Comprehensive Transportation Plan

Madison County

March 2012

Comprehensive Transportation Plan

Madison County

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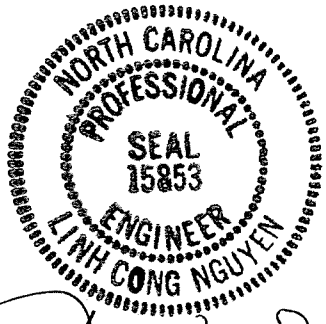
Transportation Planning Branch
N.C. Department of Transportation

In Cooperation with: Madison County
Town of Marshall
Town of Mars Hill
Town of Hot Springs
Land-of-Sky Rural Planning Organization

March 2012



Linh C. Nguyen, PE

Executive Summary

In February of 2009, the Transportation Planning Branch of the North Carolina Department of Transportation and Madison County initiated a study to cooperatively develop the Madison County Comprehensive Transportation Plan (CTP), which includes the town of Mars Hill, Marshall and Hot Springs. 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. Refer to Figure 1 for the CTP maps, which were mutually endorsed/adopted in 2011. Implementation of the plan is the responsibility of Madison County, its municipalities, and NCDOT. Refer to Chapter 2 for information on the implementation process.

This report documents the recommendations for improvements that are included in the Madison 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 19 (TIP Project R-2518A):** Widen to a four-lane divided boulevard from I-26 to Yancey County.

- **US 25/US 70 (MADI0003-H):** Widen to a four-lane divided boulevard from NC 251 to North Main Street (US 25/US 70 Business) in Marshall.

- **NC 213 Bypass (MADI0005-H):** Construct a new 2-lane major thoroughfare south of NC 213 in Mars Hill from west of I-26 to Gabriels Creek Road (SR 1565).

- **Spring Creek Connector (TIP Project R-5117)**: Upgrade existing Little Pine Road (SR 1135) to 12 foot lanes and build a 2-lane connector from the end of Little Pine Road (SR 1135) to NC 63 at a location south of Duckett Top Tower Road.

- **Express bus service from Asheville to Mars Hill (MADI000-T):** Add a new express bus service from downtown Asheville to Mars Hill.

- **Multi-use path along NC 251 (MADI0001-M)**: Construct a multi-use path along NC 251 from Buncombe County to US 25/US 70 east of Marshall.

Table of Contents

Appendices

List of Figures

List of Tables

Adopted by:

Madison County
Date: December 3, 2010

Town of Mars Hill
Date: December 6, 2010

Town of Marshall
Date: January 19, 2011

Town of Hot Springs
Date: February 7, 2011

NCDOT
Date: April 7, 2011

Endorsed by:

Land-Of-Sky RPO
Date: February 11, 2011

Recommended by:

Transportation Planning Branch
Date: March 4, 2011

NOTES:

Madison County

Comprehensive Transportation Plan

Plan date: October 4, 2010

Legend

- Roads
- Railroad
- School
- County Boundary
- Rivers and Streams
- Municipal Boundary
- National Forest

Figure 1, Sheet 1 of 5

0 1.25 2.5 5 Miles

Base map date: 10-19-2009

Refer to CTP document for more details

Highway Map

Madison County

Comprehensive Transportation Plan

Plan date: October 4, 2010

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

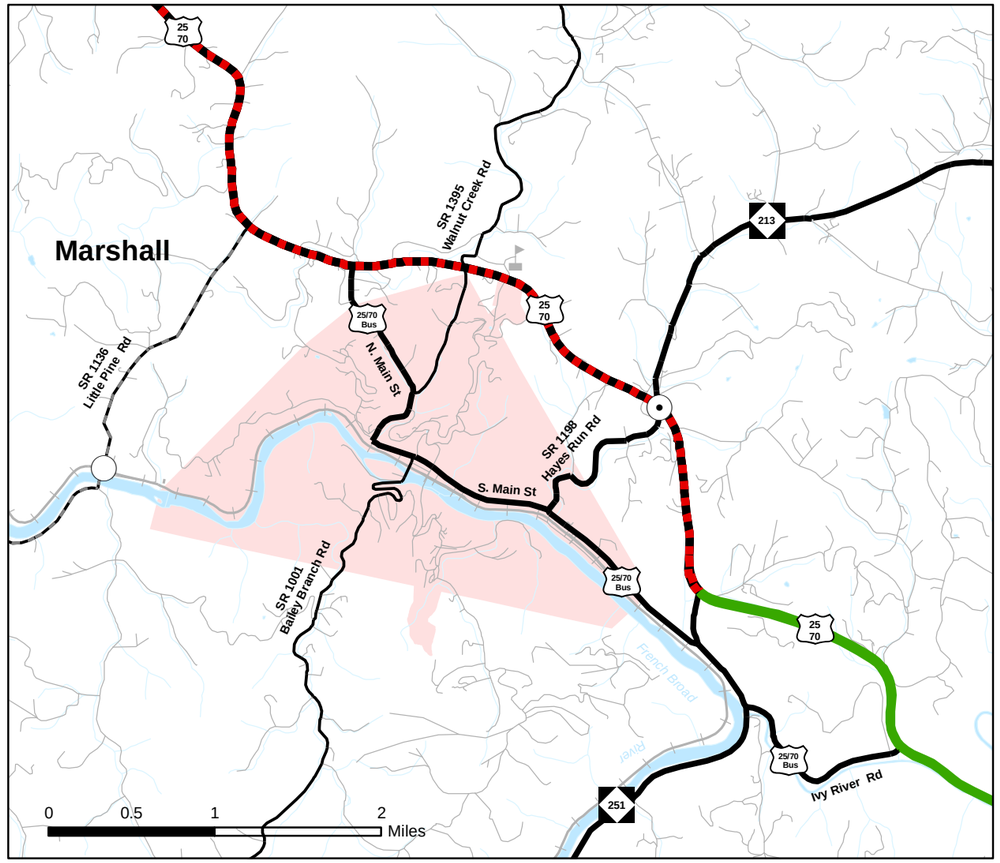
- Existing Interchange
- Proposed Interchange
- Existing Grade Separation
- Proposed Grade Separation

Figure 1, Sheet 2 of 5

0 1.5 3 6 Miles

Base map date: 10-19-2009

Refer to CTP document for more details



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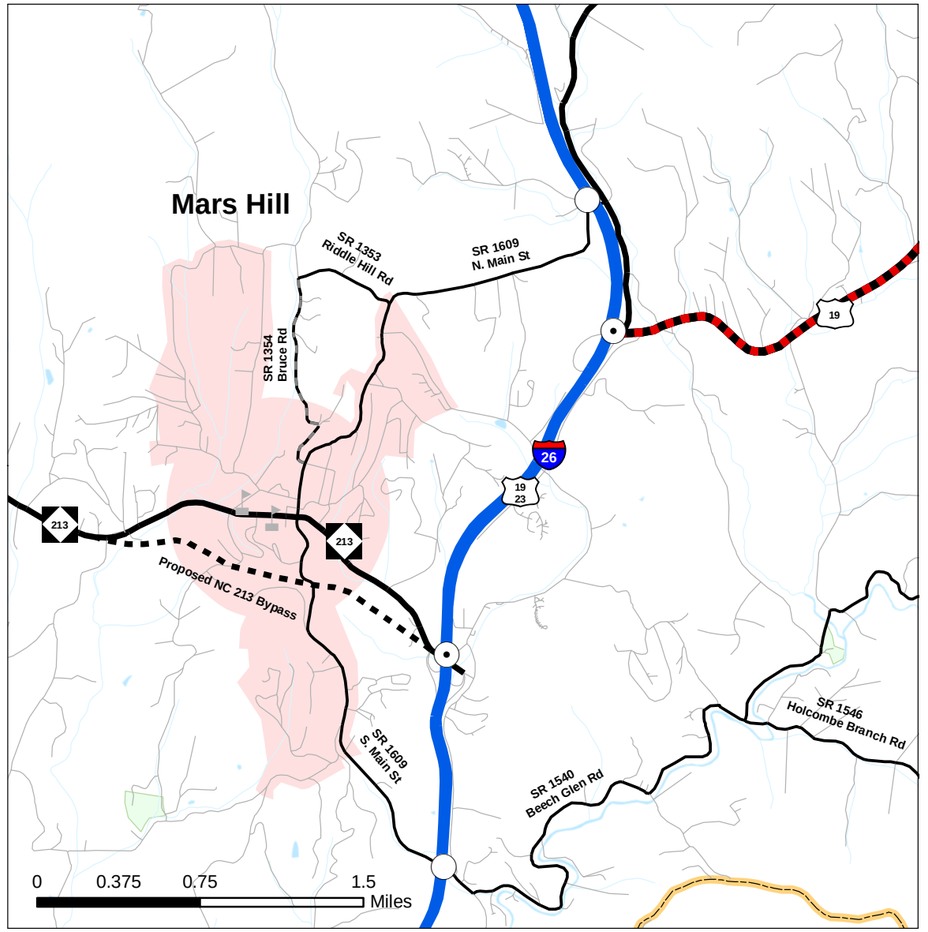

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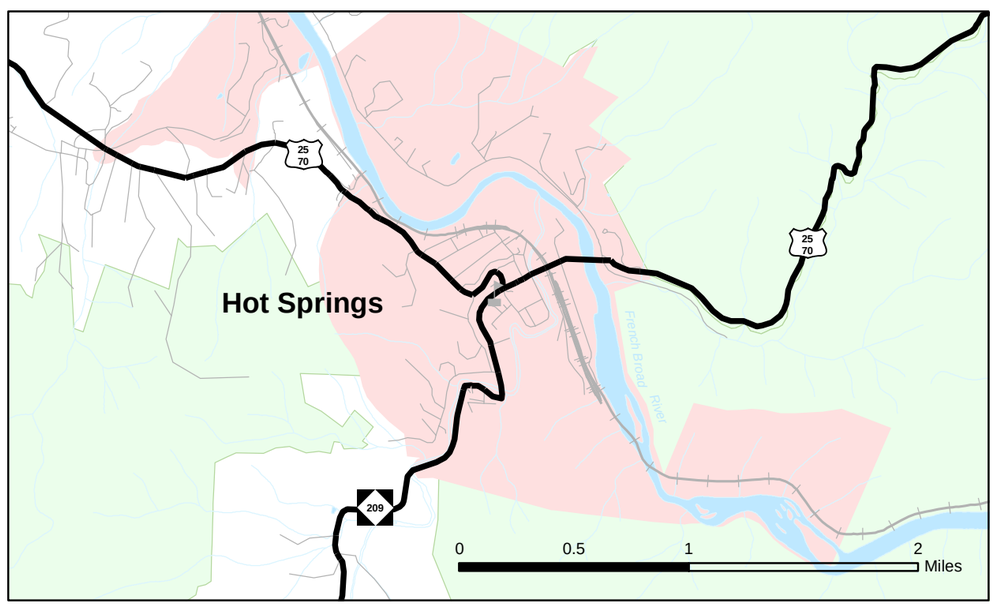


Inset C

Highway Map
Insets A, B & C

Madison County
Comprehensive Transportation Plan

Plan date: October 4, 2010

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

N W E S

Figure 1, Sheet 2A of 5

Base map date: 10-19-2009

Refer to CTP document for more details

Public Transportation and Rail Map

Madison County
Comprehensive Transportation Plan

Plan date: October 4, 2010

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

Figure 1, Sheet 3 of 5

0 1 2 4 Miles

Base map date: 10-19-2009

Refer to CTP document for more details

Tennessee

Yancey County

Buncombe County

Haywood County

Pisgah National Forest

Hot Springs

Marshall

Mars Hill

Southern Railway

SR 1549 Calvin Edney Rd

SR 1609 S. Main St

SR 1540 Beech Glen Rd

SR 1318 Gunter Town Rd

SR 1318 Big Laurel Rd

SR 1395 Walnut Creek Rd

SR 1370 Grapevine Rd

SR 1526 Crooked Creek Rd

SR 1530 Paint Fork Rd

SR 1546 Holcombe Branch Rd

SR 1175 Meadow Fork Rd

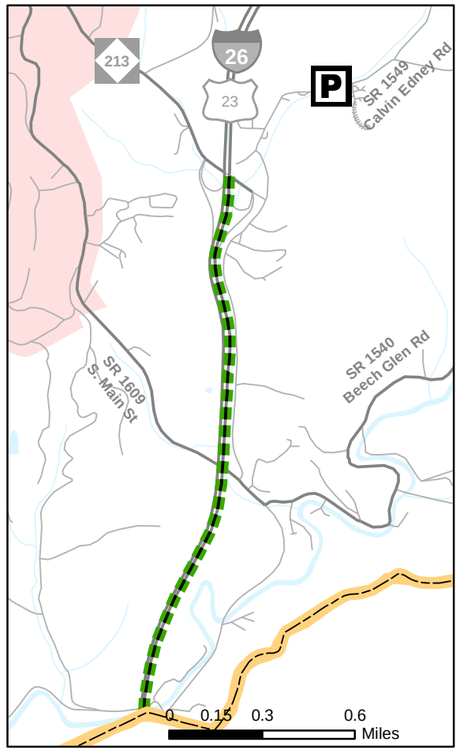
SR 1151 Big Pine Rd

SR 1165 Caldwell Mtn. Rd

SR 1135 Little Pine Rd

SR 1001 Meadow Town Rd

Inset A



Inset A

N W E S

Bicycle Map

Madison County
Comprehensive Transportation Plan

Plan date: October 4, 2010

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

Figure 1, Sheet 4 of 5

Miles
0 1 2 4 6

Base map date: 10-19-2009

Refer to CTP document for more details

Pedestrian Map

Madison County
Comprehensive Transportation Plan

Plan date: October 4, 2010

Sidewalks
- Existing
- Needs Improvement
- Recommended

Off-road
- Existing
- Needs Improvement
- Recommended

Multi-Use Paths
- Existing
- Needs Improvement
- Recommended

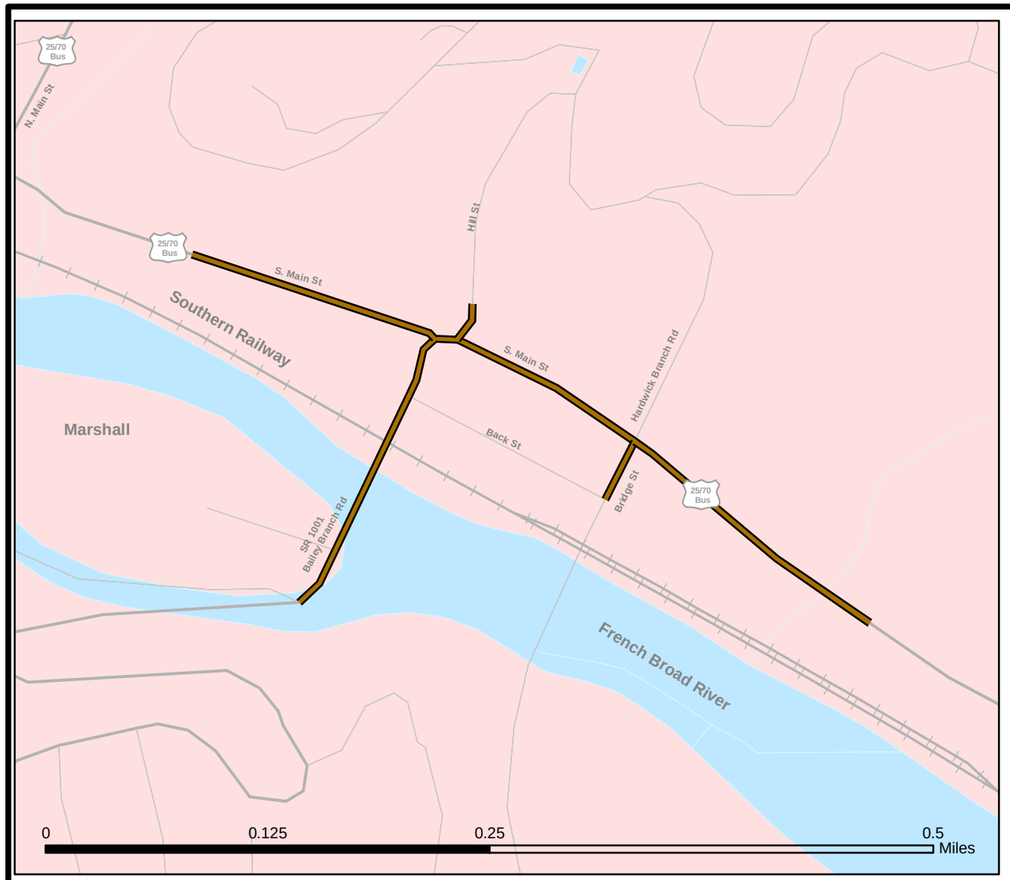
- Existing Grade Separation
- Proposed Grade Separation

Figure 1, Sheet 5 of 5

0 1.5 3 6 Miles

Base map date: 10-19-2009

Refer to CTP document for more details



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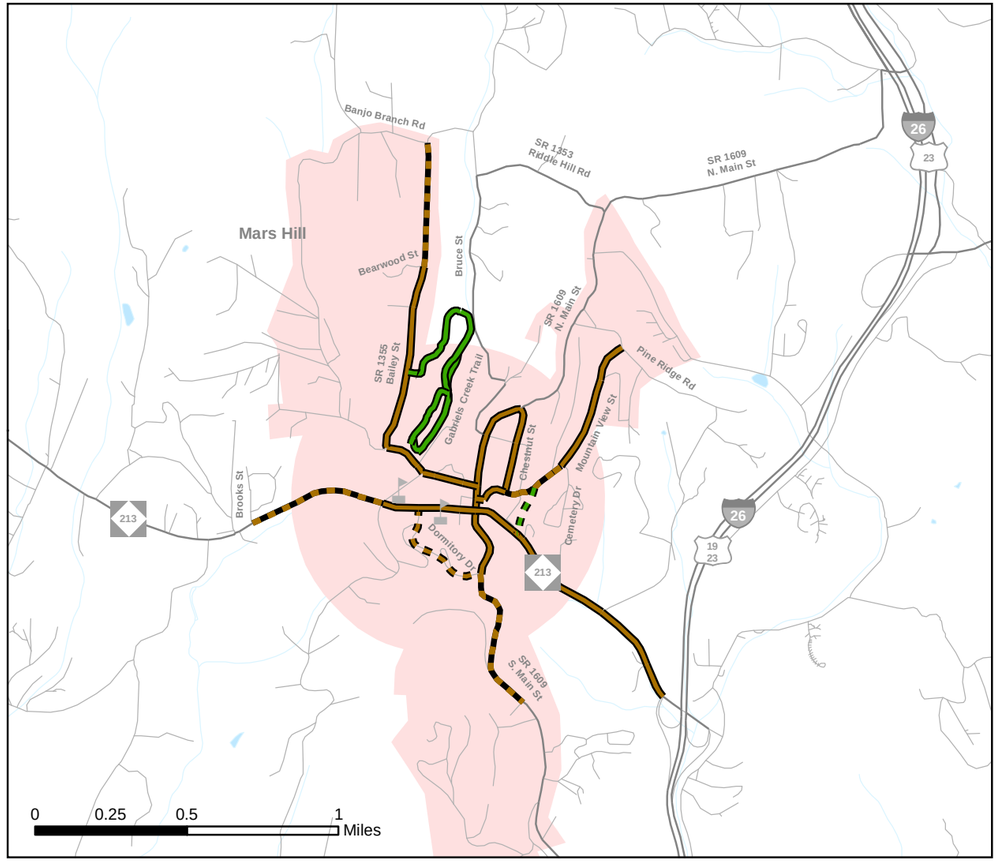

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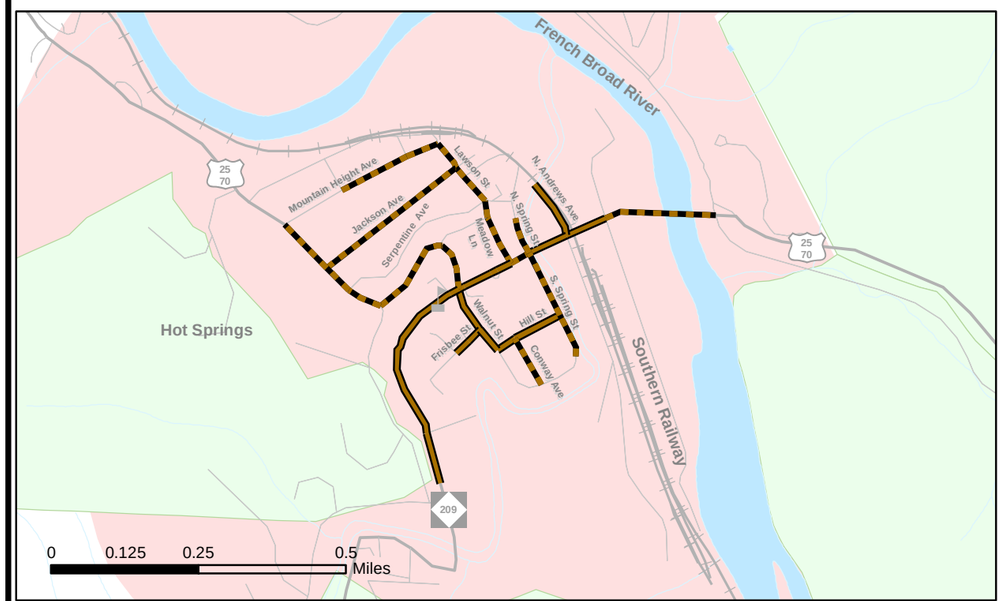

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Pedestrian Map Insets A, B, & C

Madison County
Comprehensive Transportation Plan

Plan date: October 4, 2010

Sidewalks
- Existing
- Needs Improvement
- Recommended

Off-road
- Existing
- Needs Improvement
- Recommended

Multi-Use Paths
- Existing
- Needs Improvement
- Recommended

- Existing Grade Separation
- Proposed Grade Separation

Figure 1, Sheet 5A of 5

Base map date: 10-19-2009

Refer to CTP document for more details

I. Analysis of the Existing and Future Transportation System

A Comprehensive Transportation Plan (CTP) is developed to ensure that the progressively developed 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 such as pavement widths, intersection geometry, and intersection controls; or system problems, such as the need to construct missing travel links, bypass routes, loop facilities, additional radial routes or infrastructure improvements to meet statewide initiatives.

One of those statewide initiatives is the Strategic Highway Corridor (SHC) Vision Plan adopted by the Board of Transportation on September 2, 2004 and last revised on July 10, 2008. The purpose of the SHC Vision Plan is 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 Comprehensive Transportation Plans shall incorporate the long-term vision of each corridor. Refer to Appendix A for contact information.

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 1990 to 2008. In addition, local land use plans and growth expectations were used to further refine future growth rates and patterns. The travel demand projection methodology and the land use plan growth were endorsed by the Madison County CTP Steering Committee on October 15, 2009.

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 D indicates system wide "practical capacity" of a roadway or the capacity at which the public begins to express dissatisfaction. The practical capacity for each roadway was developed based on the 2000 Highway Capacity Manual using the Mountains Methodology Handbook. 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 Madison County CTP for crashes occurring in the planning area between January 1, 2005 and December 31, 2008. During this period, a total of thirteen intersections were identified as having a high number of crashes as illustrated in Figure 4. Refer to Appendix F for a detailed crash analysis.

Bridge Deficiency Assessment

Bridges are a vital and unique 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 Bridge Maintenance 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. One hundred and twenty-four deficient bridges were identified within the planning area and are illustrated in Figure 2. Refer to Appendix G for more detailed information.

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Figure 2
2009
Volumes and Capacity
Deficiencies

Madison County
Comprehensive Transportation Plan

Legend

2009 Volumes (AADT)
2009 Capacity

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

Sheet 1 of 2

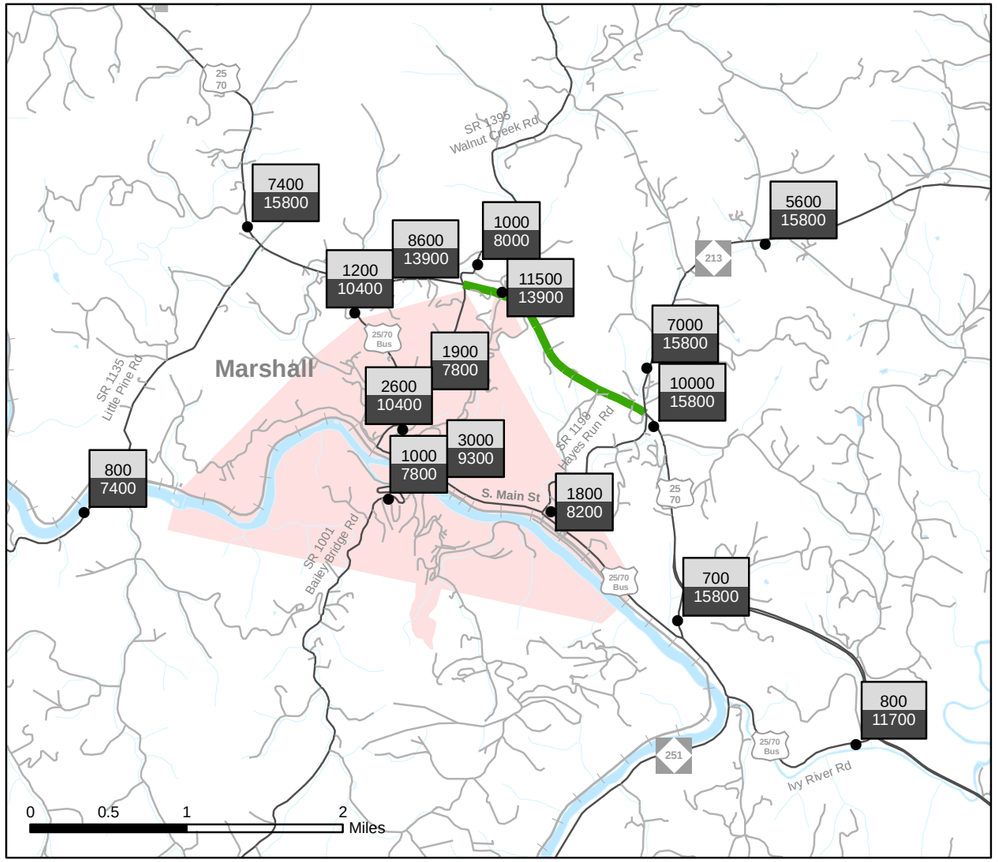
0 1.25 2.5 5 Miles

Base map date: 10-19-2009

Tennessee
Yancey County
Haywood County
Buncombe County
Pisgah National Forest
Hot Springs
Marshall
Mars Hill
Inset A
Inset B
Inset C
French Broad River
SR 1318 Gunter Fork Rd
SR 1318 Big Laurel Rd
SR 1370 Grapevine Rd
SR 1395 Walnut Creek Rd
SR 1526 Crooked Creek Rd
SR 1530 Paint Fork Rd
SR 1548 Holcombe Branch Rd
SR 1178 Meadow Fork Rd
SR 1137 Bill Pinner Rd
SR 1165 Caldwell Mtn. Rd
SR 1135 Little Pine Rd
SR 1001 Meadow Town Rd

1000 11700
600 11700
1600 11700
1700 11700
400 7400
300 7400
2200 15800
3300 11700
4000 15800
800 7400
600 7400
300 7400
8400 89500
800 7400
1800 15800
10000 61200
9600 15800
800 8000
200 7800
500 8000
5000 15800
1500 8000
8000 60700
600 11700
200 7400
300 7400
500 11700
500 7400
400 7800
600 15800
800 15800
600 11700

N W E S



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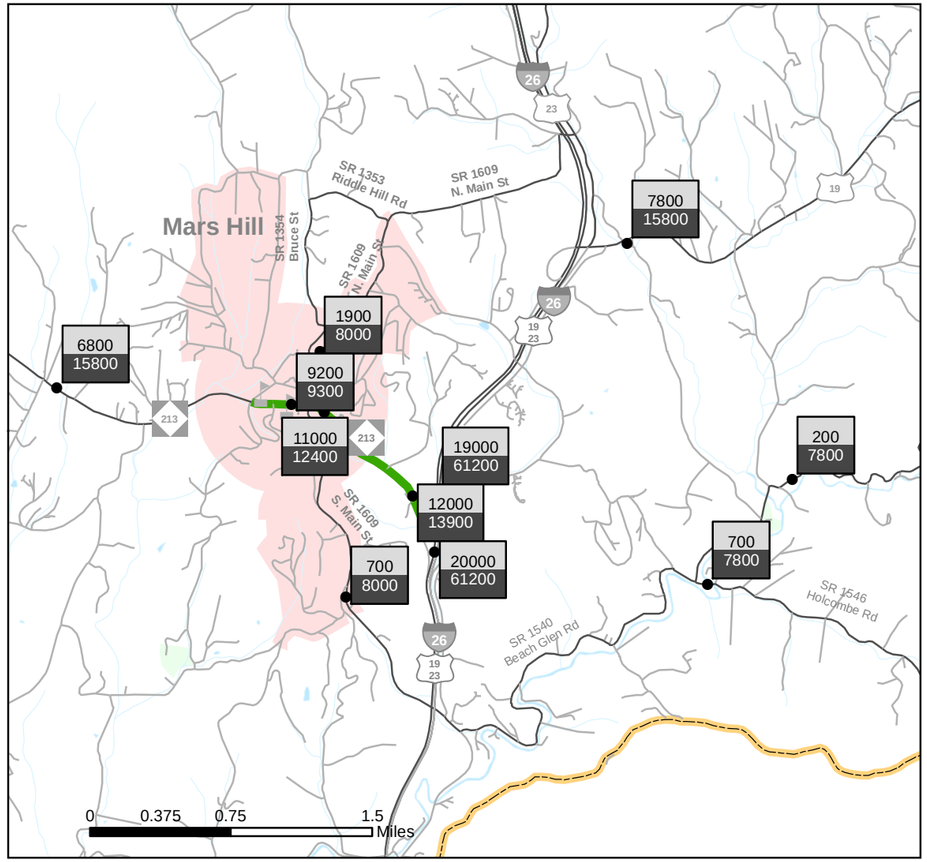

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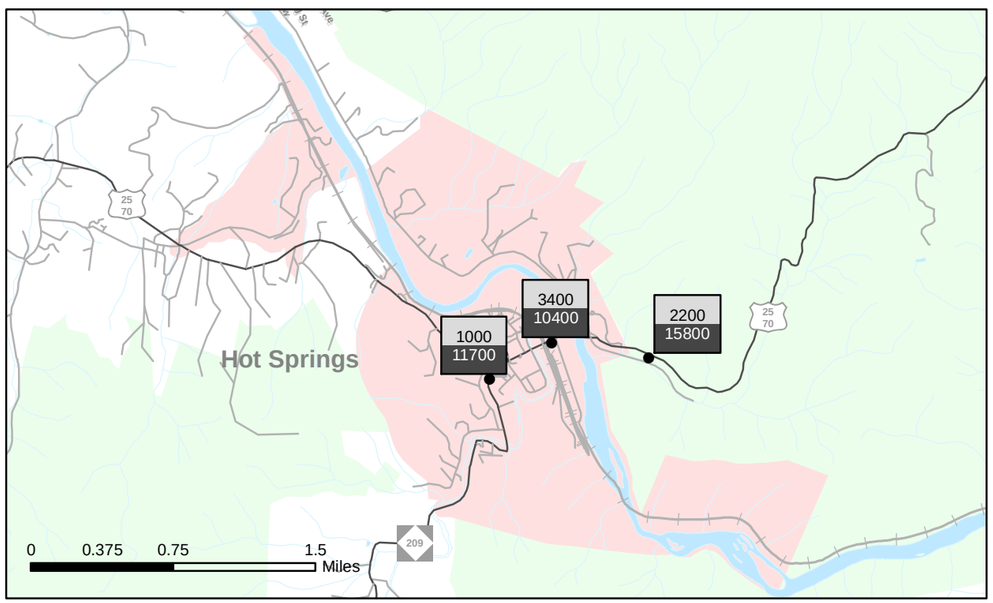

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Figure 2
2009
Volumes and Capacity Deficiencies

Madison County
Comprehensive Transportation Plan

Legend

2009 Volumes (AADT)
2009 Capacity

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

Sheet 2 of 2

Base map date: 10-19-2009

Figure 3

2035

Volumes and Capacity Deficiencies

Madison County

Comprehensive Transportation Plan

Legend

2035 Volumes (AADT)
2009 Capacity

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

Sheet 1 of 2

0 1 2 4 Miles

Base map date: 10-19-2009

Tennessee

Yancey County

Haywood County

Buncombe County

Pisgah National Forest

Hot Springs

Marshall

Mars Hill

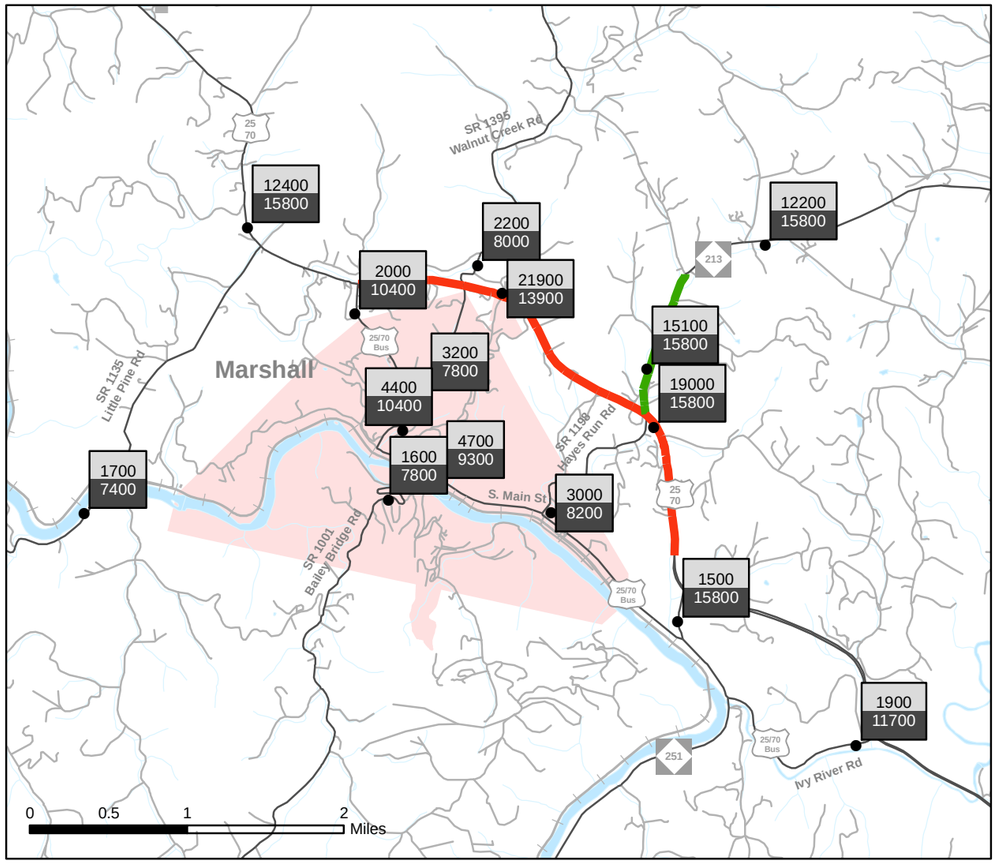
Inset A

Inset B

Inset C

2000 11700
700 11700
3400 11700
3200 11700
800 7400
400 7400
3800 15800
4900 11700
7600 15800
1000 7400
500 7400
1000 11700
900 7400
18000 89500
1300 7400
24600 61200
3000 15800
21800 15800
1000 8000
800 8000
300 7800
11300 15800
3600 8000
19600 60700
400 7400
600 7400
800 11700
1000 7400
800 7800
1200 15800
1800 15800
700 11700

SR 1318 Gunter Fork Rd
SR 1318 Big Laurel Rd
SR 1370 Grapevine Rd
SR 1395 Walnut Creek Rd
SR 1526 Crooked Creek Rd
SR 1530 Paint Fork Rd
SR 1548 Holcombe Branch Rd
SR 1178 Meadow Fork Rd
SR 1137 Bill Pinner Rd
SR 1165 Caldwell Mtn. Rd
SR 1135 Little Pine Rd
SR 1001 Meadow Town Rd
French Broad River



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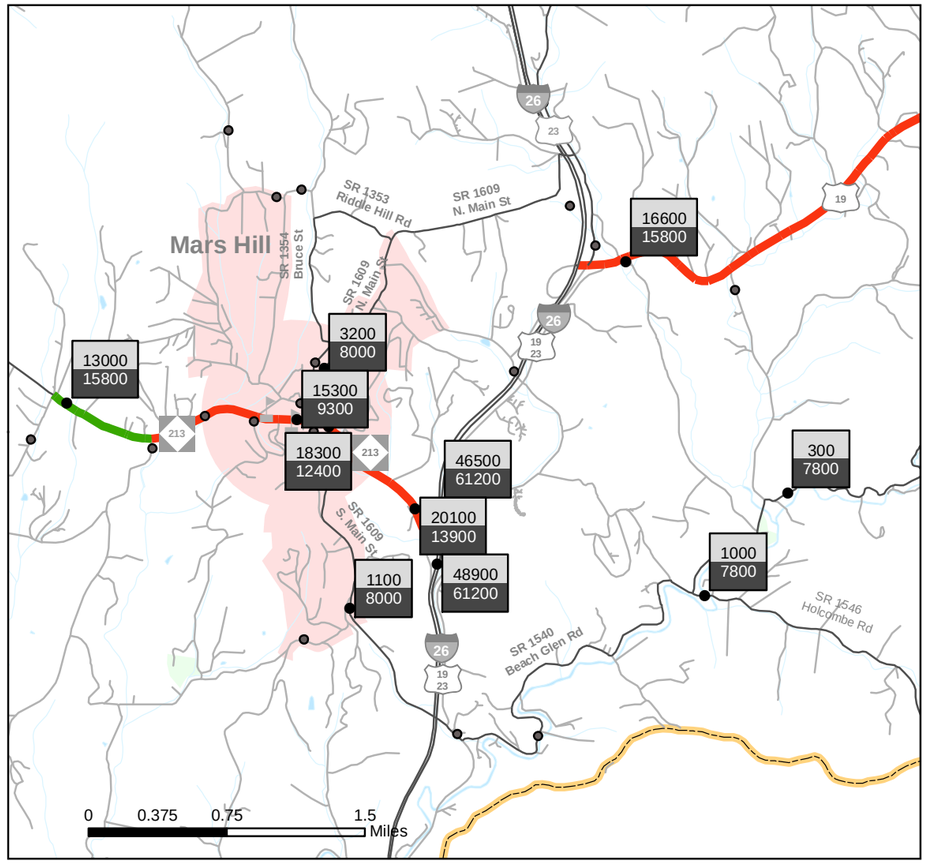

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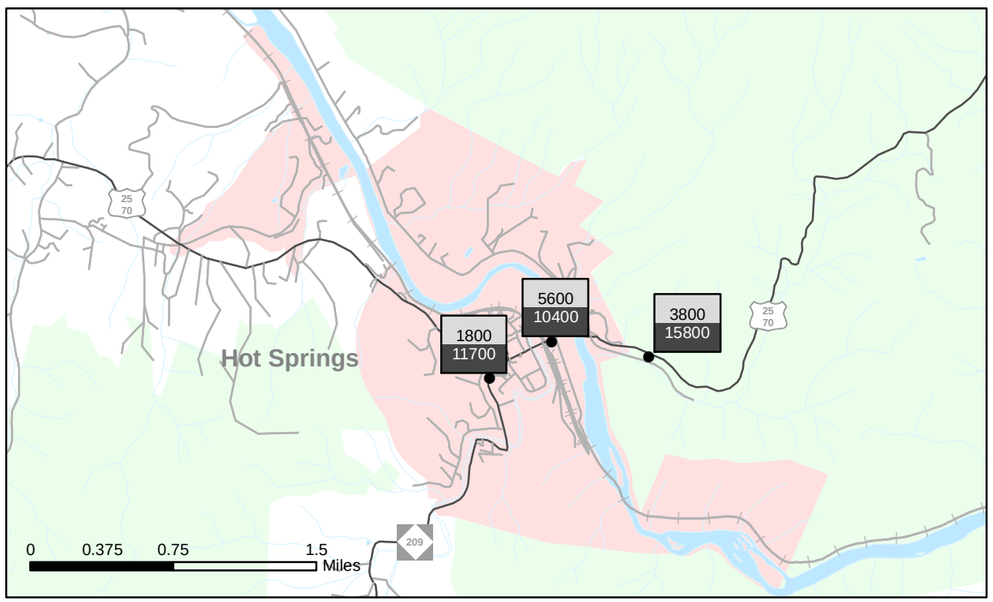

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Figure 3
2035
Volumes and Capacity Deficiencies

Madison County

Comprehensive Transportation Plan

Legend

2035 Volumes (AADT)
2009 Capacity

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

Sheet 2 of 2

Base map date: 10-19-2009

Figure 4

Crash Locations

January 1, 2005 - December 31, 2008

Madison County
Comprehensive Transportation Plan

Tennessee

Yancey County

Haywood County

Buncombe County

Pisgah National Forest

Hot Springs

Marshall

Mars Hill

SR 1318 Gunter Town Rd

SR 1318 Big Laurel Rd

SR 1395 Walnut Creek Rd

SR 1370 Grapevine Rd

SR 1526 Crooked Creek Rd

SR 1530 Paint Fork Rd

SR 1576 Meadow Fork Rd

SR 1151 Big Pine Rd

SR 1165 Caldwell Mtn. Rd

SR 1135 Little Pine Rd

SR 1001 Meadow Town Rd

Broad River

Legend

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

Miles

0 1.25 2.5 5

Base map date: 10-19-2009

Refer to Appendix F for more details

Figure 5
Deficient Bridges

Madison County
Comprehensive Transportation Plan

Legend

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

0 1.5 3 6 Miles

Base map date: 10-19-2009

Refer to Appendix G for more details

Public Transportation and Rail

Public transportation and rail are vital modes of transportation that give alternative options 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. Currently, there is no fixed-route transit service within the county. The County has demand response transit service which is operated by the Madison County Transportation Authority (MCTA).

Intercity bus service is not available in Madison County, with the nearest Greyhound stations located in Asheville, Hendersonville and Waynesville in North Carolina; and Johnson City and Greenville in Tennessee.

A fixed-route bus service is proposed in the Madison County CTP that would connect Mars Hill and downtown Asheville. This proposed bus service was also included in the 2008 French Broad River MPO Comprehensive Transportation Plan (CTP)[1] and 2010 Long Range Transportation Plan (LRTP)[2]. Two park and ride lots are also proposed in the CTP. The first one is located off Calvin Edney Road in Marshall. This park and ride lot would be used as a bus stop for the above mentioned express bus and also be used for carpool/vanpool services. The second park and ride lot is located off of NC 251 east of Marshall. This park and ride lot was proposed mainly for carpool/vanpool service purposes. 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.

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 every day. 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 short lines.

An inventory of existing and planned rail facilities for the planning area is presented on Sheet 3 of Figure 1. Currently, there is no passenger rail service in Madison County. There is an active freight rail line running through the middle portion of the County following the French Broad River. The rail line is operated by Southern Railway. No rail improvements were proposed in the CTP. All recommendations for rail were coordinated with the local governments and the Rail Division of NCDOT. Refer to Appendix A for contact information.

Bicycles & Pedestrians

Bicyclists and pedestrians are a growing part of the transportation equation 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 upon and along the 77,000-mile state-maintained highway system. The policy details guidelines for planning, design, construction, maintenance,

[1] *Document can be found at: http://www.fbrmpo.org/long_range_transportation_plan_lrtp*
[2] *Document can be found at: http://www.ncdot.org/doh/preconstruct/tpb/planning/FBRCTP.htm*

and operations pertaining to bicycle facilities and accommodations. All bicycle improvements undertaken by the 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.

Currently, there are no state designated bicycle routes in the county. Madison County is interested in developing a bicycle plan in conjunction with NCDOT's Division of Bicycle and Pedestrian Transportation (DBPT), but DBPT staff estimated it would be several years before a plan could be developed. In 2007, the Land-Of-Sky Rural Planning Organization (LOSRPO) staff worked with the Madison County Parks and Recreation Department and the Madison County Tourism Development Authority to develop a recreational facilities map for the county. One purpose for the map was to begin identifying popular bicycling routes in the county. RPO staff worked with focus groups in several areas and gathered public input for the map, which included hiking trails, bicycle routes, motorcycle/touring routes, and recreational facilities. Two proposed bicycle projects were recommended in the CTP. Inventories of existing and planned bicycle facilities are presented on Sheet 4 of Figure 1.

Inventories of existing pedestrian facilities were developed by the LOSRPO staff during the development of the CTP. The proposed pedestrian improvements were recommended by Mars Hill and Hot Springs. Inventories of existing and planned pedestrian facilities for the planning area are presented on sheets 5 and 5A 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.

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 2010 Madison County Comprehensive Plan along with the 2009 Marshall Comprehensive Land Use Plan and the 2001 Mars Hill Plan Development Plan were used to meet this requirement and are illustrated in Figures 6, 7, 8, 9, 10 and 11, 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.

Madison County primarily anticipates growth in areas designated as “Primary Growth Areas”. These areas, as depicted in Figure 7, encompass residential, commercial and public land uses. These areas tend to be established populated areas and are located throughout the County, typically along major routes. Moderate residential and commercial growth is expected in the vicinity of the towns of Mars Hill, Marshall and Hot Springs and along the designated “mixed-use corridors” including I-26, US 25-70, NC 213 and US 19. Some residential and commercial growth is expected in the “neighborhood/community centers” such as the Spring Creek Community, Wolf Laurel, along Leicester Highway (NC 63) in southwest part of the County and the Laurel community center area. Within Mars Hill and its extra territorial jurisdiction (ETJ) as depicted in Figure 11, future growth in commercial and mixed use is expected along NC 213 and in the I-26/US 19 areas. Moderate residential growth is expected in the area north and southeast of downtown. Development between Main Street and Gabriels

Creek in the Mars Hill College area will continue to be institutional. Within Marshall and its ETJ as depicted in Figure 9, future commercial growth is expected along US 25/US 70. Mixed use is expected along North Main Street, Walnut Creek Road (SR 1395) and Tillery Branch Road (SR 1584). Moderate residential growth is expected in the area between downtown and US 25/US 70 and in the Cotton Mill Road (SR 1116) and Fortner Road area south of the French Broad River.

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 (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, 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 were examined as a part of this study is shown in the following tables utilizing the best available data. Environmental features occurring within Madison County are shown in Figure 12.

Table 1 – Environmental Features

- Airport Boundaries
- Anadromous Fish Spawning Areas
- Beach Access Sites
- Bike Routes (NCDOT)
- Coastal Marinas
- Colleges and Universities
- 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
- Hospital Locations
- Hydrography (1:24,000 scale)
- Land Trust Priority Areas
- North Carolina Coastal Region Evaluation of Wetland Significance (NC-CREWS)
- Paddle Trails – Coastal Plain
- 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
- Shellfish Strata
- 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

- National Heritage Element Occurrences
- National Wetlands Inventory
- Water Supply Watersheds
- Wild and Scenic Rivers

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

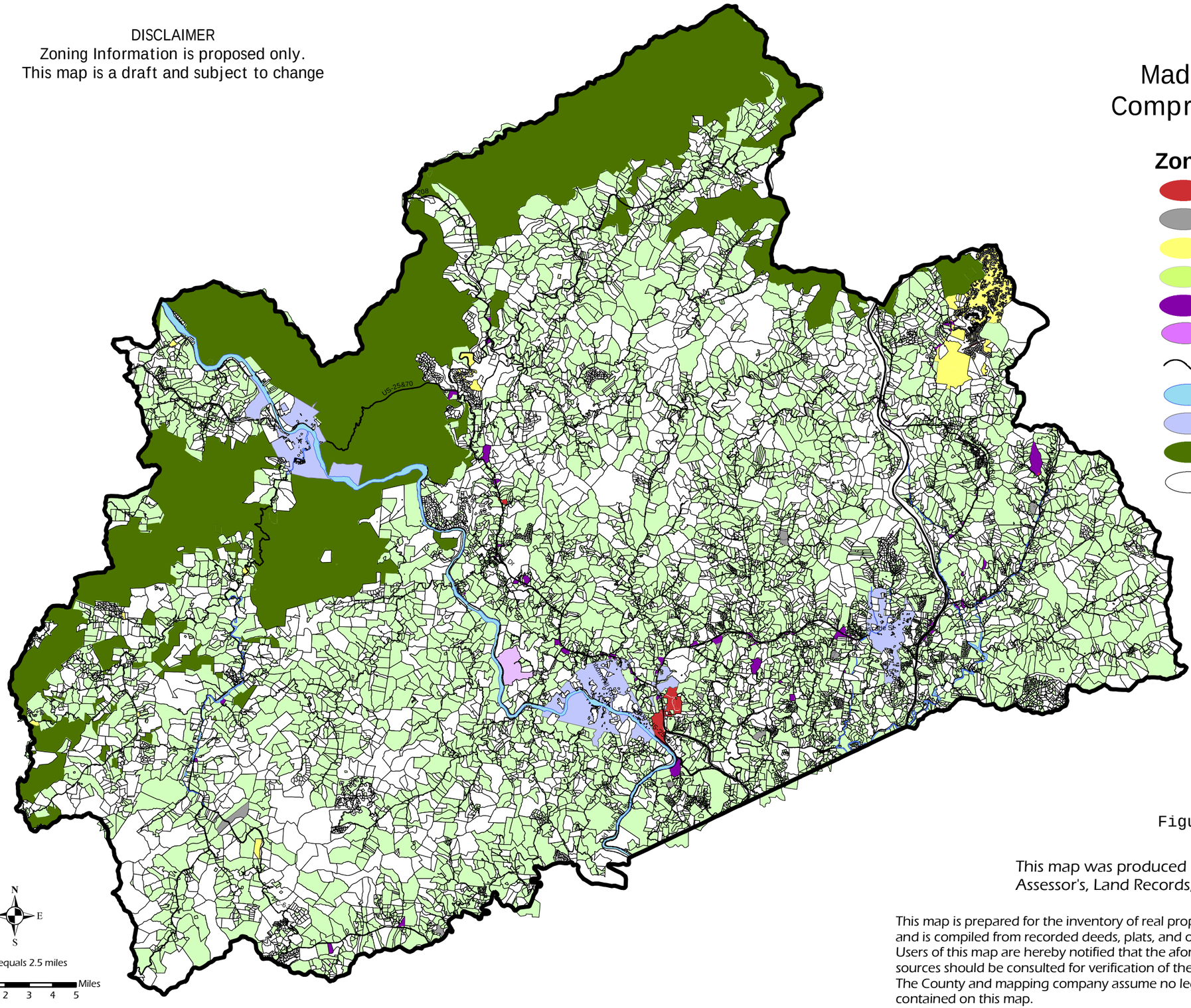
- Archaeological Sites
- Historic National Register Districts
- Historic National Register Structures
- Macrosite Boundaries
- Managed Areas
- Megasite Boundaries

DISCLAIMER
Zoning Information is proposed only.
This map is a draft and subject to change

Madison County Comprehensive Plan

Zoning

- Industrial
- Mobile Home Parks
- Residential - Resort
- Residential - Agricultural
- Retail - Business
- Land Fill
- Primary Roads
- Floodway
- City Limits
- USFS
- Vacant Parcels



N
W E
S

1 inch equals 2.5 miles

Miles
0 1 2 3 4 5

Figure 6

This map was produced by Madison County GIS,
Assessor's, Land Records, & Planning Departments.

This map is prepared for the inventory of real property found within this jurisdiction, and is compiled from recorded deeds, plats, and other public records and data. Users of this map are hereby notified that the aforementioned public primary information sources should be consulted for verification of the information contained on this map. The County and mapping company assume no legal responsibility for the information contained on this map.

Current Zoning & Land Use

November 2009

Map 16

Disclaimer
Zoning and Land Use Information is proposed only.
This map is a draft and subject to revision

Madison County Comprehensive Plan

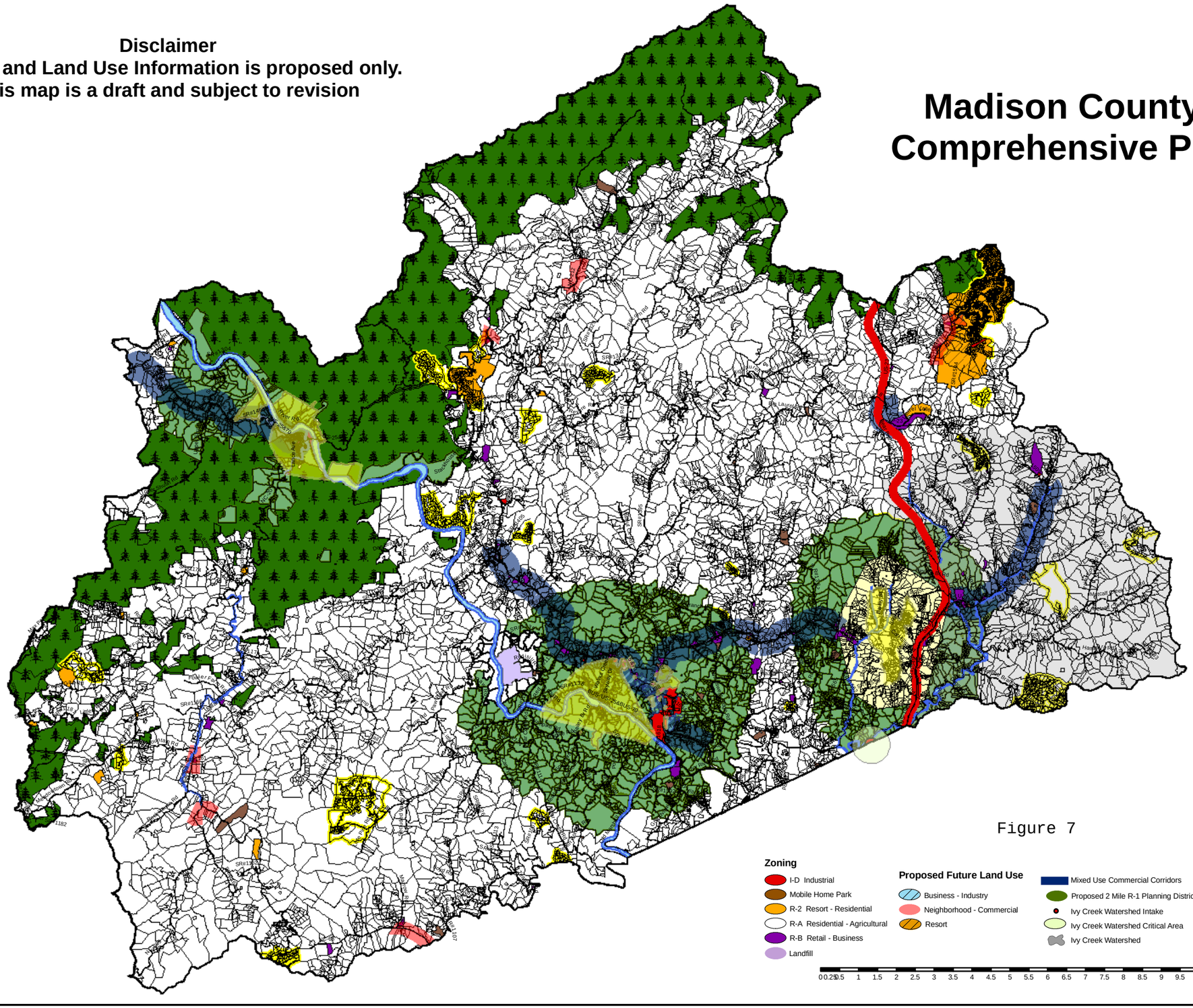
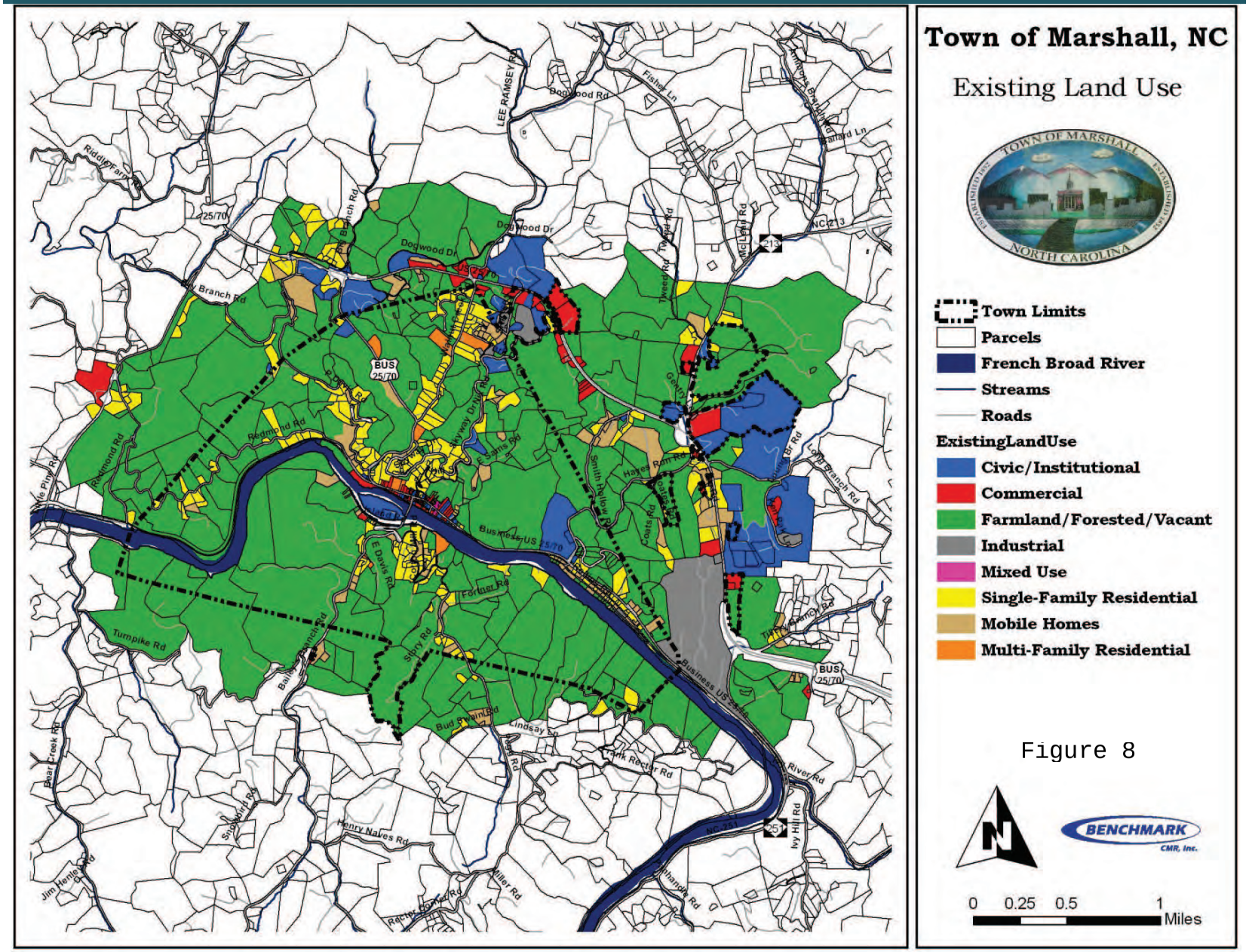


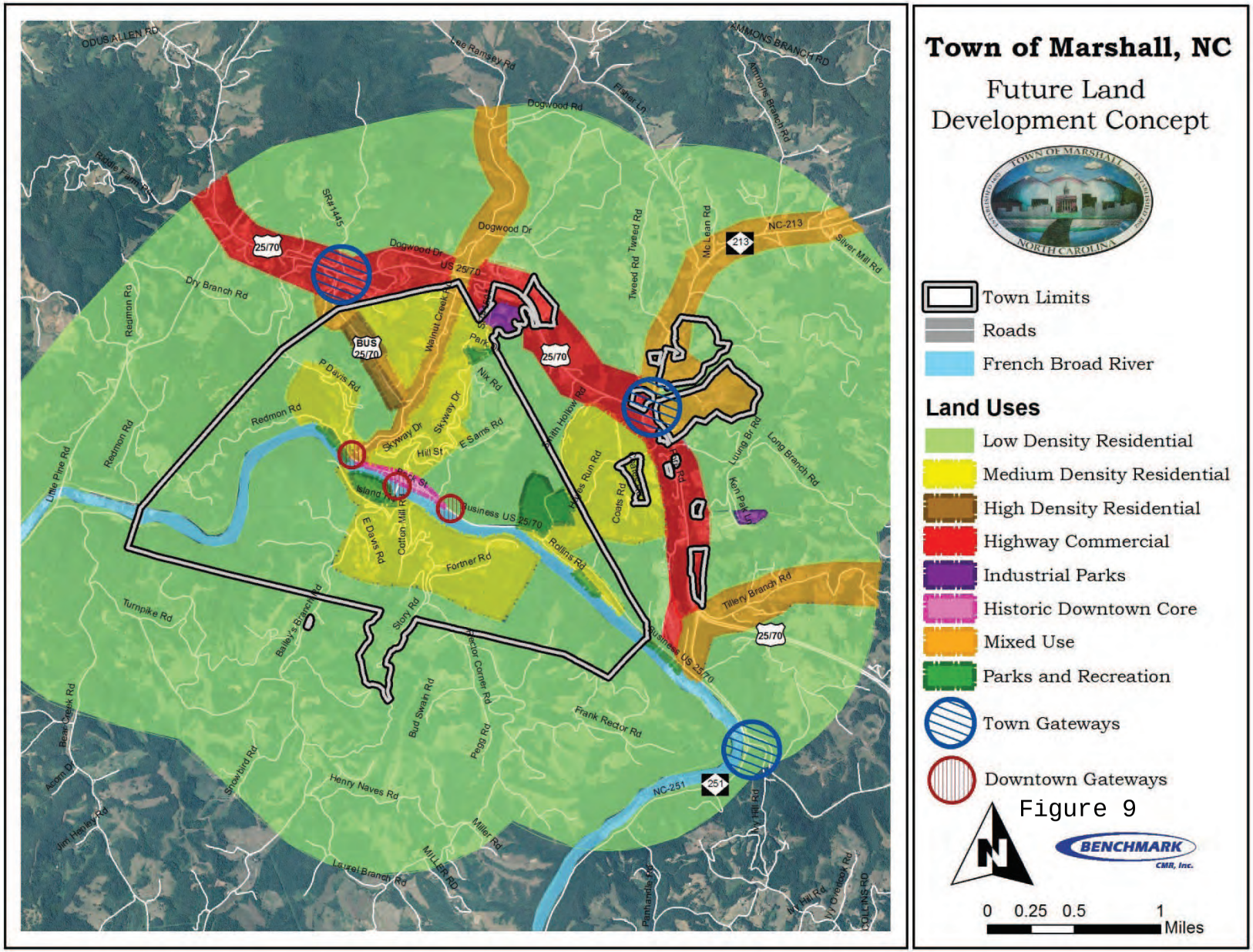
Figure 7

Madison County Proposed Future Land Use

November 2009


Town of Marshall, NC
Existing Land Use
Town Limits
Parcels
French Broad River
Streams
Roads
ExistingLandUse
Civic/Institutional
Commercial
Farmland/Forested/Vacant
Industrial
Mixed Use
Single-Family Residential
Mobile Homes
Multi-Family Residential
Figure 8
BENCHMARK
CMR, Inc.
0 0.25 0.5 1
Miles
Dogwood Rd
Fisher Ln
LEE RAMSEY RD
Riddle Farm Rd
25/70
Dogwood Dr
NC 213
Tweed Rd
McClure Rd
Branch Rd
BUS 25/70
Redmond Rd
Hayes Run Rd
Smith Bellow Rd
Coats Rd
Business US 25/70
E Davis Rd
Fortner Rd
Turnpike Rd
Spivey Rd
Bailey Barnes Rd
Bud Rainbird Rd
Lindsay Rd
Clark Rector Rd
Bear Creek Rd
Henry Naves Rd
Jim Henley Rd
Rector Bottom Rd
Miller Rd
Ivy Hill Rd
NC 251
Tahoe Ranch Rd
Lower Branch Rd
Barnard Ln

Future Land Development Concept Map



Land Classification Plan
Mars Hill, NC

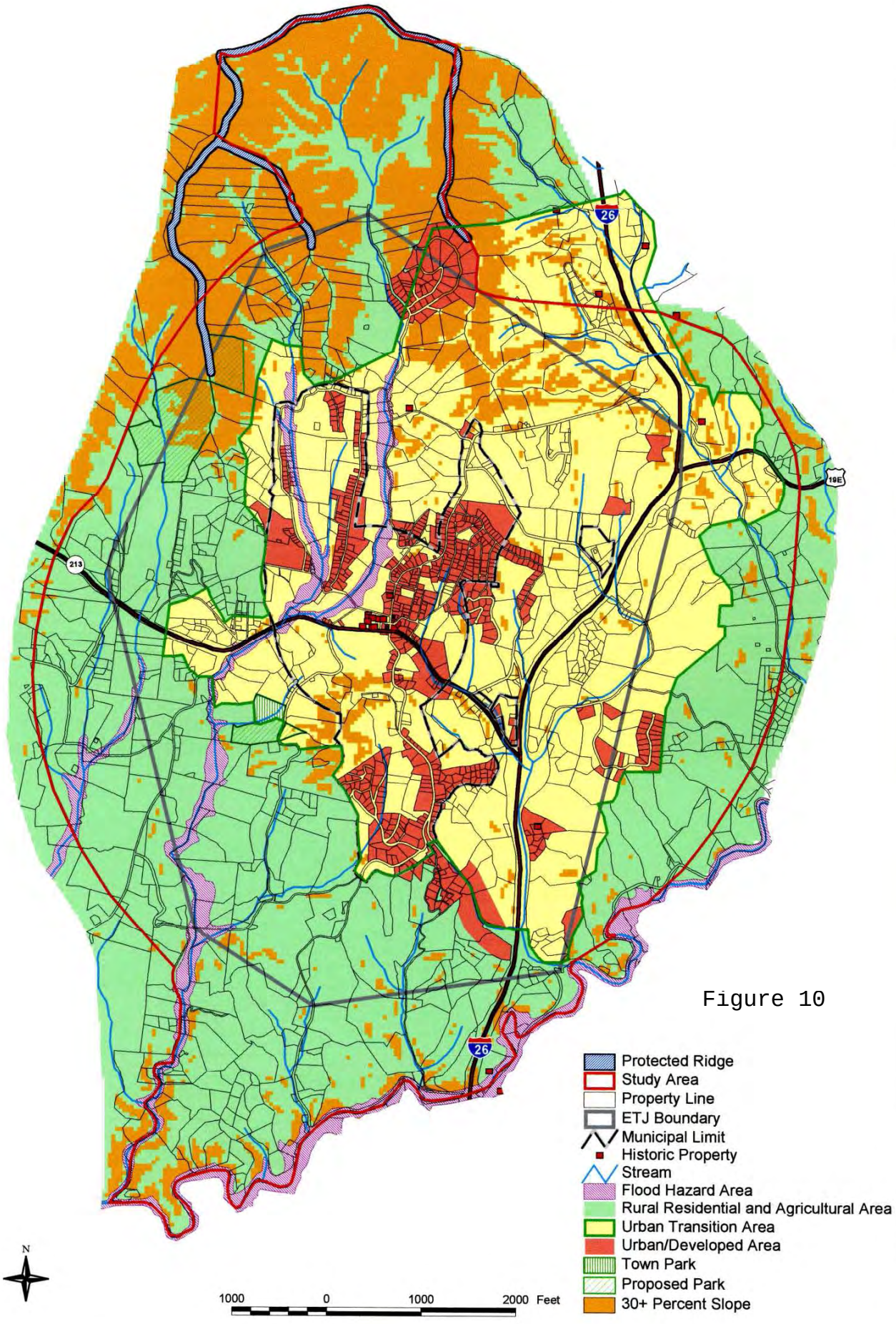


Figure 10

Land Design Plan
Mars Hill, NC

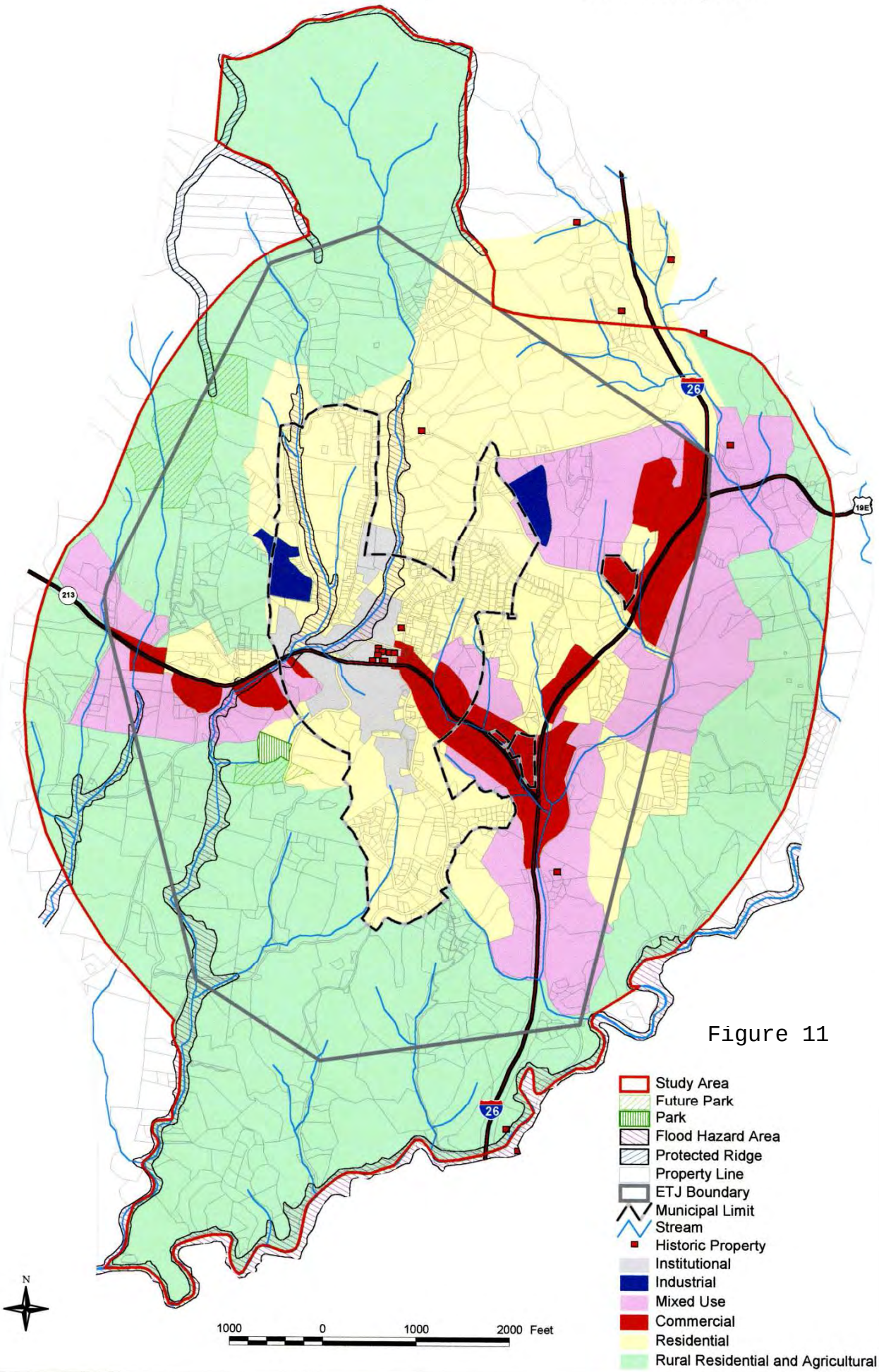


Figure 11

Highway Map

Environmental Features

Madison County

Comprehensive Transportation Plan

Figure 12, sheet 1

Tennessee

Yancey County

Haywood County

Buncombe County

Hot Springs

Marshall

Mars Hill

SR 1318 Big Laurel Rd

SR 1319 Gunter Town Rd

SR 1370 Grapevine Rd

SR 1395 Walnut Creek Rd

SR 1526 Crooked Creek Rd

SR 1520 Paint Fork Rd

SR 1546 Holcombe Branch Rd

SR 1175 Meadow Fork Rd

SR 1151 Big Pine Rd

SR 1165 Caldwell Mtn. Rd

SR 1135 Little Pine Rd

SR 1001 Meadow Town Rd

Proposed Spring Creek Connector

Legend

- County Boundary
- Sanitary Sewer Systems - Treatment Plants
- Sanitary Sewer Systems - Discharges
- Sanitary Sewer Systems - Pumps
- School
- Trout Streams (DWQ)
- Rail Road
- Land,Trust Priority Areas
- National Heritage Element Occurrences
- Rivers and Streams
- MunicipalBoundary
- NationalForest

0 1.5 3 6 Miles

N W E S

Base map date: 10-19-2009

Refer to CTP document for more details

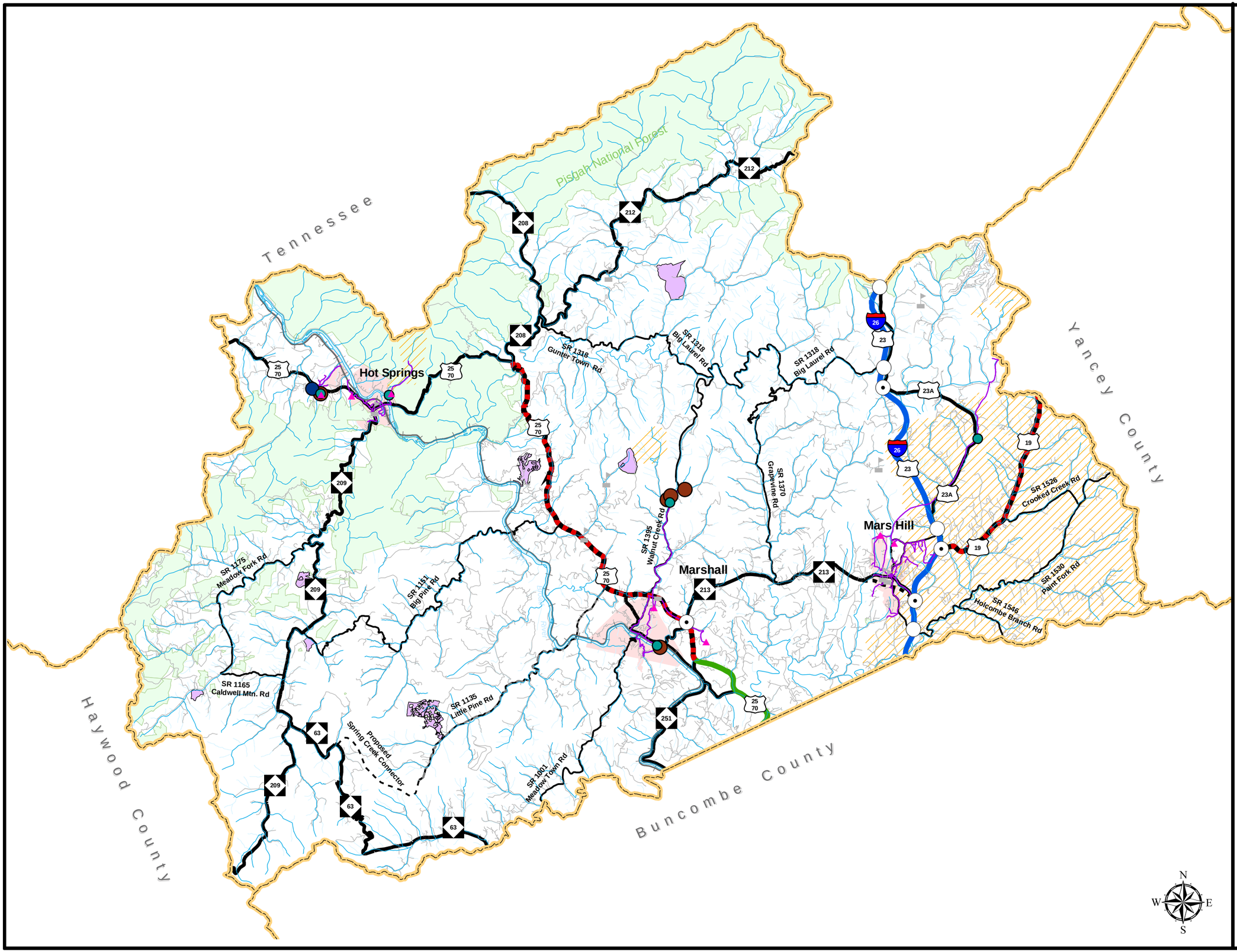
Highway Map

Environmental Features

Madison County

Comprehensive Transportation Plan

Figure 12, sheet 2



Legend

- MunicipalBoundary
- County Boundary
- Rail Road
- School
- Rivers and Streams
- Water Distribution Systems - Tanks
- Water Distribution Systems - Treatment Plants
- Water Distribution Systems - Pumps
- Water Distribution Systems - Wells
- Water Distribution Systems - Pipes
- Trout Waters (WRC)
- Conservation Tax Credit Properties
- High Quality Water & Outstanding Resource Water Management Zones
- Federal Land Ownership

N W E S

0 1.5 3 6 Miles

Base map date: 10-19-2009

Refer to CTP document for more details

Highway Map

Environmental Features

Madison County

Comprehensive Transportation Plan

Figure 12, sheet 3

Tennessee

Yancey County

Haywood County

Buncombe County

Hot Springs

Marshall

Mars Hill

SR 1318 Gunter Town Rd

SR 1318 Big Laurel Rd

SR 1370 Grapevine Rd

SR 1395 Walnut Creek Rd

SR 1526 Crooked Creek Rd

SR 1550 Paint Fork Rd

SR 1546 Holcombe Branch Rd

SR 1175 Meadow Fork Rd

SR 1151 Big Pine Rd

SR 1165 Caldwell Mtn. Rd

SR 1135 Little Pine Rd

SR 1001 Meadow Town Rd

Proposed Spring Creek Connector

Legend

- County Boundary
- Hazardous Substance Disposal Sites
- Emergency Operation Centers
- School
- Sanitary Sewer Systems - Pipes
- Geology - Faults
- Rail Road
- Significant Natural Heritage Areas
- Target Local Watersheds - EEP
- Water Supply Watersheds
- National Wetlands Inventory
- Rivers and Streams
- MunicipalBoundary
- NationalForest

0 1.5 3 6 Miles

N W E S

Base map date: 10-19-2009

Refer to CTP document for more details

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.

The Land-Of-Sky RPO requested the development of a comprehensive transportation plan for Madison County through a prioritized list of regional needs. A meeting was held with the Madison County Board of Commissioners in March 2009 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 CTP Steering Committee, which included a representative from each municipality, county staff, the RPO and others, to provide information on current local plans, to develop transportation vision and goals, to discuss population and employment projections, and to develop 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 holding three public drop-in sessions in Madison County to present the proposed CTP to the public and solicit comments. The first meeting was held from 4:00-7:00 pm on October 19, 2010 at the Hot Springs Community Center; the second meeting was held from 3:00-6:00 pm on October 21, 2010 at the Mars Hill Town Hall; and the third meeting was held from 3:00-6:00 pm on October 25, 2010 at the Marshall Town Hall. Each session was publicized in the local newspaper and flyers were placed throughout Hot Springs, Marshall and Mars Hill. A total of 10 citizens attended these drop-in sessions and a total of five comment forms were submitted.

Public hearings were held on December 3, 2010 during the Madison County Board of Commissioners meeting; December 6, 2010 during the Mars Hill Town Council meeting; January 19, 2011 during the Marshall Town Board meeting; and February 7, 2011 during the Hot Springs Town Council meeting. The CTP was adopted during each of these meetings.

The Land-Of-Sky RPO endorsed the CTP on February 11, 2011. The North Carolina Board of Transportation voted to mutually adopt the Madison County CTP on March 4, 2011.

II. Recommendations

The 2011 Madison County CTP is shown in Figure 1. This chapter presents recommendations for each mode of transportation.

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 CTP should be consistent with the other elements.

Initiative for implementing the CTP rests predominately with the policy boards and citizens of Madison County and its municipalities. 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 Land-Of-Sky RPO for regional prioritization and submittal to NCDOT. Refer to Appendix A for contact information on 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 (SEPA). This CTP may be used to provide information in the NEPA/SEPA process.

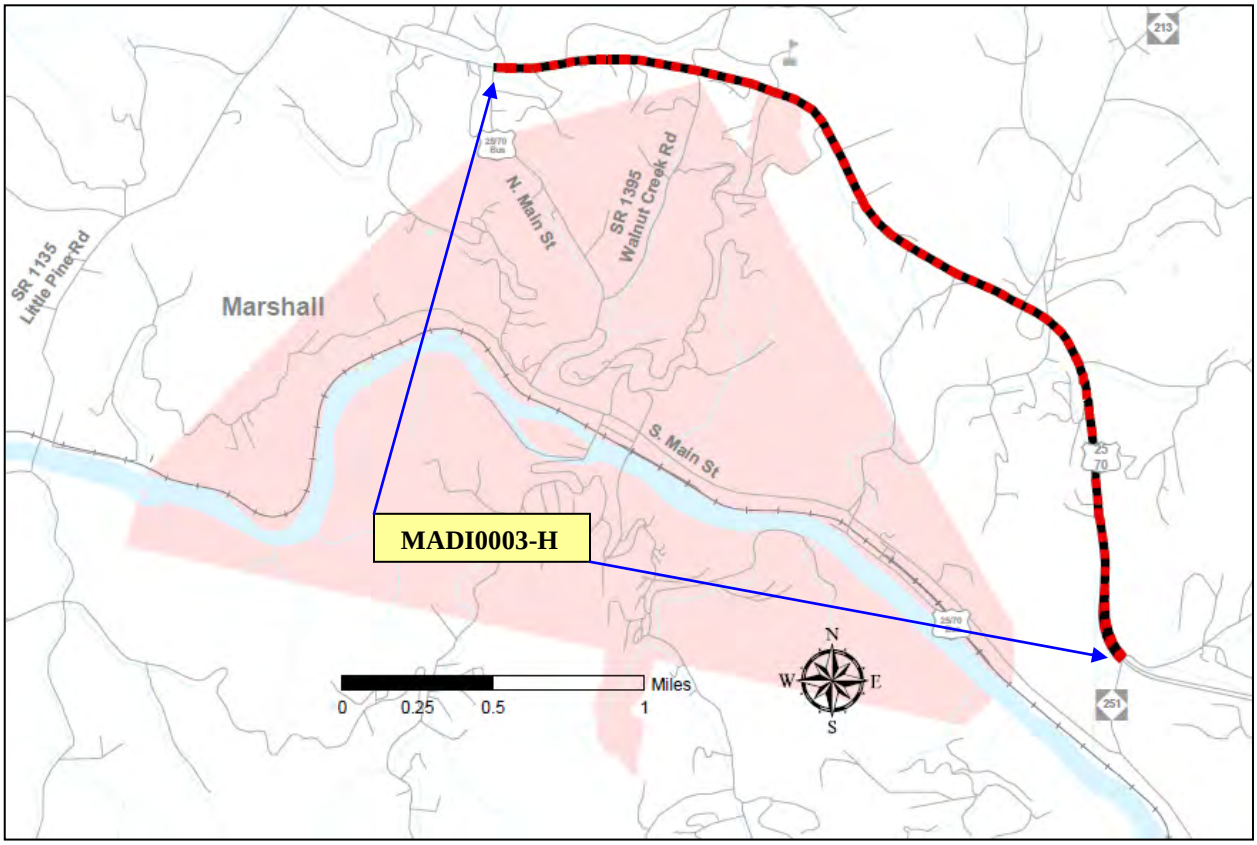
The following pages contain problems statements for each recommendation, organized by CTP modal element.

PROBLEM STATEMENTS

HIGHWAY

The following highway projects address capacity, mobility, connectivity and safety deficiencies in Madison County.

US 25/US 70 **Proposed improvements from NC 251** **To US 25/US 70 Business (N. Main Street) in Marshall**	**ID No. MADI0003-H** **Last updated on: 1/10/2011**



IDENTIFIED PROBLEM

US 25/US 70 between NC 251 and US 25/US 70 Business (N. Main Street) in Marshall is projected to be over capacity by 2035. The purpose of improving US 25/US 70 is to maintain a Level of Service (LOS) D. There is also a need to accommodate bicycles along this facility from NC 213 to North Main Street (US 25/US 70 Business).

Justification of Need

US 25/US 70 is a major north-south route for travelling in Madison County. It is the only route that provides travel services between Marshall, the county seat, and Hot Springs. The segment of US 25/US 70 between NC 251 and US 25/US 70 Business is a mixture of two and three 12 foot lanes with the LOS E capacities of 20,100 vehicles per day (vpd) and 15,300 vpd respectively. The 2035 projected traffic for US 25/US 70 is projected to be between 16,400 vpd and 21,900 vpd.

Community Vision and Problem History

The identified problem on US 25/US 70 was not addressed in either the 2009 Town of Marshall Comprehensive Land Use Plan or the 2010 Madison County Comprehensive Plan. No CTP or Thoroughfare Plan has ever been developed for Madison County.

CTP PROJECT PROPOSAL

Project Description and Overview

The CTP project proposal (MADI0003-H) is to widen US 25/US 70 to a 4-lane divided boulevard from US 25/US 70 Business (N. Main Street) to NC 251. A bicycle lane is also recommended. The proposed widening of US 25/US 70 will reduce future congestion and provide better efficiency for through traffic. The capacity of the road with the proposed widening will improve to 60,700 vpd (LOS E) which will be sufficient to handle the 2035 projected volume of 21,900 vpd. The inclusion of a median will also improve the control of access; hence will reduce the traffic crashes stemming from the high volume of left turns into the major commercial area along the corridor.

In addition, two of the three highest crash locations in the county are on this segment. A crash study from 2005 to 2008 was carried out for Madison County, and the following locations were identified:

- US 25/US 70 and NC 251 experienced 10 crashes with an average severity index of 12.28.
- US 25/US 70 and NC 213 experienced 10 crashes with an average severity index of 1.00.

Natural & Human Environmental Context

Based on a planning level environmental assessment using available GIS data, the proposed project is within the vicinity of the following features: national heritage element occurrences, trout waters, a public school, water distribution pipes, and sanitary sewer pipes. A detailed study to minimize the project impact on these environmental features will be examined during the project planning phase.

Additionally, bridge # 25 over Hayes Run Creek has been identified as functionally obsolete by NCDOT's Bridge Maintenance Unit.

Relationship to Land Use Plans

The Town of Marshall 2009 Comprehensive Land Use Plan identified the existing land use along the proposed project as a combination of industrial, commercial, civic/institutional and residential. Strip development anchored by Ingles and a Family Dollar Store is located in the area just east of North Main Street. Mixed with this development are some banks, restaurants and office developments such as the Madison County Administrative Offices, Madison County High School and the NCDOT Maintenance Yard. Further east, Asheville Buncombe Technical Community College is located at NC 213 intersection, and Peak Energy rock quarry is located in the vicinity of NC 251 intersection. Future land use along this corridor will mainly be highway commercial based on the town's Comprehensive Land Use Plan. Mixed land use of commercial/residential and an industrial park is also proposed east of Walnut Creek Road (SR 1395) in the future.

Linkages to Other Plans and Proposed Project History

US 25/US 70 is a minor arterial on the Federal Functional Classification System and is identified as a boulevard on NCDOT's Strategic Highway Corridor Vision Plan. It is also on the statewide tier of the North Carolina Multimodal Investment Network (NCMIN). This project was not identified on any previous plan.

Multi-modal Consideration

The 2009 Comprehensive Land Use Plan for the Town of Marshall recommended a bicycle lane along the section of US 25/US 70 between NC 213 and North Main Street (US 25/US 70 Business).

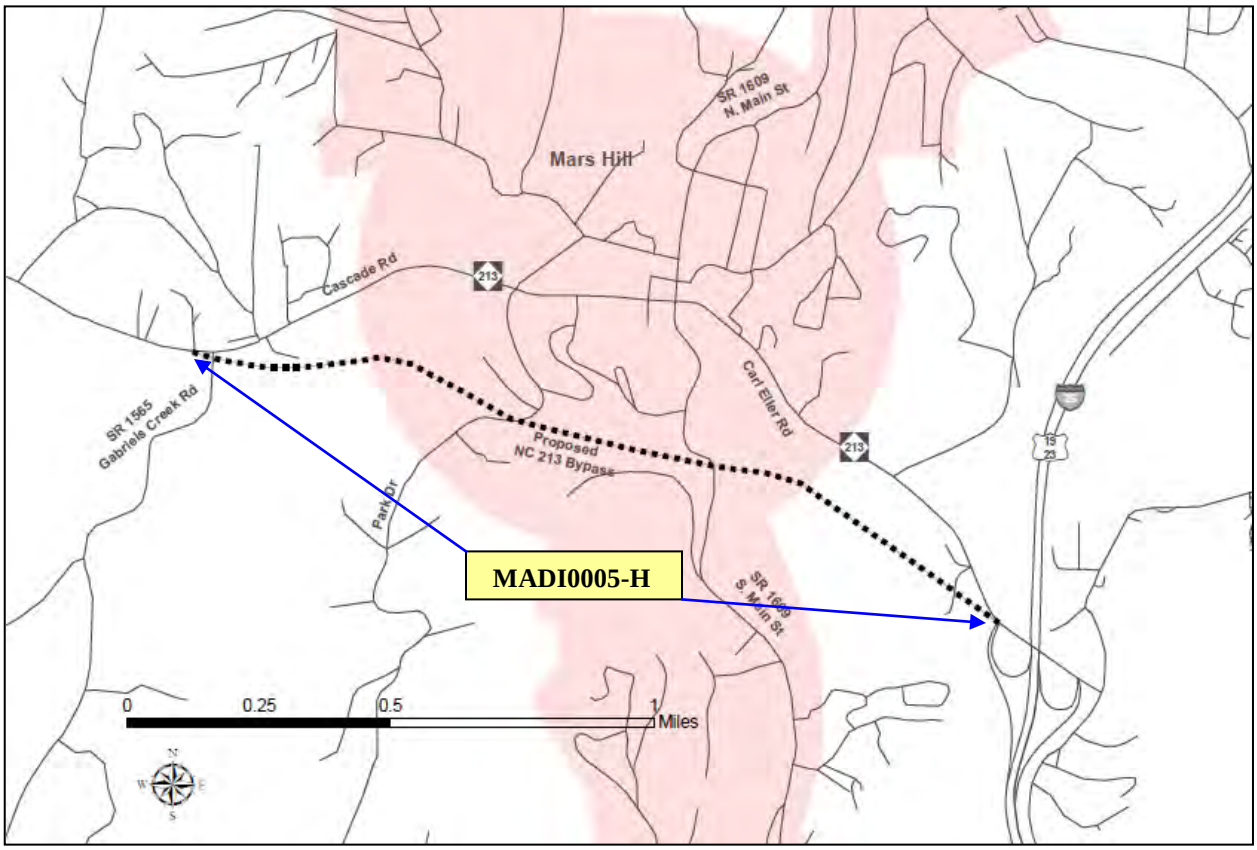
Public Stakeholder Involvement

There were no significant stakeholder issues identified with the project during the development of the CTP.

NC 213
Proposed Improvements from I-26 Interchange to Gabriels Creek Road (SR 1565) in Mars Hill

ID No. MADI0005-H

Last updated on: 1/10/2011



IDENTIFIED PROBLEM

NC 213 from I-26/US 19-23 to Gabriels Creek Road (SR 1565), through Mars Hill is projected to be over capacity by 2035. The primary purpose of improving NC 213 is to relieve congestion in order to maintain a Level of Service (LOS) D.

Justification of Need

Currently, NC 213 is a 2-3 lane undivided facility with 12' lanes. It is the major east-west facility that connects the towns of Marshall and Mars Hill to I-26 in Madison County. It also serves the commercial development along the road, Mars Hill downtown, and Mars Hill College. Based on a LOS E, the capacity of the 3-lane section between I-26 and Main Street and the 2-lane section through Mars Hill College (west of Main Street) are 13,900 vpd and 9,300 vpd respectively. With the projected 2035 volumes of 20,100 vpd and 15,300 vpd, NC 213 will be over capacity.

Community Vision and Problem History

The identified problem on NC 213 was not addressed in either the 2001 Mars Hill Land Use Plan or the 2010 Madison County Comprehensive Plan. No CTP or Thoroughfare Plan has ever been developed for Madison County.

CTP PROJECT PROPOSAL

Project Description and Overview

The CTP project proposal (MADI0005-H) is to construct a 2-lane major thoroughfare from just west of the I-26 interchange to Gabriels Creek Road (SR 1565). The proposed 2-lane bypass will split from NC 213 at a point approximately 800 feet west of the I-26 southbound exit ramp. From this point the proposed bypass extends westward crossing South Main Street (SR 1609) and Park Drive before tying back into the existing NC 213 at Gabriels Creek Road (SR 1565).

The proposed bypass is projected to serve approximately 12,000 vehicles per day (vpd). The proposed NC 213 Bypass would provide an alternate east-west route for Mars Hill and Mars Hill College by diverting through traffic away from these areas. As a result, projected 2035 traffic on existing NC 213 will be reduced to approximately 8,000 vpd which would allow the facility to function above Level of Service D. The lower future volumes on existing NC 213 will also lower the pedestrian/vehicle conflicts in downtown Mars Hill and the Mars Hill College area where pedestrian travel is high.

Natural & Human Environmental Context

Based on a planning level environmental assessment using available GIS data, the proposed project may potentially impact the following features: Ecosystem Enhancement Program (EEP) Targeted Local Watershed area, the water supply watershed area, the high quality water and outstanding resource water management zone, sanitary sewer pipes, and water distribution pipes. A detailed study to minimize the project impact on these environmental features will be examined during the project planning phase. The proposed project may also impact one dwelling unit that is located in the area where the project crosses South Main Street (SR 1609).

Relationship to Land Use Plans

Strip development anchored by Ingles, CVS and Dollar General dominates the stretch of NC 213 between the I-26 interchange and the center of Mars Hill (Main Street). Restaurants, banks, auto retailers and gas stations also can be found along this stretch. The stretch of NC 213 from Main Street (SR 1609) to Park Drive/Athletic Street is on the campus of Mars Hill College. The development intensity decreases greatly west of Park Drive/Athletic Street. A mixture of residential, commercial and business developments can be found along this stretch of NC 213. According to the Town of Mars Hill 2001 Land Use Plan, land use along NC 213 from the I-26 interchange to Main Street (SR 1609) will mainly be commercial. Development between Main Street (SR 1609) and Gabriels Creek Road (SR 1565) in the Mars Hill College area will continue to be

institutional. A mixture of commercial, residential and mixed use are anticipated in the area along NC 213 west of Gabriels Creek Road.

Linkages to Other Plans and Proposed Project History

NC 213 is a major thoroughfare on the Federal Functional Classification System. It is on the regional tier of the North Carolina Multimodal Investment Network (NCMIN). The proposed project was not identified on any previous plans.

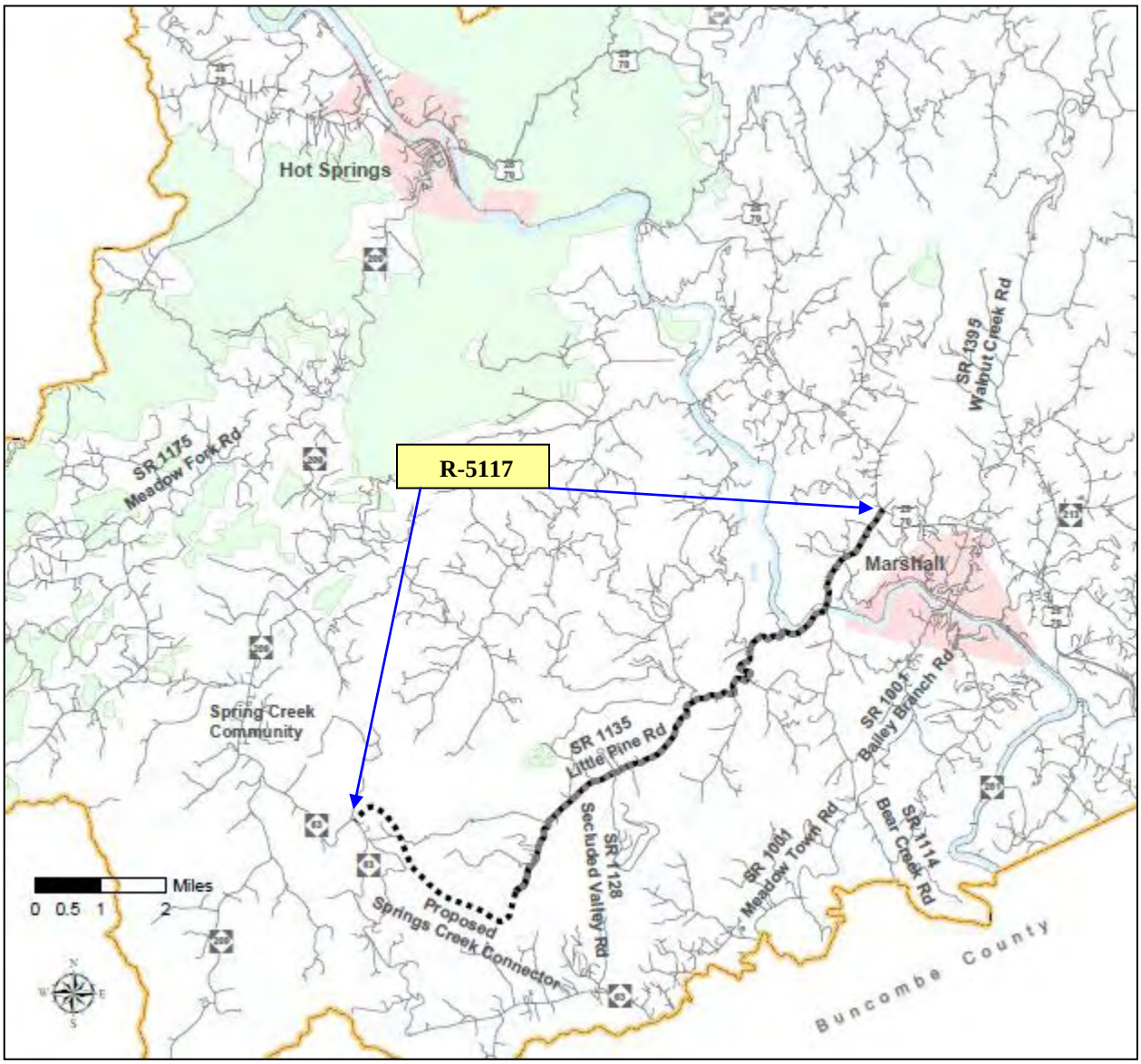
Multi-modal Consideration

The steep terrain of the proposed bypass will make travelling on this facility difficult for bicyclist. No multi-model recommendation is proposed for this project.

Public Stakeholder Involvement

There were no significant stakeholder issues identified with the project during the development of the CTP.

Spring Creek Connector **ID No. R-5117**
Proposed improvement of Little Pine Road (SR 1135) from US 25/US 70 in Marshall to NC 63 in the Spring Creek community **Last updated on: 1/10/2011**



IDENTIFIED PROBLEM

There is a lack of east-west routes in the western part of Madison County. The primary purpose of these improvements is to provide efficient east-west travel from to NC 63 in the Spring Creek community to US 25/US 70 in Marshall.

Justification of Need

Currently there is not an efficient route for travelling between the Spring Creek community in the western part of Madison County and the Town of Marshall, the county seat. From the Spring Creek community, commuters must either travel north using NC 209 connecting to US 25/US 70 at Hot Springs or travel south using NC 209 connecting to NC 63 then to Meadow Town/Bailey Bridge Road (SR 1001) to reach Marshall. The distance for either of these trips is approximately 25 miles of winding mountainous routes. In addition, it takes more than an hour to bus K-12 students from the Spring Creek Community to the schools that are located in the Marshall area.

Community Vision and Problem History

The identified problem was not addressed in either the 2010 Madison County Comprehensive Plan or the 2009 Town of Marshall Comprehensive Land Use Plan. No CTP or Thoroughfare Plan has ever been developed for Madison County.

CTP PROJECT PROPOSAL

Project Description and Overview

The proposed improvement includes widening existing Little Pine Road (SR 1135) to two 12 foot lanes from US 25/US 70 in Marshall and building a new two lane connector with 12 foot lanes from the end of the existing facility to connect to NC 63 just south of the Spring Creek community.

Natural & Human Environmental Context

Based on a planning level environmental assessment using available GIS data, the proposed project lies within the vicinity of national heritage element occurrences areas, trout waters area, and a land trust priority area. The project may also impact the conservative tax credit property that is located in the vicinity of Little Pine Road (SR 1135) and Secluded Valley Road (SR 1128), and bridge 102 over French Broad River which also functions as a grade separation over Southern Railway railroad. A detailed study to minimize the project impact on these environmental features will be completed during the project planning phase. An estimate of one business and 23 residences are anticipated to be relocated if this project is built (see FS-0513A).

Relationship to Land Use Plans

Development along Little Pine Road is sparse and is mainly residential. The existing land-use along the proposed project is identified in the 2010 Madison County Comprehensive Plan as residential and residential-agricultural. The same land-use designation is indentified in the County's future land-use plan for the area along the proposed corridor.

Linkages to Other Plans and Proposed Project History

A Feasibility Study (FS-0513A) for this project was conducted and completed by NCDOT in 2008. Three alternatives were studied. Alternative 1 was selected. The distance of this alternative is approximately 10.9 miles, and the 2035 projected traffic is approximately between 1,300 to 4,400 vehicles per day (vpd). Refer to Appendix I for detailed information of each alternative and a map showing the location the alternatives.

Multi-modal Consideration

The mountainous terrain especially on the proposed connector will make travelling on the proposed roadway difficult for bicyclist. No multi-model recommendation was proposed for this project.

Public/ Stakeholder Involvement

Concerns were raised during the CTP public workshop in regard to the estimated cost of the project and the impact to the rural setting of the area along the proposed project.

US 19, TIP No. R-2518A

US 19 is projected to be over capacity by 2035 from I-26 to Yancey County. The 2012-2018 TIP includes project R-2518A that is intended to address this problem. This project is currently under construction to widen the existing facility to a 4-lane divided boulevard. For additional information about the Purpose and Need for TIP project R-2518A, contact NCDOT's Project Development and Environmental Analysis Branch (PDEA).

US 25/US 70, Local ID: MADI0004-H

Based on North Carolina's vision for mobility and connectivity, US 25/US 70 through Madison County does not meet the future mobility and connectivity needs in western North Carolina and into Tennessee.

This facility, in combination with NC 208, is intended to provide mobility in Madison County and, ultimately, connectivity between Greeneville, TN and Asheville, NC. US 25/US 70 is designated as a boulevard in the NCDOT's Strategic Highway Corridor (SHC) Vision Plan adopted on September 2, 2004 and last updated on July 10, 2008. From Buncombe County to NC 251, the existing facility is an expressway. From NC 251 to North Main Street (US 25/US 70 Business) in Marshall, the existing facility is a major thoroughfare and is proposed to be upgraded to a boulevard (MADI0002-H). From North Main Street (US 25/US 70 Business) to NC 208, the existing facility is a major thoroughfare and is proposed to remain as a major thoroughfare with future improvements as needed in order to achieve boulevard standards. As development occurs along this corridor every effort should be made to limit access in order to maintain mobility and connectivity.

OTHER MINOR IMPROVEMENTS

The following road does not have capacity issues but is recommended to be upgraded to current NCDOT design standards to improve the narrow lane width.

MADI0002-H: Bruce Road (SR 1354) from Riddle Hill Road (SR 1353) to North Main Street (SR 1609) in Mars Hill. Widen from two 8 foot lanes to two 10 foot lanes.

The following routes have intersection operational deficiency issues. Adding a left turn bay is recommended to address the deficiency.

- North Main Street at NC 213 in Mars Hill.
- South Main Street at NC 213 in Mars Hill.

PUBLIC TRANSPORTATION AND RAIL

The French Broad River 2008 MPO CTP and 2010 Long Range Transportation Plan (LRTP) recommended an express bus service between downtown Asheville and Mars Hill. This proposed express bus service is also recommended in the Madison County CTP which utilizes I-26 terminating at NC 213. Two park and ride lots are also recommended in the CTP. The first one is located off of Calvin Edney Road (SR 1549) in Mars Hill. This park and ride lot would be used as a bus stop for the above mentioned express bus and also be used for carpool/vanpool services. The second park and ride lot is located off of NC 251 east of Marshall. This park and ride lot was proposed mainly for carpool/vanpool service purposes. The Public Transportation and Rail element of the CTP is shown on Figure 1, Sheet 3.

BICYCLE

The Bicycle element of the Madison County CTP is shown on Figure 1, Sheet 4. Following are the recommendations of bicycle improvements in the County:

MADI0001-B: Install share-the-road signage on NC 213 from Main Street in Mars Hill to US 25/US 70.

MADI0001-M: A proposed multi-use path is included in the NC 251 Greenway Study (2010) in Buncombe County. It is located along NC 251 and the French Broad River. The recommendation in the Madison County CTP is to extend the proposed multi-use path from the county line to US 25/US 70.

On October 19, 2009, the Town of Marshall adopted the Town's Comprehensive Land Use Plan. The Town will use this plan as a basis to implement the bicycle and pedestrian plan facilities in its jurisdiction. In addition, the Town will work with the Bicycle & Pedestrian Division of NCDOT on a more detailed Bicycle and Pedestrian Plan for the area. The Madison County CTP may be amended to include this plan once the plan is completed.

PEDESTRIAN

The Pedestrian element of the Madison County CTP is shown on Figure 1, Sheets 5 and 5A. Following are the recommendations for pedestrian improvements in the county:

Sidewalk Needs Improvement

- **MADI0001-P:** US 25/US 70 bridge over French Broad River in Hot Springs - Upgrade sidewalk to meet American Disability Act (ADA) compliance.
- **MADI0002-P:** US 25/US 70 from Spring Street to Meadow Lane in Hot Springs - Upgrade sidewalk to meet American Disability Act (ADA) compliance.
- **MADI0003-P:** US 25/US 70 from Walnut Street to Short Street in Hot Springs - Upgrade sidewalk to meet American Disability Act (ADA) compliance.

- **MADI0004-P:** US 25/US 70 from Short Street to Hot Springs Elementary – Add sidewalk on the south side.
- **MADI0006-P:** Jackson Avenue from Lawson Street to US 25/US 70 in Hot Springs - Upgrade sidewalk to meet American Disability Act (ADA) compliance.
- **MADI0007-P:** Lawson Street from Mountain Heights Avenue to Serpentine Avenue in Hot Springs - Upgrade sidewalk to meet American Disability Act (ADA) compliance.
- **MADI0008-P:** Meadow Lane from Serpentine Avenue to US 25/US 70 (Bridge Street) in Hot Springs - Upgrade sidewalk to meet American Disability Act (ADA) compliance.
- **MADI0009-P:** Mountain Heights Avenue from Lawson Street to Avenue B in Hot Springs - Upgrade sidewalk to meet American Disability Act (ADA) compliance.
- **MADI0010-P:** North Spring Street from US 25/US 70 (Bridge Street) to just south of Serpentine Avenue in Hot Springs - Upgrade sidewalk to meet American Disability Act (ADA) compliance.
- **MADI0011-P:** South Spring Street from US 25/US 70 (Bridge Street) to just east of Conway Avenue in Hot Springs - Upgrade sidewalk to meet American Disability Act (ADA) compliance.
- **MADI00012-P:** Conway Avenue from Hill Street to South Spring Street in Hot Springs - Upgrade sidewalk to meet American Disability Act (ADA) compliance.
- **MADI0013-P:** Walnut Street from US 25/US 70 (Bridge Street) to Hill Street in Hot Springs - Upgrade sidewalk to meet American Disability Act (ADA) compliance.
- **MADI0014-P:** NC 213 from I-26 interchange to Main Street in Mars Hill - Add sidewalk on the south side.

<u>Sidewalk Recommended</u>

- **MADI0005-P:** US 25/US 70 from Hot Springs Elementary to Mountain Heights Avenue in Hot Springs
- **MADI0015-P:** NC 213 from Athletic Street to Brooks Street in Mars Hill
- **MADI0016-P:** Bailey Street from Banjo Branch Road to Bearwood Street in Mars Hill
- **MADI0017-P:** Dormitory Drive from NC 213 to South Main Street in Mars Hill
- **MADI0018-P:** Mountain View Street from Cemetery Drive to Chestnut St. in Mars Hill
- **MADI0019-P:** South Main Street from Dormitory Drive to Ammons Road in Mars Hill

Off Road Recommended

- **MADI0020-P:** Greenway from NC 213 to Mountain View Street in Mars Hill.

Multi-use Path Recommended

- **MADI0001-M:** A proposed multi-use path is included in the NC 251 Greenway Study (2010) in Buncombe County. It is located along NC 251 and the French Broad River. The recommendation in the Madison County CTP is to extend the proposed multi-use path from the county line to US 25/US 70.

On October 19, 2009, the town of Marshall adopted the town's Comprehensive Land Use Plan. The town will use this plan as a basis to implement the bicycle and pedestrian plan facilities in its jurisdiction. In addition, the town will work with the Bicycle & Pedestrian Division of NCDOT on a more detailed Bicycle and Pedestrian Plan for the area. The Madison County CTP may be amended to include this plan once the plan is completed.

Some of the sidewalk needs improvements were misclassified in the adopted pedestrian map, but are documented correctly in this report. These mapping errors will be corrected in the next CTP amendment or update. Following are the affected projects:

- MADI0005-P (US 25/US 70 in Hot Springs) – should be classified as sidewalk recommended instead of sidewalk needs improvement.
- MADI0012-P (Walnut Street in Hot Springs) – should be classified as sidewalk needs improvement instead of sidewalk existing.
- MADI0013-P (NC 213 in Mars Hill) – should be classified as sidewalk needs improvement instead of sidewalk existing.
- MADI0014-P (NC 213 in Mars Hill) – should be classified as sidewalk recommended instead of sidewalk needs improvement.
- MADI0015-P (Bailey Street in Mars Hill) – should be classified as sidewalk recommended instead of sidewalk needs improvement.
- MADI0017-P (Mountain View Street in Mars Hill) - should be classified as sidewalk recommended instead of sidewalk needs improvement.
- MADI0019-P (South Main Street in Mars Hill) - should be classified as sidewalk recommended instead of sidewalk needs improvement.

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 homepage:

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

Secretary of Transportation

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

Board of Transportation Member

Ms. Wanda Proffitt
153 Wildberry Lane
Burnsville, North Carolina 28714
(828) 682-6166
wproffitt@ncdot.gov
http://www.ncdot.gov/about/board/default.html

Highway Division Engineer

Contact the Division Engineer with general questions concerning NCDOT activities within each Division and for information on Small Urban Funds.

Mr. Jay Swain, Jr, PE
55 Orange Street
Asheville, NC 28801
(828) 251-6171 Ext. 203
jswain@ncdot.gov
http://www.ncdot.gov/doh/operations/division13/

Division Project Manager

Contact the Division Project Manager with questions concerning transportation projects within each Division.

Mr. Mike Calloway
55 Orange Street
Asheville, NC 28801
(828) 251-6171 Ext. 216
mkcalloway@ncdot.gov

Division Construction Engineer

Contact the Division Construction Engineer with questions concerning transportation projects within each Division.

Mr. Ricky A. Tipton, PE, PLS
55 Orange Street
Asheville, NC 28801
(828) 251-6171 Ext. 209
rtipton@ncdot.gov

Division Traffic Engineer

Contact the Division Traffic Engineer for information concerning traffic signals, highway signs, pavement markings and crash history.

Ms. Anna G. Henderson, PE
55 Orange Street
Asheville, NC 28801
(828) 251-6171 Ext. 211
aghenderson@ncdot.gov

Division Operations Engineer

Contact the Division Operations Engineer for information concerning facility operations.

Mr. Kenneth Wilson, PE
55 Orange Street
Asheville, NC 28801
(828) 251-6171 Ext. 213
kwilson@ncdot.gov

Division Maintenance Engineer

Contact the 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.

Mr. Ed Green, PE
55 Orange Street
Asheville, NC 28801
(828) 251-6171 Ext. 208
eagreen@ncdot.gov

District Engineer

Contact the 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.

Mr. Jeff Moore
11 Old Charlotte Highway
Asheville, NC 28803
(828) 298-2741
jhmoore@ncdot.gov

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/

Land-Of-Sky Rural Planning Organization (RPO)

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

Ms. Natalie Murdock
339 New Leicester Highway, Suite 140
(828) 251-6622 Ext. 128
Asheville, NC 28806
natalie@landofsky.org
http://www.landofskyrpo.org/

Strategic Planning Office

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

Mr. Don Voelker
1501 Mail Service Center
Raleigh, NC 27699-1501
(919) 707-4740
https://apps.dot.state.nc.us/dot/directory/authenticated/UnitPage.aspx?id=11054

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 Office

Contact the Secondary Roads Office 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 Structure Management Unit for information on bridge management throughout the state.

1565 Mail Service Center
Raleigh, NC 27699-1565
(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 27699-1584
(919) 707-6200
http://www.ncdot.gov/doh/preconstruct/highway/

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

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 the Roadway Pavement Conditions Database. 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 2012 - 2018 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)	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
	I-26	Tennessee State Line - US 23A	Madison Co.	2.80	72	6D	300	60	89500	8400	18000	18000	ADQ	ADQ	ADQ	F	Sta	-
	I-26	US 23A - NC 19	Madison Co.	6.37	48	4D	250	60	61200	10050	24600	24600	ADQ	ADQ	ADQ	F	Sta	-
	I-26	NC 19 - NC 213	Madison Co.	1.74	48	4D	250	60	61200	19000	46500	46500	ADQ	ADQ	ADQ	F	Sta	-
	I-26	NC 213 - Buncombe Co. Line	Madison Co.	1.82	48	4D	250	60	61200	20000	48900	48900	ADQ	ADQ	ADQ	F	Sta	T
R-2518A	**US 19**	Yancey Co. Line - Crooked Creek Rd (SR 1526)	Madison Co.	3.94	24	2	60	55	15800	9650	21800	21800	60700	4B	150	B	Sta	-
R-2518A	**US 19**	SR 1526 (Crooked Creek Rd) - I-26	Madison Co.	2.46	24	2	60	55	15800	7800	16600	16600	60700	4B	150	B	Sta	-
	US 23A	Tennessee State Line - Smith Creek Rd (SR 1500)	Madison Co.	1.59	36	3	80	55	15800	1850	2700	2700	ADQ	ADQ	ADQ	Maj	Reg	-
	US 23A	Smith Creek Rd - Big Laurel Rd (SR 1318)	Madison Co.	1.34	24	2	30	55	15800	1750	3000	3000	ADQ	ADQ	ADQ	Maj	Reg	-
	US 23A	Big Laurel Rd - SR 1503	Madison Co.	0.94	24	2	30	55	15800	1750	3000	3000	ADQ	ADQ	ADQ	Maj	Reg	-
	US 23A	SR 1503 - SR 1347	Madison Co.	1.31	36	3	80	55	15800	1750	3000	3000	ADQ	ADQ	ADQ	Maj	Reg	-
	US 23A	SR 1347 - US 19	Madison Co.	5.8	24	2	30	55	15800	1750	3000	3000	ADQ	ADQ	ADQ	Maj	Reg	-
	US 25/US 70	Tennessee State Line - Fairview Rd (SR 1453)	Madison Co.	3.38	24	2	40	45	11700	1700	3200	3200	ADQ	ADQ	ADQ	Maj	Reg	-
	US 25/US 70	Fairview Rd - NC209 (Lance Ave)	Hot Springs	2.25	24	2	40	40	9300	2500	4200	4200	ADQ	ADQ	ADQ	Maj	Reg	P
	US 25/US 70	NC 209 - River Rd (SR 1304)	Hot Springs	0.30	36	3	100	25	10400	3350	5600	5600	ADQ	ADQ	ADQ	Maj	Reg	P
	US 25/US 70	River Rd - NC 208	Madison Co.	5.25	24	2	60	45	15800	2250	3800	3800	ADQ	ADQ	ADQ	Maj	Reg	-
MADI0004-H	**US 25/US 70**	NC 208 - Lonesome Mountain Rd (SR 1319)	Madison Co.	1.97	24	2	40	45	11700	3300	4900	4900	ADQ	ADQ	ADQ	B	Sta	-
MADI0004-H	**US 25/US 70**	Lonesome Mountain Rd - Sharp Hollow Rd (SR 1145)	Madison Co.	3.95	24	2	60	45	15800	4000	7600	7600	ADQ	4B	150	B	Sta	-
MADI0004-H	**US 25/US 70**	Sharp Hollow Rd - US 25/US 70 Bus (N. Main St)	Madison Co.	3.28	24	2	60	45	15800	7400	12400	12400	ADQ	4B	150	B	Sta	-
MADI0003-H	**US 25/US 70**	US 25/US 70 Bus - Walnut Creek Rd (Sr 1395)	Madison Co.	0.70	24	2	100	45	13900	8650	16400	16400	60700	4D	110	B	Sta	B
MADI0003-H	**US 25/US 70**	Walnut Creek Rd - NC 213	Madison Co.	1.48	36	3	100	45	13900	11500	21900	21900	60700	4D	110	B	Sta	-
MADI0003-H	**US 25/US 70**	NC 213 - NC 251	Madison Co.	1.20	36	3	100	55	15800	10000	19000	19000	60700	4B	150	B	Sta	-
	US 25/US 70	NC 251 - US 25/ US 70 Bus (Ivy River Rd)	Madison Co.	1.73	48	4 D	150	55	60700	6650	15400	15400	ADQ	ADQ	ADQ	E	Sta	-

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)	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
	US 25/US 70	US 25/US 70 Bus - Buncombe Co. Line	Madison Co.	1.61	48	4 D	150	55	60700	8000	19600	19600	ADQ	ADQ	ADQ	E	Sta	-
	US 25/US 70 Bus (N. Main St)	US 25/ US 70 - Walnut Creek Rd	Marshall	0.92	20	2	30	35	10400	1200	2000	2000	ADQ	ADQ	ADQ	Maj	Reg	-
	US 25/US 70 Bus (N. Main St)	Walnut Creek Rd - Redmond Rd	Marshall	0.46	20	2	30	35	10400	2600	4400	4400	ADQ	ADQ	ADQ	Maj	Reg	-
	US 25/US 70 Bus (S. Main St)	Redmond Rd - Bailey Branch Rd (SR 1001)	Marshall	0.27	20	2	30	20	9300	2850	4800	4800	ADQ	ADQ	ADQ	Maj	Reg	-
	US 25/US 70 Bus (S. Main St)	Bailey Branch Rd - Bridge St	Marshall	0.13	30	2	40	20	9300	2950	4700	4700	ADQ	ADQ	ADQ	Maj	Reg	-
	US 25/US 70 Bus (N. Main St)	Bridge St - Hayes Run Rd (SR 1198)	Marshall	0.77	22	2	30	35	10400	2450	4700	4700	ADQ	ADQ	ADQ	Maj	Reg	-
	US 25/US 70 Bus (N. Main St)	Hayes Run Rd - NC 251 N	Marshall	1.22	22	2	30	45	10400	1450	2800	2800	ADQ	ADQ	ADQ	Maj	Reg	-
	US 25/US 70 Bus (N. Main St)	NC 251 N- NC 251 S	Madison Co.	0.48	24	2	30	55	15800	1800	3400	3400	ADQ	ADQ	ADQ	Maj	Reg	-
	US 25/US 70 Bus (Ivy River Rd)	NC 251 S - US 25/ US 70	Madison Co.	1.31	22	2	30	45	11700	850	1900	1900	ADQ	ADQ	ADQ	Maj	Reg	-
	NC 63	NC 209 - Cross Rock Church Rd	Madison Co.	8.59	20	2	60	35	11700	460	800	800	ADQ	ADQ	ADQ	Maj	Reg	-
	NC 63	Cross Rock Church Rd - Buncombe Co. Line	Madison Co.	3.26	24	2	100	55	15800	820	1800	1800	ADQ	ADQ	ADQ	Maj	Reg	-
	NC 208	Tennessee State Line - NC 212	Madison Co.	5.61	20	2	30	50	11700	1050	2000	2000	ADQ	ADQ	ADQ	Maj	Sta	-
	NC 208	NC 212 - US 25/US 70	Madison Co.	3.50	20	2	60	50	11700	1550	3400	3400	ADQ	ADQ	ADQ	Maj	Sta	-
	NC 209	US 25/US 70 - Hot Spirngs City Limit	Hot Springs	1.23	18	2	30	35	11700	950	1800	1800	ADQ	ADQ	ADQ	Maj	Reg	-
	NC 209	Hot Springs City Limit - Big Pine Rd (SR 1151)	Madison Co.	9.91	18	2	100	50	11700	600	1000	1000	ADQ	ADQ	ADQ	Maj	Reg	-
	NC 209	Big Pine Rd - NC 63	Madison Co.	3.54	18	2	100	50	11700	600	1000	1000	ADQ	ADQ	ADQ	Maj	Reg	-
	NC 209	NC 63 - Haywood Co. Line	Madison Co.	6.23	18	2	100	50	11700	550	700	700	ADQ	ADQ	ADQ	Maj	Reg	-

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)	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
	NC 212	Tennessee State Line - NC 208	Madison Co.	14.26	18	2	30	50	11700	550	700	700	ADQ	ADQ	ADQ	Maj	Reg	-
	NC 213	NC 213 Bypass - Anderson St	Mars Hill	0.74	36	3	60	35	13900	12000	20100	8000	ADQ	ADQ	ADQ	Maj	Reg	-
	NC 213	Anderson St - Main St (SR 1609)	Mars Hill	0.15	36	3	60	25	12400	10950	18300	7300	ADQ	ADQ	ADQ	Maj	Reg	-
	NC 213	Main St - Athletic St	Mars Hill	0.31	32	2	40	25	9300	9150	15300	4300	ADQ	ADQ	ADQ	Maj	Reg	B
	NC 213	Athletic St - NC 213 Bypass	Mars Hill	0.65	32	2	60	25	9300	9150	15300	3000	ADQ	ADQ	ADQ	Maj	Reg	B,P
	NC 213	NC 213 Bypass - Bull Creek Rd (SR 1569)	Madison Co.	0.52	24	2		45	15800	6850	13000	13000	ADQ	ADQ	ADQ	Maj	Reg	B
	NC 213	Bull Creek Rd - Grapevine Rd (SR 1370)	Madison Co.	2.40	24	2	60	55	15800	6000	11400	11400	ADQ	ADQ	ADQ	Maj	Reg	B
	NC 213	Grapevine Rd - Halewood Rd (SR 1613)	Madison Co.	1.10	36	3	60	55	15800	5000	11300	11300	ADQ	ADQ	ADQ	Maj	Reg	B
	NC 213	Halewood Rd - Fisher Ln (SR 1390)	Madison Co.	1.65	24	2	60	55	15800	5650	12200	12200	ADQ	ADQ	ADQ	Maj	Reg	B
	NC 213	Fisher Ln (SR 1390) - US 25/US 70	Madison Co.	0.89	24	2	60	45	15800	7000	15100	15100	ADQ	ADQ	ADQ	Maj	Reg	B
MADI0005-H	**NC 213 Bypass**	I-26 - NC 213	Madison Co.	0.11	-	-	-	-	-	-	-	12000	31900	4D	110	Maj	Reg	-
MADI0005-H	**NC 213 Bypass**	NC 213 - S. Main St	Madison Co.	0.61	-	-	-	-	-	-	-	9700	15800	2A	60	Maj	Reg	-
MADI0005-H	**NC 213 Bypass**	S. Main St - NC 213	Madison Co.	1.04	-	-	-	-	-	-	-	9700	15800	2A	60	Maj	Reg	-
	NC 251	US 25/US 70 - US 25/US 70 Bus (S. Main St)	Madison Co.	0.31	22	2	30	45	15800	700	1500	1500	ADQ	ADQ	ADQ	Maj	Reg	M,T
	NC 251	Concurrent with US 25/US 70 Bus (NC 251N - NC 251S)	Madison Co.															M
	NC 251	US 25/US 70 (Ivy River Rd) - Buncombe Co. Line	Madison Co.	4.12	22	2	30	55	15800	600	1200	1200	ADQ	ADQ	ADQ	Maj	Reg	M
	Bailey Branch Rd (SR 1001)	South Main St (US 25/US 70 Bus - Southern Railway RR	Madison Co.	0.07	18	2	60	20	7840	1800	3000	3000	ADQ	ADQ	ADQ	Min	Sub	-
	Bailey Branch Rd (SR 1001)	Southern Railway RR - Bear Creek Rd (SR 1114)	Madison Co.	4.27	18	2	60	45	7840	970	1600	1600	ADQ	ADQ	ADQ	Min	Sub	-

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)	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
	Beach Glen Rd (SR 1540)	Fork of Ivy Rd (SR 1609) - Holcombe Branch Rd (SR 1546)	Madison Co.	2.39	16	2	30'	35	7840	400	800	800	ADQ	ADQ	ADQ	Min	Sub	-
	Beach Glen Rd (SR 1540)	Holcombe Branch Rd - Paint Fork Rd (SR 1530)	Madison Co.	0.71	16	2	30'	35	7840	400	800	800	ADQ	ADQ	ADQ	Min	Sub	-
	Big Laurel Rd (SR 1318)	Gunter Town Rd (SR 1318) - Grapevine Rd (SR 1370)	Madison Co.	13.24	18	2	30'	35	7400	300	400	400	ADQ	ADQ	ADQ	Min	Sub	-
	Big Laurel Rd (SR 1318)	Grapevine Rd - US 23B	Madison Co.	4.08	18	2	30	35	7400	850	1300	1300	ADQ	ADQ	ADQ	Min	Sub	-
	Big Pine Rd (SR 1151)	NC 209 - End of Pavement (West of SR 1159)	Madison Co.	1.40	18	2	30	35	7400	650	900	900	ADQ	ADQ	ADQ	Min	Sub	-
	Big Pine Rd (SR 1151)	End of Pavement - Begin of Pavement (SR 1145)	Madison Co.	3.94	18	2	24	20	5400	200	300	300	ADQ	ADQ	ADQ	Min	Sub	-
	Big Pine Rd (SR 1151)	Begin of Pavement - Sharp Hollow Rd (SR 1145)	Madison Co.	9.15	18	2	30	35	7400	650	900	900	ADQ	ADQ	ADQ	Min	Sub	-
MADI0002-H	**Bruce Rd (SR 1354)**	N. Main St (SR 1609) - Riddle Hill SR 1353	Mars Hill	0.99	16	2	45	25	7200	800	1500	1500	ADQ	ADQ	ADQ	Min	Sub	-
	Caldwell Mtn Rd (SR 1165)	NC 209 - Meadow Fork Rd (SR 1175)	Madison Co.	2.11	18	2	60	35	7400	300	600	600	ADQ	ADQ	ADQ	Min	Sub	-
	Clyde Brown Rd (SR 1527)	Crooked Creek Rd (Sr 1526) - Paint Fork Rd (SR 1530)	Madison Co.	0.59	16	2	60	35	8000	500	800	800	ADQ	ADQ	ADQ	Min	Sub	-
	Crooked Creek Rd (SR 1526)	US 19 - Clyde Brown Rd (SR 1527)	Madison Co.	2.25	18	2	60	45	8000	750	1000	1000	ADQ	ADQ	ADQ	Min	Sub	-
	Grapevine Rd (SR 1370)	NC 213 - East Fork Rd (SR 1364)	Madison Co.	1.26	18	2	30	45	8000	1500	3600	3600	ADQ	ADQ	ADQ	Min	Sub	-
	Grapevine Rd (SR 1370)	East Fork Rd - Big Laurel Rd (SR 1318)	Madison Co.	8.37	18	2	50	45	7400	300	500	500	ADQ	ADQ	ADQ	Min	Sub	-
	Gunter Town Rd (SR 1318)	NC 208 - Big Laurel Rd (SR 1318)	Madison Co.	0.92	18	2	30	35	7400	450	800	800	ADQ	ADQ	ADQ	Min	Sub	-

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)	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
	Hayes Run Rd (SR 1198)	US 25/US 70 - Rollins Rd (US 25/US 70 Bus)	Madison Co.	1.32	18	2	30	35	8160	1800	3000	3000	ADQ	ADQ	ADQ	Maj	Sub	-
	Higgins Branch Rd (SR 1352)	US 23A - N. Main St	Mars Hill	0.09	24	2	30	35	8000	700	1200	1200	ADQ	ADQ	ADQ	Min	Sub	-
	Holcombe Branch Rd (SR 1546)	Beach Glen Rd (SR 1540) - Buncombe Co. Line	Madison Co.	1.78	18	2	60	35	7840	700	1000	1000	ADQ	ADQ	ADQ	Min	Sub	-
R-5117	**Little Pine Rd (SR 1135)**	US 25/ US 70 - Bear Creek Rd (SR 1114)	Madison Co.	1.99	20	2	60	35	7400	1400	2900	4400	15800	2A	60	Min	Sub	-
R-5117	**Little Pine Rd (SR 1135)**	Bear Creek Rd (SR 1114) - Secluded Valley Rd (SR 1128)	Madison Co.	4.74	20	2	60	35	7400	800	1700	3200	15800	2A	60	Min	Sub	-
R-5117	**Little Pine Rd (SR 1135)**	Secluded Valley Rd (SR 1128) - End of Pavement	Madison Co.	0.95	18	2	30	35	7400	500	1000	2500	11700	2A	60	Min	Sub	-
	Meadow Fork Rd (SR 1175)	NC 209 - Caldwell Mnt Rd (SR 1165)	Madison Co.	4.27	16	2	30	35	7400	250	400	400	ADQ	ADQ	ADQ	Min	Sub	-
	Meadow Town Rd (SR 1001)	Bear Creek Rd (SR 1114) - Buncombe Co. Line	Madison Co.	4.27	18	2	30	45	7840	450	800	800	ADQ	ADQ	ADQ	Min	Sub	-
	N. Main St in Marshall	Concurrent with US 25/US 70 Bus	Marshall														Sub	-
	N. Main St in Mars Hill (SR 1609)	Higgins Branch Rd (SR 1352) - Bruce St (SR 1354)	Mars Hill	2.16	18	2	30	35	8000	1900	3200	3200	ADQ	ADQ	ADQ	Min	Sub	-
	N. Main St in Mars Hill (SR 1609)	Bruce St - Bailey St (Sr 1355)	Mars Hill	0.17	18	2	30	35	8000	2200	3700	3700	ADQ	ADQ	ADQ	Min	Sub	-
	N. Main St in Mars Hill (SR 1609)	Bailey St - NC 213	Mars Hill	0.08	18	2	30	20	8000	6200	9100	6100	ADQ	ADQ	ADQ	Min	Sub	-

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)	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
	Fork of Ivy Rd (SR 1609)	SR 1605 - Beach Glen Rd (SR 1540)	Madison Co.	0.12	18	2	30	45					ADQ	ADQ	ADQ	Min	Sub	-
	Paint Fork Rd (SR 1530)	Beach Glen Rd (SR 1540) - Yancey Co. Line	Madison Co.	7.14	16	2	30	35	7840	200	300	300	ADQ	ADQ	ADQ	Min	Sub	-
																	Sub	
	Riddle Hill Rd (SR 1353)	Bruce St (SR 1354) - N. Main St (SR 1609)	Mars Hill	0.48	18	2	45	35	7400	300	500	500	ADQ	ADQ	ADQ	Min	Sub	-
																	Sub	
	Sharp Hollow Rd (SR 1145)	Big Pine Rd (SR 1151) - US 25/US 70	Madison Co.	1.13	18	2	50	35	7400	700	1200	1200	ADQ	ADQ	ADQ	Min	Sub	-
	S. Main St in Marshall (US 25/US 70 Bus)	see US 25/US 70 Bus	Marshall															
	S. Main St in Mars Hill (SR 1609)	NC 213 - Dormitory Rd	Mars Hill	0.23	18	2	30	20	8000	1400	2100	4100	ADQ	ADQ	ADQ	Min	Sub	-
	S. Main St in Mars Hill (SR 1609)	Dormitory Rd - NC 213 Bypass	Mars Hill	0.13	18	2	30	35	8000	700	1100	2100	ADQ	ADQ	ADQ	Min	Sub	P
	S. Main St in Mars Hill (SR 1609)	NC 213 Bypass - SR 1605	Mars Hill	1.65	18	2	30	35	8000	700	1100	1100	ADQ	ADQ	ADQ	Min	Sub	P
R-5117	**Spring Creek Connector**	End of Little Pine Rd - NC 63	Madison Co.	3.22	-	-	-	-	-	-	-	1300	11700	2A	60	Min	Sub	-
	Walnut Creek Rd (SR 1395)	Big Laurel Rd (SR 1318) - McClean Rd (SR 1390)	Madison Co.	7.12	18	2	30	45	7400	800	1000	1000	ADQ	ADQ	ADQ	Min	Sub	-
	Walnut Creek Rd (SR 1395)	McClean Rd - US 25/US 70	Madison Co.	1.74	18	2	30	35	8000	1000	2200	2200	ADQ	ADQ	ADQ	Min	Sub	-
	Walnut Creek Rd (SR 1395)	US 25/US 70 - N. Main St (US 25/US 70 Bus)	Madison Co.	0.86	18	2	30	35	7840	1900	3200	3200	ADQ	ADQ	ADQ	Min	Sub	-

PUBLIC TRANSPORTATION AND RAIL

PUBLIC TRANSPORTATION							
			Speed		Existing System	Proposed System	
Local ID	Facility/ Route	Section (From - To)	Limit (mph)	Distance (mi)	Type	Type	Other Modes
MADI0001-T	**Asheville - Mars Hill Bus Route**	Downtown Asheville- Mars Hill	20-60	1.8	-	Bus	

RAIL												
				Speed		Existing System			Proposed System			
Local ID	Facility/ Route	Section (From - To)	Class	Limit (mph)	Distance (mi)	Type	ROW (ft)	Trains per day	Type	ROW (ft)	Trains per day	Other Modes
	Southern Railway (TR Line)	Buncombe Co. Line - Tennessee State Line	I	5-30	8.1	Freight	25-100	< 1	-	-	-	-

BICYCLE AND PEDESTRIAN

BICYCLE								
				Existing System		Proposed System		
				Cross-Section				Other
Local ID	Facility/ Route	Section (From - To)	Distance (mi)	(ft)	lanes	Type	Cross-Section	Modes
MADI0001-B	**NC 213**	Main Street (SR 1609) in Mars Hill to US 25/US 70 in Marshall	7.5	Share The Road Signage				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
Hot Springs								
MADI0001-P	**US 25/70**	Bridge over French Broad River	0.03	Sidewalk	both	Upgrade to ADA Compliance	both	-
	US 25/70	West side of River to N. Andrews Ave	0.05	Sidewalk	North			-
	US 25/70	N. Andrews Ave to Spring St	0.02	Sidewalk	both			-
MADI0002-P	**US 25/70**	Spring St to Meadow Ln	0.02	Sidewalk	both	Upgrade to ADA Compliance	North	-
	US 25/70	Meadow Ln to Walnut St	0.03	Sidewalk	both			-
MADI0003-P	**US 25/70**	Walnut St to Short St	0.03	Sidewalk	North	Upgrade to ADA Compliance	North	-
MADI0004-P	**US 25/70**	Short St to Hot Springs Elementary	0.09	--	--	Sidewalk	South	-
MADI0005-P	**US 25/70**	Hot Springs Elementary to Mountain Heights Ave	0.04	--	--	Sidewalk	both	-
	Appalachian Trail Hwy	Walnut St to southwest edge of town	0.11	Sidewalk	South			-
	Frisbee St	Walnut St to .01 miles West	0.01	Sidewalk	North			-
	Hill St	Walnut St to S. Spring St	0.04	Sidewalk	South			-
MADI0006-P	**Jackson Ave**	Lawson St to US 25/70	0.08	Sidewalk	South	Upgrade to ADA Compliance	South	-
MADI0007-P	**Lawson St**	Mountain Heights Ave to Serpentine Ave	0.04	Sidewalk	West	Upgrade to ADA Compliance	West	-

PEDESTRIAN								
				Existing System		Proposed System		Other
Local ID	Facility/ Route	Section (From - To)	Distance (mi)	Type	Side of Street	Type	Side of Street	Modes
MADI0008-P	**Meadow Lane**	Serpentine Ave to US 25/70 (Bridge St)	0.04	Sidewalk	East	Upgrade to ADA Compliance	East	-
MADI0009-P	**Mountain Heights Ave**	Lawson St to Avenue B	0.55	Sidewalk	South	Upgrade to ADA Compliance	South	-
	N.Andrews Ave N	N. Andrews Ave - US 25/70 to south of Spring St)	0.03	Sidewalk	West			-
MADI0010-P	**N. Spring St**	US 25/70 (Bridge St) to south of Serpentine Ave	0.03	Sidewalk	West	Upgrade to ADA Compliance	West	-
	S. Spring St	US 25/70 (Bridge St) to Hill St	0.04	Sidewalk	both			-
MADI0011-P	**S. Spring St**	US 25/70 (Bridge St) to east of Conway Ave	0.02	Sidewalk	West	Upgrade to ADA Compliance	West	-
MADI0012-P	**Conway Ave**	Hill St - S. Springs St	0.03	Sidewalk	East	Upgrade to ADA Compliance	East	-
MADI0013-P	**Walnut St**	US 25/70 (Bridge St) to Hill St	0.04	Sidewalk	East	Upgrade to ADA Compliance	East	-
Marshall								
	US 25/70 Bus	900 ft east of Bridge St to 760 Feet west of SR 1001 (Bailey Bridge Rd)	0.44	Sidewalk	both			-
	Bridge St	US 25/70 Business to Back St	0.03	Sidewalk	both			-
	Hill St	US 25/70 Business (Main St) to .03 mi north of Main St	0.03	Sidewalk	North			-
	SR 1001/Island Rd	US 25/70 Business to 550 ft south of Souther Railway Railroad	0.19	Sidewalk	North			-
Mars Hill								
MADI0014-P	**NC 213**	I-26 interchange to Main St	0.90	Sidewalk	North	Sidewalk	South	H
	NC 213	Main St to Athletic St	0.39	Sidewalk	both			B
MADI0015-P	**NC 213**	Athletic St to Brooks	0.37	--	--	Sidewalk	both	B
MADI0016-P	**Bailey St**	Banjo Branch to Bearwood	0.35	--	--	Sidewalk	East	-

PEDESTRIAN								
				Existing System		Proposed System		Other
Local ID	Facility/ Route	Section (From - To)	Distance (mi)	Type	Side of Street	Type	Side of Street	Modes
	Bailey St	Bearwood to N. Main St	1.02	Sidewalk	East			-
	Chestnut St	Moutain View St to SR 1609 (N. Main St)	0.28	sw	both			-
MADI0017-P	**Dormitory Drive**	NC 213 to South Main St	0.39	--	--	Sidewalk	West	-
	Gabriels Creek Trail	Bailey St to the end	1.00	Off-road	--			-
	Mountain View St	Pine Ridge to Cemetery	0.44	sw	East			-
MADI0018-P	**Mountain View St**	Cemetery to Chestnut	0.23	--	--	Sidewalk	East	-
	Mountain View St	Chestnut St to Main St	0.11	sw	North			-
	N. Main St (SR 1609)	NC 213 to Chestnut St	0.43	sw	East			-
	S. Main St	NC 213 to Dormitory Dr	0.24	sw	both			-
MADI0019-P	**S. Main St**	Dormitory Dr to Browns Ammons	0.50	--	--	Sidewalk	both	-
MADI0020-P	**NC 213/Mountain View St Greenway**	NC 213 - Mountain View St	0.15	--	--	Off-road	--	-

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
MADI0001-M	**NC 251 Multi-use Path**	US 25/ US 70 (Marshall) - Buncombe Co. Line	4.9	-	-	West	B-5	-

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" 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 (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, and
- roadways where an urban curb and gutter cross section may be locally desirable because of urban development or redevelopment.
- roadways which may need to accommodate an additional transportation mode

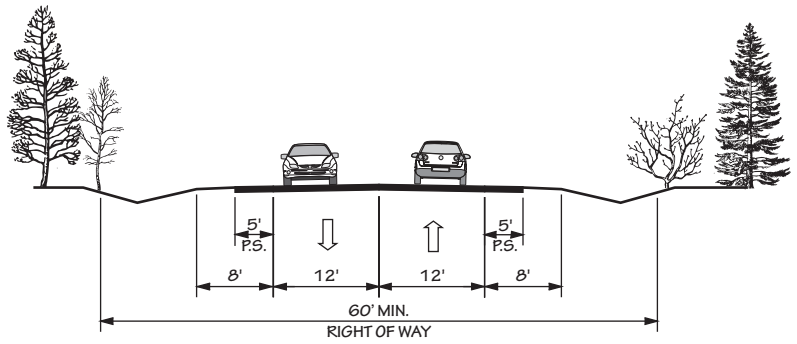
FIGURE 13

TYPICAL HIGHWAY CROSS SECTIONS

2 LANES

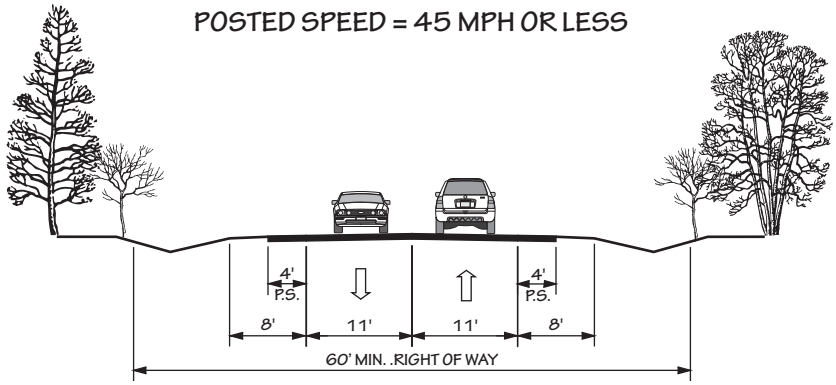
2 A

WIDE PAVED SHOULDERS
POSTED SPEED = 55 MPH



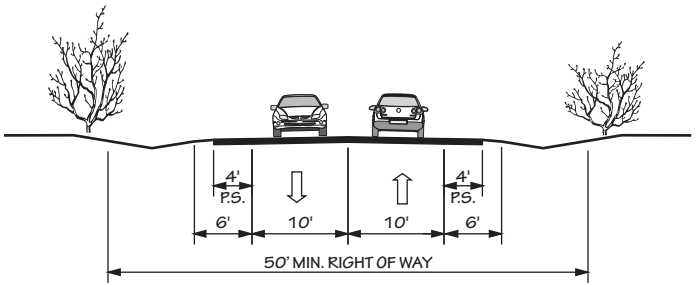
2 B

WIDE PAVED SHOULDERS
POSTED SPEED = 45 MPH OR LESS



2 C

WIDE PAVED SHOULDERS
POSTED SPEED = 35 MPH OR LESS



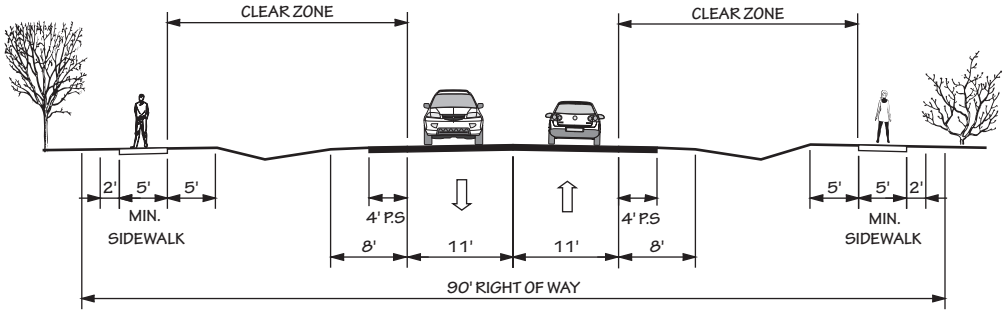
Revised 12/07/2010

TYPICAL HIGHWAY CROSS SECTIONS

2 LANES

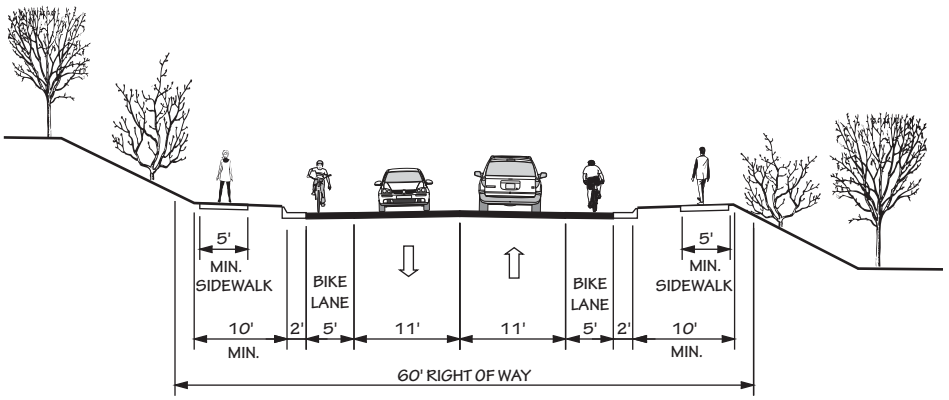
2 D

SIDEWALK PLACEMENT BEHIND A ROADWAY DITCH



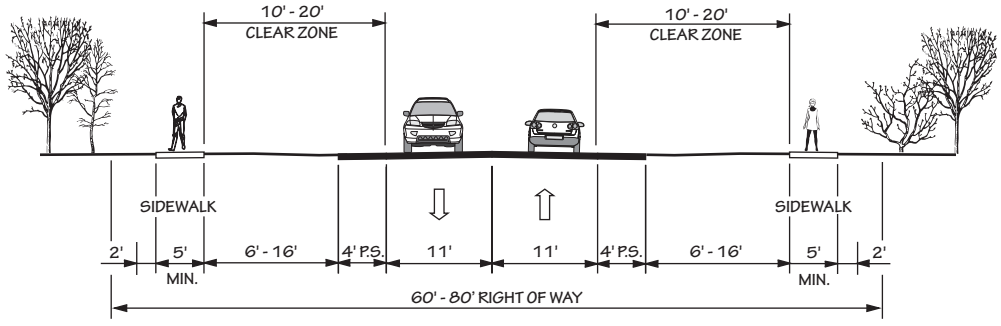
2 E

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)



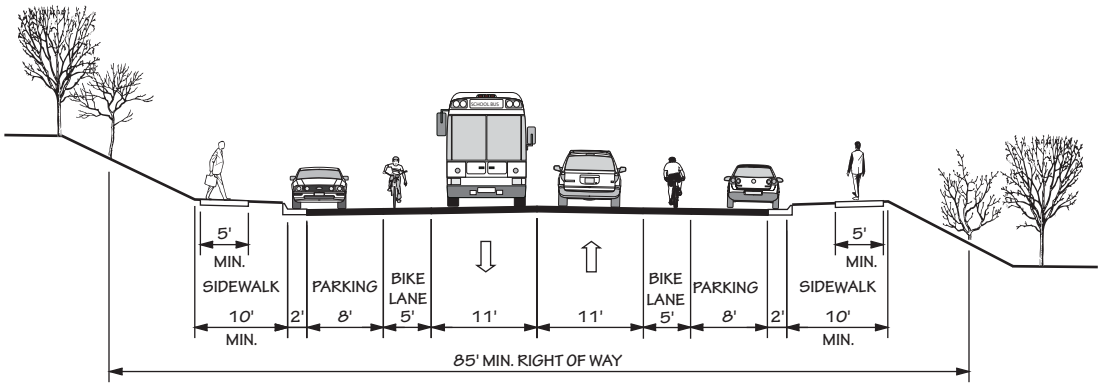
Revised 12/07/2010

TYPICAL HIGHWAY CROSS SECTIONS

2 LANES

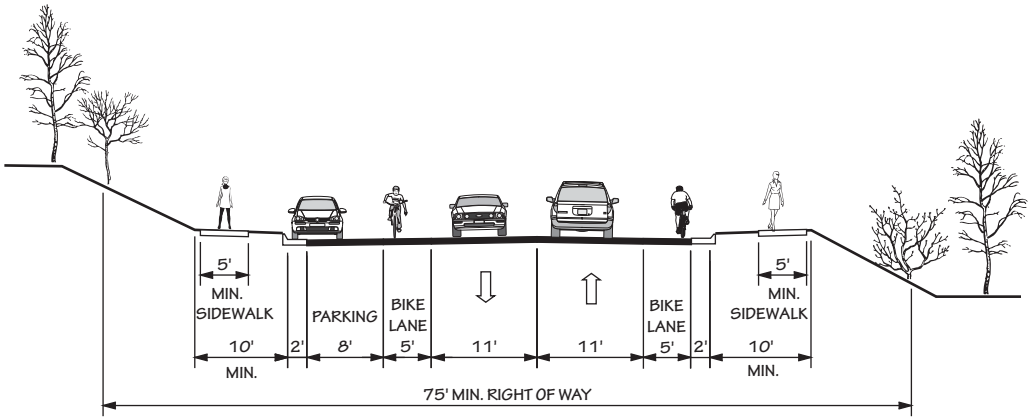
2 G

CURB & GUTTER - PARKING ON EACH SIDE



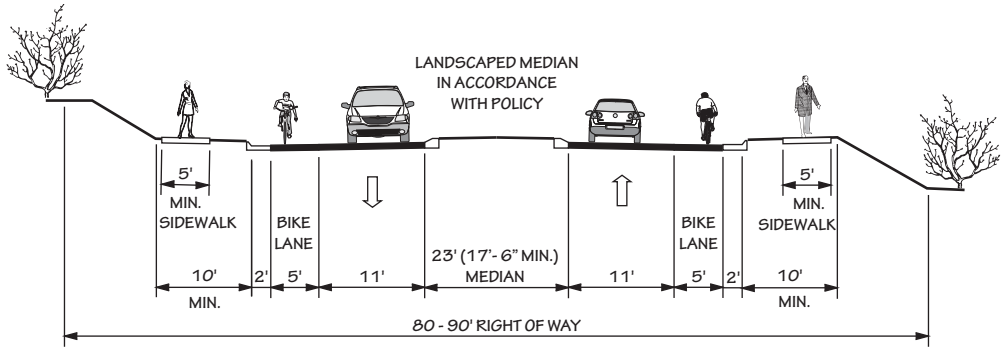
2 H

CURB & GUTTER - PARKING ON ONE SIDE



2 I

RAISED MEDIAN WITH CURB & GUTTER



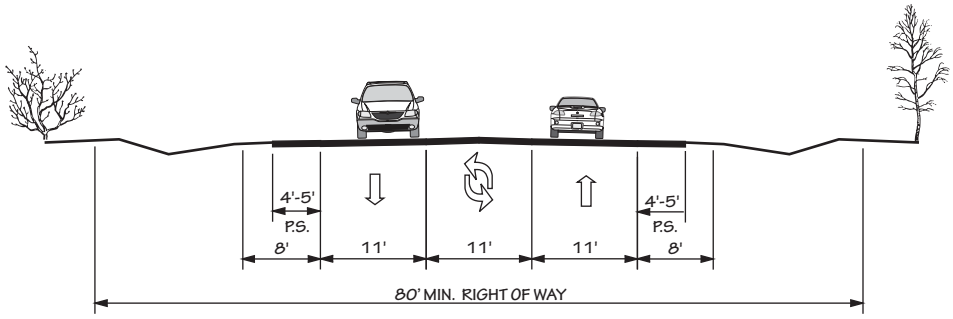
Revised 12/07/2010

TYPICAL HIGHWAY CROSS SECTIONS

3 LANES

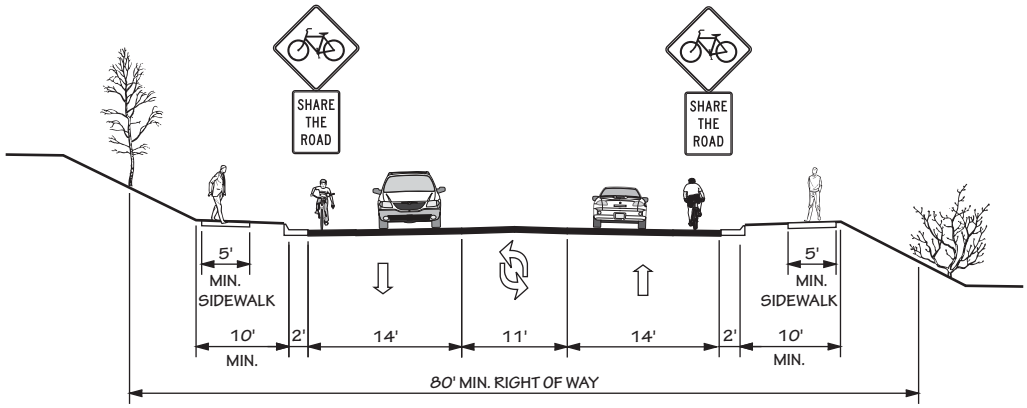
3 A

WIDE PAVED SHOULDERS



3 B

CURB & GUTTER WITH WIDE OUTSIDE LANES AND SIDEWALKS



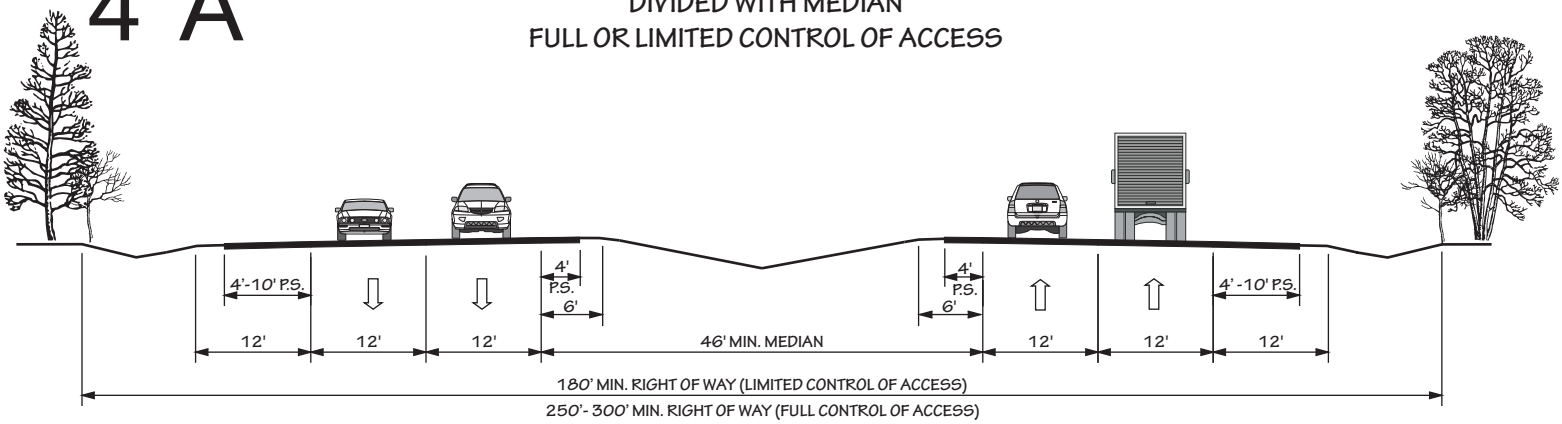
Revised 12/07/2010

TYPICAL HIGHWAY CROSS SECTIONS

4 LANES

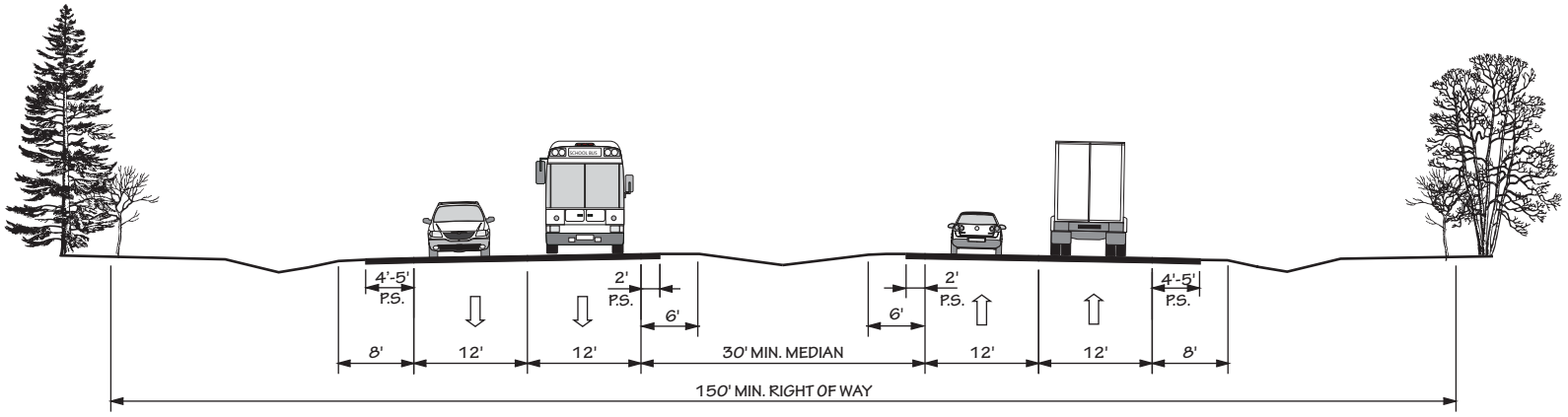
4 A

DIVIDED WITH MEDIAN
FULL OR LIMITED CONTROL OF ACCESS



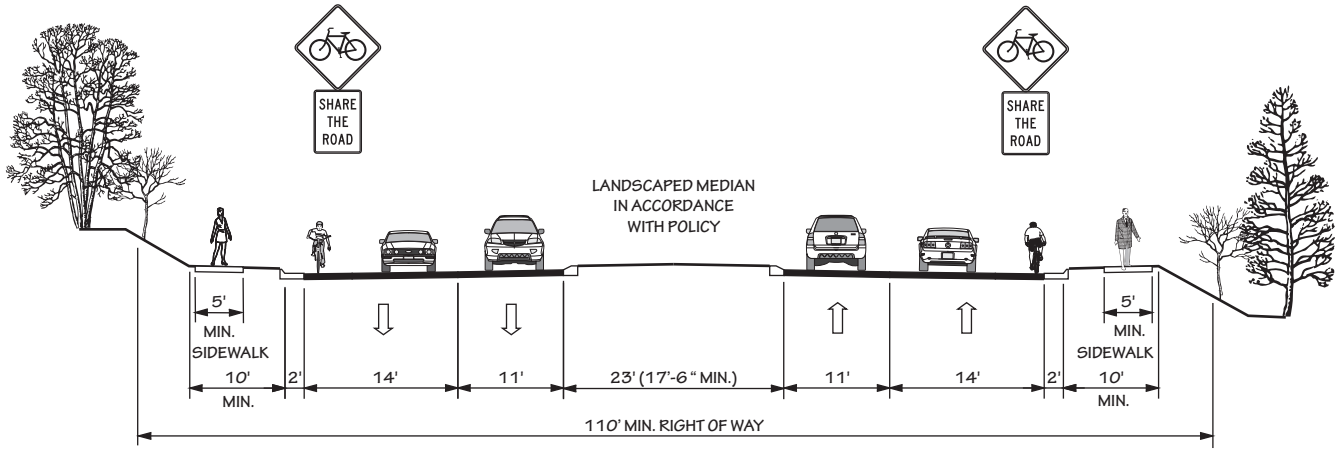
4 B

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



4 C

RAISED MEDIAN WITH WIDE OUTSIDE LANES AND SIDEWALKS



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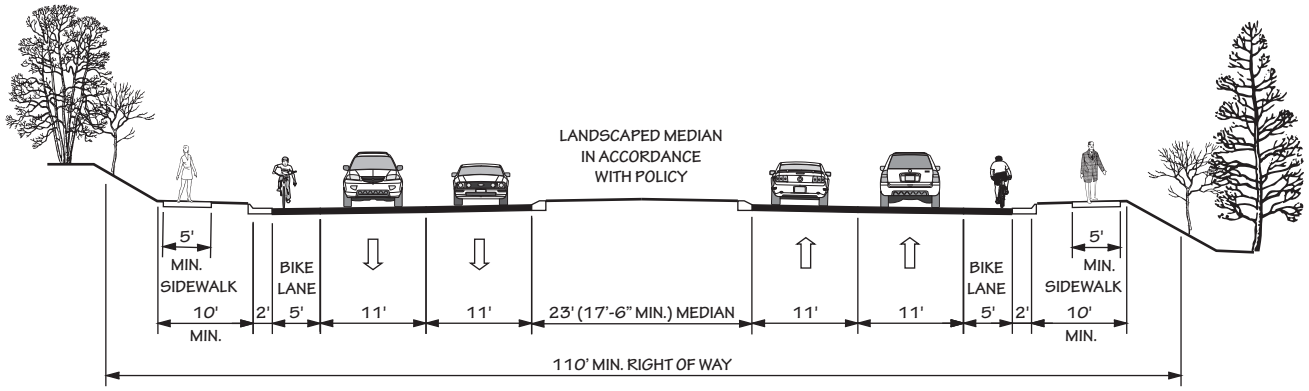
TYPICAL HIGHWAY CROSS SECTIONS

4 LANES

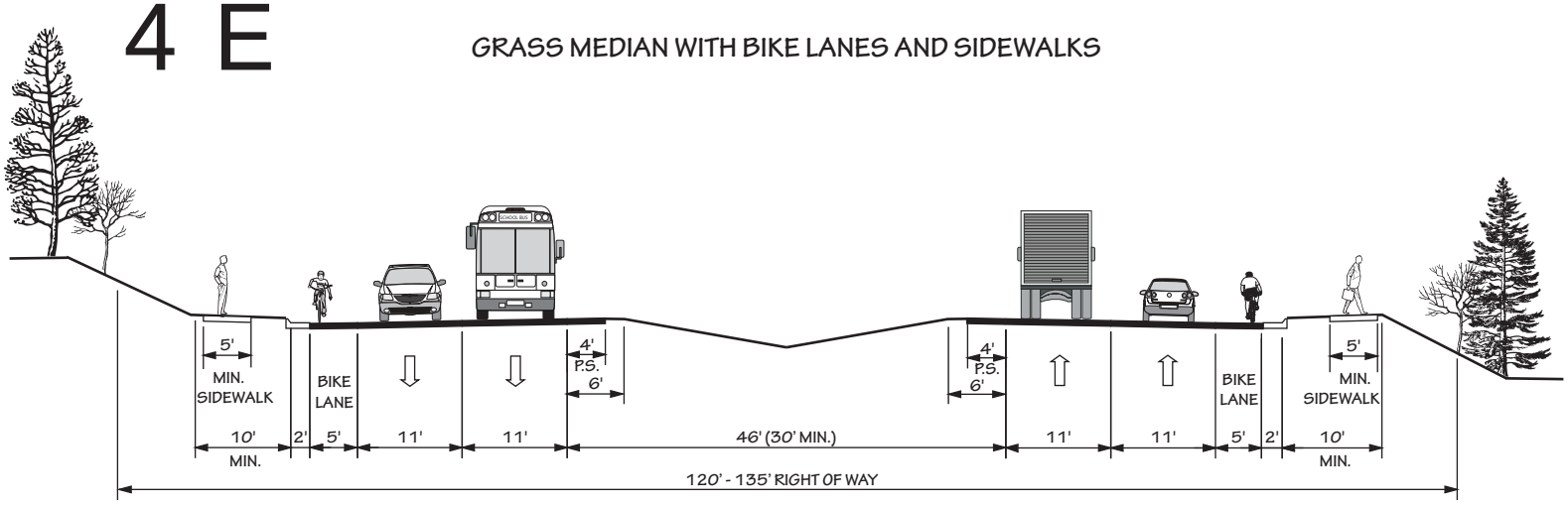
4 D

RAISED MEDIAN - CURB & GUTTER WITH BIKE LANES AND SIDEWALKS



4 E

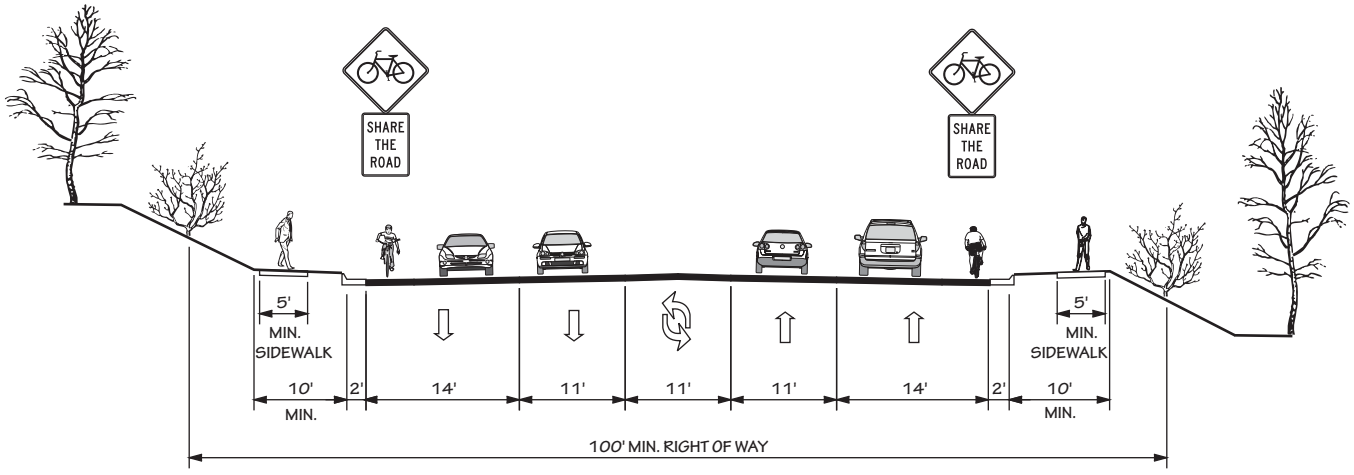
GRASS MEDIAN WITH BIKE LANES AND SIDEWALKS



5 LANES

5 A

WIDE OUTSIDE LANES



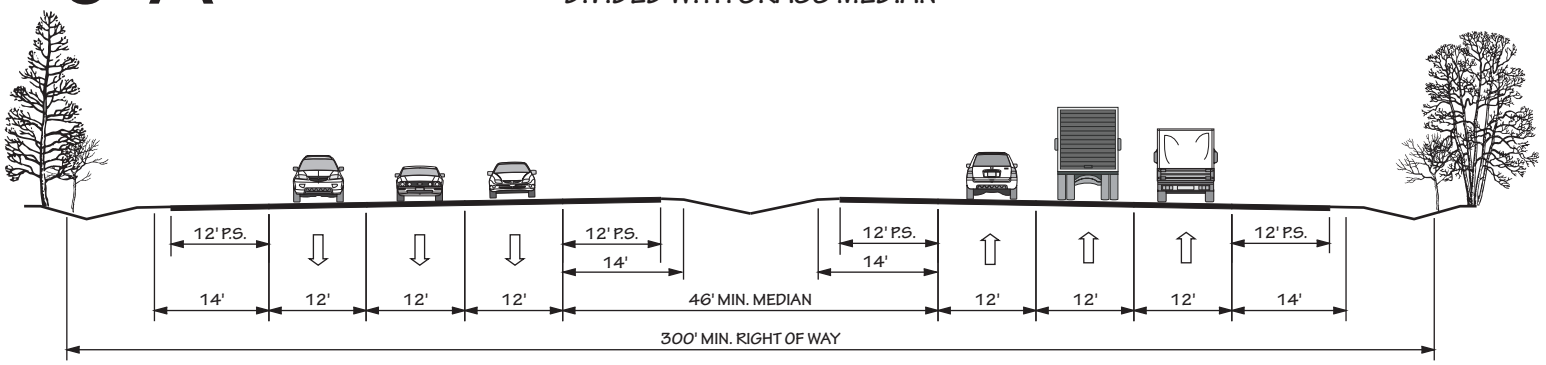
Revised 12/07/2010

TYPICAL HIGHWAY CROSS SECTIONS

6 LANES

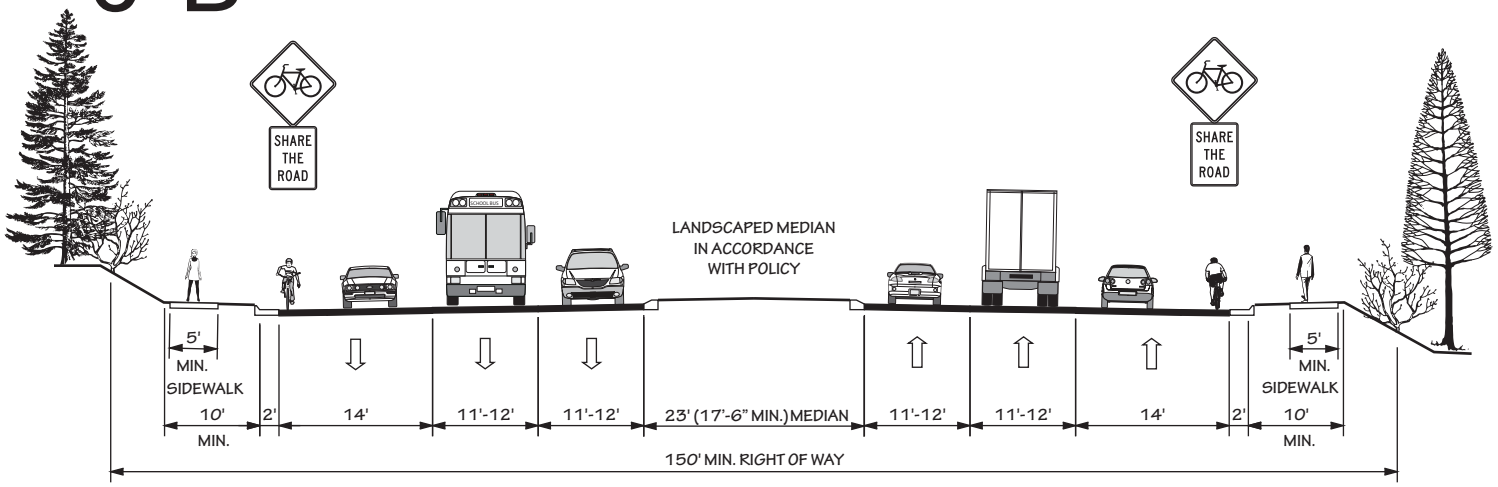
6 A

DIVIDED WITH GRASS MEDIAN



6 B

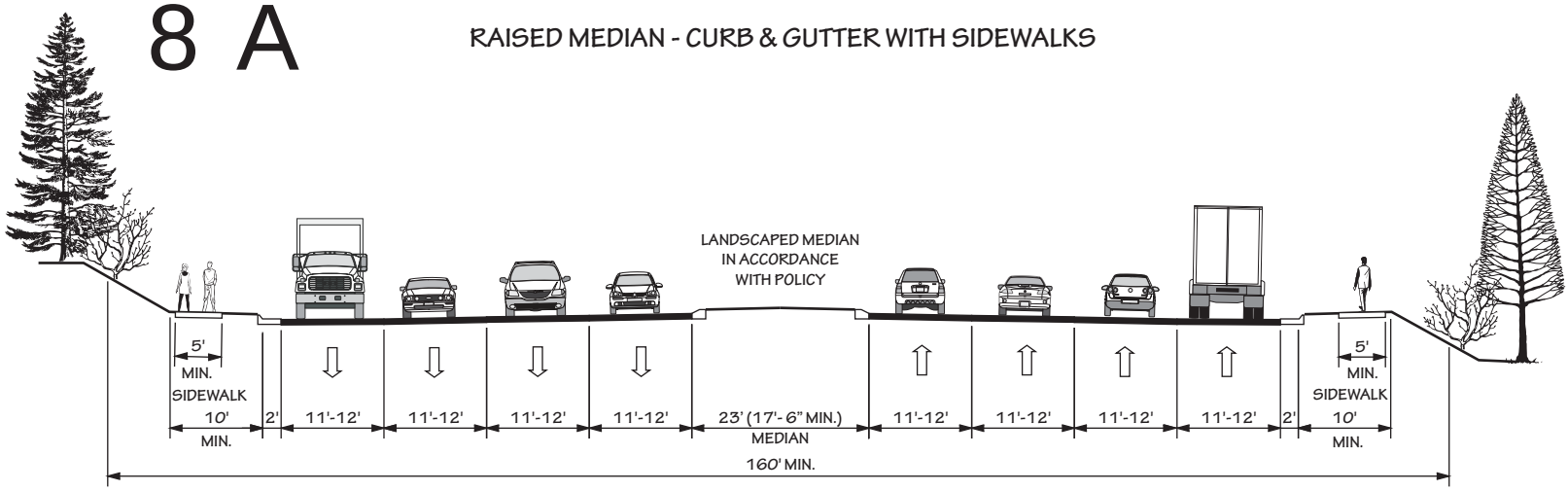
RAISED MEDIAN - CURB & GUTTER WITH WIDE OUTSIDE LANES AND SIDEWALKS



8 LANES

8 A

RAISED MEDIAN - CURB & GUTTER WITH SIDEWALKS

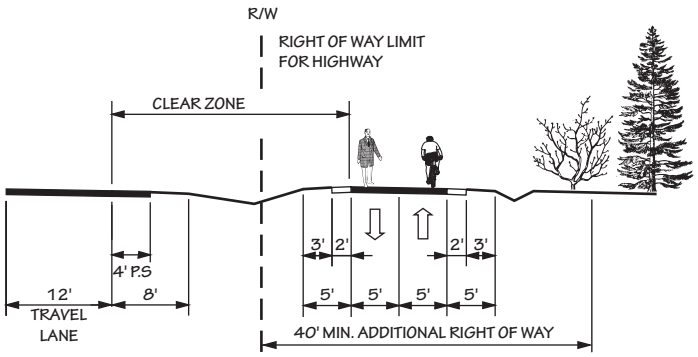


Revised 12/07/2010

TYPICAL MULTI - USE PATH

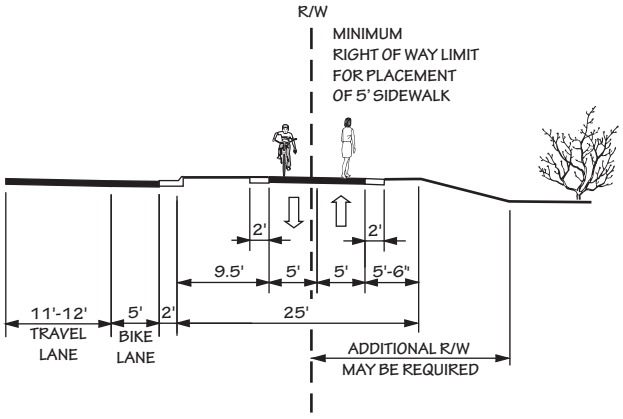
MULTI - USE PATH
ADJACENT TO RIGHT OF WAY OR SEPARATE PATHWAY

M A



MULTI - USE PATH ADJACENT TO CURB AND GUTTER

M B



Revised 12/07/2010

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 13.

- **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 14 - Level of Service Illustrations

Level of Service A

Driver Comfort: High

Maximum Density:

12 passenger cars per mile per lane

Level of Service B

Driver Comfort: High

Maximum Density:

20 passenger cars per mile per lane

Level of Service C

Driver Comfort: Some Tension

Maximum Density:

30 passenger cars per mile per lane

Level of Service D

Driver Comfort: Poor

Maximum Density:

42 passenger cars per mile per lane

Level of Service E

Driver Comfort: Extremely Poor

Maximum Density:

67 passenger cars per mile per lane

Level of Service F

Driver Comfort: The lowest

Maximum Density:

More than 67 passenger cars per mile per lane

Source: 2000 Highway Capacity Manual

Appendix F
Traffic Crash Analysis

A crash analysis performed for the Madison County CTP factored crash frequency, crash type, and crash severity. Crash frequency is the total number of reported collisions 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 47.7 times more severe than one involving only property damage and a crash resulting in minor injury is 11.8 times more severe than one with only property damage. In general, a higher severity index indicates more severe accidents. 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, 2008. The data represents locations with 10 or more crashes or 2 crashes and a severity average index a greater than that of the state's index. The state index for the most recent 3 year span (2005-2007) was 5.82 for primary routes and 6.20 for secondary routes. 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 Collisions
1	US 25/US 70 and NC 251	12.28	10
2	US 25/US 70 and SR 1582 (Long Branch Rd)	5.32	12
3	US 25/US 70 and NC 213	1.00	10
4	US 19 and SR 1517 (Shake Rag Rd)	38.90	2
5	NC 209 and SR 1172 (Waldroup Rd)	26/27	3
6	US 25/US 70 and US 25/US 70 Business (Ivy River Rd)	26.27	3
7	NC 213 and SR 1609 (Main St)	12.71	9
8	I-26 and US 19	11.40	8
9	US 25/US 70 and NC 209	8.40	2
10	SR 1526 (Crooked Creek Rd) and SR 1527 (Clyde Brown Rd)	8.40	2
11	US 19 and SR 1540 (Beech Glen Rd)	6.55	8
12	US 25/US 70 and NC 208	6.55	4
13	US 23A and SR 1346 (Bear Branch Rd)	5.93	3

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 1, or other intersections of concern, contact the Division Traffic Engineer. Contact information for the Division Traffic Engineer is included in Appendix A.

Appendix G
Bridge Deficiency Assessment

The Transportation Improvement Program (TIP) 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 Bridge Maintenance 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 or functionally obsolete. 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 quality 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 within the planning area are listed in Table 5.

Table 5 - Deficient Bridges

Bridge Number	Facility	Feature	Condition	Local ID
02	SR 1546	Little Ivy Creek	Structurally Deficient	
03	SR 1564	Branch	Functionally Obsolete	
05	SR 1557	Little Ivy Creek	Functionally Obsolete	
08	NC 251 (NBL)	Ivy River	Structurally Deficient	B-4777 MADI0001-M
09	NC 251 (SBL)	Ivy River	Structurally Deficient	MADI0001-M
11	US 25 Bus	Hayes Run Creek	Functionally Obsolete	
12	SR 1561	White Oak Creek	Functionally Obsolete	
14	SR 1574	Bull Creek	Functionally Obsolete	
18	SR 1198	Hayes Run Creek	Structurally Deficient	
21	SR 1531	Creek	Functionally Obsolete	
22	SR 1531	Paint Fork Creek	Functionally Obsolete	
23	SR 1530	Paint Fork Creek	Structurally Deficient	
24	SR 1530	Paint Fork Creek	Structurally Deficient	
25	US 25/US 70	Hayes Run Creek	Functionally Obsolete	MADI0003-H
27	SR 1198	Hayes Run Creek	Functionally Obsolete	
31	SR 1517	Middle Fork Creek	Structurally Deficient	
36	SR 1515	Middle Fork Creek	Structurally Deficient	
45	US 25/US 70	Laurel River	Structurally Deficient	MADI0004-H
46	SR 1582	Creek	Structurally Deficient	
58	SR 1395	Walnut Creek	Functionally Obsolete	
61	SR 1395	Walnut Creek	Functionally Obsolete	
62	SR 1395	Walnut Creek	Functionally Obsolete	
63	SR 1395	Walnut Creek	Functionally Obsolete	
64	SR 1397	Walnut Creek	Functionally Obsolete	
66	SR 1396	Walnut Creek	Functionally Obsolete	
67	US 25/US 70	French Broad River	Functionally Obsolete	
71	SR 1395	Big Laurel Creek	Structurally Deficient	
73	SR 1341	Foster Creek	Structurally Deficient	
75	SR 1318	Foster Creek	Functionally Obsolete	
76	SR 1318	Big Laurel Creek	Functionally Obsolete	
80	SR 1375	Creek	Functionally Obsolete	
81	SR 1375	Creek	Functionally Obsolete	
82	SR 1378	Bull Creek	Functionally Obsolete	
83	SR 1541	California Creek	Functionally Obsolete	
84	NC 209	Meadow Fork Creek	Functionally Obsolete	R-2589
89	SR 1318	Little Creek	Structurally Deficient	
90	SR 1318	Big Laurel Creek	Structurally Deficient	
100	SR 1116	Branch	Functionally Obsolete	
110	SR 1155	Anderson Branch	Structurally Deficient	
111	SR 1155	Anderson Branch	Structurally Deficient	
114	SR 1151	Brush Creek	Structurally Deficient	

Table 5 - Deficient Bridges (cont.)

Bridge Number	Facility	Feature	Condition	Local ID
115	SR 1145	Branch of Brush Creek	Functionally Obsolete	
116	SR 1144	Brush Creek	Functionally Obsolete	
118	SR 1163	Spring Creek	Functionally Obsolete	
120	SR 1171	Spring Creek	Functionally Obsolete	
126	SR 1175	Roaring Fork Creek	Functionally Obsolete	
128	SR 1319	Creek	Functionally Obsolete	
133	SR 1300	Glass Creek	Functionally Obsolete	
134	SR 1300	Glass Creek	Functionally Obsolete	
135	SR 1300	Glass Creek	Functionally Obsolete	
136	SR 1300	Glass Creek	Functionally Obsolete	
138	SR 1151	Big Pine Creek	Structurally Deficient	B-4984
141	SR 1151	Big Pine Creek	Functionally Obsolete	
142	SR 1151	Big Pine Creek	Structurally Deficient	B-3488
143	SR 1151	Big Pine Creek	Functionally Obsolete	
145	SR 1151	Big Pine Creek	Functionally Obsolete	
146	SR 1151	Big Pine Creek	Functionally Obsolete	B-3869
149	SR 1318	Big Laurel Creek	Functionally Obsolete	
151	SR 1330	Spill Corn Creek	Structurally Deficient	
152	SR 1318	Spill Corn Creek	Functionally Obsolete	
166	SR 1533	Terry Fork Creek	Functionally Obsolete	
167	SR 1533	Terry Fork Creek	Structurally Deficient	
176	SR 1175	N. Branch of Meadow Fork Creek	Functionally Obsolete	
179	SR 1527	Paint Fork Creek	Functionally Obsolete	
184	SR 1355	Cascade Creek	Functionally Obsolete	
205	SR 1383	Bull Creek	Functionally Obsolete	
212	SR 1330	Spill Corn Creek	Functionally Obsolete	
213	SR 1318	Creek	Functionally Obsolete	
216	SR 1151	Baltimore Branch	Structurally Deficient	
220	SR 1300	Glass Creek	Functionally Obsolete	
222	SR 1151	Branch of Big Pine Creek	Functionally Obsolete	
234	SR 1364	E. Fork Bull Creek	Functionally Obsolete	
248	SR 1457	Laurel Creek	Functionally Obsolete	
251	SR 1506	Creek	Structurally Deficient	
256	SR 1314	Shelton Laurel Creek	Functionally Obsolete	
263	SR 1167	Branch of Spring Creek	Structurally Deficient	
273	SR 1514	Middle Fork Creek	Structurally Deficient	
276	SR 1306	Little Laurel Creek	Structurally Deficient	
281	SR 1349	Sprinkle Creek	Functionally Obsolete	
283	SR 1183	Shut In Creek	Functionally Obsolete	
284	SR 1183	Shut In Creek	Functionally Obsolete	

Table 5 - Deficient Bridges (cont.)

Bridge Number	Facility	Feature	Condition	Local ID
291	SR 1128	Little Pine Creek	Structurally Deficient	
293	SR 1559	Gabriels Creek	Structurally Deficient	
299	SR 1539	Paint Fork Creek	Functionally Obsolete	
300	SR 1559	Gabriels Creek	Functionally Obsolete	
301	SR 1618	California Creek	Structurally Deficient	
303	SR 1183	Shut In Creek	Functionally Obsolete	
304	SR 1183	Shut In Creek	Functionally Obsolete	
305	SR 1183	Shut In Creek	Functionally Obsolete	
307	SR 1540	Little Ivy Creek	Functionally Obsolete	
308	SR 1177	Roaring Fork Creek	Functionally Obsolete	
310	SR 1127	Roberts Branch	Functionally Obsolete	
311	SR 1127	Roberts Branch	Structurally Deficient	
314	SR 1332	Calvin Creek	Functionally Obsolete	
316	SR 1572	White Oak Creek	Functionally Obsolete	
322	SR 1107	Red Horse Creek	Functionally Obsolete	
332	SR 1108	Red Horse Creek	Functionally Obsolete	
353	SR 1155	Paw Paw Creek	Functionally Obsolete	
360	SR 1136	Walnut Creek	Functionally Obsolete	
380	SR 1318	Wild’s Branch	Functionally Obsolete	
384	SR 1340	Big Laurel Creek	Functionally Obsolete	
385	SR 1318	Creek	Functionally Obsolete	
392	SR 1355	Gabriels Creek	Functionally Obsolete	
407	SR 1380	Bull Creek	Functionally Obsolete	
408	SR 1380	Branch of Bull Creek	Structurally Deficient	
413	SR 1372	Bull Creek	Functionally Obsolete	
421	SR 1143	Creek	Functionally Obsolete	
443	SR 1517	Creek	Functionally Obsolete	
460	SR 1592	Creek	Functionally Obsolete	
482	SR 1163	Knob Branch	Functionally Obsolete	
493	SR 1537	Middle Fork Creek	Functionally Obsolete	
499	SR 1520	Middle Fork Creek	Functionally Obsolete	
500	SR 1336	Big Laurel Creek	Functionally Obsolete	
501	SR 1163	Knob Branch	Functionally Obsolete	
502	SR 1583	Hays Run Creek	Functionally Obsolete	
512	SR 1351	Creek	Functionally Obsolete	
515	SR 1336	Buckner Branch	Functionally Obsolete	
516	SR 1196	Walnut Creek	Structurally Deficient	
525	SR 1612	Grapevine Creek	Functionally Obsolete	
540	US 19, I-26	US 19	Functionally Obsolete	
541	US 19, I-26	US 19	Functionally Obsolete	
542	SR 1504	Creek	Structurally Deficient	

Appendix H
Public Involvement

Include in this appendix are the following:

- Listing of committee members; page H-1
- Vision statements; page H-2
- G/O survey with summation of results; page H-3; and
- Summary of each public involvement opportunity including the types of information presented, number of attendees, and any major/potentially controversial issues; page H-18

Committee Members

The Madison County CTP Steering Committee served as the CTP coordinating committee to guide development of the plan. Listed below are the members of the Madison CTP Steering Committee during the CTP process.

Eddie Fox Madison County Commissioner	Steve Garrison Madison County Manager
Darhyl Boone Manager, Town of Mars Hill	Debbie Ponder Mayor, Town of Hot Springs
Gary Proffitt Madison County School Transportation Maintenance Director	Gordon Randolph Madison County Emergency Management Director
Ryan Cody Madison County Planning, Zoning And Inspections Director	Mike Calloway Division 13 Project Manager
Ricky Tipton Division 13 Engineer	Jeff Moore Division 13 District Engineer

Madison County CTP Vision/Objective

July 24, 2010

Vision Statement

Provide a safe, reliable, efficient, and sustainable multi-modal transportation network that enhances quality of life and economic vitality while preserving the natural environment and community character and supporting the county's vision for future land use and development.

Objectives

- Complete a study of transportation facilities and develop a plan with recommendations that address safety and mobility and consider economic impacts.
- Improve the safety, connectivity, and mobility of the transportation system, for people and freight, for all modes of transportation in and through the region.
- Make informed transportation decisions that are sensitive to the environment and community character.
- Coordinate with the land use and other plans of Madison County and its municipalities.
- Coordinate with Madison County Emergency Management and relevant organizations to ensure that emergency plans are considered in plan development.

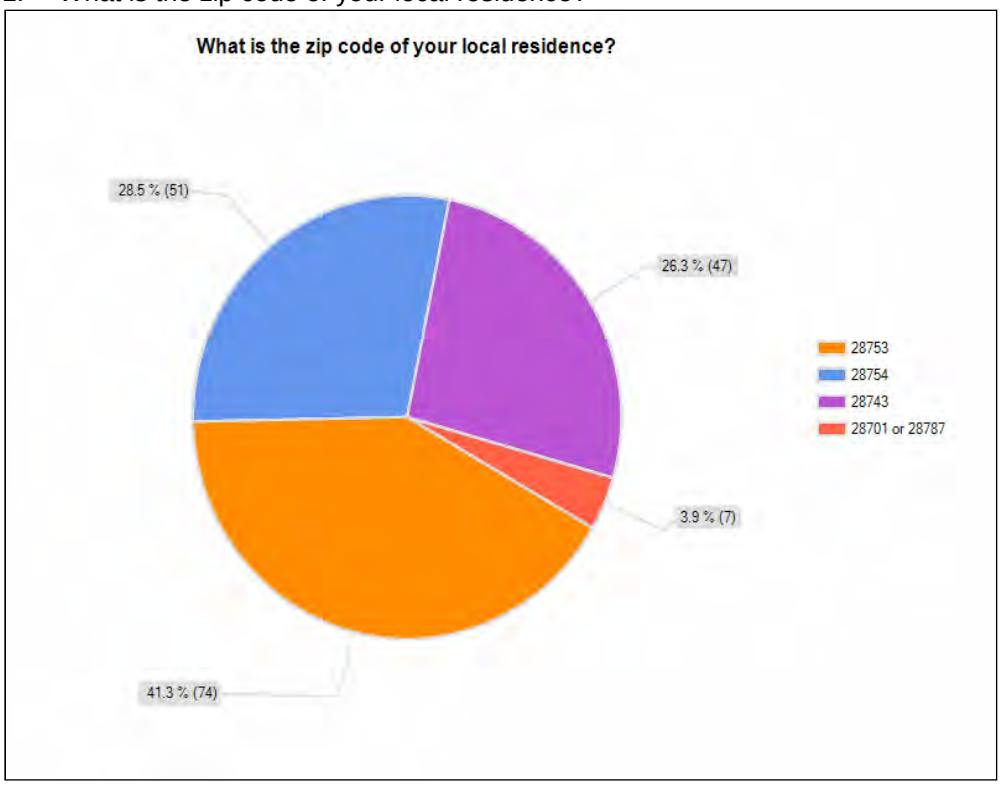
Goals and Objectives Survey

The Madison County Goals and Objectives Survey was composed by the Madison County CTP Steering Committee, the Land-Of-Sky RPO, and NCDOT. The survey included questions that involve ranking the importance of transportation improvements and goals and several questions requiring a short answer that dealt with specific transportation topics. The survey was distributed in two formats, paper and electronic. Various means were used to make the public aware of the survey and direct them to a means of completing the survey. These methods included advertisement in local newspapers, an electric bill newsletter, and a library newsletter. Paper copies were placed in local libraries, town/county offices and community center/senior meal sites. Paper copies were also passed out at local community events such as the French Broad Friday and the farmer's markets and distributed to clients of the county paratransit service. A sample of the advertised announcement is shown in Figure 15.

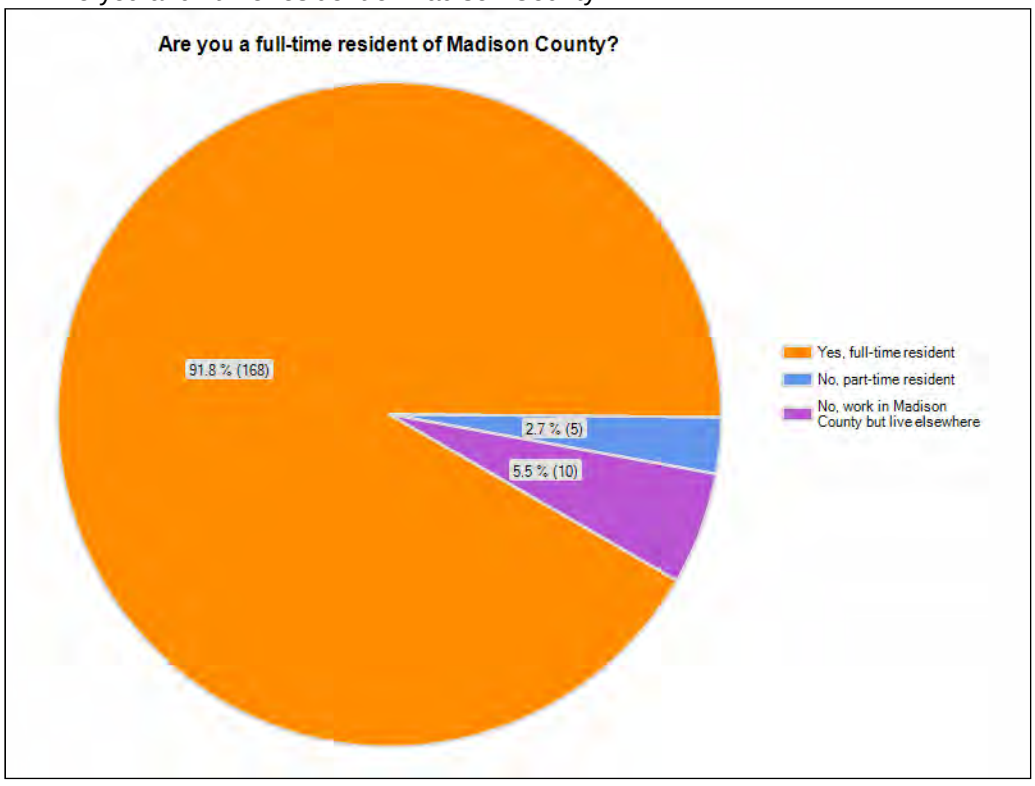
Figure 15

A total of 183 responses were received. Of these 48 were paper copies and 135 were filled out on line. Following is the summary of the Goals and Objectives survey results.

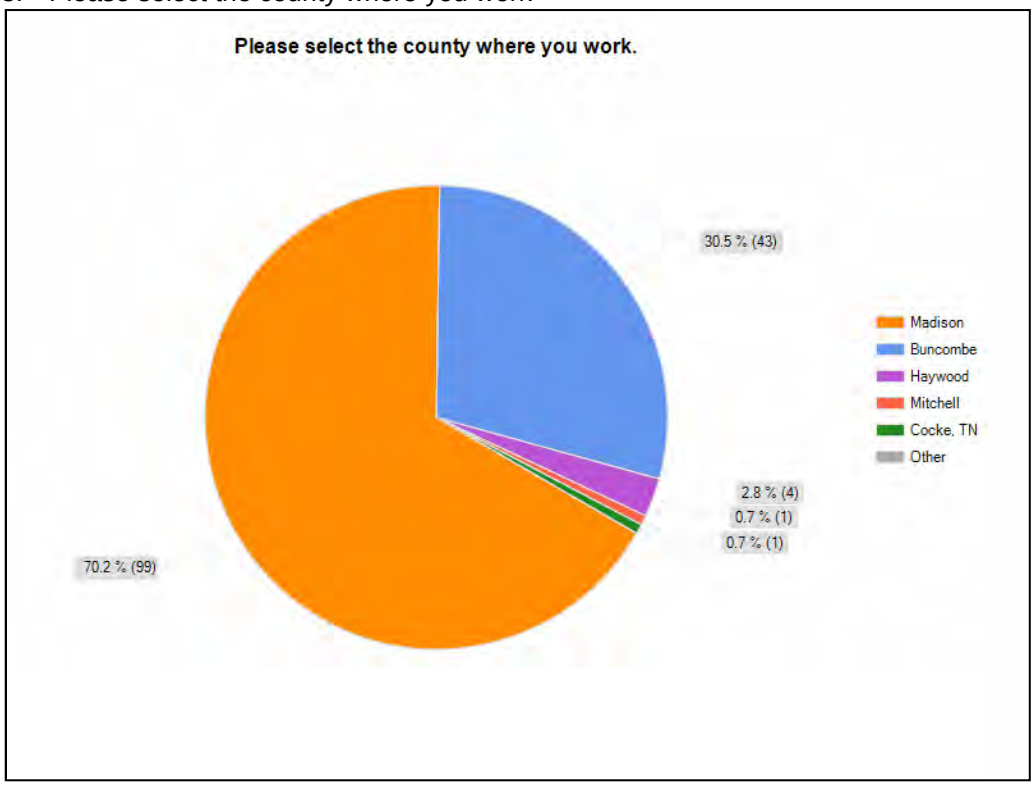
1. What is the zip code of your local residence?



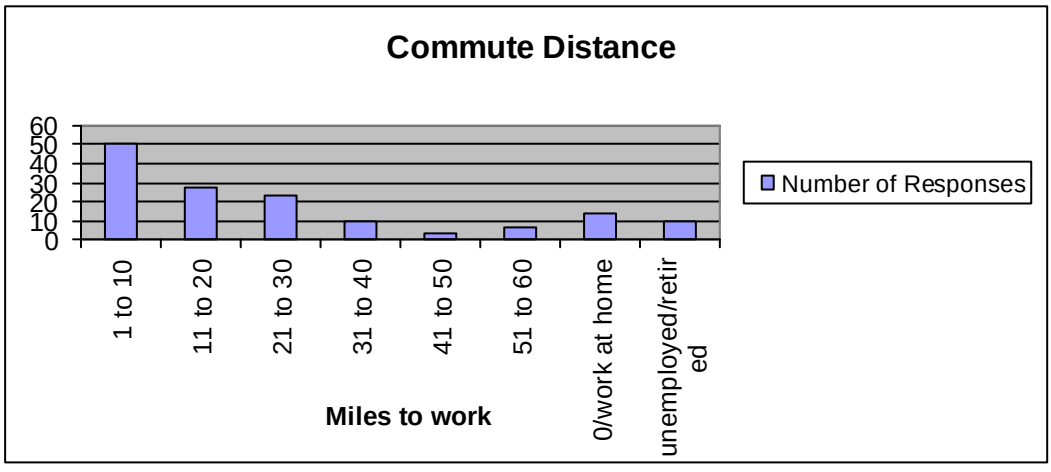
2. Are you a full-time resident of Madison County?

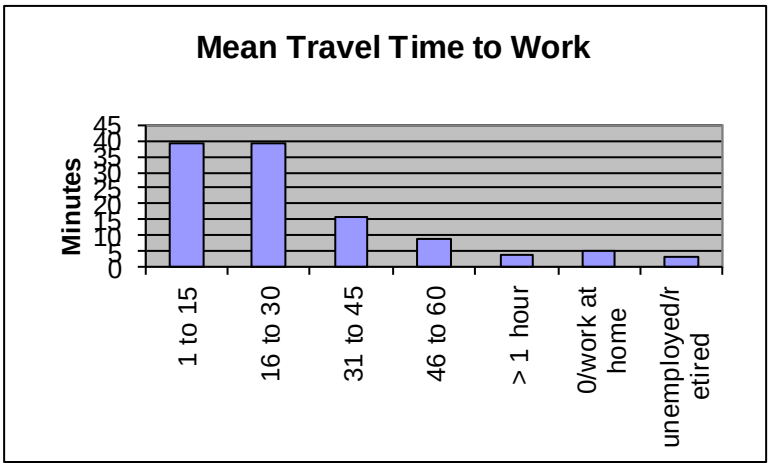


3. Please select the county where you work

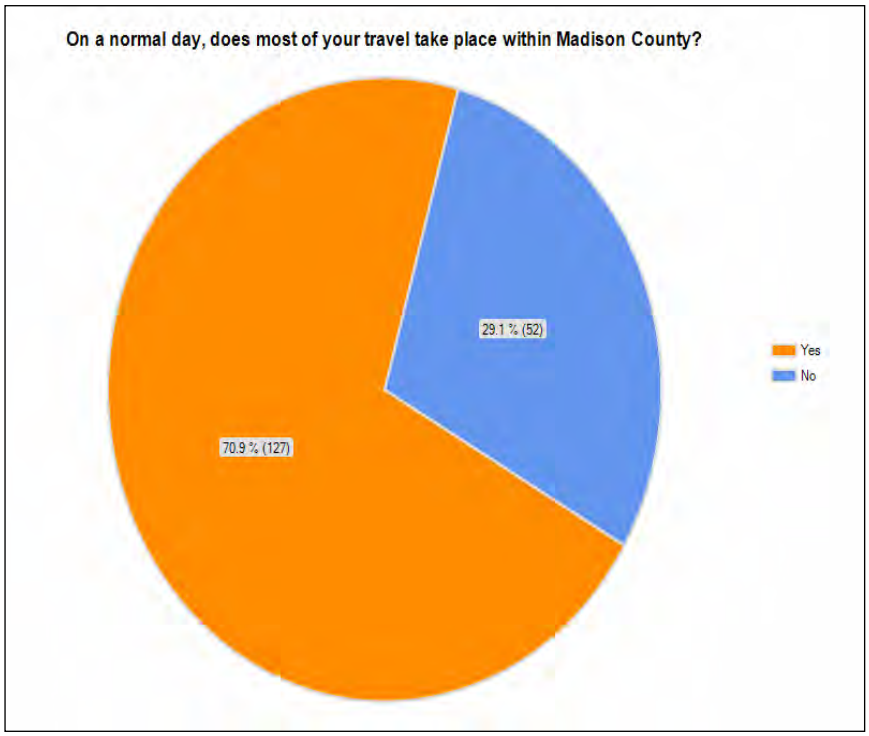


4. Approximately, how far is your work from your home?





5. On a normal day, does most of your travel take place within Madison County?



6. What routes in Madison County do you most commonly use?

When inquired as to the most commonly used routes in Madison County, people responded With local roads, but many major routes were mentioned repeatedly. The routes most Mentioned in this question were as follows:

Route Name	Number of responses
US 25/US 70	114
NC 213	80
I-26	60
NC 209	33
NC 63	26
US 19	13
Meadow Town Road (SR 1001)	9

Little Pine Road (SR 1135)	9
Meadow Fork Road (SR 1175)	9
Bailey Branch Road (SR 1001)	8

7. Are there any destinations in Madison County that you think are unnecessarily difficult To access because of road congestion or lack of a direct route? Please explain.

   Majority of the responders thinks that there's no congestion problem in Madison County (50%). Some responders mentioned traffic problem on US 25/US 70 due to the lack of left turn lane. In regard to the most difficult destination to access because of lack of a direct route, Spring Creek community is the destination that was mentioned the most by the responders (20%). Hot Springs, Big Laurel community and Revere community are other destinations that were Mentioned.

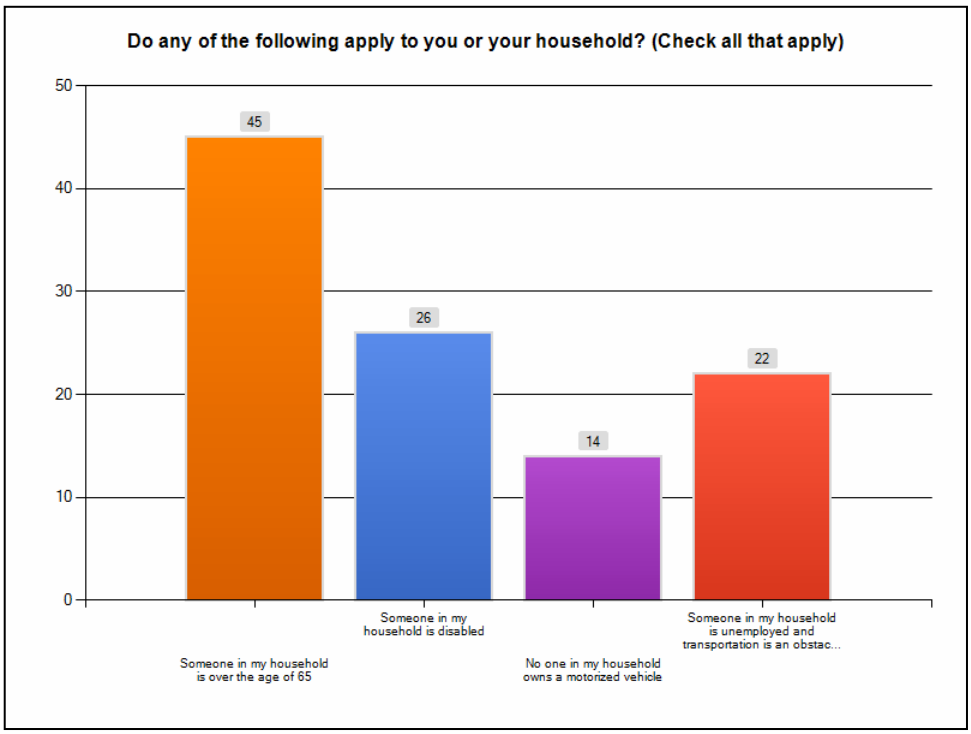
8. Are there any roads, bridges or intersections in Madison County about which you have safety concerns? Please describe the location, problem and any suggestions you have to improve the Situation.

   Thirty percent of the responders mentioned no. Various intersections along US 25/US 70, NC 209, NC 213 and Main Street in Mars Hill area were mentioned by the responders.

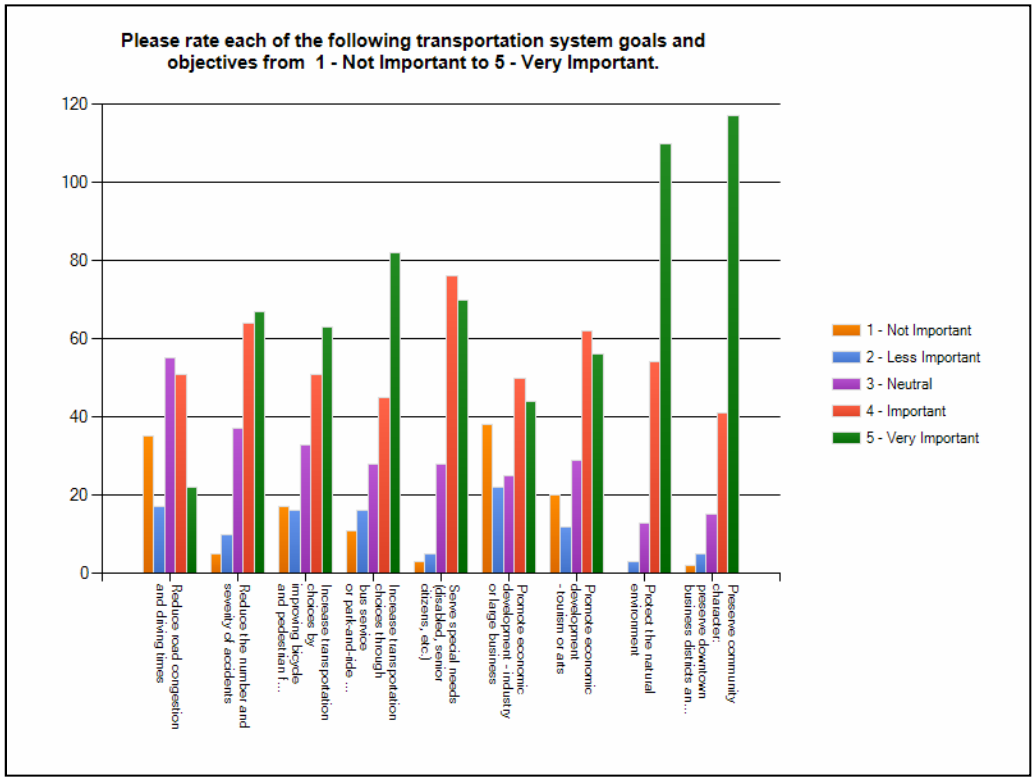
9. What are the key transportation challenges you face in Madison County?

   Twenty five percent of the responders mentioned of the lack of public transportation. Other mentioned responses include the lack of sidewalks and bicycle lanes.

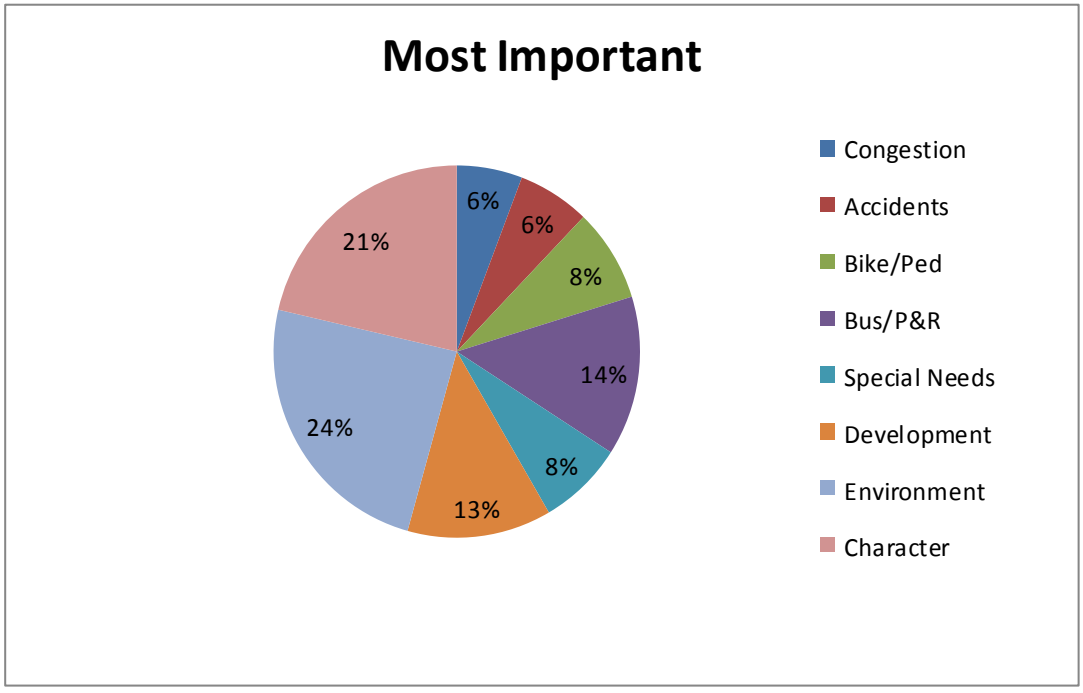
10. Do any of the following apply to you or your household (check all that apply)

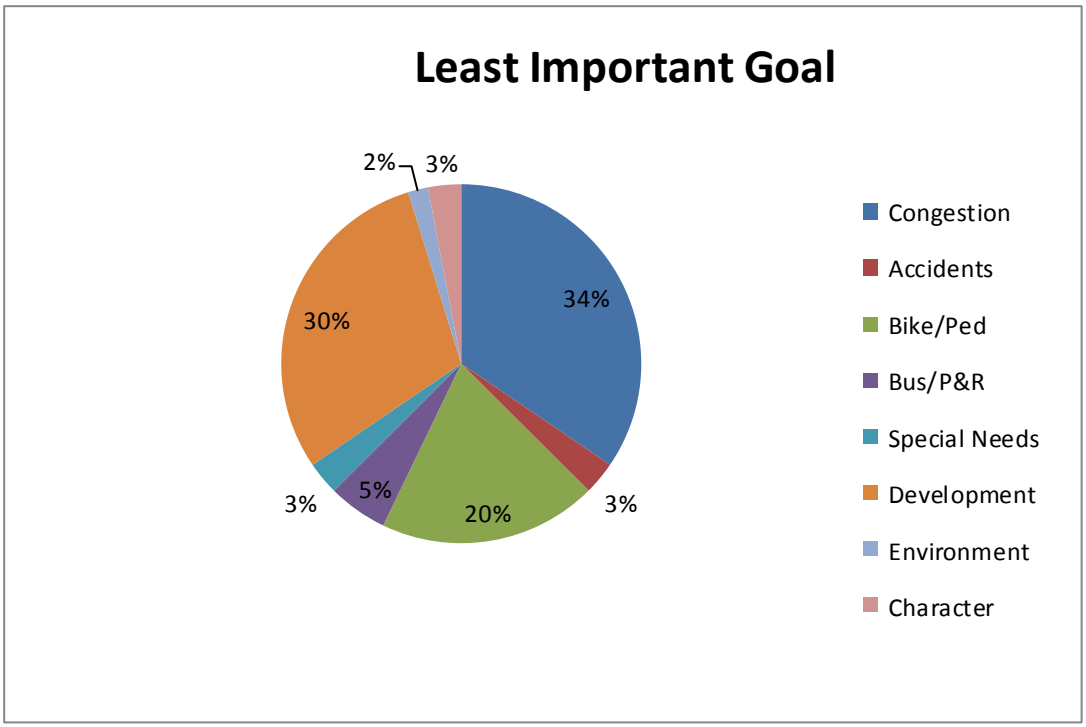


11. Please rate each of the following transportation system goals and objectives from 1 – Not Important to 5 – Very Important.

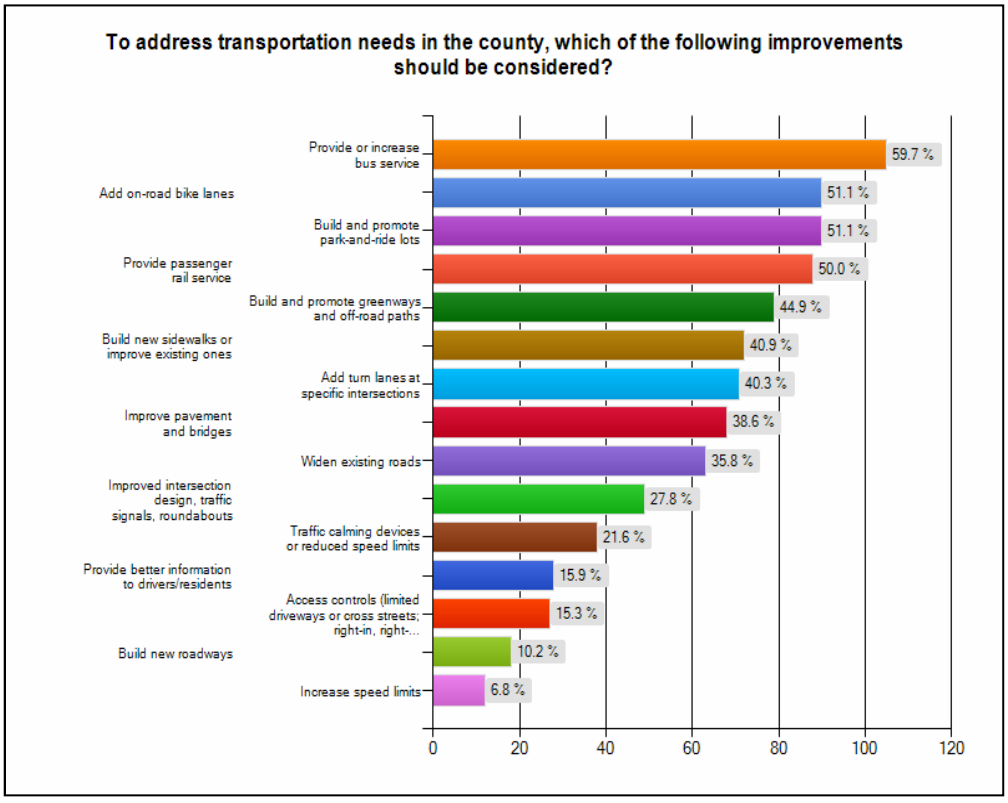


12. Of the choices in the previous question, which are the MOST and LEAST important to you?

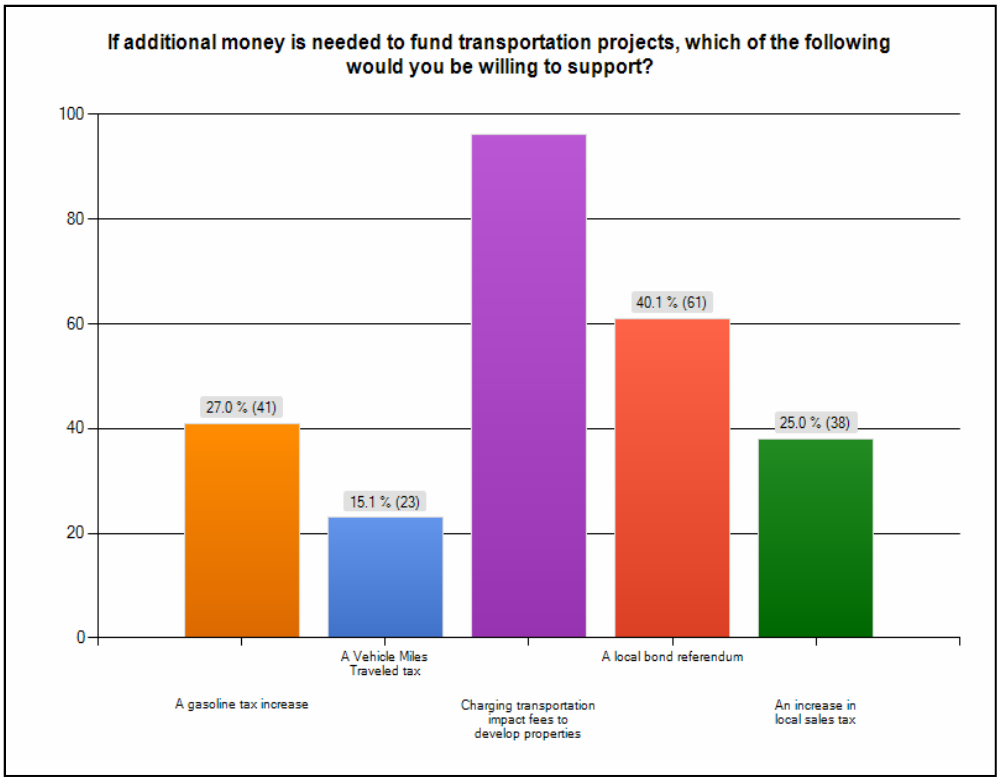




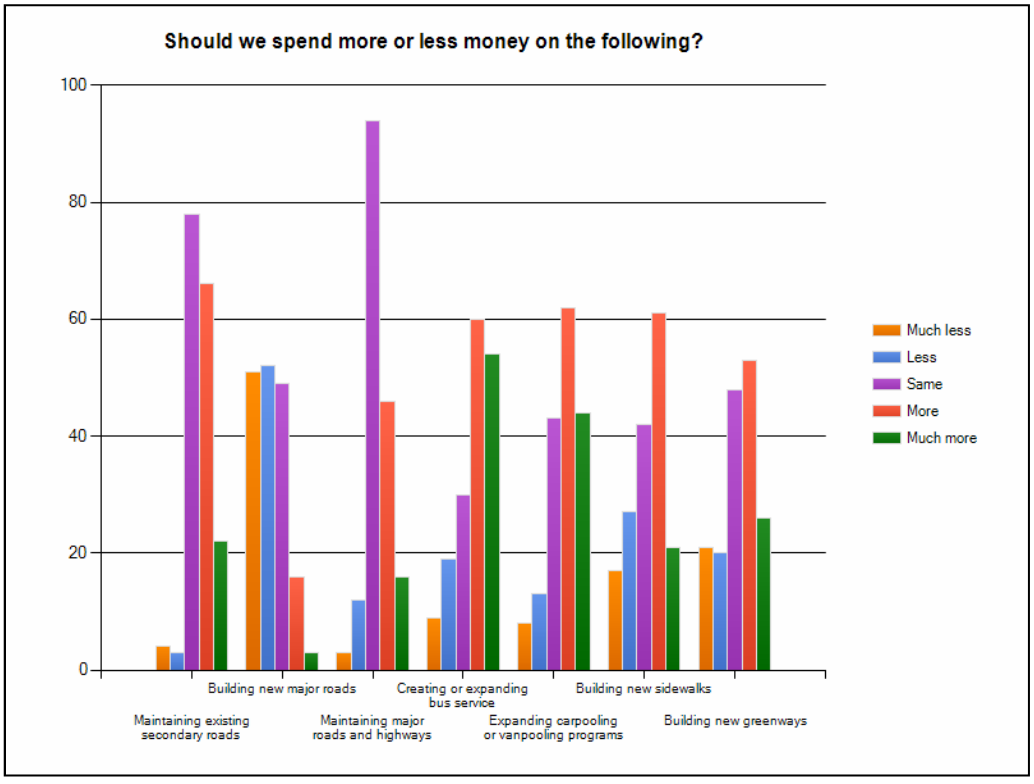
13. To address transportation needs in the county, which of the following improvements should Be considered?



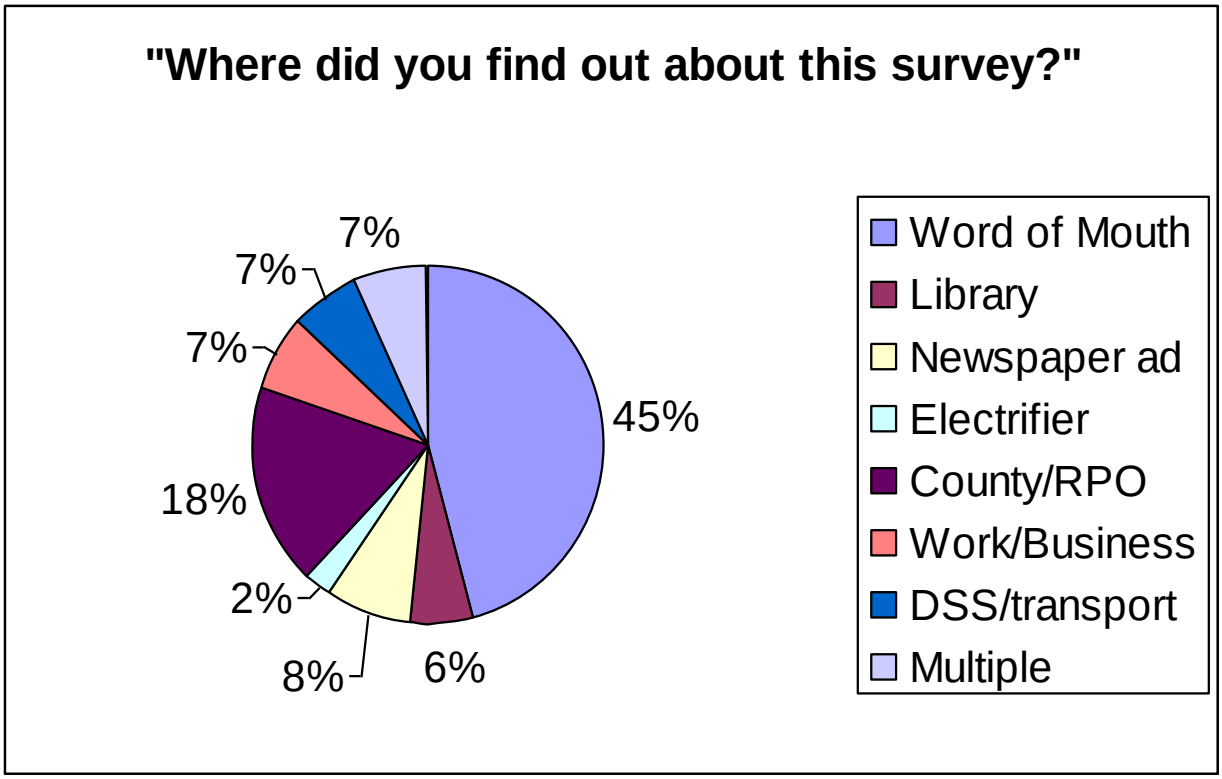
14. If additional money is needed to fund transportation projects, which of the following Would you be willing to support?



15. Should we spend more or less money on the following?



16. How did you find out about this survey?



Summary of Public Information Sessions

The public involvement process included holding three public drop-in sessions in Madison County to present the proposed CTP to the public and solicit comments. The first meeting was held from 4:00-7:00 pm on October 19, 2010 at the Hot Springs Community Center; the second meeting was held from 3:00-6:00 pm on October 21, 2010 at the Mars Hill Town Hall; and the third meeting was held from 3:00-6:00 pm on October 25, 2010 at the Marshall Town Hall. Each session was publicized in the local newspaper and flyers were placed throughout Hot Springs, Marshall and Mars Hill. A total of 10 citizens attended these drop-in sessions and a total of five comment forms were submitted. The advertisement for the public information sessions is shown in Figure 16.

During the session in Hot Springs, one written comment about the Spring Creek Connector (TIP # R-5117) was received. The comment questioned the benefits of this project versus the potential "environmental degradation and community disruption" that this project imposes on the area. In response to this comment, the Spring Creek Connector was proposed to provide an efficient east-west route to connect the Spring Creek Community to Marshall, the county seat. Currently, commuters from Spring Creek must travel up to 25 miles of winding mountainous roads to make this trip. This connector would especially reduce the travel time (more than one hour currently) for the K-12 school students from the Spring Creek Community to the schools that are located in the Marshall area. Once this project is funded in the State Transportation Improvement Program (STIP), a detailed environmental analysis will be performed during the project planning process.

During the session in Marshall, four comments were submitted. One comment was about the bicycle/pedestrian/trail plan in Marshall area. To address this comment, for documentation of this plan refer to the Town of Marshall Comprehensive Plan. The other three comments were on the subjects that are outside the scope of the CTP study.

Public hearings were held on December 3, 2010 during the Madison County Board of Commissioners meeting; December 6, 2010 during the Mars Hill Town Council meeting; January 19, 2011 during the Marshall Town Board meeting; and February 7, 2011 during the Hot Springs Town Council meeting. The CTP was adopted during each of these meetings.


Land-of-Sky
Rural Transportation
Planning Organization
(RPO) will host 3 open houses for citizens to view draft maps and make comments on NCDOT's Madison County Comprehensive Transportation Plan at the following dates and times:
Tuesday, October 19th ~ 4-7 pm
Hot Springs Community Center
Thursday, October 21st ~ 3-6 pm
Mars Hill Town Hall
Monday, October 25th ~ 3-6 pm
Marshall Town Hall
The maps will also be available for viewing online at www.landofskyrpo.org and www.madisoncountync.org.
Comments will be accepted through November 11, 2010.
Please send comments to:
Land-of-Sky RPO
339 New Leicester Hwy, Suite 140
Asheville, NC 28806
(828) 251-6622 ~~ rpo@landofsky.org

Figure 16

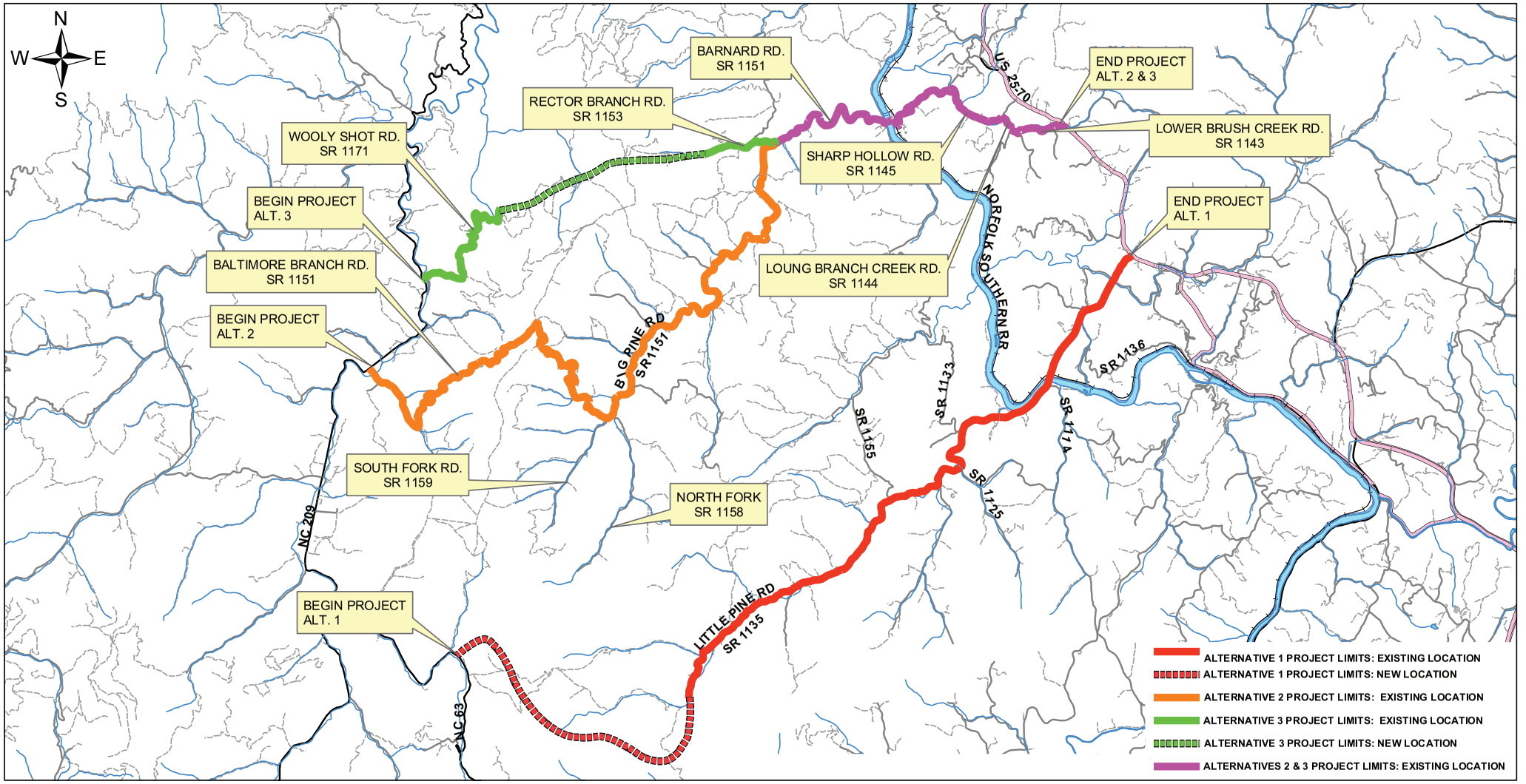
Appendix I
Additional Transportation Alternatives and Scenarios Studied

The description of each alternative of FS-0153A and a map showing the location of these alternatives are depicted in this appendix. Refer to R-5117 for more information on the selected alternative.

Alternative 1: This alternative proposes a new connector from NC 63 to US 25-70 utilizing existing Little Pine Road (SR 1135), with the remainder on new location, a distance of approximately 10.9 miles.

Alternative 2: This alternative proposes a new connector from NC 63-209 to US 25-70 utilizing existing Baltimore Branch/Big Pine Road/Barnard Road (SR 1151), Sharp Hollow Road (SR 1145), Loung Branch Creek Road (SR 1144), and Lower Brush Creek Road (SR 1443), a distance of approximately 13.0 miles.

Alternative 3: This alternative proposes a new connector from NC 63-209 to US 25-70 utilizing existing Wooly Shot Road (SR 1171), Rector Branch Road (SR 1153), Big Pine Road/Barnard Road (SR 1151), Sharp Hollow Road (SR 1145), Loung Branch Creek Road (SR 1144), and Lower Brush Creek Road (SR 1443), a distance of approximately 9.1 miles.



0 5,000 10,000 20,000

Feet

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
PROGRAM DEVELOPMENT BRANCH

FS-0513A

NEW CONNECTOR
FROM MARSHALL TO SPRING CREEK COMMUNITY

MADISON COUNTY

DIVISION 13

Figure 17