

## CHAPTER 1. PURPOSE AND NEED FOR THE PROJECT

The North Carolina Department of Transportation (NCDOT), in cooperation with the Federal Highway Administration (FHWA), is evaluating proposed improvements to upgrade the I-240 corridor from south of the I-26/I-40/I-240 interchange through the I-240 interchange with US 19-23-74A/Patton Avenue west of the French Broad River so that I-240 can be redesignated as I-26. NCDOT is proposing upgrading the corridor to accommodate the amount and types of future traffic. NCDOT is also proposing to upgrade the I-240 interchange with US 19-23-74A/Patton Avenue to provide an interstate highway to interstate highway interchange for I-240 and future I-26.

The proposed action is included in the French Broad River Metropolitan Planning Organization (FBRMPO) *2035 Long Range Transportation Plan (2035 LRTP)* and its 2016-2025 Transportation Improvement Program (TIP). The proposed action is also included in the NCDOT's 2016-2025 State Transportation Improvement Program (STIP) and included within the NCDOT Strategic Transportation Corridor (STC) Network.

This statement of purpose and need explains why improvements to the transportation system in the project area (the proposed action) should be identified and implemented, which is detailed in the *Purpose and Need Statement (URS 2015a)*.

As part of the National Environmental Policy Act (NEPA) study conducted for the I-26 Connector project, the reports listed in Chapter 9 were prepared, which are available for review on file at the NCDOT office in Raleigh, North Carolina, and are incorporated into this Draft Environmental Impact Statement (DEIS) by reference.

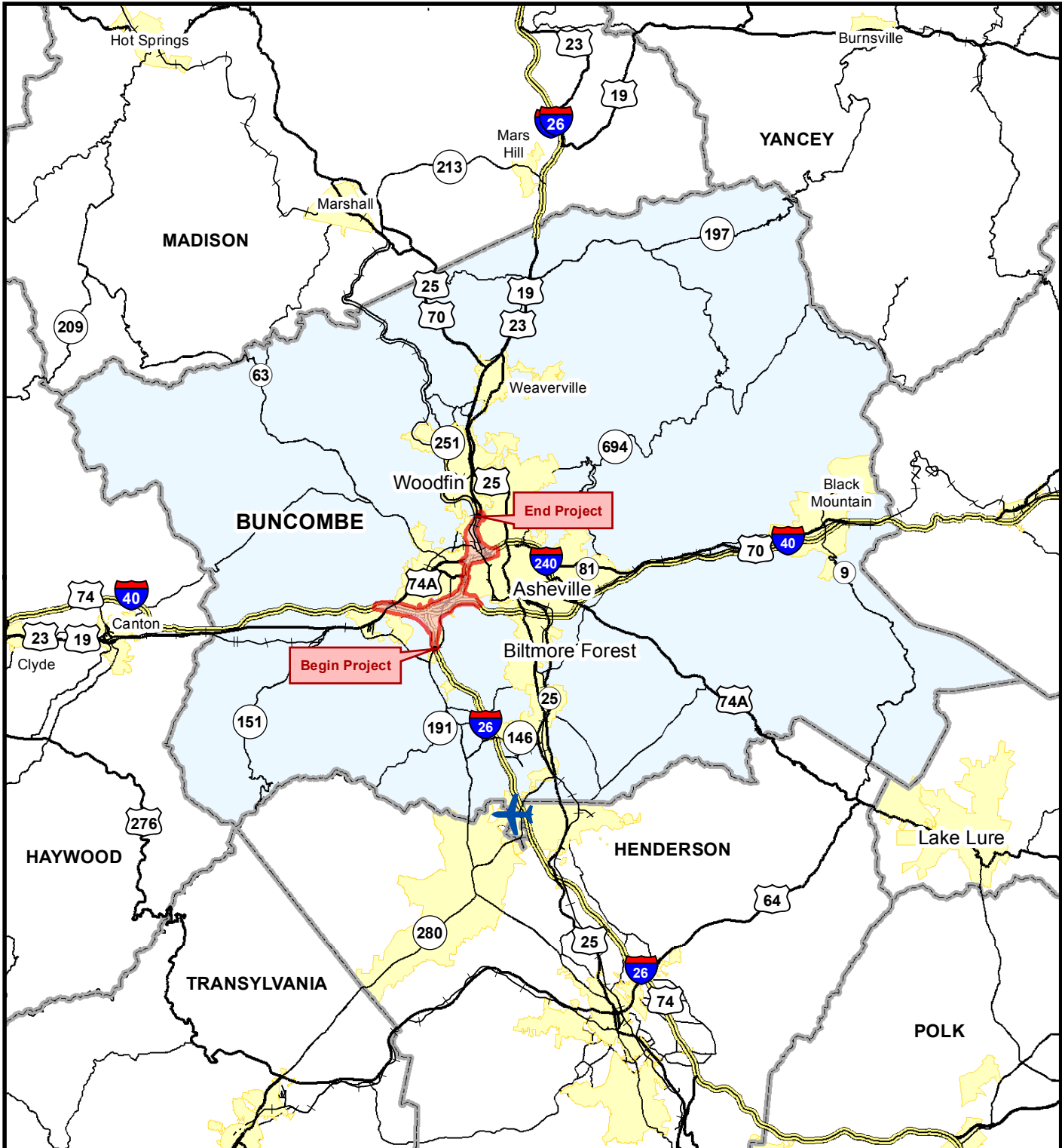
### 1.1 PROJECT AREA

The proposed action (proposed project) is located in Asheville, North Carolina, within Buncombe County and is commonly referred to as the I-26 Connector. It is intended to provide a link between existing I-26 south of Asheville and US 19-23-70 north of Asheville, completing an existing gap in the I-26 Corridor within North Carolina. A project location and vicinity map is provided as Figure 1-1.

### 1.2 PROJECT NEEDS

The need for the proposed action is summarized by the following existing and projected conditions:

- **System Linkage:** A better transportation facility is needed to connect I-26 south of Asheville with US 19-23-70 north of Asheville. I-26 is planned to connect the Port of Charleston, South Carolina, with the mountains of North Carolina joining I-240 at the I-26/I-40/I-240 interchange southwest of Asheville. I-240 west of Asheville currently connects I-26 with US 19-23-70. The I-240 freeway, constructed in the 1960s, does not meet current interstate design standards. The existing interchange connecting US 19-23-70 from the north with I-240 contains sharply curved, single lane ramps. Freeway traffic using this interchange connecting I-240 with the US 19-23 freeway is restricted to one lane in each direction, which causes traffic to queue onto I-240. When the construction of NCDOT STIP Project A-10 (US 19-23-70 improvements from Asheville to the Tennessee state line) is completed, it will











North Carolina  
Department of Transportation



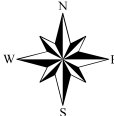
I-26 Asheville Connector  
Buncombe County

STIP Project No. I-2513

**Legend**

-  Asheville Regional Airport
-  Interstate
-  US Highway
-  NC Highway
-  Railroad
-  Project Study Area
-  County Boundary
-  Municipal Boundary

Date: January 2015



0 3 6  
Miles

**Figure 1-1**

**Project Vicinity Map**

allow motorists to travel on a fully controlled access, median divided freeway from I-81 near Kingsport, Tennessee, to I-240 in Asheville.

- **Capacity:** I-240 needs additional capacity because increasing traffic volumes have substantially reduced the level of service on I-240 west of Asheville. Several sections of I-240 currently experience traffic delays and queuing. Traffic congestion and resulting delays will continue to worsen in the future as the traffic volumes increase due to population increases. The completion of portions of NCDOT STIP Project A-10 will further increased traffic demands along I-240 west of Asheville. The increase in traffic volumes further contribute to the congestion and delays being experienced along I-240.
- **Roadway Deficiencies:** Interstates within the study area have roadway deficiencies and need to be upgraded to meet current design standards. Existing I-240 west of Asheville and the I-26/I-40/I-240 interchange do not meet current interstate design standards due to substandard roadway features. Multiple segments of I-240 west of Asheville currently have an accident rate that exceeds the critical crash rate for similar North Carolina facilities, demonstrating the need for these improvements along this section of the facility.

### 1.3 PURPOSE OF THE PROPOSED ACTION

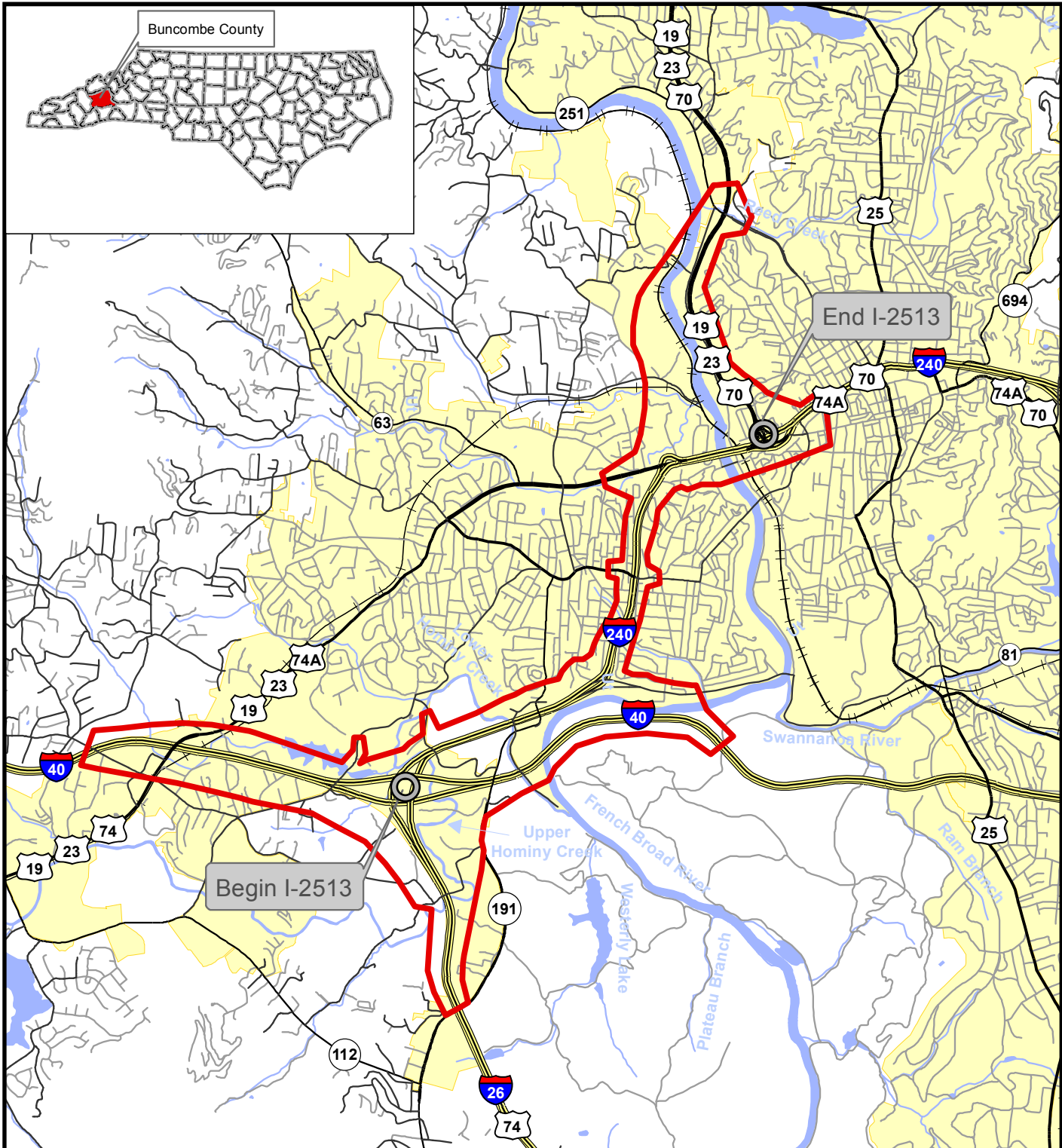
The primary purposes of the proposed project are to:

- Upgrade the Interstate corridor from I-26 south of Asheville through the US 19-23 interchange to meet design standards for the Interstate system;
- Provide a link in the transportation system connecting a direct, multi-lane freeway facility meeting interstate standards from the Port of Charleston, South Carolina, to I-81 near Kingsport, Tennessee;
- Improve the capacity of existing I-240 west of Asheville to accommodate the existing and forecasted (2033 design year) traffic in this growing area;
- Reduce traffic delays and congestion along the I-240 crossing of the French Broad River, which currently operates at capacity; and
- Increase the remaining useful service of the existing Captain Jeff Bowen Bridges by substantially reducing the volume of traffic on this vital crossing of the French Broad River.

### 1.4 PROJECT DESCRIPTION

#### 1.4.1 PROJECT SETTING AND LAND USE

The City of Asheville is located in Buncombe County entirely within the mountainous region of North Carolina. The project study area is shown on Figure 1-2. Asheville and the surrounding area are part of the region known as Appalachia, which surrounds the Appalachian Mountains and stretches from southern New York State to northern Mississippi. Buncombe County is the seventh largest county in North Carolina, with a 2010 US Census population of 238,318; the City of Asheville is the tenth largest municipality in the state, with a population of 83,393. A large portion of the land within the study area is developed, with residential and commercial areas located along existing I-240 and US 19-23-70. The project study area is within the transportation planning jurisdiction of the FBRMPO. This organization, formerly known as the Asheville Area Metropolitan Planning Organization (AAMPO), was expanded to include 18 local governments in 2003 as a result of the 2000 census.



North Carolina  
Department of Transportation



I-26 Asheville Connector  
Buncombe County

STIP Project No. I-2513

Legend

- Interstate
- US Highway
- NC Highway
- State Route
- Local Road
- Railroad
- Streams (non-delineated)
- Water
- Municipal Boundary
- Project Study Area

Date: January 2015



0 0.5 1  
Miles

Figure 1-2

Project Study Area

## 1.4.2 PROJECT HISTORY

### 1.4.2.1 1965 to 1998

The extension of I-26 from I-40 to the North Carolina/Tennessee state line has been under consideration for many years. In 1965, Congress passed the Appalachian Regional Development Act (ARDA) to promote economic growth and development in Appalachia. This Act established the Appalachian Regional Commission (ARC). The ARC established the Appalachian Development Highway System (ADHS) in order to provide a highway system that, in conjunction with the Interstate System and other federal-aid highways in Appalachia, would open up an area or areas with a developmental potential where commerce and communication have been inhibited by lack of adequate access. In 1973, the US 19-23-70 corridor was included in the ADHS and designated as Corridor B.

In 1978, the ARC was faced with funding shortfalls and the US 19-23 corridor considerations were discontinued. However, improving this corridor remained a high priority project from a local, regional, and state perspective. In 1989, the North Carolina General Assembly passed the Highway Trust Fund with estimated revenues of \$9.2 billion generated over a 10-year period. The proposed Asheville Connector, now referred to as the I-26 Connector, was funded by the Trust Fund Act and added to the NCDOT STIP as project number I-2513.

In 1992, the Asheville Connector Advisory Committee (ACAC) was formed by the local Transportation Advisory Committee (TAC) and the Technical Coordinating Committee (TCC), which were bodies of the AAMPO. The ACAC was formed to study the I-26 Connector in Asheville and to recommend a preferred corridor alignment for the facility. This group had representatives from 17 neighborhood, environmental, and business groups.

In 1993, as a part of the pilot project, NCDOT completed a draft *Phase I Environmental Analysis – Asheville Urban Area* (Phase I Study) for the I-26 Connector (NCDOT 1995). The Phase I Study was distributed to AAMPO and ACAC in early 1993. This document included data collected from consultations with federal and state environmental agencies, environmental and design studies, and public involvement. In September 1993, ACAC presented their recommendations to AAMPO, which included the preferred corridor location for the I-26 Connector. The preferred corridor recommended in the draft Phase I Study for the I-26 Connector followed the existing I-240 to the interchange with US 19-23-74A and Patton Avenue, west of the French Broad River, and extended northward on new location from the I-240 interchange with US 19-23-74A and Patton Avenue, across the French Broad River to the existing US 19-23-70. The Improve Existing Alternative was eliminated due to the unfeasibility of upgrades to the bridges. The Upgrade Existing with Parallel Bridge Alternative was identified for preliminary study but was eliminated due to impacts to the Montford Avenue Historic District.

In June 1994, two more public information workshops were held to discuss the connector and the plan. Then, two public hearings were held in June and July 1994 to provide the public another opportunity to officially comment on the project.

In 1995, NCDOT published the final *Phase I Environmental Analysis – Asheville Urban Area* in April 1995 (NCDOT 1995). This publication contained signatures and resolutions concurring on numerous issues including a preferred corridor for the I-26 Asheville Connector. Those approving the recommendations in this analysis included the City of Asheville, the towns of Biltmore Forest, Black Mountain, Fletcher, Montreat, Weaverville, and Woodfin, the Buncombe County Commissioners, the United States Army Corps of Engineers (USACE), the US

Department of the Interior, the North Carolina Wildlife Resources Commission (NCWRC), and the North Carolina Department of Cultural Resources.

In 1995, the States of North Carolina and Tennessee executed agreements with the Federal Highway Administration pursuant to title 23 USC. 139(b)[now 23 USC.103(c)(4)(B)] to designate US 23, from I-240 in Asheville northerly to I-81, in Tennessee as a future part of the Interstate System. The route number of I-26 was approved as part of the future Interstate designation.

Since 1997, NCDOT has held meetings with community leaders, local interest groups, business groups, and affected businesses and neighborhoods to explain the proposed project.

In April 1998, a Citizens Informational Workshop (CIW) was held to present the proposed project alternatives to the general public.

#### **1.4.2.2 1999 to 2000 (Community Coordinating Committee)**

In late 1999, public concern about the project prompted the City of Asheville to request that NCDOT pursue additional public involvement. Partnering with the City of Asheville, NCDOT invited the leaders of the interested business groups, affected neighborhoods, and other public interest organizations to meet and discuss the principal issues of concern. To bring the greater community to a consensus, a Community Coordinating Committee (CCC) was formed from this group of community leaders. The CCC, with the help of NCDOT and the City of Asheville, conducted a Project Educational Forum on June 15, 2000, at the University of North Carolina - Asheville (UNC-A) Lipinsky Auditorium to present project design issues and encourage public participation in a Project Design Forum to be held in July 2000. At the Project Educational Forum, NCDOT's proposed alternatives, major project features, and relevant project issues were presented to the general public. On July 21 and 22, 2000, the CCC, with the help of NCDOT and the City of Asheville, conducted the Project Design Forum to provide interested citizens with an opportunity to suggest improvements and become involved in the project design.

The CCC completed a report documenting their recommendations and their desirable design-related goals for consideration as the project developed. The City of Asheville approved the CCC project goals and recommendations and a summary was included in the *Asheville City Development Plan 2025* (City of Asheville 2002a).

#### **1.4.2.3. 2002 to 2008**

Since 2002, NCDOT developed alternatives for the I-26/I-40/I-240 interchange and refined preliminary engineering designs for widening I-240 and the alternatives connecting I-240 to US 19-23-70. Agency coordination and public involvement activities continued and environmental studies regarding the effects of the alternatives were conducted.

**2004:** In June and July 2004, two public informational meetings were held. The purpose of these meetings, respectively, was to present functional centerline alternatives and to present the basis for recommending eight lanes along the I-240 section of the project.

**2006:** The engineering designs for the project alternatives were presented at a two day CIW in October 2006.

**2007:** On May 7, 2007, NCDOT received a conceptual alignment developed by the Asheville Design Center (ADC). The concept and its evaluation are described in Section 2.5.4.1. NCDOT evaluated the ADC's alternative and determined that the concept contained too many substantial design, environmental, and operation issues to move it forward for detailed analysis.

**2008:** In January 2008, the ADC presented the revised concept, now referred to as Alternative 4-B, to the Asheville City Council and the City Council requested that NCDOT consider the modified conceptual alternative. At the time of publication of the 2008 DEIS, NCDOT was reviewing the concept for fatal flaws and was working closely with the City of Asheville and the ADC and its consultants to resolve operation and design issues and to determine whether the proposed conceptual alternative was viable.

In March 2008, a DEIS was completed for the I-26 Connector project and public hearings were held in September 2008. Following the public hearing, NCDOT, in coordination with FHWA, determined that a new alternative (Section B - Alternative 4-B) should be added to the suite of alternatives being considered for this project; in conjunction with this change, one of the existing alternatives (Section B – Alternative 2) would be eliminated from the suite of alternatives being considered. Due to the addition of Alternative 4-B and the elimination of Section B - Alternative 2, as well as the refinement of many of the technical studies supporting the DEIS, FHWA and NCDOT determined that it was necessary to completely rescind the 2008 DEIS and prepare a new DEIS to incorporate all the most current information available into a single document.

## 1.5 SYSTEM LINKAGE

Currently, I-26 connects the Port of Charleston, South Carolina, to I-40 near Asheville, North Carolina. In 1995, the States of North Carolina and Tennessee executed agreements with the FHWA pursuant to title 23 USC. 139(b) [now 23 USC.103(c)(4)(B)] to designate US 23, from I-240 in Asheville northerly to I-81, in Tennessee as a future part of the Interstate System. The route number of I-26 was approved as part of the future Interstate designation. Subsequent to that agreement, NCDOT constructed a section of US 23, north of Asheville from Mars Hill to the Tennessee state line to Interstate standards. Upon completion of construction, FHWA added the section from Mars Hill to the Tennessee state line to the Interstate System as a segment on I-26. Currently there is a gap in I-26, which includes the existing I-240 interchange with US 19/23 and Patton Avenue to the section of I-26 near Mars Hill.

### I-40

I-40 is a major east-west interstate facility with full control of access that spans the United States, with an eastern terminus in Wilmington, North Carolina, and a western terminus in Barstow, California. I-40 is the principal highway access to the Asheville area from the east and west and is located to the south of the Asheville central business district. I-40 has two existing interchanges within the project study area at the following locations: NC 191 (Brevard Road) and I-26/I-240, which is a directional interchange with partial movements. A directional interchange includes ramps that provide a connection between two roadways along a path that does not deviate greatly from the intended direction of travel. An interchange with partial movements, commonly referred to as partial interchanges, does not provide the necessary connections between roadways that serve all intended directions of travel. Additional information on this interchange is included in Section 1.9.

## **I-240**

I-240 is a semicircular east-west urban interstate facility with full control of access that provides a freeway loop through downtown Asheville, spanning the French Broad River, and connecting with I-40 to the east and west of town. I-240 has existing interchanges within the project study area at the following locations:

- A directional interchange with partial movements at I-26/I-40
- NC 191 (Brevard Road)
- A directional interchange with partial movements at SR 3556 (Amboy Road)
- US 19-23 Business/SR 3548 (Haywood Road)
- US 19-23-74A/Patton Avenue
- A directional interchange with partial movements at US 19-23-70/Patton Avenue

I-240, US 70, and US 74A join east of the project area. At the I-240 interchange with US 19-23 east of the French Broad River, US 70 joins US 19-23 to the north. Here, I-240 and US 74A join US 19-23 from the north and Patton Avenue from the east, where they all continue west across the river as Patton Avenue on Buncombe County Bridges 323 and 322, locally known as the Captain Jeff Bowen Bridges. US 19-23-74A (Patton Avenue) splits off from I-240 at the Patton Avenue interchange west of the French Broad River. I-240 and US 19-23 Business continue south to the US 19-23 Business/SR 3458 (Haywood Road) interchange, where US 19-23 Business exits and follows Haywood Road to the west. I-240 continues southwestward through the SR 3556 (Amboy Road) and NC 191 (Brevard Road) interchanges and terminates at I-40.

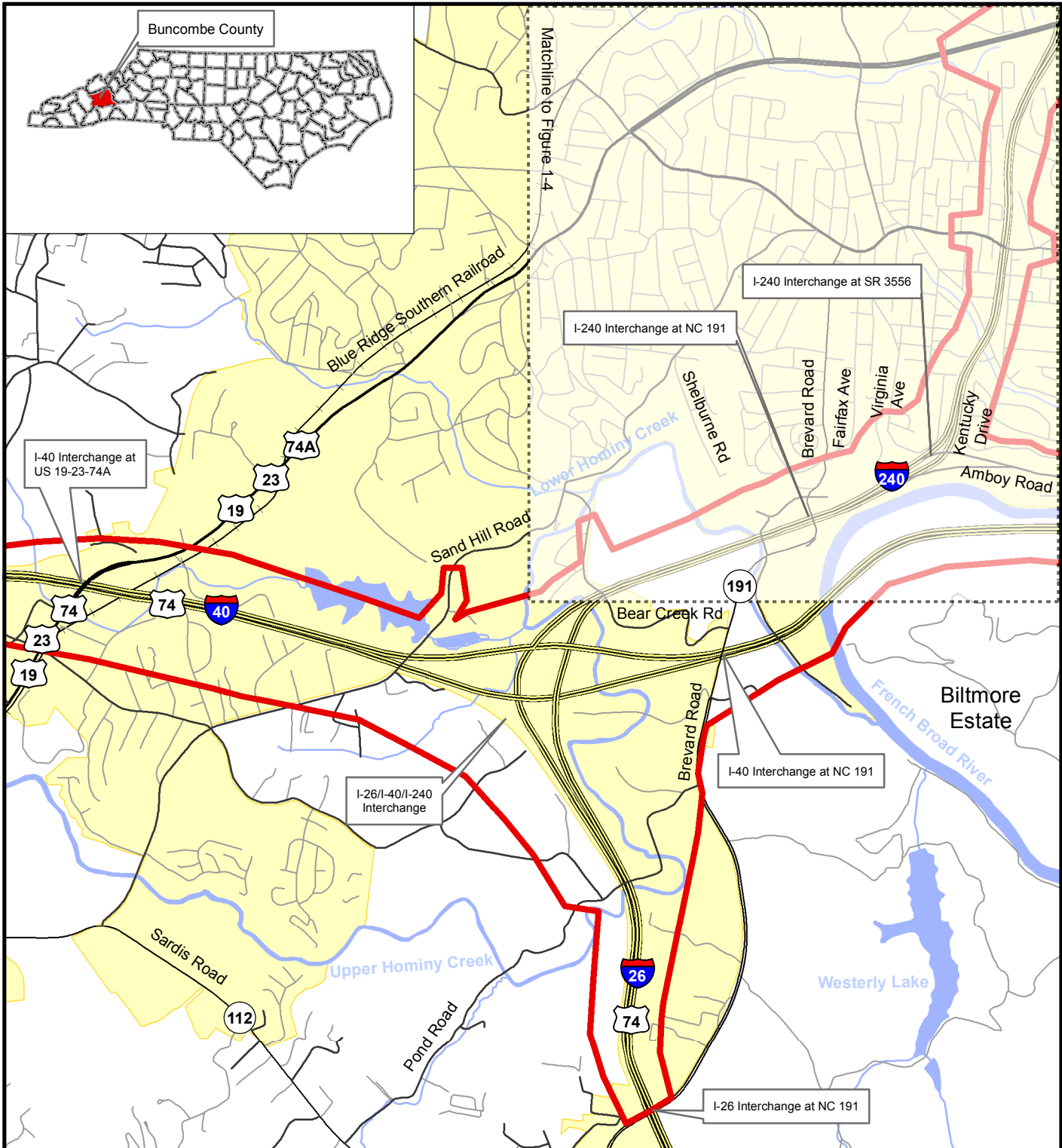
Figure 1-3, Figure 1-4, and Figure 1-5 show the existing roadway network.

### **1.5.1 MODAL INTERRELATIONSHIPS**

#### **1.5.1.1 Railroads**

Freight rail service is provided to and from Asheville by two Norfolk Southern (NS) Railway lines and one Blue Ridge Southern Railway line. Norfolk Southern's S-line, including switching facilities, run near the I-240 interchange with US 19-23-70/Patton Avenue. The railroad has a grade-separated crossing under I-240, approximately 700 feet west of the US 19-23-70/Patton Avenue interchange. Approximately 400 feet north of this crossing, is a split to a track known as the NS Craggy Mountain spur line. The NS Craggy Mountain spur line continues to the north while running along the east side of the French Broad River before terminating south of Woodfin. Beyond this track split the NS S-line curves to the northwest and crosses the French Broad River. West of the French Broad River, the railroad splits again with the main line. One line continues north toward Knoxville, Tennessee, and one line, known as the Blue Ridge Southern Railway (formerly the NS T-line), continues west toward Dillsboro, North Carolina. South of the I-240 crossing, the rail line continues into downtown Asheville, where it continues to serve points south and east such as Spartanburg, South Carolina, and Morganton, North Carolina.





North Carolina  
Department of Transportation



I-26 Asheville Connector  
Buncombe County

STIP Project No. I-2513

Legend

- Interstate
- US Highway
- NC Highway
- State Route
- Local Road
- Railroad
- Streams (non-delineated)
- Water
- Municipal Boundary
- Project Study Area

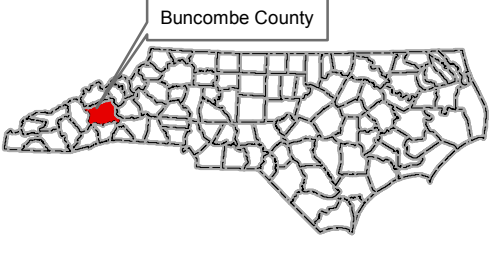
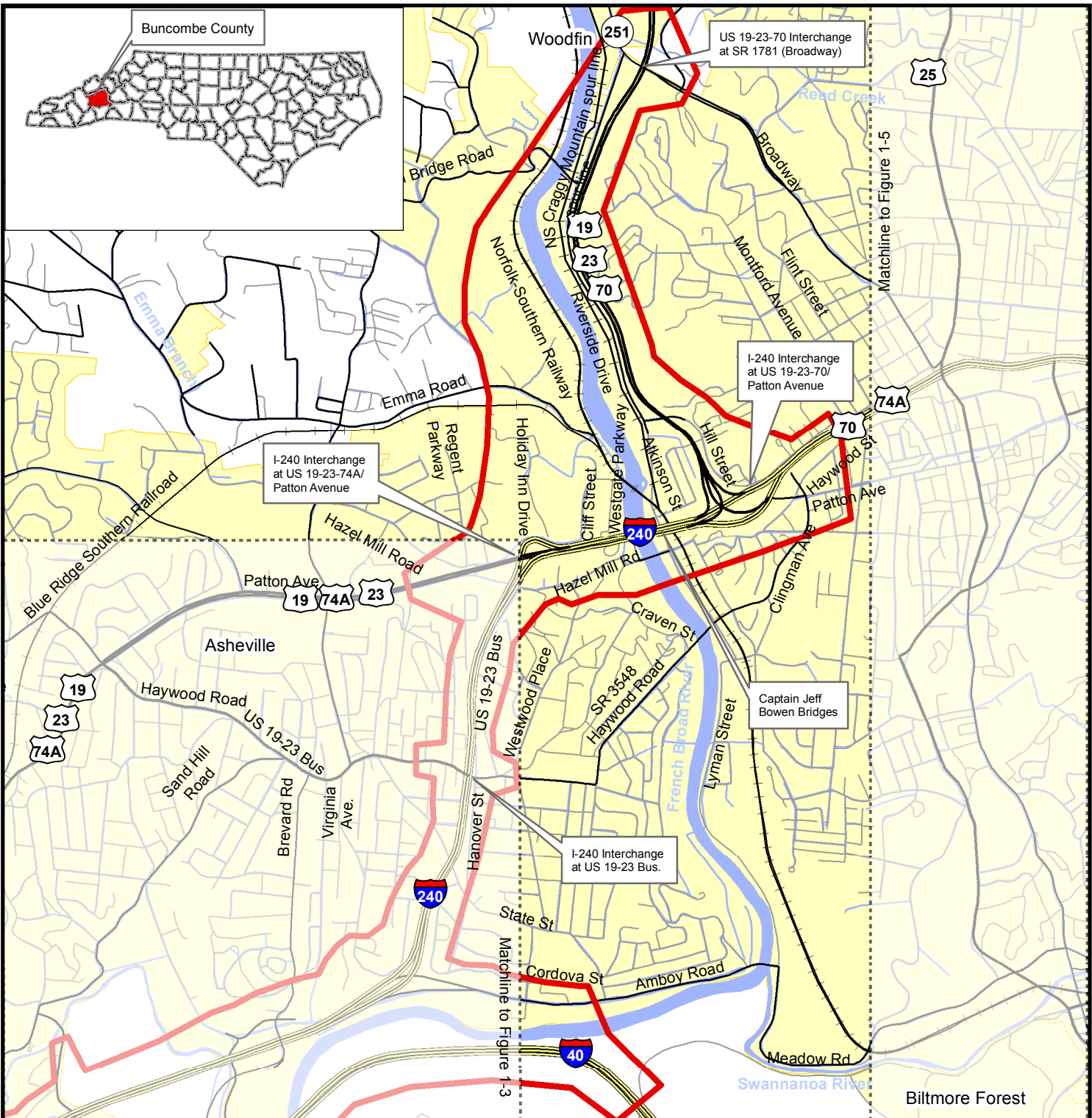
Date: January 2015



0 0.25 0.5  
Miles

Figure 1-3

Existing Roadway Network



North Carolina  
Department of Transportation



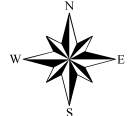
I-26 Asheville Connector  
Buncombe County

STIP Project No. I-2513

Legend

- Interstate
- US Highway
- NC Highway
- State Route
- Local Road
- Railroad
- Streams (non-delineated)
- Project Study Area
- Water
- Municipal Boundary

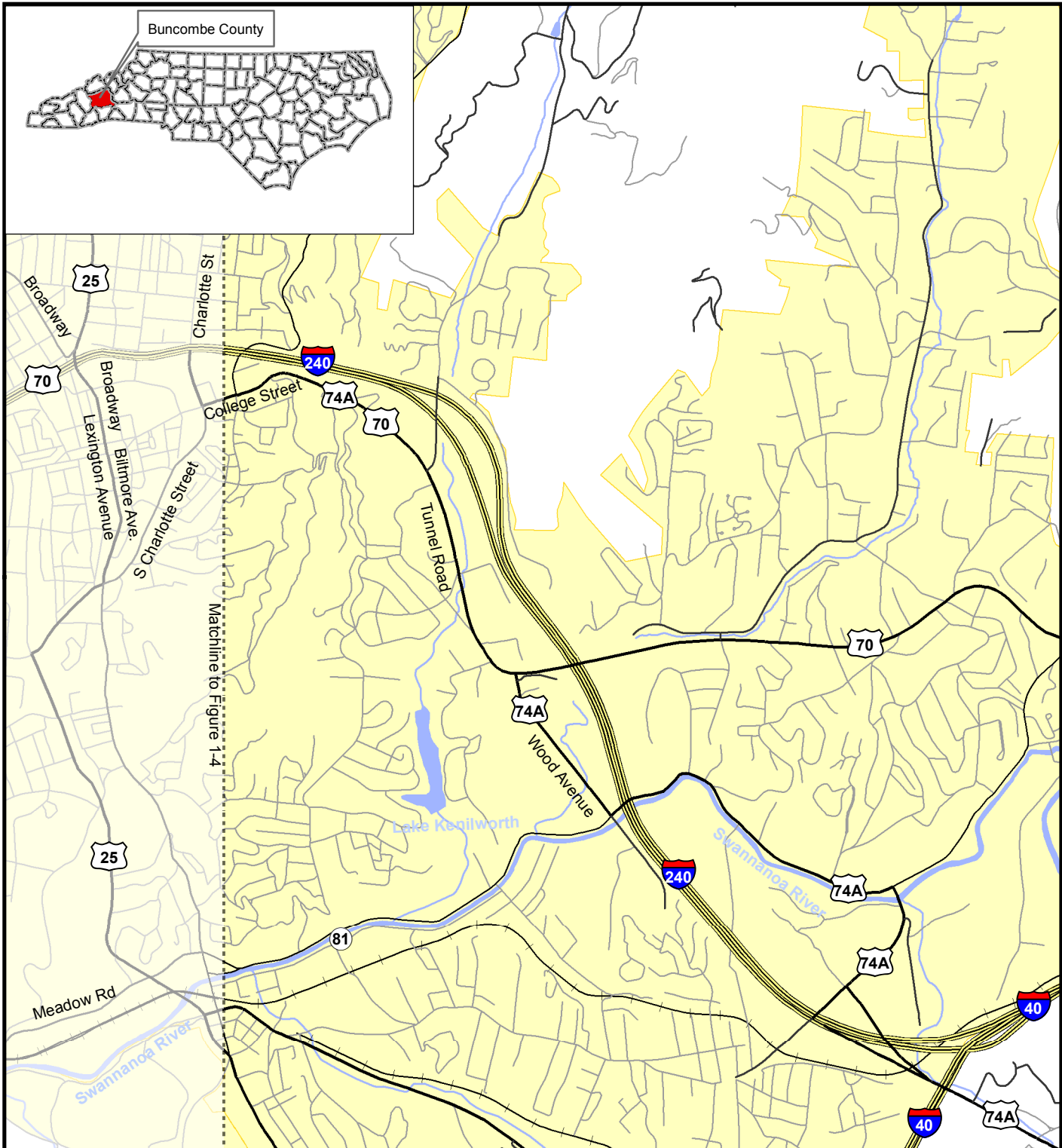
Date: January 2015



0 0.25 0.5  
Miles

Figure 1-4

Existing Roadway Network



North Carolina  
Department of Transportation



I-26 Asheville Connector  
Buncombe County

STIP Project No. I-2513

Legend

- Interstate
- US Highway
- NC Highway
- State Route
- Local Road
- Railroad
- Streams (non-delineated)
- Project Study Area
- Water
- Municipal Boundary

Date: January 2015



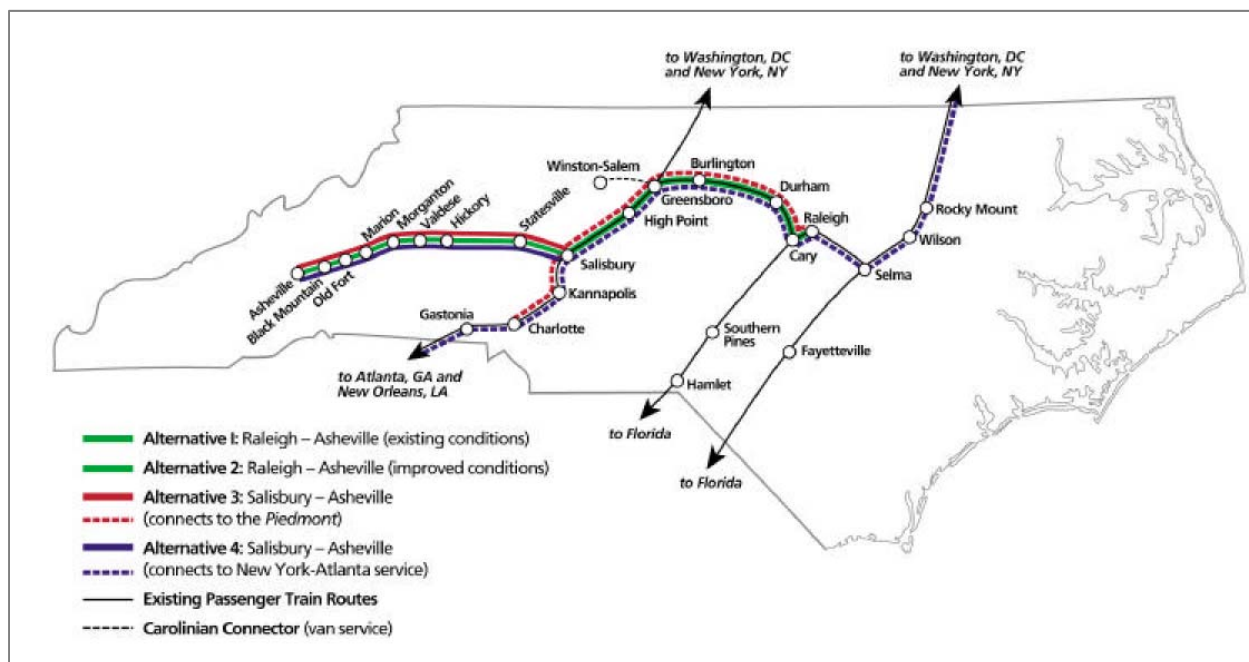
0 0.25 0.5  
Miles

Figure 1-5

Existing Roadway Network

Currently, passenger rail does not serve the Asheville metropolitan area or western North Carolina. In 2001, NCDOT Rail Division completed a study that evaluated the possibility of restoring passenger rail service to the Asheville area (NCDOT 2001). Four alternatives, shown on Figure 1-6, were studied for the route. It was determined, based on projected ridership, revenue, and costs, that the Salisbury to Asheville alternative, with connections to long distance trains such as the Carolinian or a proposed New York Atlanta service, would be the most effective.

**Figure 1-6: Proposed Passenger Route Alternatives**



Source: NCDOT 2001.

The study recommended that discussions begin with Amtrak and Norfolk Southern Railways about passenger rail service. This study recommended beginning negotiations with property owners to obtain room for a new passenger train station on Decatur Street in Asheville, across from the old Biltmore Station, southeast of the project study area. In April 2002, NCDOT submitted a summary of costs to the General Assembly. Based on the state's current financial status and cost of track improvements, NCDOT has recommended delaying the start of passenger train service to western North Carolina (NCDOT 2007a).

### 1.5.1.2 Airports

The Asheville Regional Airport is located south of the City of Asheville and south of the project study area. The Asheville Regional Airport can be accessed from I-26 (via NC 280, known as Airport Road). The airport is operated by the Asheville Regional Airport Authority, which provides available nonstop flights to Atlanta (ATL), Charlotte (CLT), Chicago (ORD), Detroit (DTW), Fort Lauderdale (FLL), Newark (EWR), New York (LGA), Orlando Sanford (SFB), Palm Beach (PBI), Punta Gorda/Fort Myers (PGD), and St. Petersburg/Clearwater (PIE). In addition, the airport has general aviation and air cargo flights (Asheville Regional Airport Authority 2014).

In the *2015-2019 National Plan of Integrated Airport Systems (NPIAS)*, the Federal Aviation Administration (FAA) classifies this airport as a Commercial Service – Primary – Nonhub (FAA 2014). The airport has one 8,001-foot runway. According to the airport’s master plan, a replacement runway and taxiway addition currently under construction is expected to be completed by 2018 (Asheville Regional Airport Authority 2013).

### **1.5.1.3 Transit**

Public transportation is provided by Asheville Redefines Transit (ART) (City of Asheville 2014a). The ART provides fixed-route bus service throughout the Asheville area, including on and around the UNC-A campus, around downtown Asheville, to and from Asheville Regional Airport, to and from Black Mountain, North Carolina, and to and from Weaverville, North Carolina. A total of 17 bus routes are currently in operation. Details of these routes are provided in Section 3.2.2.2.

Transit outside the City of Asheville is provided by Mountain Mobility and is administered by the Buncombe County Planning and Development’s Transportation Division (Buncombe County Transportation 2007). In addition, paratransit transportation is provided by Mountain Mobility under contract to the Asheville Transit System (ATS). Mountain Mobility also offers “Trailblazer” routes that serve areas of north Buncombe and Black Mountain. Other regional transit connectivity is provided through a link with Apple Country Transit located in Hendersonville. Buses share a common transfer location near the Asheville Regional Airport. Ride sharing is coordinated through the City of Asheville’s Transportation Demand Management Program (Share the Ride NC “Partner Agencies”). An additional alternative for commuters is the Hop & Ride program operated by the ATS, which is designed to help commuters south and west of Asheville to avoid hassles associated with parking and driving downtown. Parking is free for riders and the service has targeted destinations at the Biltmore Square Mall and the Goodwill Industries. Intercity bus service is provided by Greyhound Lines Incorporated, with a local station on Tunnel Road south of I-240, east of the project area.

## **1.6 TRANSPORTATION DEMAND**

The project area is in Buncombe County and is within the planning jurisdictions of both the City of Asheville and Buncombe County. Documents and data relevant to population and employment trends, land use planning and zoning, and economic development planning for the project area are presented in this section.

### **1.6.1 POPULATION TRENDS**

Asheville and Buncombe County are located in the heart of the Blue Ridge Mountains in western North Carolina. This area is characterized by relatively rugged topography, including rolling hills, high mountain peaks, and occasional alluvial plains. This location has helped the region become a prime destination for tourists, retirees, and second-home owners, as well as a number of distribution-related industries.

The *I-2513 Community Impact Assessment Update (CIA)* (URS 2015f) uses US Census tracts and block groups to delineate a study area that best illustrates the demographic characteristics of the community. This study area, called the Demographic Study Area (DSA), is described in further detail in Chapter 3. Table 1-1 shows population growth for the DSA, the City of Asheville, Buncombe County, and the State of North Carolina. Between 2000 and 2010, the DSA experienced population growth of 41.1 percent. The population of Buncombe County grew at

more than a third of that rate (15.5 percent), while the City of Asheville grew at a 21.1 percent rate during that same period. Only Buncombe County grew at a lower rate than the State of North Carolina (18.5 percent) during the same time period.

**Table 1-1: Population Trends, 2000-2010**

Area	Population		Growth	
	2000	2010	Difference	% Change
DSA	14,925	21,063	6,138	41.1
Asheville	68,889	83,393	14,504	21.1
Buncombe County	206,330	238,318	31,988	15.5
North Carolina	8,049,313	9,535,483	1,486,170	18.5

Source: US Census Bureau, Summary File 1, Table P1 (2000 & 2010).

## 1.6.2 ECONOMIC DEVELOPMENT

### 1.6.2.1 City of Asheville

In 2004, the City of Asheville formally adopted *A Strategic Plan for the Sustainable Economic Development of the City of Asheville, North Carolina* (City of Asheville 2004). This document recognizes transportation as one of the strengths of the City from a business recruitment and investment perspective. It notes the excellent highway access provided to the area by I-26 and I-40. However, it also notes a concern about the future capacity and quality of the highway system. After mentioning several planned projects that will improve the capacity of the highway system, including the proposed project, this plan recommends addressing future capacity improvement needs in the area's long-range transportation plan.

### 1.6.2.2 Land of Sky Regional Council

The Land of Sky Regional Council, a regional planning and development organization that serves Buncombe, Henderson, Madison, and Transylvania counties, developed the *Regional Vision 2010* (Land of Sky Regional Council 2010). *Regional Vision 2010* is a comprehensive economic development strategy that focuses on strategic issues aimed at addressing the needs of the region. In the fiscal year 2006-2007 annual update of the *Regional Vision 2010* plan, nine regional priorities were identified, including the issue of transportation congestion. Under this priority, the plan identified congestion problems on I-26 and I-40 as a hindrance to economic growth. Concerns ranged from the potential relocation of existing businesses and the inability to attract new industries, to the potential negative impact on tourism.

### 1.6.2.3 Asheville City Development Plan 2025 (2002)

The *Asheville City Development Plan 2025* outlines long-term growth and development goals and serves as a general guide for the future development of the city and its surrounding planning area (City of Asheville 2002a). The plan touches on key development issues such as the need for smart growth, communication and coordination between all vested parties, land use, transportation, air and water quality, economic development, and development of the downtown area.

The development plan discusses the I-26 Connector and the planning efforts the city undertook in the project development. The location of the I-26 Connector and the widening of the involved portion of I-240 are noted as subjects of considerable public debate. The project concerns noted

include impacts on community character, promotion of economic development, loss of businesses and housing, public safety, construction noise and congestion, business access during construction, and further inducement of a sprawling development pattern. The document describes the broad local representation of the CCC that was formed to study these public concerns and provide recommendations for the project (as described in Section 1.5.2.5).

The recommendations of the CCC for the I-26 Connector were presented to the Asheville City Council and the FBRMPO, and were unanimously approved as clear indicators of community consensus. These recommendations for the project, as listed in the *Asheville City Development Plan 2025* (City of Asheville 2002a), include:

- The alternative alignment concept developed at the Design Forum should receive serious study for inclusion in the project EIS.
- NCDOT, FHWA, and local citizens should work together as a Committee on Visual Design to develop ideas for bridge design, signage, overpass design, landscaping, and other aesthetic issues that reflect the community's character.
- NCDOT and FHWA should expedite the development of new and updated traffic models for use on the ultimate design of the project, including regional air quality modeling.
- NCDOT and FHWA should explore engineering and signage options to improve the north to east connection of eastbound I-26 traffic with I-40 in an easterly direction as part of this project or a simultaneous project. The specific concerns involve limiting commercial truck through traffic on I-240 and on lesser classified roadways proximate to residential areas.
- The proposed design should reflect the CCC's general consensus that bicycle and pedestrian connectivity be restored to neighborhoods and the French Broad River while simultaneously exploring traffic calming measures to reduce the vehicular impact on residential streets.
- NCDOT and FHWA should ensure that all interchange design is community sensitive. To achieve this end, it would be helpful to provide artist's renditions of feasible design alternatives for public review.
- NCDOT and FHWA should seriously examine safety issues in project construction and design, including maintenance of traffic during construction and emergency access after construction.
- NCDOT and FHWA should release any unneeded right-of-way at the completion of this project to the City of Asheville to be zoned and used in accordance with a land use plan to be developed by the City in cooperation with NCDOT.
- NCDOT and FHWA should keep the I-26 Connector project on its current or, preferably, expedited schedule.

## 1.7 TRANSPORTATION PLANNING

Construction of the proposed project would add a critical segment to the previously committed long range transportation system for the region. The project would be consistent with the long range transportation goals and objectives of the NCDOT STIP, the North Carolina Highway Trust Fund Act, the North Carolina Transportation Network (NCTN), STC Policy, and the FBRMPO TIP.

## **1.7.1 LOCAL AND REGIONAL PLANS**

### **1.7.1.1 Comprehensive Transportation Plan for French Broad River MPO and Rural Areas of Buncombe and Haywood Counties (2008)**

The proposed project is included in the *Comprehensive Transportation Plan for the French Broad River MPO and Rural Areas of Buncombe and Haywood Counties* completed by the NCDOT Transportation Planning Branch and adopted by the FBRMPO on November 15, 2007, and by NCDOT on January 10, 2008 (NCDOT 2008). The Comprehensive Transportation Plan supersedes the *Asheville Urban Area Thoroughfare Plan* adopted in 1994, with documentation completed in April 1996 (NCDOT 1996). The Comprehensive Transportation Plan includes the proposed project as a freeway from I-40 to Broadway that includes widening to six or eight lanes and construction of a connector on new alignment. Figure 1-7 shows the Comprehensive Transportation Plan Highway Map adopted under this plan.

### **1.7.1.2 French Broad River MPO 2035 Long Range Transportation Plan (2010)**

The proposed project is included in the FBRMPO's *2035 Long Range Transportation Plan (2035 LRTP)* adopted on September 23, 2012. The main goals of this plan are to develop and maintain a safe and efficient system for transportation, as well as enhancing the environment and livability of the area by providing an optimum level of service, choice, mobility, convenience and energy efficiency. Furthermore, the plan calls for the promotion of aesthetic treatments and improvements along the I-26 Corridor through Asheville, and modeled proposed widening to eight lanes and the identification of other transportation projects with a direct relationship to the I-26 Corridor. The project is consistent with the long-range transportation goals and objectives of the FBRMPO (FBRMPO 2010).

### **1.7.1.3 Coordinated Public Transportation and Human Services Transportation Plan (2008)**

The FBRMPO developed a plan to better coordinate the human services transportation activities (FBRMPO 2008). The plan evaluates the barriers to coordinated public transportation on the regional level and provides recommendations on how to overcome these barriers. The plan includes an evaluation of demographics, an inventory of public transportation and community services, a needs assessment and prioritization of needs, and detailed recommendations. The following recommendations affect the study area for the I-26 Connector project:

- High frequency local service along major corridors, including west of Asheville via Patton Avenue and Haywood Road
- Express bus service along I-26 to Hendersonville and points south

## **1.7.2 STATEWIDE PLANS**

### **1.7.2.1 NCDOT 2040 Plan (Long-Range Transportation Plan)**

The North Carolina Board of Transportation adopted an updated long-range transportation plan in August 2012 to help guide the state's future transportation investments. Called the 2040 Plan, the document provides a 30-year transportation blueprint for the state (North Carolina Board of Transportation 2012).



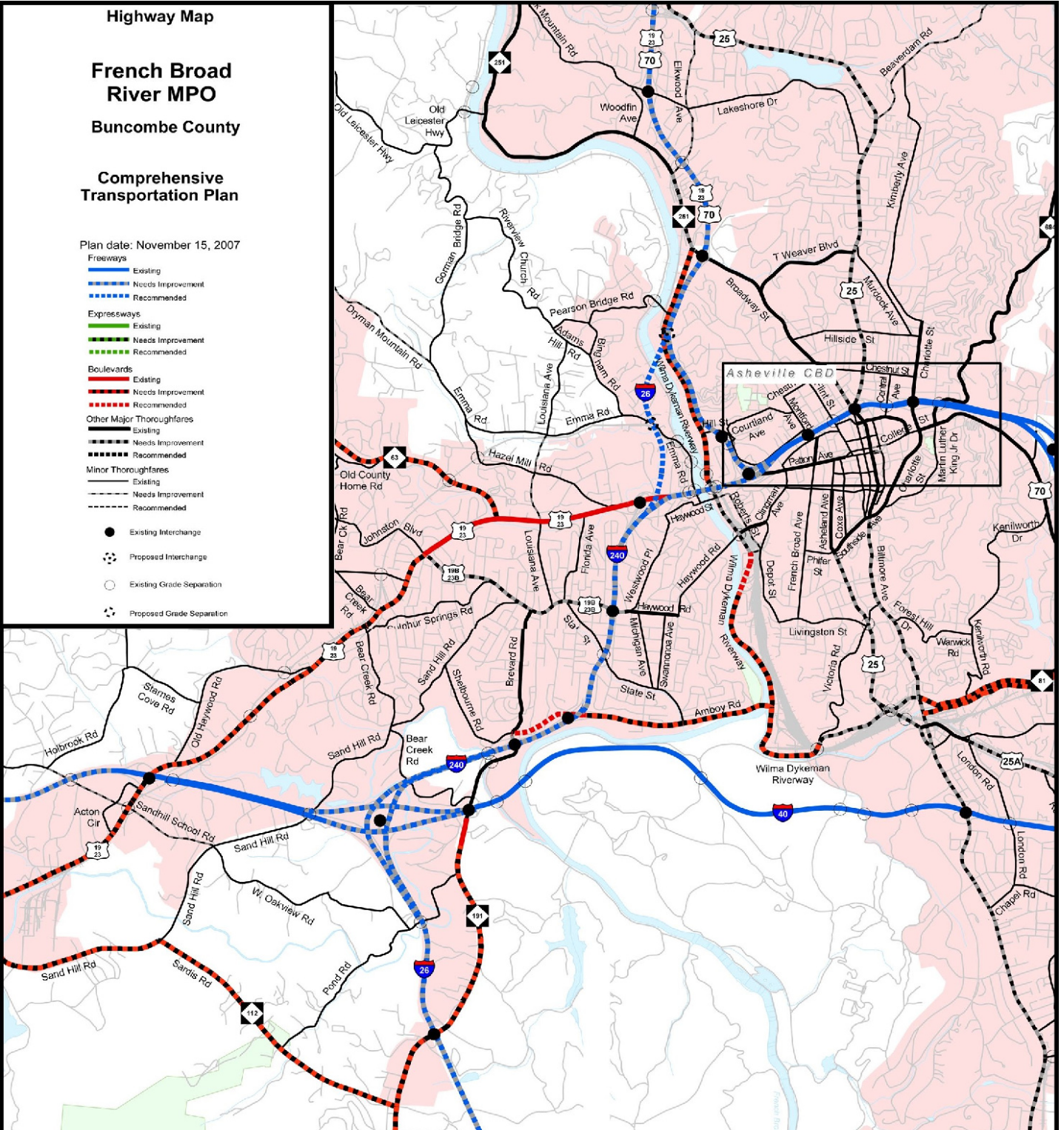
**Highway Map**

**French Broad  
River MPO  
Buncombe County**

**Comprehensive  
Transportation Plan**

Plan date: November 15, 2007

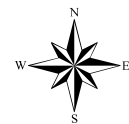
- Freeways**
  - Existing
  - Needs Improvement
  - Recommended
- Expressways**
  - Existing
  - Needs Improvement
  - Recommended
- Boulevards**
  - Existing
  - Needs Improvement
  - Recommended
- Other Major Thoroughfares**
  - Existing
  - Needs Improvement
  - Recommended
- Minor Thoroughfares**
  - Existing
  - Needs Improvement
  - Recommended
- Interchanges**
  - Existing
  - Proposed
- Grade Separations**
  - Existing
  - Proposed



**North Carolina  
Department of Transportation**



**Date: January 2015**



**Note: Figure Not To Scale**

**I-26 Asheville Connector  
Buncombe County**

**Figure 1-7**

**STIP Project No. I-2513**

**2007 FBR MPO  
Comprehensive  
Transportation Plan**

While not project specific, the 2040 Plan stipulates that the NCDOT's highest priorities are ensuring safety, preserving existing transportation systems, and focusing on services and facilities with statewide significance. The plan further calls for the state to invest in initiatives that promote economic opportunities and allow increased flexibility at the local level.

This comprehensive two-year effort included identifying statewide transportation systems' resources and needs and working with local governments to identify local transportation needs, all to ensure that North Carolina's transportation systems remain safe and are less congested and freight keeps moving to enhance the state's economy. Estimating funding availability over the next 30 years, as well as potential funding sources to help meet the state's needs, were also part of the 2040 Plan.

### 1.7.2.2 NCDOT State Transportation Improvement Program (2015)

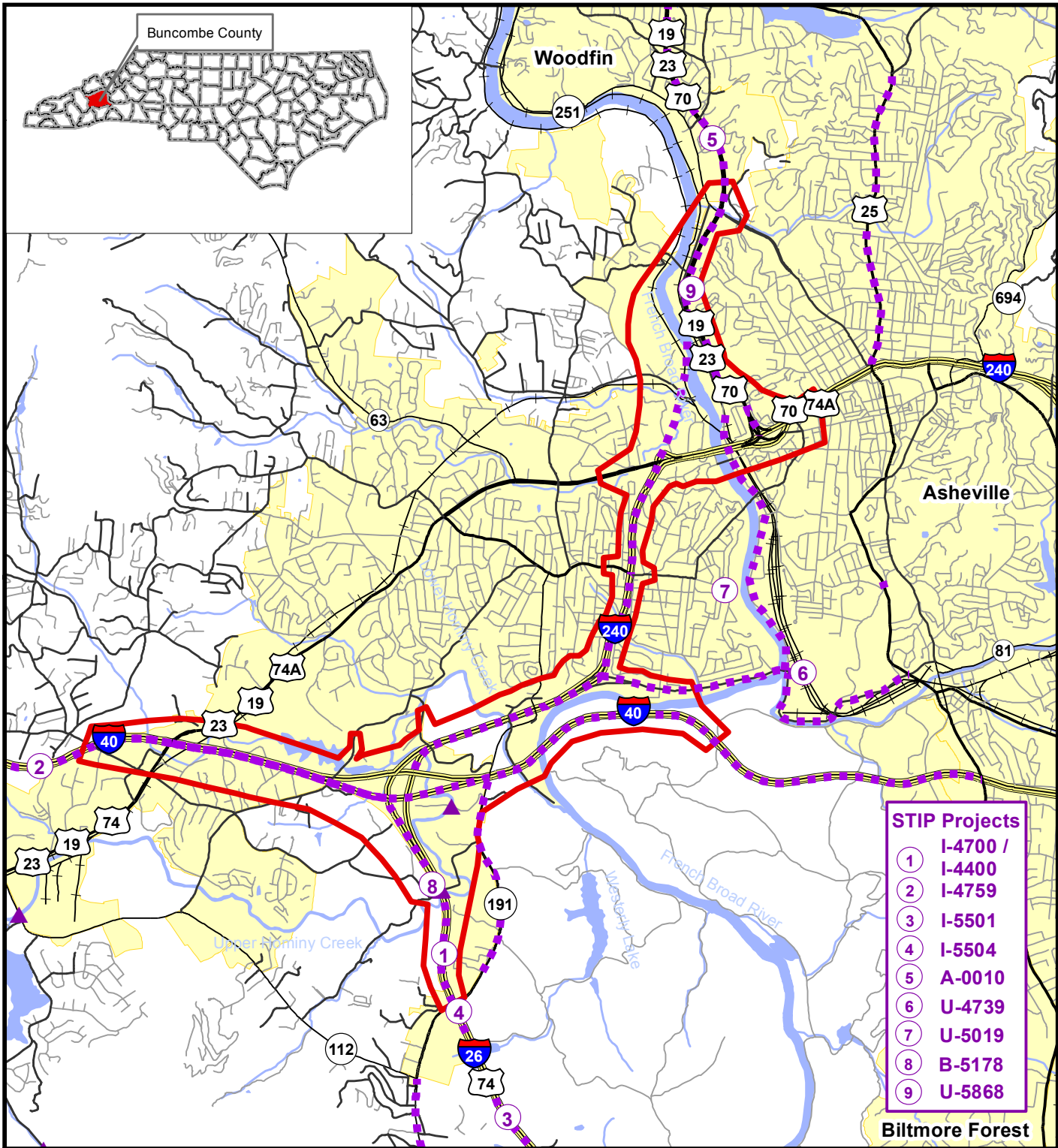
The proposed project is included as project number I-2513 in NCDOT's 2016-2025 STIP (NCDOT 2015c). The STIP indicates that the proposed project would be a 4.7-mile multi-lane freeway, part on new location from I-26 to US 19-23-70. Right-of-way acquisition is scheduled for fiscal year 2019 and construction is scheduled beginning in fiscal year 2021. STIP projects in and around the vicinity of this project are listed in Table 1-2. The general locations of the STIP projects are shown on Figure 1-8.

**Table 1-2: Other STIP Projects in the Vicinity of the Study Area**

STIP No. a	Description	Schedule – Fiscal Year (FY)
I-4700	I-26 – From NC 280 to I-40 at Asheville. Add additional lanes.	Right-of-way - 2018 Construction – 2020
I-4400	US 25 (Exit 54) to NC 280 (Exit 40). Widen to add additional lanes.	Right-of-way – 2018 Construction - 2020
I-4759	I-40 – I-40/SR 1228 (Liberty Road). Convert Grade Separation to an interchange and construct two lane roadway, US 19/US 23/NC 151 to SR 1224 with part on new location.	Right-of-way – 2019 Construction – 2021
I-5501	I-26 – I-26/NC 280 Interchange. Retrofit existing interchange to a diverging diamond configuration.	Under Construction
I-5504	NC 191 (Brevard Road). Upgrade interchange.	Planning/Design – in progress
A-0010	I-26 – I-240 in Asheville to Tennessee State Line at Sam's Gap. Multi-lane freeway, part on new location. Coordinate with STIP Project B-4442, B-4443, and B-4444;	Right-of-way (AA) – 2020 Construction (AA) – 2021 A-10AB & AC - unfunded Projects A-10B,C and D – complete
U-4739	I-240 to US 25 (Biltmore Avenue). Wide to multi-lanes with new bridge over the French Broad River.	Right-of-way – 2022 Construction – 2024
U-5019	Wilma Dykeman Riverway in Asheville.	Right-of-way – in progress Construction – unfunded
U-5868	Riverside Drive – NC 251 (Broadway) to I-40/SR 1231 (Hill Street) – Widen Roadway	Right-of-way – 2022 Construction - 2024

Source: NCDOT 2015f.

<sup>a</sup> I – Interstate Projects. A – Appalachian Projects. U – Urban Projects. E – Enhancement Projects.



STIP Projects	
①	I-4700 / I-4400
②	I-4759
③	I-5501
④	I-5504
⑤	A-0010
⑥	U-4739
⑦	U-5019
⑧	B-5178
⑨	U-5868

North Carolina  
Department of Transportation



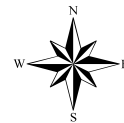
I-26 Asheville Connector  
Buncombe County

STIP Project No. I-2513

**Legend**

- STIP Project Points
- STIP Projects
- Project Study Area
- Interstate
- US Highway
- NC Highway
- State Route
- Local Road
- Railroad
- Streams (non-delineated)
- Water
- Municipal Boundary

Date: January 2015



0 0.5 1  
Miles

**Figure 1-8**

**STIP Projects  
in the Vicinity of  
I-2513**

## 1.8 TRAFFIC CAPACITY

### 1.8.1 EXISTING TRAFFIC CAPACITY ANALYSIS

The following sections are based on the *Traffic Operations Technical Memorandum* (URS 2015k) and present the traffic volumes and operational analyses for the existing (year 2007) and projected design year (year 2033) for the study area roadway network.

#### 1.8.1.1 Existing Roadway Characteristics

The existing roadway network that was analyzed for the proposed project includes the major transportation facilities within the study area. A summary of the roadways analyzed for the proposed project is included in Table 1-3.

**Table 1-3: Existing Roadway Characteristics**

Roadway Name	Classification	Posted Speed Limit	Typical Section
I-40 – NC 191 to US 19-23-74	Freeway	60 mph	4-lane Divided
I-26 – NC 191 to I-40/I-240	Freeway	60 mph	4-lane Divided
I-240 – I-26/I-40 to Haywood Road	Freeway	55 mph	4-lane Divided
I-240 – Haywood Road to Patton Avenue	Freeway	50 mph	4-lane Divided
I-240 – Patton Avenue to US 19-23-70	Freeway	50 mph	6-lane Divided

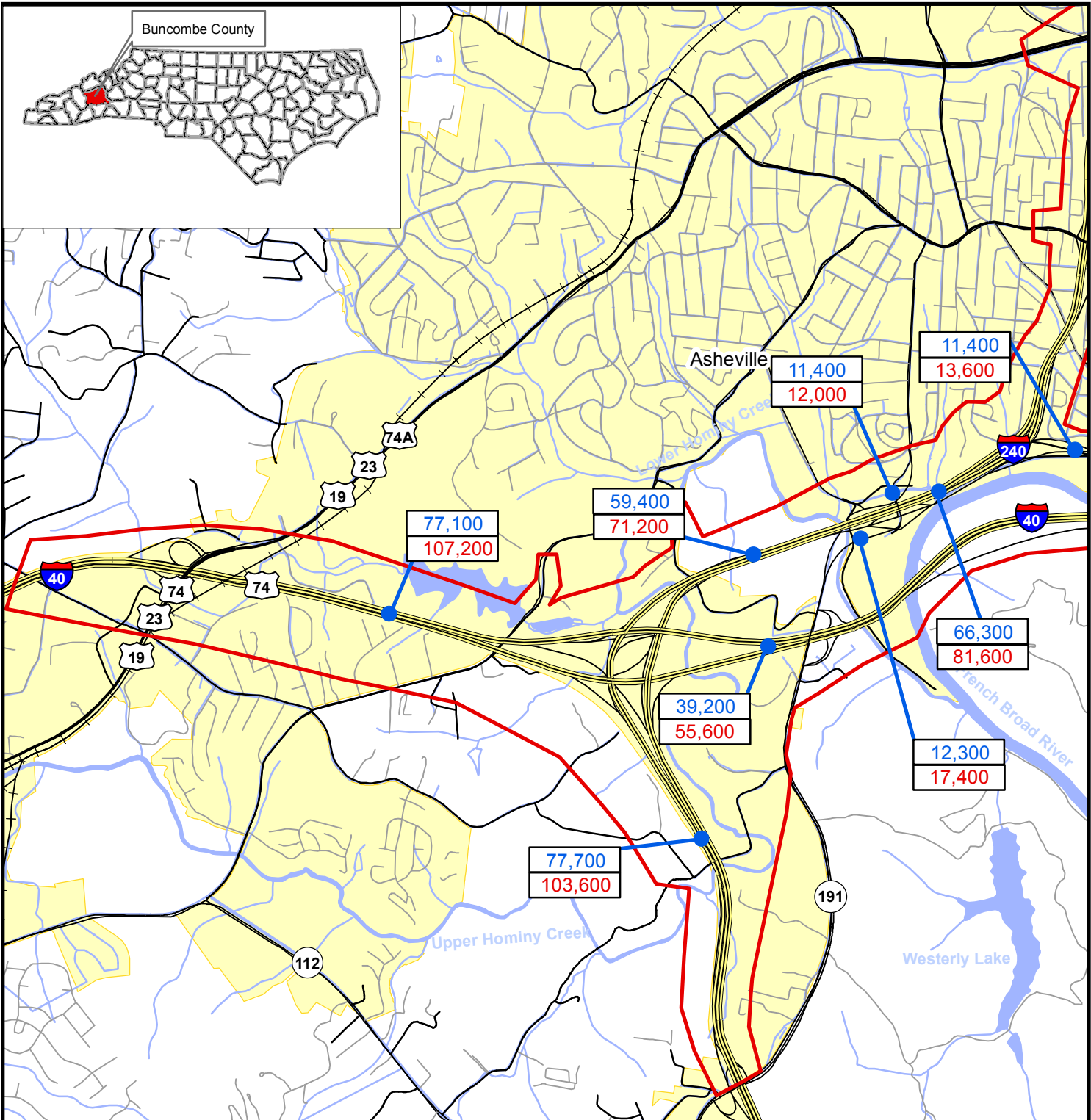
Source: URS 2015k.

#### 1.8.1.2 Existing 2007 Traffic Conditions


The traffic forecasts used for the traffic operations analyses were obtained from the *Traffic Forecasts for the NCDOT State TIP Project # I-2513, I-26 Connector* (Traffic Forecast Technical Memorandum) (Martin/Alexiou/Bryson, PLLC 2010). The traffic forecasts provided peak hour and Average Daily Traffic (ADT) volumes for the transportation network within the study area for the Existing No-Build Conditions (year 2007) and the Future No-Build Scenario (year 2033). The ADT volumes for existing roadways within the project study area are shown on Figure 1-9 and Figure 1-10. Existing traffic volumes on I-240 range from 53,100 ADT to 103,500 ADT, and volumes on US 19-23-70 range from 58,000 ADT to 59,200 ADT. The existing volumes on I-40 range from 39,200 ADT to 77,100 ADT within the study area; while the existing volume on I-26 as it approaches I-40 is 77,700 ADT.

FHWA adopted, in 23 CFR 625.4(a), the American Association of State Highway and Transportation Officials' (AASHTO) *A Policy on Design Standards – Interstate System* (AASHTO 2005) and AASHTO's *A Policy of Geometric Design of Highways and Streets* (AASHTO 2001) as design standards for freeways on the Interstate System.

The determination of the appropriate Level of Service (LOS) in the *Policy on Geometric Design of Highways and Streets* considers the context of the project setting as shown in Table 1-4.



**North Carolina  
Department of Transportation**














**I-26 Asheville Connector  
Buncombe County**


---

**STIP Project No. I-2513**


**Legend**

-  Interstate
-  US Highway
-  NC Highway
-  State Route
-  Local Road
-  Railroad
-  Streams (non-delineated)
-  Project Study Area
-  Municipal Boundaries
-  Water

 2007 Existing Average Daily Traffic

 2033 No-Build Average Daily Traffic

Date: January 2015

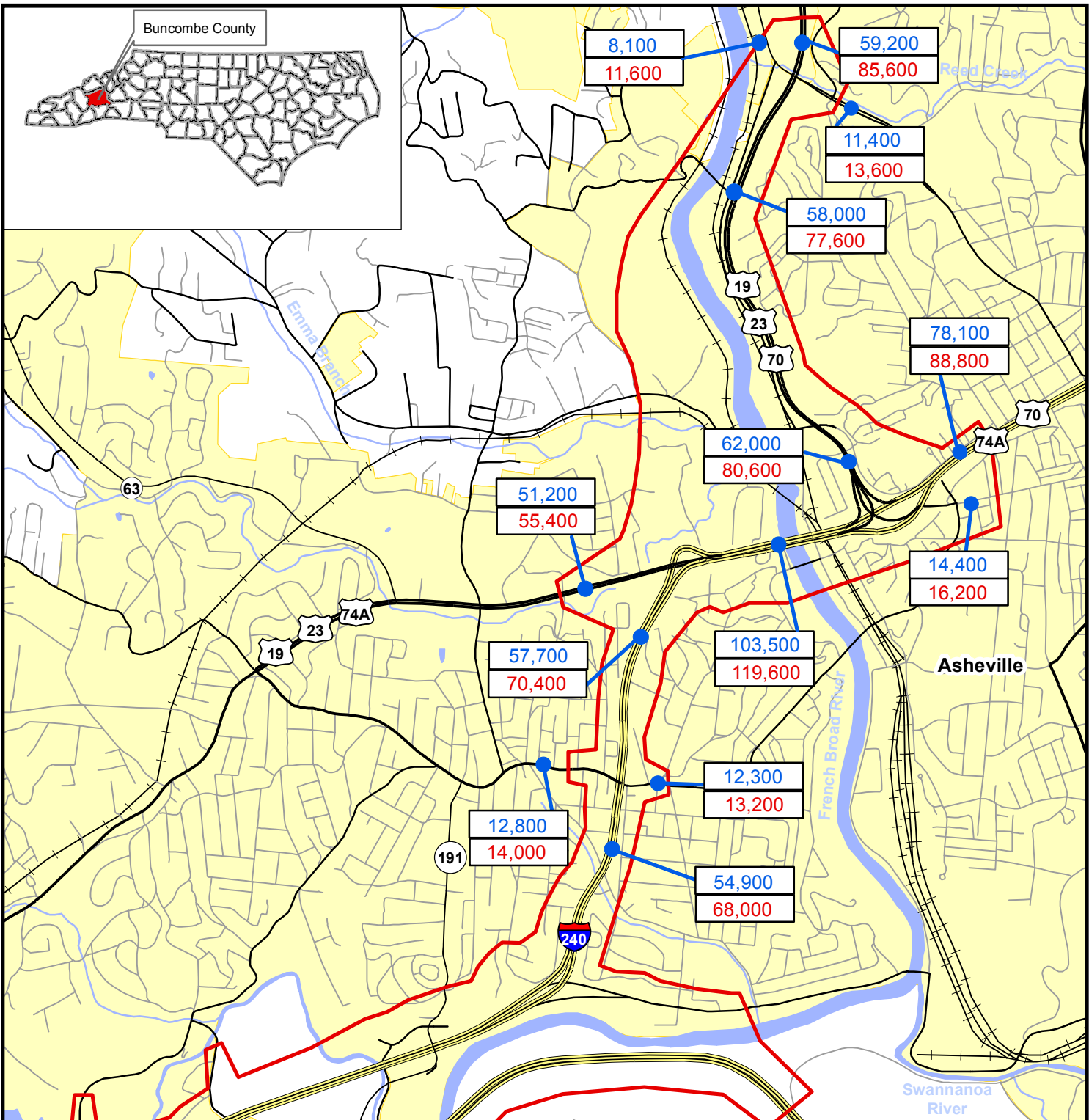


0 0.25 0.5  
Miles


**Figure 1-9**

---

**2007 Existing/  
2033 No-Build  
Average Daily Traffic**



**North Carolina  
Department of Transportation**



**I-26 Asheville Connector  
Buncombe County**

---

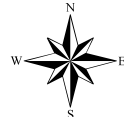
**STIP Project No. I-2513**

**Legend**

- Interstate
- US Highway
- NC Highway
- State Route
- Local Road
- Railroad
- Streams (non-delineated)
- Project Study Area
- Municipal Boundaries
- Water

2007 Existing Average Daily Traffic  
2033 No-Build Average Daily Traffic

Date: January 2015



0 0.25 0.5 Miles

**Figure 1-10**

**2007 Existing/  
2033 No-Build  
Average Daily Traffic**

**Table 1-4: Guidelines for Selection of Design Level of Service**

Functional Class	Appropriate level of service for specified combinations of area and terrain type			
	Rural Level	Rural Rolling	Rural Mountainous	Urban and Suburban
Freeway	B	B	C	C
Arterial	B	B	C	C
Collector	C	C	D	D
Local	D	D	D	D

Source: AASHTO 2001.

The policy does provide for some flexibility in the selection of the appropriate LOS, as follows:

As may be fitting to the conditions, highway agencies should strive to provide the highest level of service practical. For example, in heavily developed sections of metropolitan areas, conditions may make the use of LOS D appropriate for freeways and arterials; however, this level should be used sparingly and at least LOS C should be sought.

Due to concerns related to the number of lanes for the proposed project, and to provide a consistent evaluation of all alternatives being considered, FHWA clarified their position on the design LOS in a letter to NCDOT dated July 7, 2004. The letter (included in Appendix A) states that “since the project will be part of the Interstate System, it should be designed to achieve LOS D or better for the type and volumes of traffic anticipated for the twenty-year period beyond the time construction is authorized by FHWA.”

The methodologies contained in the Highway Capacity Manual (HCM) (2010) were used to determine the existing LOS for the freeway segments within the project study area. It should be noted that the peak hour traffic forecasts provided for this alternative were not balanced during the forecasting process. Because of this, peak hour volumes in several locations were calculated based on the directional daily volumes, design hourly volume factor, and peak-hour directional split factor. This was especially prevalent and necessary in locations between ramps of interchanges.

A summary of the LOS results for the basic freeway segments, freeway merges and diverges, major merges, major diverges, isolated ramp roadways, and freeway weaving segments is included in Table 1-5 and the LOS for each analysis is shown on Figure 1-11 and Figure 1-12. The results of the analysis show that 2 of 37 basic freeway segments, 5 of 31 freeway merges and diverges and major diverges, 1 of 4 major merges and isolated ramp roadways, and 3 of 8 freeway weaving sections are currently operating at LOS E or worse or a Volume to Capacity (V/C) ratio of 0.85 or worse, with a total of five analysis segments or points operating at LOS F or a V/C ratio over 1.0 during the AM peak hour, PM peak hour, or both.

**Table 1-5: Year 2007 Level of Service Analysis (Existing Conditions)**

	2007 AM Peak Hour LOS	2007 PM Peak Hour LOS
<b>Freeway Segments</b>		
I-26 WB – South of I-40 – (1)	E	D
I-26 EB – South of I-40 – (2)	D	E

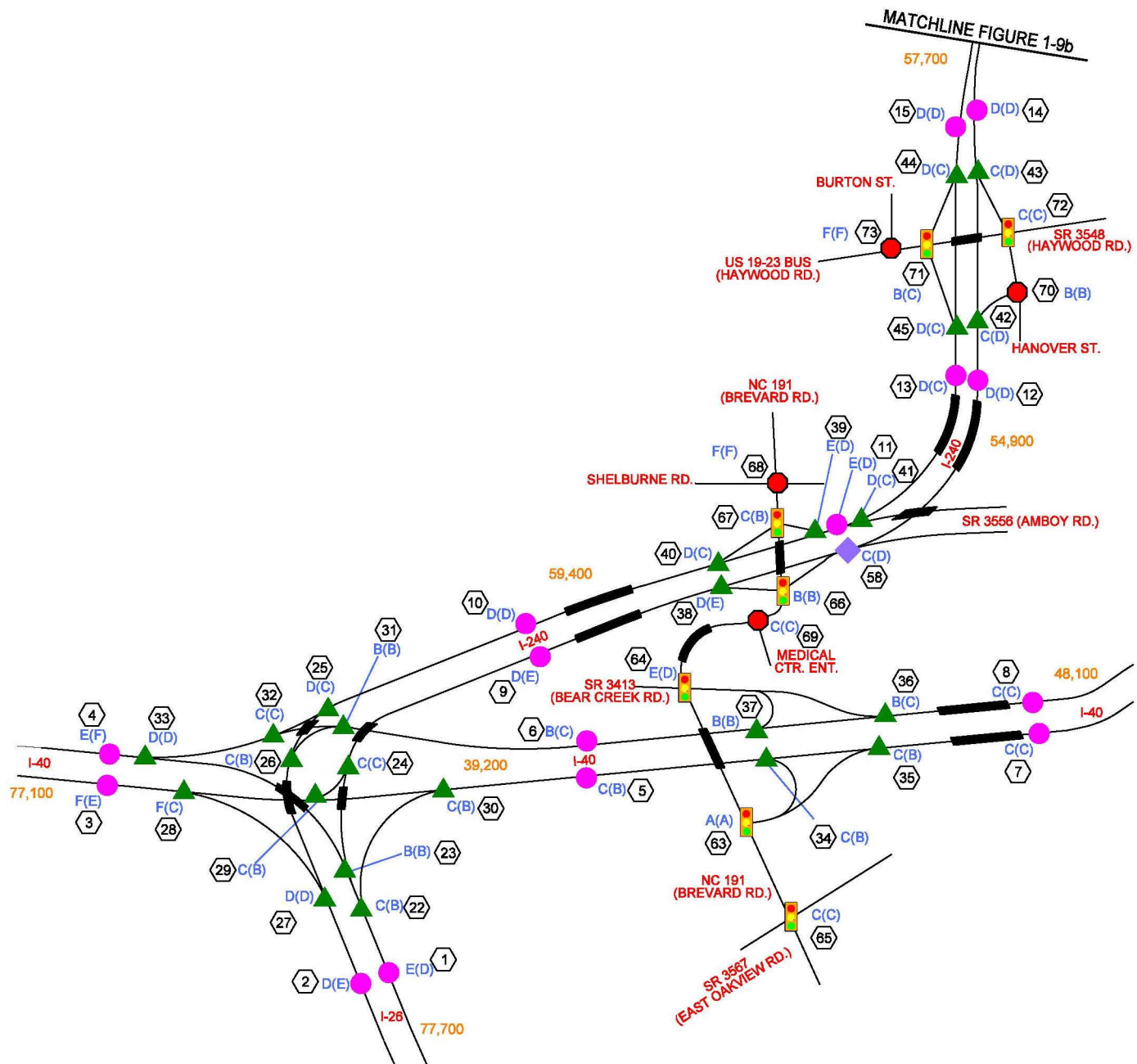
	2007 AM Peak Hour LOS	2007 PM Peak Hour LOS
I-26 WB – Ramp to I-40 WB to Ramp from I-40 EB – (3)	B	A
I-26 EB – Ramp from I-40 WB to Ramp from I-40 EB – (4)	C	C
I-26 EB – Ramp to I-40 WB to Ramp from I-40 WB – (5)	B	B
I-40 WB – West of US 19-23-74A – (6)	B	C
I-40 EB – West of US 19-23-74A – (7)	C	C
I-40 WB – Within US 19-23-74A Interchange – (8)	B	B
I-40 EB – Within US 19-23-74A Interchange – (9)	B	B
I-40 WB – Ramp From I-240 WB to Ramp from I-26 WB – (10)	B	B
I-40 WB – Ramp to I-26 EB to Ramp from I-240 WB – (11)	A	B
I-40 EB – Ramp to I-240 EB to Ramp from I-26 WB – (12)	B	A
I-40 WB - NC 191 (Brevard Road) to I-26/I-240– (13)	B	C
I-40 EB – Within NC 191 (Brevard Road) Interchange – (14)	C	B
I-40 WB – Within NC 191 (Brevard Road) Interchange – (15)	B	C
I-40 EB – NC 191 (Brevard Road) to US 25 – (16)	C	B
I-40 WB – US 25 to NC 191 (Brevard Road) – (17)	B	C
I-240 EB – I-40 to NC 191 (Brevard Road) – (18)	D	D
I-240 WB – NC 191 (Brevard Road) to I-40 – (19)	D	C
I-240 EB – Within NC 191 (Brevard Road) Interchange – (20)	C	D
I-240 WB – Within NC 191 (Brevard Road) Interchange – (21)	D	C
I-240 EB – SR 3556 (Amboy Road) to US 19-23 Business – (22)	C	D
I-240 WB – US 19-23 Business to SR 3556 (Amboy Road) – (23)	D	C
I-240 EB – Ramp to Hanover Street to Ramp from US 19-23 Business – (24)	C	D
I-240 WB – Within US 19-23 Business Interchange – (25)	D	C
I-240 WB – Ramp to US 19-23-74A (Patton Avenue) to Ramp from Patton Avenue C/D – (26)	D	C
I-240 EB – Ramp to Westgate Access Road to Ramp from Patton Avenue – (27)	C	C
I-240 EB – Ramp to US 19-23-74A (Patton Avenue) to Ramp from US 19-23 SB – (28)	C	D
I-240 WB – Ramp to US 19-23 NB to Ramp from US 19-23-74A (Patton Avenue) – (29)	D	C
US 19-23 NB – Ramp from I-240 WB to Ramp from Patton Avenue WB – (30)	C	D
US 19-23-74A (Patton Avenue) SB – Ramp to I-240 WB to Ramp to I-240 EB – (31)	B	B
US 19-23 NB – Hill Street to SR 1781 (Broadway) – (32)	C	C
US 19-23-SB – SR 1781 (Broadway) to Riverside Drive – (33)	D	D
US 19-23 NB – Within SR 1781 (Broadway) Interchange – (34)	C	C
US 19-23 SB – Within SR 1781 (Broadway) Interchange – (35)	C	C
US 19-23 NB – North of SR 1781 (Broadway) – (36)	C	C
US 19-23 SB – North of SR 1781 (Broadway) – (37)	D	D
<b>Freeway Ramp Junction</b>		
I-26 WB – To I-40 EB – (40)	D	C
I-26 EB – From I-40 EB – (41)	D	D
I-26 WB – To I-40 WB – (42) (Major Diverge)	C	B
I-240 EB – From I-40 EB – (43)	C	B
I-26 EB – From I-40 WB – (44)	C	B



	2007 AM Peak Hour LOS	2007 PM Peak Hour LOS
I-240 WB – To I-40 WB – (45)	D	C
I-40 WB – From US 19-23-74A – (46)	B	B
I-40 EB – To US 19-23-74A – (47)	B	B
I-40 WB – From I-240 WB – (48) (Isolated Ramp – v/c ratio reported)	0.75	0.69
I-40 WB – To I-26 EB – (49)	B	B
I-40 EB – To I-240 EB – (50) (Isolated Ramp – v/c ratio reported)	0.70	0.77
I-40 WB – From NC 191 (Brevard Road) – (51)	B	B
I-40 EB – From NC 191 (Brevard Road) – (52)	C	B
I-40 WB – To NC 191 (Brevard Road) – (53)	B	C
I-240 EB – To NC 191 (Brevard Road) – (54)	D	E
I-240 WB – From NC 191 (Brevard Road) – (55)	D	D
I-240 WB – To NC 191 (Brevard Road) – (56)	E	D
I-240 WB – From SR 3556 (Amboy Road) – (57)	D	C
I-240 EB – To Hanover Street – (58)	C	D
I-240 WB – From US 19-23 Business (Haywood Road) – (59)	D	C
I-240 EB – From US 19-23 Business (Haywood Road) – (60)	C	D
I-240 WB – To US 19-23 Business (Haywood Road) – (61)	D	C
I-240 WB – From US 19-23-74A (Patton Avenue) – (62)	D	C
I-240 EB – To US 19-23-74A (Patton Avenue) WB – (63)	D	E
I-240 EB – To Westgate Access Road – (64)	C	D
I-240 EB – From US 19-23-74A (Patton Avenue) EB – (65) (Major Merge – v/c ratio reported)	0.76	0.93
I-240 WB – Patton Avenue WB – (66) (Major Diverge)	D	D
I-240 EB – To US 19-23-74A (Patton Avenue) EB – (67) (Major Diverge)	C	D
I-240 EB – From US 19-23 SB – (68)	D	F
I-240 WB – From US 19-23-74A (Patton Avenue) WB – (69) (Isolated Ramp – v/c ratio reported)	0.26	0.43
I-240 WB – To US 19-23 NB – (70)	E	D
US 19-23 NB – To SR 1781 (Broadway) – (71)	C	C
US 19-23 SB – From SR 1781 (Broadway) – (72)	C	C
US 19-23 NB – From SR 1781 (Broadway) – (73)	C	C
US 19-23 SB – To SR 1781 (Broadway) – (74)	D	D
<b>Freeway Weaving Segments</b>		
I-40 EB – US 19-23-74A to Ramp to I-26 EB – (81)	C	C
I-40 WB – Ramp from I-26 WB to US 19-23-74A – (82)	C	C
I-40 EB – Ramp from I-26 WB to NC 191 (Brevard Road) – (83)	B	B
I-240 EB – NC 191 (Brevard Road) to SR 3556 (Amboy Road) – (84)	C	D
I-240 EB – Across Bowen Bridges – (85)	D	E
I-240 WB – Across Bowen Bridges – (86)	F	E
US 19-23 NB – US 19-23-74A (Patton Avenue) to Hill Street – (87)	D	C
US 19-23 SB – Riverside Drive to I-240 – (88)	D	E

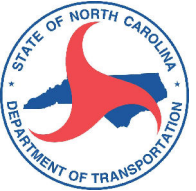
Source: *Traffic Operations Technical Memorandum* (URS 2015k).

Note: WB means westbound, EB means eastbound; NB means northbound, SB means southbound. The analysis reference number is shown in parenthesis, which corresponds with analysis points shown on Figure 1-11 and Figure 1-12.



\* LOS shown for unsignalized intersection is the LOS for the worst lane group.

North Carolina  
Department of Transportation



I-26 Asheville Connector  
Buncombe County

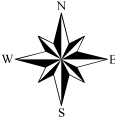
---

STIP Project No. I-2513

**Legend**

- Basic Freeway Segments
- ▲ Freeway Ramp Junctions
- ◆ Freeway Weaving Segments
- Signalized Intersection
- Unsignalized Intersection\*
- A(A) Level of Service - AM(PM)
- 1 Analysis Reference Number (See Table 1-9)
- #### Average Daily Traffic

Note: Data From June 2010

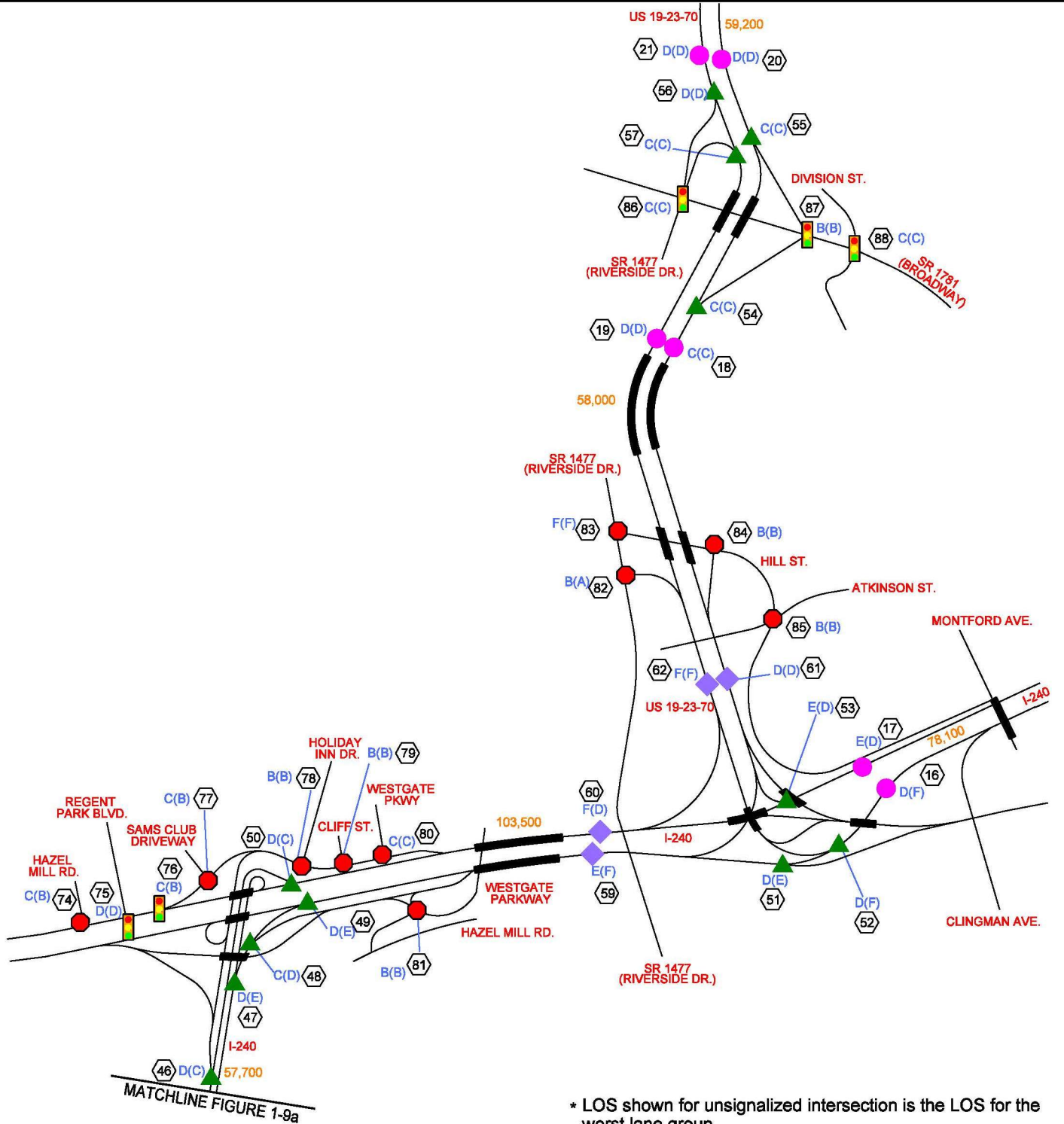


0 0.5 1 Miles

**Figure 1-11**


---

**2007 No-Build Average Daily Traffic and Level of Service**



\* LOS shown for unsignalized intersection is the LOS for the worst lane group.

North Carolina  
Department of Transportation



I-26 Asheville Connector  
Buncombe County


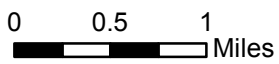
---

STIP Project No. I-2513

**Legend**

- Basic Freeway Segments
- ▲ Freeway Ramp Junctions
- ◆ Freeway Weaving Segments
- Signalized Intersection
- Unsignalized Intersection\*
- A(A) Level of Service - AM(PM)
- 1 Analysis Reference Number (See Table 1-9)
- Average Daily Traffic

Note: Data From June 2010

**Figure 1-12**

---

**2007 No-Build Average Daily Traffic and Level of Service**

## 1.9 ROADWAY DEFICIENCIES

Congress, in title 23 section 109, established that the geometric and construction standards to be adopted for the Interstate System shall be those approved by the Secretary of the US Department of Transportation (USDOT) in cooperation with the State transportation departments. Such standards, as applied to each actual construction project, shall be adequate to enable such project to accommodate the types and volumes of traffic anticipated for such project for the twenty-year period commencing on the date of approval by the Secretary, under section 106 of this title, of the plans, specifications and estimates for actual construction of such project. FHWA adopted, in 23 CFR 625.4(a), the AASHTO's *A Policy on Design Standards – Interstate System* (AASHTO 2005) and AASHTO's *A Policy of Geometric Design of Highways and Streets* (AASHTO 2001) as design standards for freeways on the Interstate System.

NCDOT surveyed interstates in the project area to identify existing roadway deficiencies that do not meet design standards associated with Interstate freeways. Table 1-6 and Figure 1-13 show the existing roadway deficiencies identified on sections of I-40, I-26, I-240, and US 19-23-70 within the project study area that do not meet current design standards for Interstate freeways.

**Table 1-6: Roadway Deficiencies within the Existing Roadway Network**

Location No.	Roadway Segment	Deficient Element(s)
1	I-26 over SR 3431 (Pond Road)	Bridge Width and Horizontal Clearance
2	I-26 WB over I-40 EB	Bridge Width and Horizontal Clearance
3	I-26 WB over I-40 WB	Bridge Width and Horizontal Clearance
4	I-26 EB over I-40 EB	Bridge Width and Horizontal Clearance
5	I-26 EB over I-40 WB	Bridge Width and Horizontal Clearance
6	I-26 WB ramp to I-40 WB	Bridge Width and Horizontal Clearance
7	I-40 EB over Upper Hominy Creek	Bridge Width and Horizontal Clearance
8	I-40 WB over Upper Hominy Creek	Bridge Width and Horizontal Clearance
9	I-40 over Lower Hominy Creek	Bridge Width and Horizontal Clearance
10	I-40 over French Broad River	Bridge Width and Horizontal Clearance
11	I-40/NC 191 (Brevard Road) Interchange	Speed Change Lanes
12	I-26/I-40/I-240 Interchange	Interchanges, Vertical Clearance and Left-hand Entrances/Exits
13	I-240 over Upper Hominy Creek	Bridge Width and Horizontal Clearance
14	I-240 over Lower Hominy Creek	Bridge Width and Horizontal Clearance
15	I-240/NC 191(Brevard Road) Interchange	Speed Change Lanes, Vertical Alignment, Stopping Sight Distance, Vertical Alignment, Curbs, Shoulder Width and Horizontal Clearance
16	I-240/SR 3556 (Amboy Road) Interchange	Interchanges, Grade, Vertical Alignment, Curbs, Left-hand Entrances/Exits, Shoulder Width and Horizontal Clearance
17	I-240/State Street grade separation area	Vertical Alignment, Bridge Width and Horizontal Clearance
18	I-240/US 19-23 Business (Haywood Road) Interchange	Control of Access, Interchanges, Vertical Clearance, Vertical Alignment, Curbs, Shoulder Width and Horizontal Clearance
19	I-240/US 19-23 Business (Haywood Road) Interchange area	Vertical Alignment

Location No.	Roadway Segment	Deficient Element(s)
20	I-240/US 19-23-74A/Patton Avenue Interchange	Left-hand Entrances/Exits, Horizontal Alignment, Grade, Vertical Clearance, Vertical Alignment, Horizontal Clearance, Shoulder Width, Grade, Curbs and Stopping Sight Distance
21	I-240 Captain Jeff Bowen Bridges	Bridge Width, Horizontal Clearance, Vertical Alignment and Stopping Sight Distance, Shoulder Width and Curbs
22	I-240/US 19-23-70/Patton Avenue Interchange	Interchanges, Left-hand Entrances/Exits, Speed-Change Lanes, Vertical Clearance, Grade, Curbs, Shoulder Width, Bridge Width and Horizontal Clearance
23	Pedestrian bridge over I-240	Vertical Clearance
24	US 19-23-70/SR 1781 (Broadway) Interchange	Speed-Change Lanes

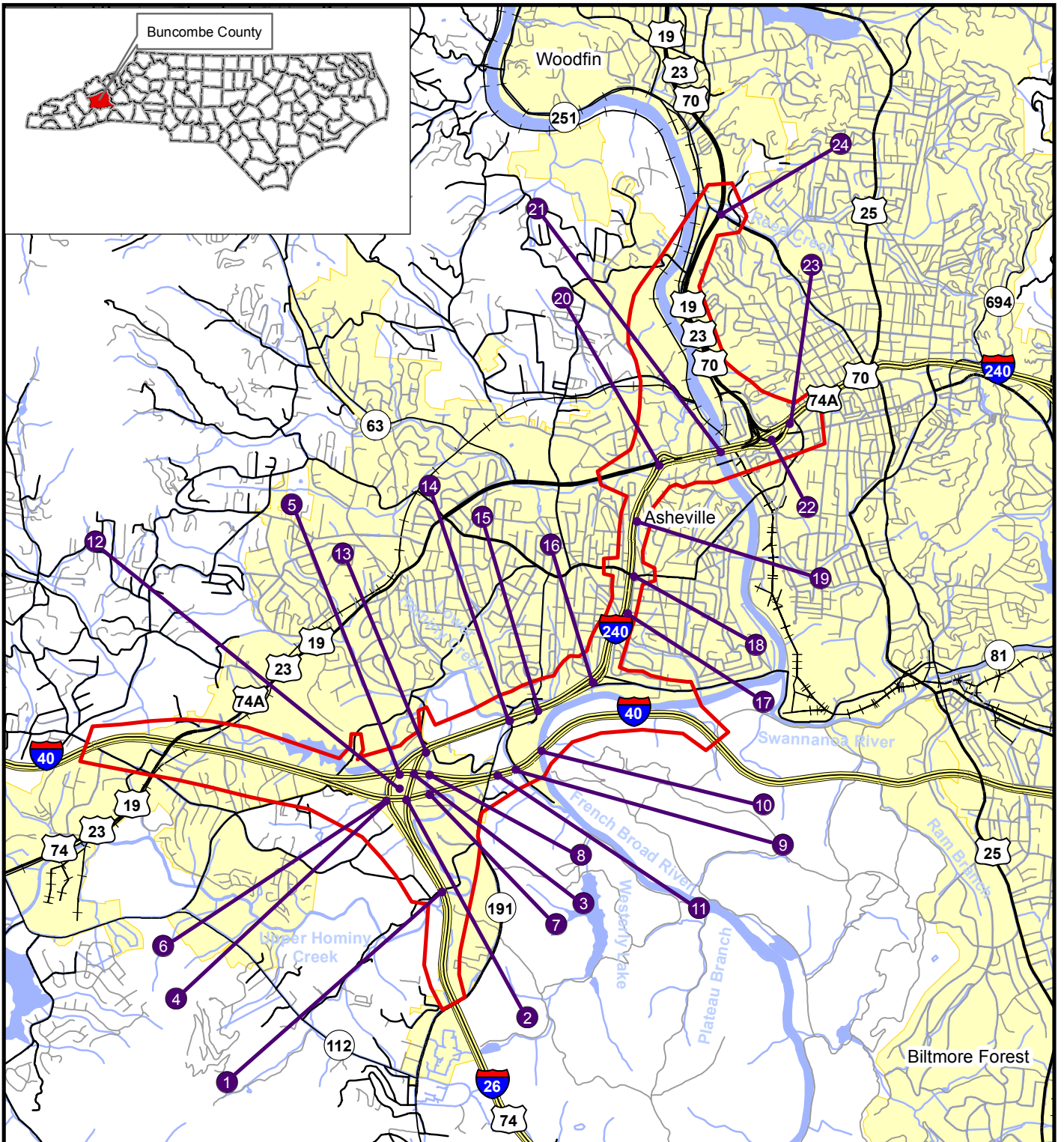
Source: *Roadway Deficiencies Assessment* (URS 2015n).

## 1.10 TRAFFIC SAFETY ANALYSIS

This section presents a summary of the traffic safety analysis for the proposed project (*Crash Analysis Report, I-26 Connector*) (NCDOT 2014b). The analysis included the same freeway segments within the project study area that were included in the traffic capacity analysis. The segments analyzed within the project study area included a total of 962 crashes, of which five resulted in a fatality and four involved pedestrians or pedacyclists, for the period from September 1, 2009, to August 31, 2012. The accident rates for each corridor were compared to the statewide average for similar roadway types to determine whether the segment exceeded the statewide average. The simple comparison of the roadway crash rate versus the statewide average crash rate identifies nearly one-half of all locations as having a potential highway safety concern. A more appropriate method is the critical crash rate method. The critical crash rate is a statistically derived number, which is greater than the average crash rate, that can be used to identify locations where crash occurrence is higher than expected for a given facility type. Safety measures could be considered for locations identified in this manner. For planning purposes the confidence level used to calculate the critical crash rate is 99.95 percent. The critical crash rate is beneficial because it accounts for exposure (Vehicle Miles Traveled [VMTs]) as well as the statewide crash rate. In essence, if a segment receives more exposure than another segment, the lower the critical crash rate can be because of the added data. If a segment has an actual crash rate higher than the critical rate, the location may have a potential highway safety deficiency and should receive additional analysis.

Table 1-7 and Figure 1-14 display each corridor analyzed and identify whether it exceeds the statewide average crash rate and the critical crash rate for a similar roadway type and configuration.

Three of the eleven segments analyzed within the project study area resulted in total crash rates exceeding both the statewide average crash rate for similar facilities and the critical crash rate. The analysis completed for the 2010 DEIS using crash data from 2006 to 2009 resulted in 6 of 12 segments analyzed exceeding both the statewide average crash rate for similar facilities and the critical crash rate. NCDOT's most recent data confirms that these same three segments still exceed the statewide average crash rate and critical crash rate.



North Carolina  
Department of Transportation



I-26 Asheville Connector  
Buncombe County

STIP Project No. I-2513

**Legend**

- Interstate
- US Highway
- NC Highway
- State Route
- Local Road
- Railroad
- Streams (non-delineated)
- Project Study Area
- Water
- Municipal Boundary
- Roadway Deficiency

Date: January 2015



0 0.5 1  
Miles

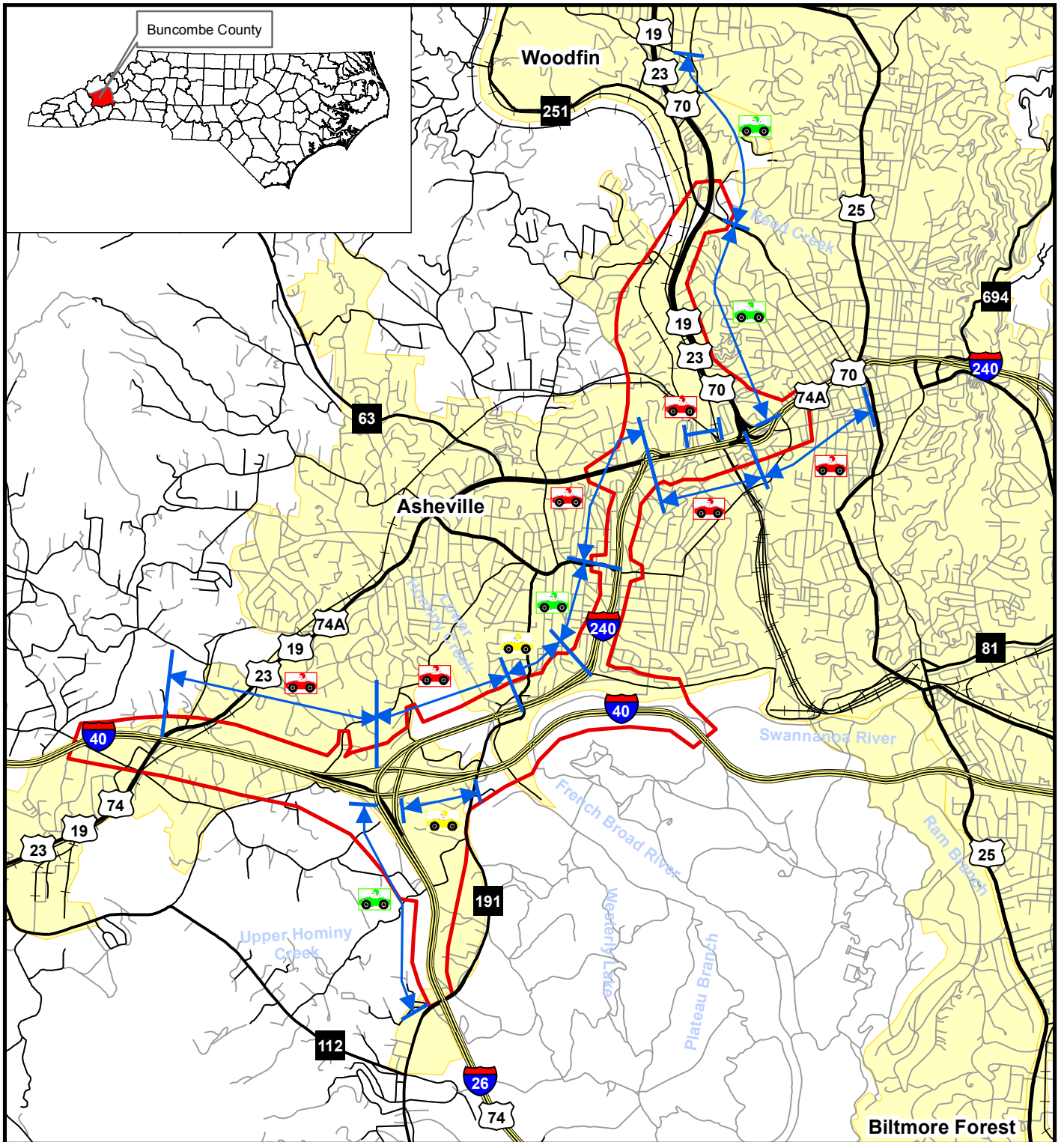
**Figure 1-13**

**Roadway Deficiencies  
Summary**

**Table 1-7: Accident Analysis – Comparison to Statewide Average and Critical Crash Rate**

Segment Number	Roadway	From/To	2009-2012 Total Crash Rate	2008-2010 Statewide Crash Rate	Critical Crash Rate	Exceeds
1	I-40	US 19-23-74A to I-26/I-240	79.34	101.82	131.65	None
2	I-40	I-26/I-240 to NC 191 (Brevard Road)	61.69	101.82	166.90	None
3	I-26	NC 191 (Brevard Road) to I-40	81.06	101.82	130.96	None
4	I-240	I-40 to NC 191 (Brevard Road)	99.08	101.82	146.08	None
5	I-240	NC 191 (Brevard Road) to SR 3556 (Amboy Road)	93.98	101.82	159.29	None
6	I-240	SR 3556 (Amboy Road) to US 19-23 Bus. (Haywood Road)	43.94	101.82	153.48	None
7	I-240	US 19-23 Bus. (Haywood Road) to US 19-23-74A/Patterson Avenue	148.09	101.82	147.07	Statewide/ Critical
8	I-240/ US 74A	US 19-23-74A/Patterson Avenue to US 19-23-70	471.92	101.82	148.39	Statewide/ Critical
9	I-240/ US 74A	US 19-23-70 to US 25 (Merrimon Avenue)	181.86	101.82	138.26	Statewide/ Critical
10	US 19-23-70	I-240 to SR 1781 (Broadway)	100.08	105.59	140.27	None
11	US 19-23-70	SR 1781 (Broadway) to SR 1684 (Elk Mountain Road)	48.89	105.59	144.08	None

Source: NCDOT 2014b.



North Carolina  
Department of Transportation



I-26 Connector  
Buncombe County

TIP Project No. I-2513

**Legend**

- Project Study Area
- Municipal Boundaries
- Interstate
- US Highway
- NC Highway
- State Route
- Local Road
- Railroad
- Streams (non-delineated)
- Water
- 🚗 Below Statewide Average Rate
- 🚗 Above Statewide Average Rate and Below Critical Rate
- 🚗 Above Critical Rate

Date: January 2015



0 0.5 1 Miles

**Figure 1-14**

**Accident Analysis  
Summary**



The first segment that exceeded both the statewide and critical rates was along I-240 from the US 19-23 Business (Haywood Road) Interchange to the US 19-23-74A (Patton Avenue) Interchange (Segment #7). The segment had a total of 83 crashes, including: 27 rear-end collisions due to a vehicle being stopped or slowed down (33 percent of total) and 19 crashes involving sideswipes (23 percent of total).

The second segment that exceeded both the statewide and critical rates was along I-240 from the US 19-23-74A (Patton Avenue) Interchange to the US 19-23-70 Interchange (Segment #8). The crash rate for this segment is over three times the calculated critical crash rate. The segment had a total of 250 crashes, including: 159 rear-end collisions due to a vehicle being stopped or slowed down (64 percent of total) and 39 crashes involving sideswipes (16 percent of total).

The third segment that exceeded both the statewide and critical rates was along I-240 from the US 19-23-70 Interchange to the US 25 (Merrimon Avenue/Broadway) Interchange (Segment #9). The segment had a total of 156 crashes, including: 111 rear-end collisions due to a vehicle being stopped or slowed down (71 percent of total) and 25 crashes involving sideswipes (16 percent of total).

The presence of multiple segments within the study area exceeding both the statewide and critical crash rates demonstrates the need to evaluate the corridor and determine whether the segments have a safety deficiency. Based on an analysis of the types of crashes for the segments that exceed the critical crash rate, the majority of the accidents are rear-end collisions due to a vehicle being stopped or slowed. This type of collision is typically associated with transitioning from freeway to non-freeway segments, congestion and merging, and diverging and weaving traffic movements.