapel Rd (SR 1140)**	NC 69 - Tahlequah Ridge Rd	Clay County	0.8	16	2	30	35	9100	800	1200	1200	11700	2C	50	Min	Sub	B
CLAY0002-H	**Myers Chapel Rd (SR 1140)**	Tahlequah Ridge Rd - US 64	Clay County	3.1	16	2	30	45	9100	1500	2300	2300	11700	2C	50	Min	Sub	B
	Myers Chapel Rd (SR 1140)	US 64 - Tusquittee Rd	Clay County / Hayesville	1.2	20	2	30	35	11000	1500	2300	2300	11000	ADQ	ADQ	Min	Sub	B, P
CLAY0005-H	**Old Highway 64 East (SR 1353)**	NC 175 - Burnt School House Rd	Clay County	0.9	16	2	60	45	11000	1200	2600	2600	11700	2C	50	Min	Sub	-
CLAY0005-H	**Old Highway 64 East (SR 1353)**	Burnt School House Rd - US 64	Clay County	4.0	16	2	60	40	11000	790	1400	1400	11700	2C	50	Min	Sub	-
CLAY0006-H	**Old Highway 64 West (SR 1100)**	Cherokee County - Creamery Rd	Clay County	1.5	16	2	60	25	9500	2500	4100	4100	11700	2C	50	Min	Sub	-
CLAY0006-H	**Old Highway 64 West (SR 1100)**	Creamery Rd - Trout Cove Rd	Clay County	2.9	16	2	60	45	9500	1500	2300	2300	11700	2C	50	Min	Sub	-
CLAY0006-H	**Old Highway 64 West (SR 1100)**	Trout Cove Rd - Carter Cove Rd	Clay County	1.1	20	2	60	45	11600	1100	2300	2300	11700	2C	50	Min	Sub	-
CLAY0006-H	**Old Highway 64 West (SR 1100)**	Carter Cove Rd - Ford Cove Rd	Clay County	2.4	20	2	60	35	9700	1100	2300	2300	11700	2C	50	Min	Sub	-
CLAY0006-H	**Old Highway 64 West (SR 1100)**	Ford Cove Rd - US 64	Clay County	3.6	20	2	60	45	11600	2600	3900	3900	11700	2C	50	Min	Sub	-
	Old Jones Rd (SR 1106)	Old Highway 64 West - Georgia	Clay County	0.1	26	2	60	55	15800	2300	3600	3600	15800	ADQ	ADQ	Min	Sub	-
CLAY0007-H	**Qualla Rd (SR 1305)**	US 64 - Passmore Ln	Clay County	2.4	16	2	60	40	8500	830	1300	1300	11700	2C	50	Min	Sub	-
CLAY0007-H	**Qualla Rd (SR 1305)**	Passmore Ln - Tusquittee Rd	Clay County	1.2	20	2	60	40	10600	1300	2000	2000	11700	2C	50	Min	Sub	-
CLAY0008-H	**Settawig Rd (SR 1135)**	US 64 - Old Highway 64 West	Clay County	2.5	16	2	60	40	11000	1200	1900	1900	11700	2C	50	Min	Sub	-
CLAY0009-H	**Tusquittee Rd (SR 1307)**	Cold Branch Rd - Fires Creek Rd	Clay County	6.1	20	2	60	45	11600	1300	3000	3000	11700	2C	50	Min	Sub	-
	Tusquittee Rd (SR 1307)	Fires Creek Rd - Myers Chapel Rd	Clay County / Hayesville	1.0	24	2	60	35	15800	1300	3000	3000	15800	ADQ	ADQ	Min	Sub	P

BICYCLE AND PEDESTRIAN

BICYCLE								
				Existing System		Proposed System		
			Distance	Cross-Section				Other
Local ID	Facility/ Route	Section (From - To)	(mi)	(ft)	lanes	Type	Cross-Section	Modes
CLAY0001-H	US 64	NC 69 to NC 175	4.7	60	5	On Road	4D	H, P, T
CLAY0001-B	US 64 BUS	School Drive to Courthouse Drive	1.2	18	2	On Road	-	P
CLAY0002-B	NC 69	US 64 to Myers Chapel Rd	2.8	28	2	On Road	4C	H
CLAY0003-B	NC 175	US 64 to Jack Rabbit Rd	3.5	20	2	On Road	2C	H
CLAY0004-B	Chatuge Dam Rd	Myers Chapel to Chatuge Lake	1.4	16	2	On Road	-	-
	Chatuge Lake	Chatuge Dam Rd along Chatuge Lake	0.5	-	-	Bike Path	-	-
CLAY0002-H	Myers Chapel Rd	US 64 to NC 69	3.9	16	2	On Road	2C	H
CLAY0005-B	Myers Chapel Rd	US 64 to Veterans Park	0.8	20	2	On Road	-	H, P

PEDESTRIAN								
				Existing System		Proposed System		Other
Local ID	Facility/ Route	Section (From - To)	Distance (mi)	Type	Side of Street	Type	Side of Street	Modes
CLAY0001-H	**US 64**	NC 69 to Myers Chapel Rd	0.6	-	-	Sidewalks	South	H, T, B
CLAY0001-B	**US 64 BUS**	May St to Courthouse Drive	0.8	-	-	Sidewalks	West	H, B
CLAY0001-P	**US 64 BUS**	US 64 to School Drive	0.7	-	-	Sidewalks	East	H
CLAY0002-P	**NC 69**	US 64 to US 64 BUS	0.3	-	-	Sidewalks	Both	H
	Arlington St	Riverside Dr to Jones St	0.1	S	West	-	-	H
CLAY0003-P	**Church St**	Pass Street to end of facility	0.1	-	-	Sidewalks	Both	H
	Eagle St	Riverside Dr to Jones St	0.1	S	West	-	-	H
CLAY0004-P	**Elementary School Dr**	Myers Chapel Rd to end of facility	0.1	-	-	Sidewalks	North	H
	Hiawassee St	Ritter Rd to Sullivan St	0.3	S	Both	-	-	H
CLAY0005-P	**Hiawassee St**	Sullivan St to Main St	0.1	-	-	Sidewalks	Both	H
	Hiawassee St	Main St to Sanderson St	0.1	S	Both	-	-	H
CLAY0006-P	**Jones St**	Arlington St to Eagle St	0.1	-	-	Sidewalks	North	H

PEDESTRIAN								
				Existing System		Proposed System		Other
Local ID	Facility/ Route	Section (From - To)	Distance (mi)	Type	Side of Street	Type	Side of Street	Modes
	Main St	Tusquittee Rd to Church St	0.1	-	-	Sidewalks	Both	H
CLAY0007-P	**Main St**	Church St to Hiawassee St	0.1	-	-	Sidewalks	Both	H
CLAY0008-P	**Mill St**	Myers Chapel Rd to end of facility	0.2	-	-	Sidewalks	North	H
	Myers Chapel Rd	Tusquittee Rd to Elementary School Dr	0.5	S	South	-	-	H
CLAY0009-P	**Myers Chapel Rd**	Elementary School Dr to US 64	0.7	-	-	Sidewalks	West	H, B
CLAY0010-P	**Ritter Rd**	Hiawassee St to Tusquiittee Rd	0.5	-	-	Sidewalks	West	H
	Riverside Dr	Tusquittee Rd to Arlington St	0.3	S	North	-	-	H
CLAY0011-P	**Sanderson St**	Tusquittee St to Church St	0.1	-	-	Sidewalks	Both	H
	Sanderson St	Church St to Hiawassee St	0.1	S	Both	-	-	H
	School Dr	US 64 BUS to Hayesville Middle School	0.1	S	East	-	-	H
CLAY0012-P	**School Dr**	Hayesville Middle School to Yellow Jacket Drive	0.1	-	-	Sidewalks	East	H
CLAY0013-P	**Tusquittee Rd**	Qualla Rd to Riverside Dr	0.4	-	-	Sidewalks	West	H
	Tusquittee Rd	Riverside Dr to Main St	0.2	S	South	-	-	H
CLAY0013-P	**Tusquittee Rd**	Main St to Sanderson St	0.1	-	-	Sidewalks	South	H
CLAY0014-P	**Yellow Jacket Dr**	School Dr to Myers Chapel Rd	0.3	-	-	Sidewalks	North	H

MULTI-USE PATH								
				Existing System		Proposed System		Other
Local ID	Facility/ Route	Section (From - To)	Distance (mi)	Side of Street	Cross-Section	Side of Street	Cross-Section	Modes
CLAY0001-M	**Jack Rabbit Road Multi-Use Path**	Jack Rabbit Road	1.3	-	-	North	2D	-
	Veterans Park Multi-Use Path	Veteran's Park to Myers Chapel Rd	0.5	-	-	-	-	-
CLAY0002-M	**Veterans Park Multi-Use Path Extension**	Myers Chapel Rd - US 64 BUS	0.2	-	-	-	-	-

PUBLIC TRANSPORTATION

PUBLIC TRANSPORTATION[1]							
			Speed		Existing System	Proposed System	
Local ID	Facility/ Route	Section (From - To)	Limit (mph)	Distance (mi)	Type	Type	Other Modes
CLAY0001-T	**Park & Ride Lot**	at BUS 64 and US 64	-	-	--	Bus	H, B, P

[1]Only major public transportation routes and proposals are shown here. For further documentation of the public transportation system, go to: *http://www.clayconc.com/services/details.php?id=28.*

Appendix D
Typical Cross Sections

Cross section requirements for roadways vary according to the capacity and level of service to be provided. Universal standards in the design of roadways are not practical. Each roadway section must be individually analyzed and its cross section determined based on the volume and type of projected traffic, existing capacity, desired level of service, and available right-of-way. These cross sections are typical for facilities on new location and where right-of-way constraints are not critical. For widening projects and urban projects with limited right-of-way, special cross sections should be developed that meet the needs of the project.

The typical cross sections were updated on December 7, 2010 to support the Department's "Complete Streets[1]" policy that was adopted in July 2009. This guidance established design elements that emphasize safety, mobility, and accessibility for multiple modes of travel. These "typical" cross sections should be used as preliminary guidelines for comprehensive transportation planning, project planning and project design activities. The specific and final cross section details and right of way limits for projects will be established through the preparation of the National Environmental Policy Act[2] (NEPA) documentation and through final plan preparation.

On all existing and proposed roadways delineated on the CTP, adequate right-of-way should be protected or acquired for the recommended cross sections. In addition to cross section and right-of-way recommendations for improvements, Appendix C may recommend ultimate needed right-of-way for the following situations:

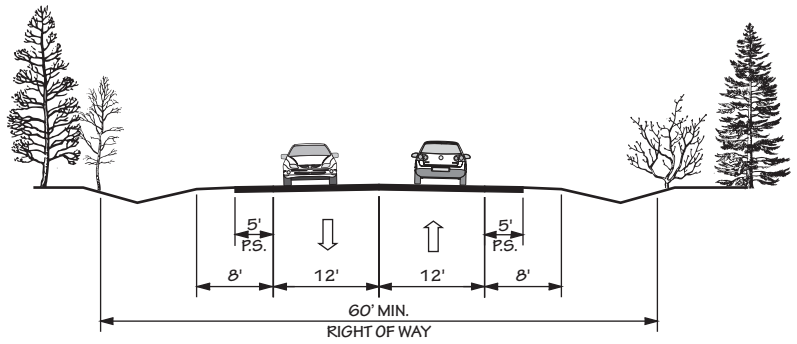
- roadways which may require widening after the current planning period,
- roadways which are borderline adequate and accelerated traffic growth could render them deficient,
- roadways where an urban curb and gutter cross section may be locally desirable because of urban development or redevelopment, and
- roadways which may need to accommodate an additional transportation mode.

[1] *For more information on Complete Streets, go to: http://www.nccompletestreets.org/index.asp.*
[2] *For more information on NEPA, go to: http://ceq.hss.doe.gov/.*

FIGURE 9
TYPICAL HIGHWAY CROSS SECTIONS
2 LANES

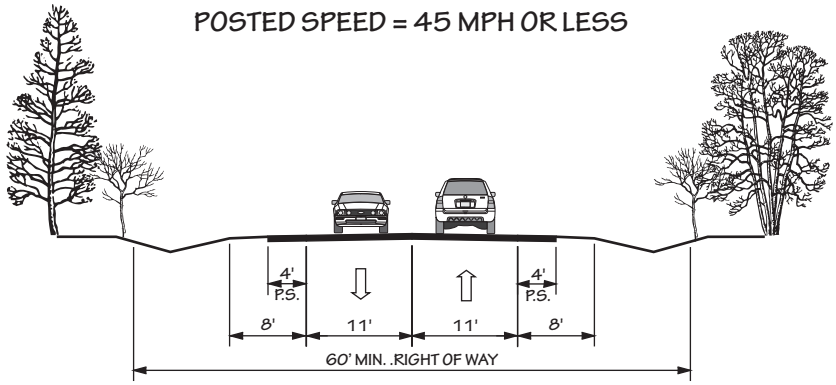
2 A

WIDE PAVED SHOULDERS
POSTED SPEED = 55 MPH



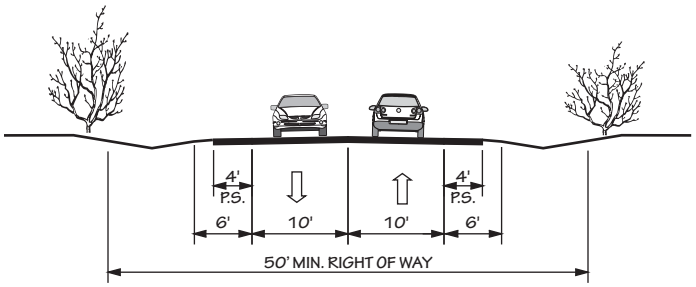
2 B

WIDE PAVED SHOULDERS
POSTED SPEED = 45 MPH OR LESS



2 C

WIDE PAVED SHOULDERS
POSTED SPEED = 35 MPH OR LESS

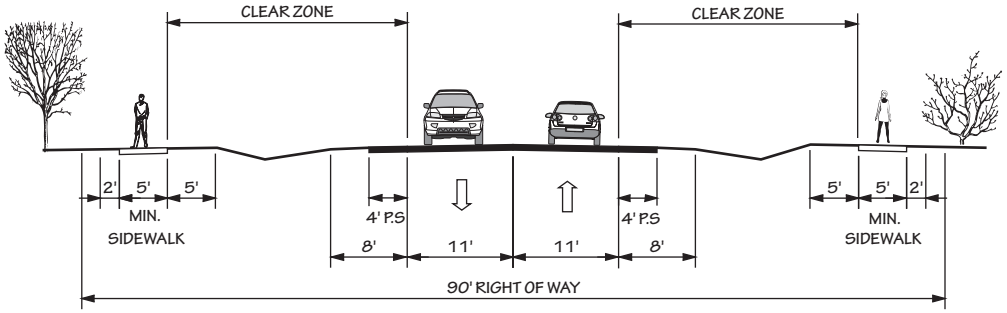


TYPICAL HIGHWAY CROSS SECTIONS

2 LANES

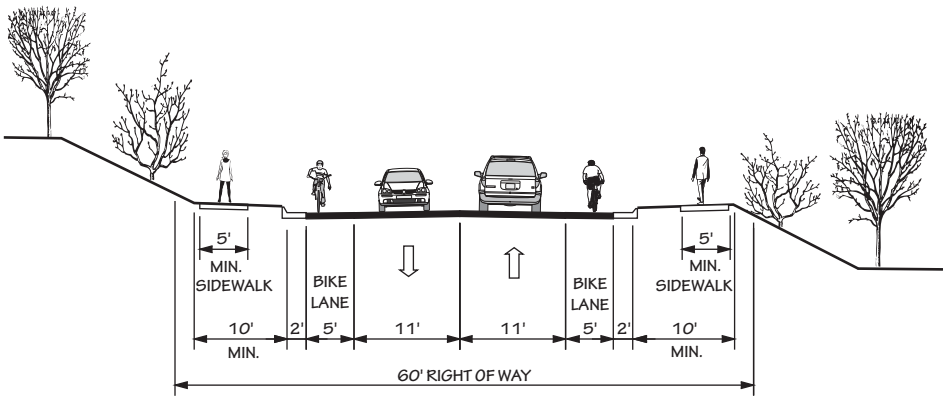
2 D

SIDEWALK PLACEMENT BEHIND A ROADWAY DITCH



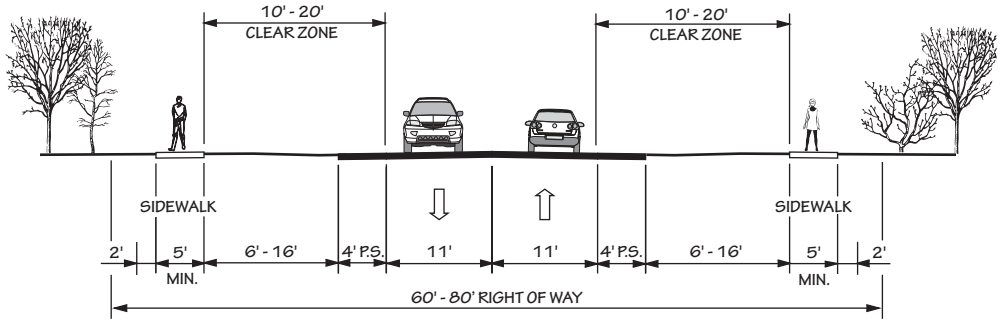
2 E

CURB AND GUTTER
WITH BIKE LANES AND SIDEWALKS



2 F

BUFFERS AND SIDEWALKS WITHOUT A ROADWAY DITCH
(20 MPH TO 45 MPH)
(TYPICALLY COASTAL AREA MANAGEMENT ACT COUNTIES)



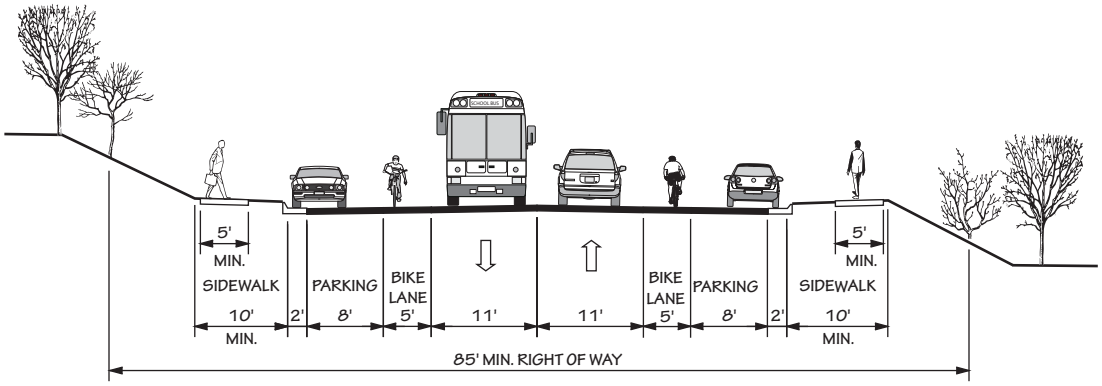
Revised 12/07/2010

TYPICAL HIGHWAY CROSS SECTIONS

2 LANES

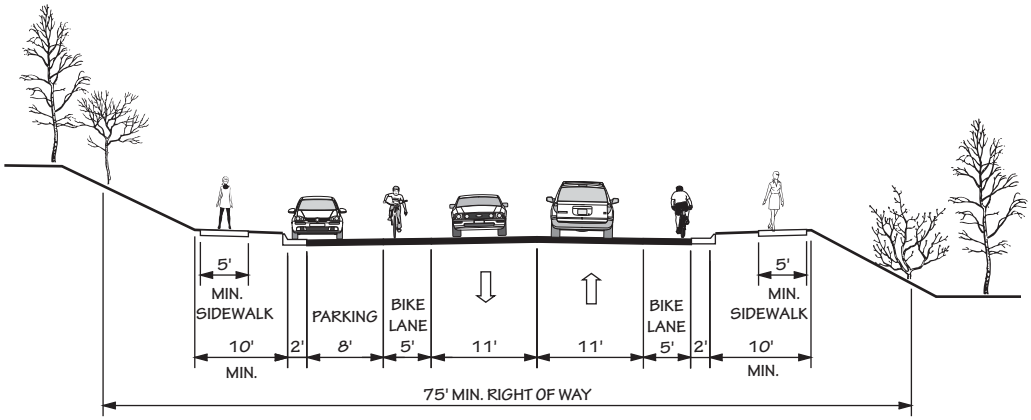
2 G

CURB & GUTTER - PARKING ON EACH SIDE



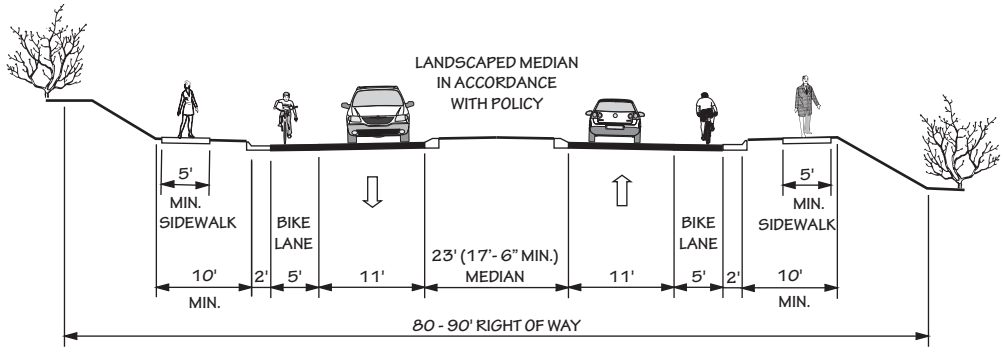
2 H

CURB & GUTTER - PARKING ON ONE SIDE



2 I

RAISED MEDIAN WITH CURB & GUTTER



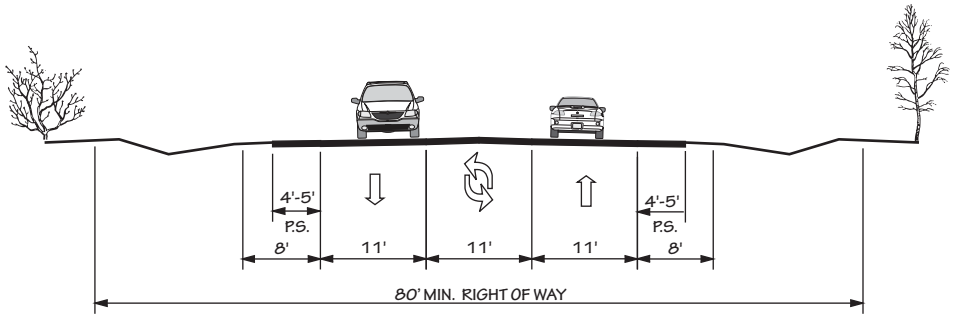
Revised 12/07/2010

TYPICAL HIGHWAY CROSS SECTIONS

3 LANES

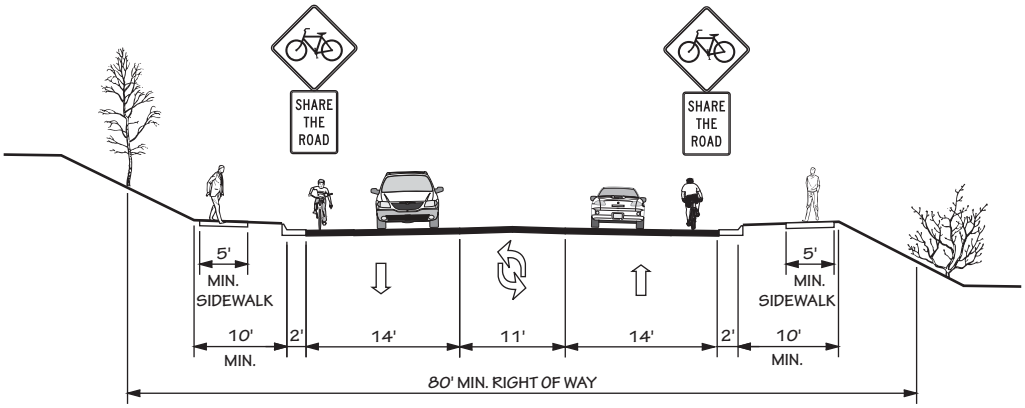
3 A

WIDE PAVED SHOULDERS



3 B

CURB & GUTTER WITH WIDE OUTSIDE LANES AND SIDEWALKS

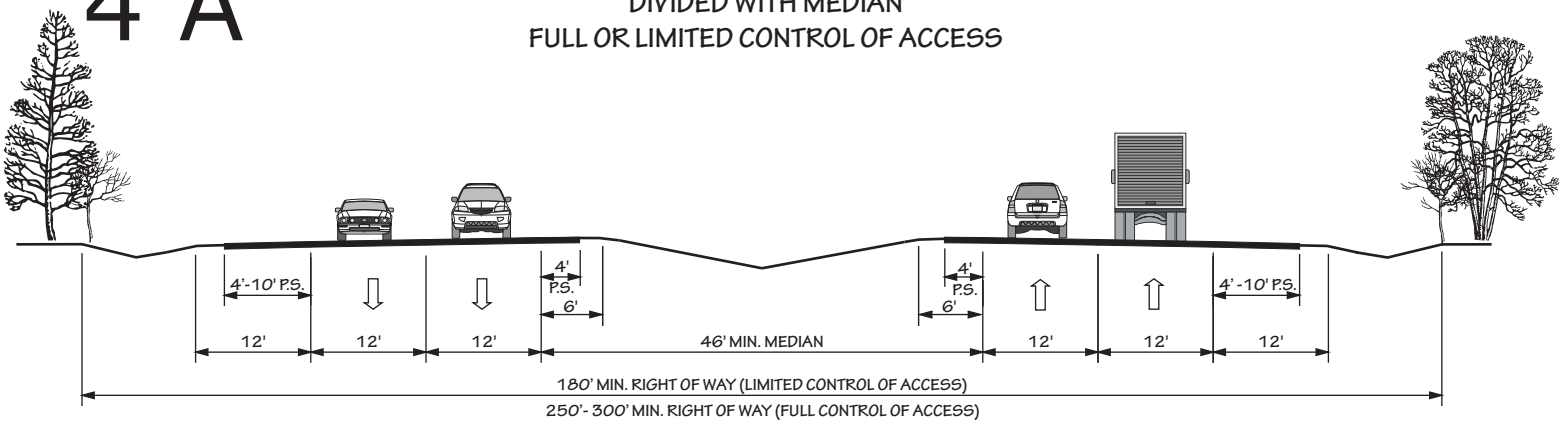


TYPICAL HIGHWAY CROSS SECTIONS

4 LANES

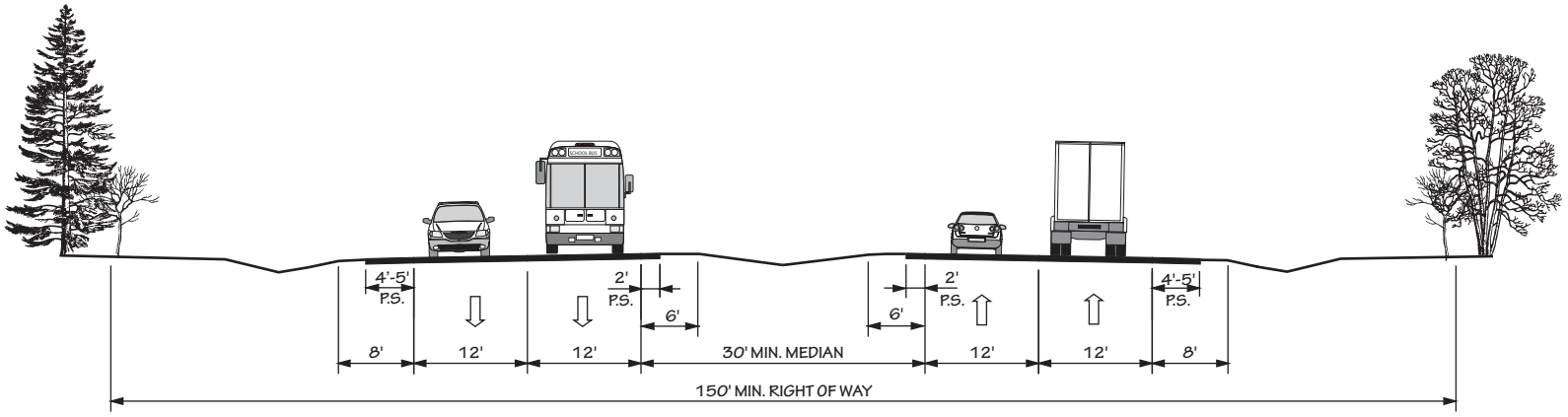
4 A

DIVIDED WITH MEDIAN
FULL OR LIMITED CONTROL OF ACCESS



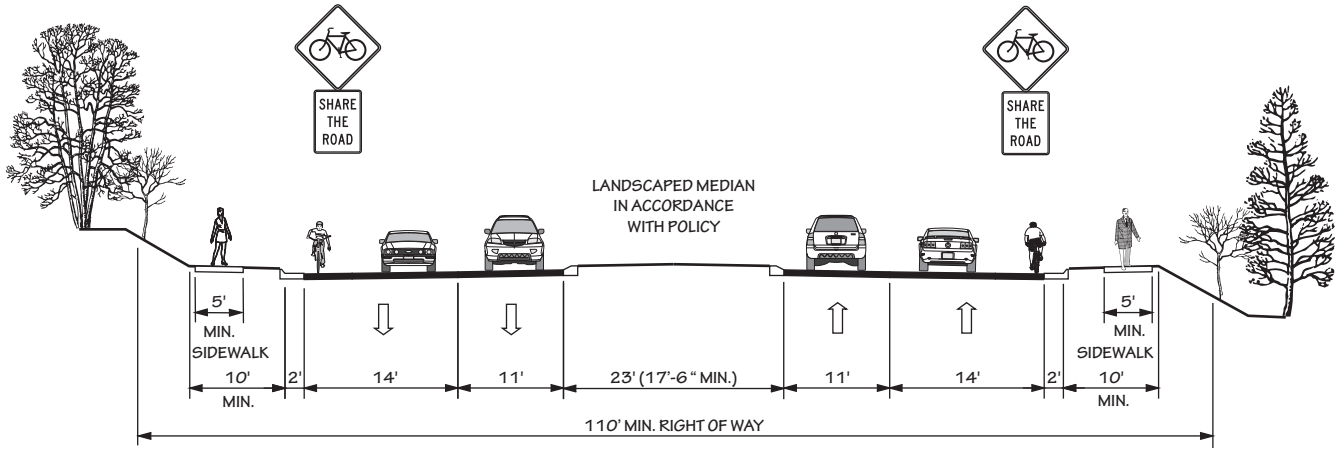
4 B

DIVIDED WITH MEDIAN - NO CURB & GUTTER
PARTIAL CONTROL OF ACCESS



4 C

RAISED MEDIAN WITH WIDE OUTSIDE LANES AND SIDEWALKS



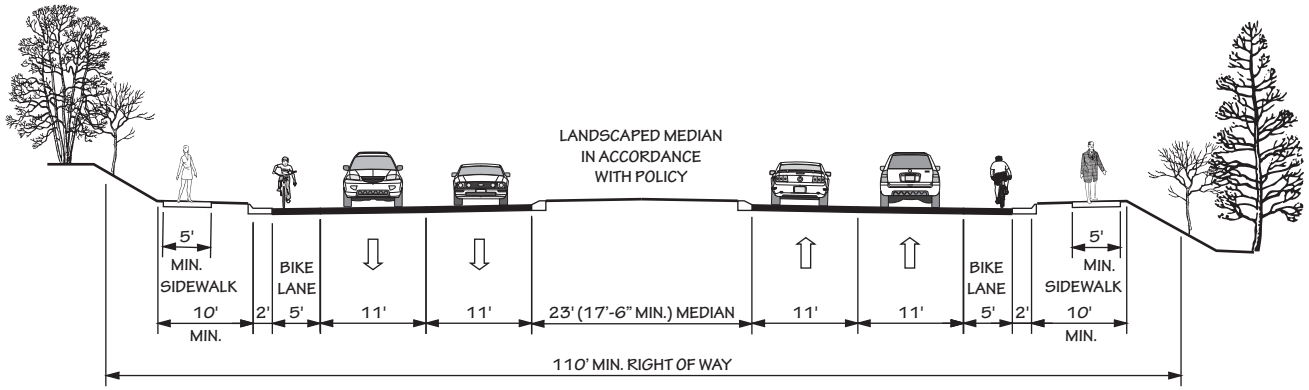
Revised 12/07/2010

TYPICAL HIGHWAY CROSS SECTIONS

4 LANES

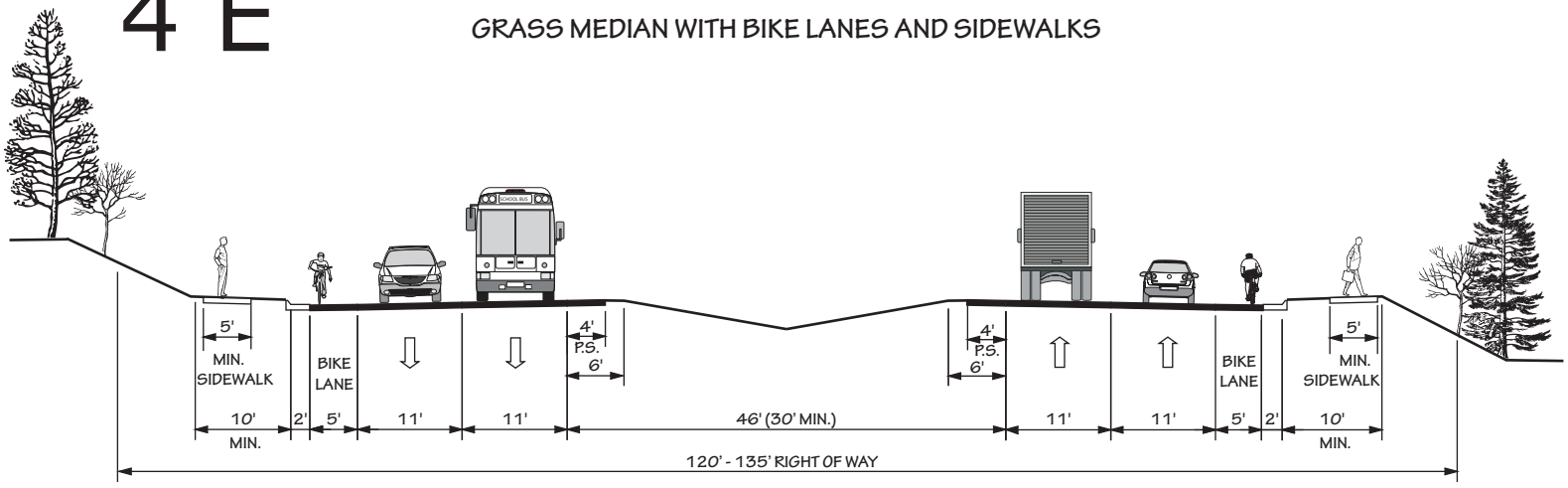
4 D

RAISED MEDIAN - CURB & GUTTER WITH BIKE LANES AND SIDEWALKS



4 E

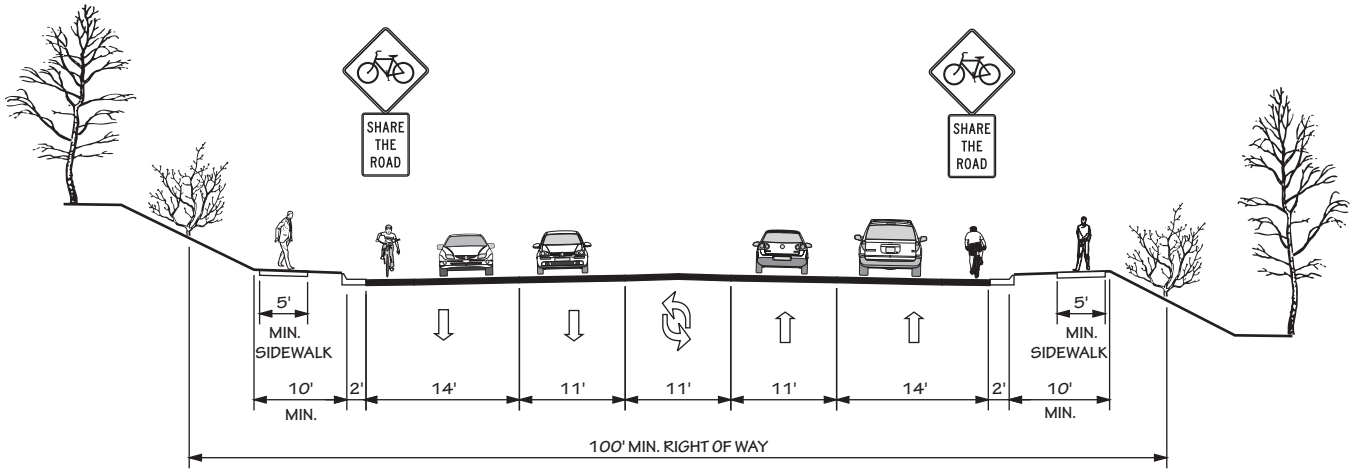
GRASS MEDIAN WITH BIKE LANES AND SIDEWALKS



5 LANES

5 A

WIDE OUTSIDE LANES

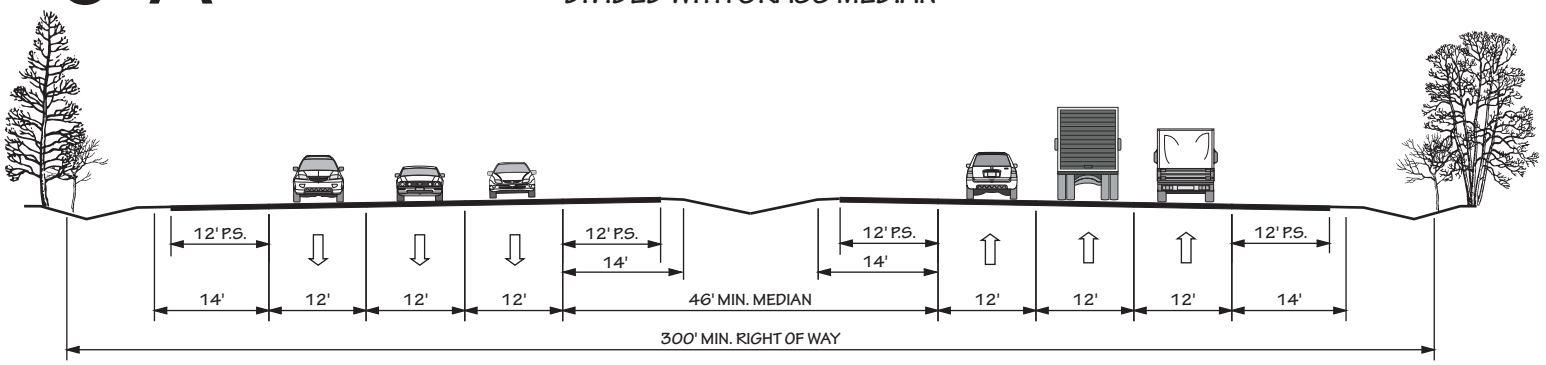


TYPICAL HIGHWAY CROSS SECTIONS

6 LANES

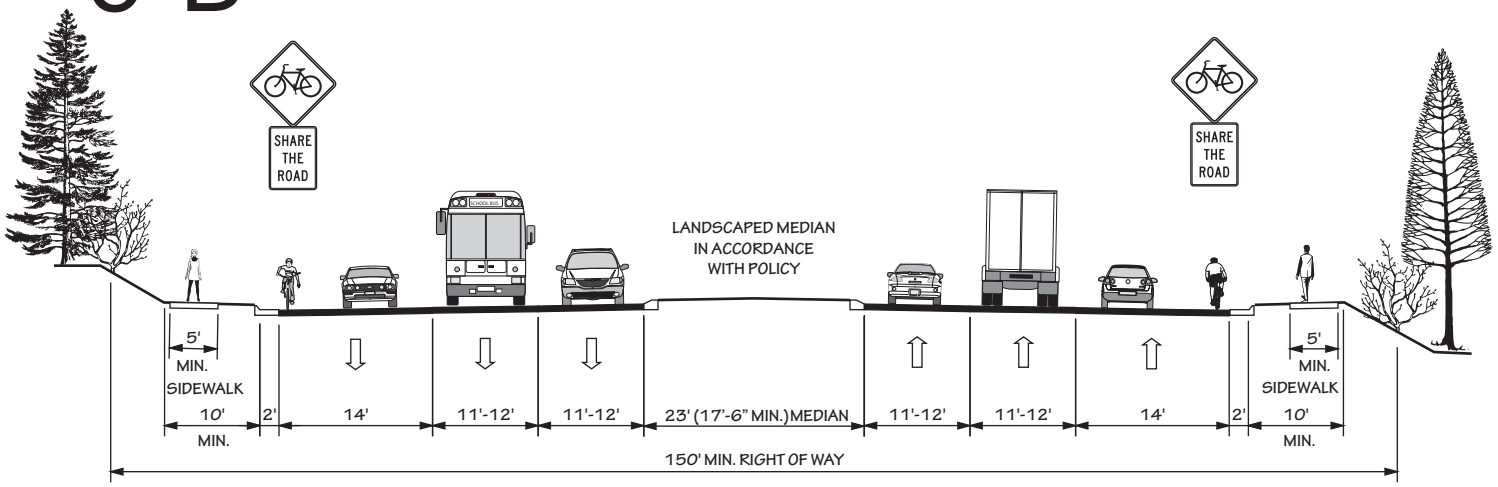
6 A

DIVIDED WITH GRASS MEDIAN



6 B

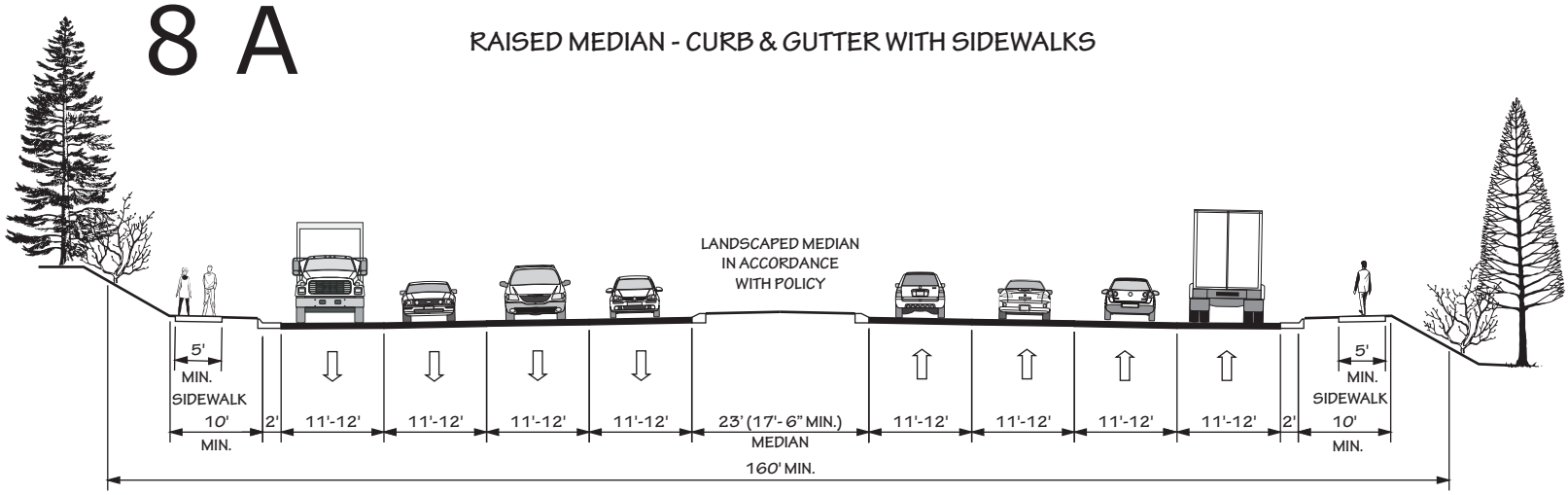
RAISED MEDIAN - CURB & GUTTER WITH WIDE OUTSIDE LANES AND SIDEWALKS



8 LANES

8 A

RAISED MEDIAN - CURB & GUTTER WITH SIDEWALKS

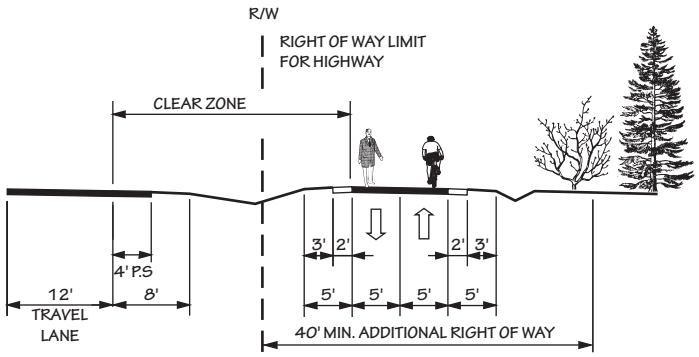


Revised 12/07/2010

TYPICAL MULTI - USE PATH

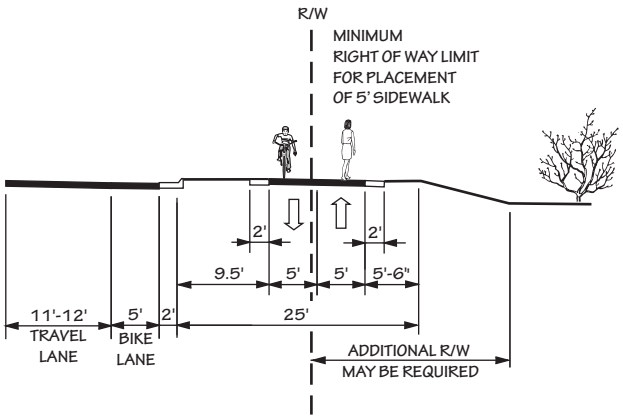
MULTI - USE PATH
ADJACENT TO RIGHT OF WAY OR SEPARATE PATHWAY

M A



MULTI - USE PATH ADJACENT TO CURB AND GUTTER

M B



Appendix E
Level of Service Definitions

The relationship of travel demand compared to the roadway capacity determines the level of service (LOS) of a roadway. Six levels of service identify the range of possible conditions. Designations range from LOS A, which represents the best operating conditions, to LOS F, which represents the worst operating conditions.

Design requirements for roadways vary according to the desired capacity and level of service. LOS D indicates "practical capacity" of a roadway, or the capacity at which the public begins to express dissatisfaction. Recommended improvements and overall design of the transportation plan were based upon achieving a minimum LOS D on existing facilities and a LOS C on new facilities. The six levels of service are described below and illustrated in Figure 10.

- **LOS A**: Describes primarily free flow conditions. The motorist experiences a high level of physical and psychological comfort. The effects of minor incidents of breakdown are easily absorbed. Even at the maximum density, the average spacing between vehicles is about 528 ft, or 26 car lengths.

- **LOS B**: Represents reasonably free flow conditions. The ability to maneuver within the traffic stream is only slightly restricted. The lowest average spacing between vehicles is about 330 ft, or 18 car lengths.

- **LOS C**: Provides for stable operations, but flows approach the range in which small increases will cause substantial deterioration in service. Freedom to maneuver is noticeably restricted. Minor incidents may still be absorbed, but the local decline in service will be great. Queues may be expected to form behind any significant blockage. Minimum average spacing is in the range of 220 ft, or 11 car lengths.

- **LOS D**: Borders on unstable flow. Density begins to deteriorate somewhat more quickly with increasing flow. Small increases in flow can cause substantial deterioration in service. Freedom to maneuver is severely limited, and the driver experiences drastically reduced comfort levels. Minor incidents can be expected to create substantial queuing. At the limit, vehicles are spaced at about 165 ft, or 9 car lengths.

- **LOS E**: Describes operation at capacity. Operations at this level are extremely unstable, because there are virtually no usable gaps in the traffic stream. Any disruption to the traffic stream, such as a vehicle entering from a ramp, or changing lanes, requires the following vehicles to give way to admit the vehicle. This can establish a disruption wave that propagates through the upstream traffic flow. At capacity, the traffic stream has no ability to dissipate any disruption. Any incident can be expected to produce a serious breakdown with extensive queuing. Vehicles are spaced at approximately 6 car lengths, leaving little room to maneuver.

- **LOS F**: Describes forced or breakdown flow. Such conditions generally exist within queues forming behind breakdown points.

Figure 10 - Level of Service Illustrations

Source: 2000 Highway Capacity Manual

Appendix F
Traffic Crash Analysis

A crash analysis performed for the Clay County CTP considered crash frequency, crash type, and crash severity. Crash frequency is the total number of reported crashes and contributes to the ranking of the most problematic intersections. Crash type provides a general description of the crash and allows the identification of any trends that may be correctable through roadway or intersection improvements. Crash severity is the crash rate based upon injuries and property damage incurred.

The severity of every crash is measured with a series of weighting factors developed by the NCDOT Division of Highways (DOH). These factors define a fatal or incapacitating crash as 76.8 times more severe than one involving only property damage and a crash resulting in minor injury is 8.4 times more severe than one with only property damage. In general, a higher severity index indicates more severe crashes. Listed below are levels of severity for various severity index ranges.

Severity	Severity Index
low	< 6.0
average	6.0 to 7.0
moderate	7.0 to 14.0
high	14.0 to 20.0
very high	> 20.0

Table 4 depicts a summary of the crashes occurring in the planning area between January 1, 2005 and December 31, 2009. The data represents locations with 10 or more crashes and/or a severity average greater than the state's average of 4.56 from 2007 to 2009 index. The "Total" column indicates the total number of crashes reported within 150-ft of the intersection during the study period. The severity listed is the average crash severity for that location.

Table 4 - Crash Locations

Map Index	Intersection	Average Severity	Total Crashes
1	US 64 and Fires Creek Rd (SR1300)	3.47	10
2	US 64 and NC 69	4.17	21
3	US 64 and US 64 BUS	24.77	7
4	US 64 and Green Cove Rd (SR1131)	19.12	5
5	NC 69 and Barnard Rd (SR1143)	8.4	5
6	US 64 BUS and NC 69	6.92	5
7	US 64 and Cold Branch Rd (SR1130)	5.44	5
8	US 64 and Carter Cover Rd (SR 1126)	5.23	7

The NCDOT is actively involved with investigating and improving many of these locations. To request a more detailed analysis for any of the locations listed in Table 4, or other intersections of concern, contact the Division Traffic Engineer (see Appendix A).

Appendix G
Bridge Deficiency Assessment

The State Transportation Improvement Program (STIP) development process for bridge projects involves consideration of several evaluation methods in order to prioritize needed improvements. A sufficiency index is used to determine whether a bridge is sufficient to remain in service, or to what extent it is deficient. The index is a percentage in which 100 percent represents an entirely sufficient bridge and zero represents an entirely insufficient or deficient bridge. Factors evaluated in calculating the index are listed below.

- structural adequacy and safety
- serviceability and functional obsolescence
- essentiality for public use
- type of structure
- traffic safety features

The NCDOT Structures Management Unit inspects all bridges in North Carolina at least once every two years. A sufficiency rating for each bridge is calculated and establishes the eligibility and priority for replacement. Bridges having the highest priority are replaced as federal and state funds become available.

A bridge is considered deficient if it is either structurally deficient (SD) or functionally obsolete (FO). Structurally deficient means there are elements of the bridge that need to be monitored and/or repaired. The fact that a bridge is "structurally deficient" does not imply that it is likely to collapse or that it is unsafe. It means the bridge must be monitored, inspected and repaired/replaced at an appropriate time to maintain its structural integrity. A functionally obsolete bridge is one that was built to standards that are not used today. These bridges are not automatically rated as structurally deficient, nor are they inherently unsafe. Functionally obsolete bridges are those that do not have adequate lane widths, shoulder widths, or vertical clearances to serve current traffic demand or to meet the current geometric standards, or those that may be occasionally flooded.

A bridge must be classified as deficient in order to qualify for federal replacement funds. Additionally, the sufficiency rating must be less than 50% to qualify for replacement or less than 80% to qualify for rehabilitation under federal funding. Deficient bridges located on roads evaluated as part of the CTP are listed in Table 5. For more details on deficient bridges within the planning area, contact the Structures Management Unit using the information in Appendix A.

Table 5 - Deficient Bridges

Bridge Number	Facility	Feature	Condition	Local ID
05	SR 1300 (Fires Creek Road)	Hiwassee River	FO	CLAY0004-H
07	SR 1300 (Fires Creek Road)	Fires Creek	SD	CLAY0004-H
09	SR 1300 (Fires Creek Road)	Tusquitee Creek	SD	B-4734 CLAY0004-H
11	NC 175	Chatuge Lake	SD	B-4733 W-5119
63	SR 1140 (Myers Chapel Road)	Blair Creek	FO	CLAY0002-H
72	SR 1300 (Fires Creek Road)	Carver Creek	SD	CLAY0004-H
74	SR 1307 (Tusquittee Road)	Shearer Creek	SD	CLAY0009-H
86	SR 1140 (Myers Chapel Road)	Hyatt Mill Creek	FO	CLAY0002-H
87	SR 1140 (Myers Chapel Road)	Hyatt Mill Creek	FO	CLAY0002-H
88	SR 1140 (Myers Chapel Road)	Hyatt Mill Creek	FO	CLAY0002-H
101	SR 1353 (Old Highway 64 East)	Shooting Creek	SD	CLAY0005-H

Appendix H
Public Involvement

This appendix documents the public involvement process and includes a listing of steering committee members, the goals and objectives survey results, and public meetings held throughout the development of the CTP.

List of CTP Steering Committee Members

At the start of a CTP study, a committee is formed that is comprised of individuals who represent the various needs, issues and populations of the community. These representatives are responsible for capturing the transportation needs of the community relative to all modes of transportation and for guiding the development of the CTP. The Southwestern Rural Planning Organization coordinated the establishment of the Clay County CTP Committee. Listed below are the members of the Clay County CTP Committee:

- Paul Leek, Clay County Manager
- Harrell Moore, Town of Hayesville
- Wesley Grindstaff, NCDOT – Division 14
- Brian Trout, Clay County – Economic Development
- Joanna Adkinson, Clay County Resident and Bicyclist
- Ed Roach, Local Resident
- Becky Smith, Clay County Transit

CTP Vision, Goals, Objectives and MOEs

The CTP vision, goals and objectives are developed as part of the public involvement process and help identify how the people within an area would like to develop the transportation system (all modes). The CTP committee develops the draft vision, goals, objectives, and MOEs which are further refined with input from citizens via the CTP Goals & Objectives (G&O) survey. These products become the official guide for the CTP being developed.

The vision statement, goals and objectives reflect what is important for the area and defines any local preferences concerning the transportation system and community assets. The vision statement is the framework for the area's strategic planning. Goals and objectives document how the area plans to fulfill its vision. The goals break down the vision statement into themes, while the objectives document how the area plans to make progress towards achieving each goal. MOEs are established to enable the area to track the progress of each objective.

Vision Statement:

Clay County is committed to a reliable multi-modal transportation system which is environmentally sensitive, offers connectivity and accessibility, while maintaining the flexibility required to address the economic needs of the community.

Goals:

1. To develop a reliable transportation system.

2. To provide citizens and visitors of Clay County mode choices for their transportation needs.

3. To ease the citizens and visitors mobility in Clay County and the surrounding area.

Objectives:

1. To connect downtown Hayesville to the local residential areas, commercial areas, and schools with sidewalks and multi-use paths.

2. To connect residential areas to local recreational facilities with sidewalks and multiuse paths.

3. To expand the transit facilities to include offering a “van pooling” service for outside of Clay County by 2035.

4. To maintain the 15 minute headway in the local transit system.

5. To add a deviated fixed route in the US 64 corridor

6. To increase customer participation in “Ridge Runner” transit service in the counties surrounding Clay County.

7. All future projects should consider inclusion of bike lanes or paved shoulders.

8. To create “Park and Ride” locations in Clay County.

Goals and Objectives Survey

A G&O survey is a public involvement technique used to help identify an area’s perception of transportation-related issues, identify concerns that should be addressed during the development of a CTP, and to help develop a vision for the community. The G&O survey is most appropriately implemented at the beginning of the transportation planning study. In addition to determining up front what is important to the citizens of the planning area, initiating the G&O survey early in the planning process allows the survey to serve as an introduction to the transportation planning process. The survey

usually includes a brief introduction explaining what a transportation plan is and how the area can benefit from having one. The survey also includes a wide variety of questions that is tailored to each area as appropriate. A summary of the Clay County G & O survey is given below.

Survey Introduction

Public participation is a critical element in the development of a Comprehensive Transportation Plan (CTP). Active public involvement will help to ensure that the CTP that is developed for a particular area meets the objectives of the community. If the plan does not reflect the values of the community, it is unlikely that it will be implemented and used to its fullest potential.

The Transportation Survey is a means of determining the values of the county as they pertain to transportation issues. This survey attempts to identify the area residents' perception of transportation related issues and to determine specific concerns that should be addressed in the CTP. The survey results are used to guide the development of a CTP that will best meet the needs of the county, and can also be a useful tool for the local government, NCDOT engineering staff, and the general public.

Survey Methodology

The Transportation Survey that was used for Clay County was developed by the Clay County CTP Committee. The committee is comprised of representatives from: Southwestern RPO, NCDOT Transportation Planning Branch, Clay County administration, Hayesville, NCDOT Division 14, Clay County Economic Development Commission, Clay County Transit, and members of the general public representing public schools, private business, and bike and pedestrian interests.

The survey was distributed in two formats as determined by the task force. A printed version was mailed with a monthly power bill to 8900 county residents. Completed surveys could be mailed to NCDOT or dropped off at Kerr Drugs, where many people pay their power bill. The survey was also available on the Survey Monkey website. The URL address was on the printed version of the survey and was distributed via email to task force members, to disseminate to their contacts.

193 surveys were completed and returned during the allotted one month time period.

Survey Results

The median age of the respondents was 64, with 82% identifying themselves as full-time residents and 18% as part-time residents. 53% of respondents are retired, 3% unemployed, 24% work full-time in Clay County, and 20% work full-time outside of the county.

1. When asked which 3 improvements from the following list would best address the transportation needs of the county, respondents answered with the following frequency:

Answer Options	Response Percent
Widen existing roads	55.4%
Improve pavement and bridges	53.7%
Add bike lanes	34.7%
Greenways and off-road paths	28.2%
Increase amount of sidewalk and improve existing sidewalks	26.7%
Provide better information to drivers	10.6%
Build new roads	6.2%

2. When asked about routine DAILY travel outside of Clay County, respondents answered as follows:

   - 33.2% do not routinely travel outside of Clay County
   - 36.2% travel to Georgia daily
   - 30.6% travel to Cherokee or Macon County (or beyond) daily

3. Reasons for traveling outside the county are as followed:

Answer Options	Response Percent
Shopping	60.0%
Medical needs	52.5%
Recreation	34.6%
Work	30.1%
Do not regularly leave Clay County	11.1%

4. When asked about the *use of public transit*, 81% of respondents do NOT use it, and 19% DO.

When asked why they *do not use public transit*, the following reasons were given most frequently:

- No need
- Own/drive a vehicle
- Inadequate service
- Didn't know it existed

Those that *do use public transit* overwhelmingly named their destination as:

- Medical appointments
- Airports

5. When asked if they would use a parking area provided for carpooling or transit facilities, 34% of respondents answered Yes, and 66% No.

6. When asked which roads should have *accommodations for bicyclists*, the following roads were named the most frequently:

   - HWY 64
   - HWY 69
   - Meyers Chapel
   - 175
   - Tusquittee Road

7. The *majority* who responded that they do not bicycle in Clay County indicated that the reason was their age or health. There were some comments naming safety and inadequate roads as the reason.

8. When asked which areas in Clay County were in need of *general transportation improvements*, respondents named the following:

Routes	**Types of improvements:**
➢ HWY 64	➢ Addition of bike lanes to existing roads
➢ Tusquittee Road	➢ Improve and extend existing sidewalks
➢ HWY 175	➢ Add new sidewalks
➢ HWY 69	➢ Widen narrow roads
➢ Qualla Road	➢ Improve road maintenance and upkeep on existing roads
➢ Downtown Hayesville	

9. Respondents were asked to rank *transportation system goals* in order of importance, 1 being the most important, 4 the least. The results were as follows:

1. Reliability
2. Accessibility/Connectivity
3. Ease of Use
4. Transportation Options

10. As to the question "What prevents you from using pedestrian facilities in Clay County?" there were several common themes in the answers:

    - Nothing preventing me, there is no problem with current facilities
    - What pedestrian facilities? Where are they?
    - Live too far outside of town to walk
    - Safety issues prohibit walking on existing roads
    - Old age/poor health

11. Which of the following currently describes your employment status?

Answer Options	Response Percent
Work full or part time in Clay County	24%
Work full or part time outside of Clay County	20%
Currently Unemployed	3%
Retired	53%

12. How much time do you live in Clay County each year?

Answer Options	Response Percent
I am a full time resident	82%
I am a part time resident	18%

13. The median age of the respondents was 64.

14. General comments offered at the end of the survey that are not addressed by other survey questions were within the following themes:

    - Need more roadside trash pick-up
    - Don't want any more change or growth
    - Grateful for opportunity to weigh in on transportation decisions
    - Happy with transportation in Clay County

- Unhappy with use of tax dollars (on survey and unnecessary transportation projects)

Public Meetings

Brief summaries of public meetings held within the planning area are given below.

Public Workshop

A public drop-in session was held in the Clay County Courthouse on January 31, 2012 to present the proposed Comprehensive Transportation Plan to the public. This session allowed the public to make any comments directly to the members of the Clay County CTP Committee that were in attendance. Five people attended the drop-in session. The only comments made were regarding the prioritization of funds spent towards multi-modal projects.

Public Hearing

A public hearing was held on March 1, 2012 during the Clay County Commissioners meeting. There were no comments from the public at this time. The CTP was adopted during this meeting.

Appendix I
Socio-Economic Data Forecasting Methodology

In the development of the Clay County CTP, existing and anticipated deficiencies were determined through an analysis of the transportation system looking at both current and future travel patterns. The Clay County CTP Committee worked with NCDOT to estimate population growth, economic development potential, and land use trends to determine the potential impacts on the future transportation system. Below is a description of the methodology used in the analysis.

Population

Population trends were estimated using available data from the U.S. Census Bureau and the data from the survey conducted in 2010. Population counts and data were compared between the 2010 Census data and the 2000 Census data. Based on this information, an annual growth rate of 2% was used for Clay County CTP.

Employment

Future employment conditions within Clay County were obtained from input and discussions from CTP steering committee. This included approximate locations and number of jobs for proposed employment centers. Any anticipated heavy demand on the future transportation system as a result of these proposals was accounted for in projected traffic volumes. Areas of expected higher employment growth and traffic growth are NC 69 between US 64 and Georgia and the US 64 corridor in the area of the NC 69 intersection.

Future Traffic

Annual Average Daily Traffic volumes across the county from 1991 to 2009 were gathered. Growth rates for 1991-2009 and 2000-2009 were analyzed to note any effects the economy has had on local growth. Two main methods were used to project this data to 2035.

The first method was using a simple linear regression for the data using all the data available from 1991 to 2009. The second method was applying an exponential growth factor to project to 2035. The majority of the projections were made using the first linear regression method. A few areas yielded no growth or a reduction in traffic. In these areas, the exponential model was used to obtain a conservative estimate. This data was presented to and endorsed by the Clay County CTP Committee on May 26, 2011. The established future growth rates were endorsed by Hayesville on October 10, 2011 and Clay County on January 5, 2012.