

ADMINISTRATIVE ACTION

I-26 ASHEVILLE CONNECTOR

Buncombe County, North Carolina
Federal Aid Project No. NHF-26-1(53)
WBS Element 34165.1.2
STIP I-2513

FINAL ENVIRONMENTAL IMPACT STATEMENT

VOLUME 1 OF 2

U.S. Department of Transportation
Federal Highway Administration
and
North Carolina Department of Transportation

Submitted Pursuant to the National Environmental Policy Act 42 U.S.C. 4332(2)(c)

1/9/2020 
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1/9/2020 
Date of Approval John F. Sullivan, III, P.E.
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The documented needs for the transportation project in Buncombe County are presented in the report. The existing conditions of the study area are described and the alternatives are assessed in terms of environmental impacts, compatibility with local planning goals, relative cost-effectiveness and public opinion.

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January 2020

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For the:

North Carolina Department of Transportation

January 9, 2020	
Date	Kevin E. Moore, P.E. Project Management Unit

Project Commitments

- Endangered Species
 - The North Carolina Department of Transportation (NCDOT) is coordinating with the US Fish and Wildlife Service regarding the proposed project's potential effects on endangered species. Section 7 compliance for the gray bat (*Myotis grisescens*) and Appalachian elktoe (*Alasmodonta raveneliana*) will be sought and secured prior to signing the Record of Decision (ROD).
- Environmental Justice
 - NCDOT has developed the Burton Street Neighborhood Plan through coordination with members of the Burton Street Community Association. The plan lists mitigation strategies to be implemented by NCDOT to address and mitigate the anticipated impacts to the Burton Street neighborhood due to the proposed project. These include the following:
 - Improve existing sidewalks to meet ADA design standards
 - Improve pedestrian connections between community resources by installing a sidewalk on Downing Street per agreement of property owners
 - Improve sidewalk connections between commercial corridors, and include a pedestrian path from Buffalo Street to Patton Avenue that will connect to future greenway
 - Evaluate opportunities for new transit stops, such as near Burton Street and Haywood Road
 - Install a sidewalk along Patton Avenue to connect pedestrian path and transit stop
 - Install bus shelters and other improvements at transit stops located near Burton Street. Consider neighborhood specific designs if feasible
 - Incorporate a Burton Street history mural on proposed I-26 Connector sound wall if built
 - Improve Community Center infrastructure by including additional parking
 - Construct a new park and community gathering space at Smith Mill Creek that will include an access point to the future greenway
 - Improve the Florida Avenue and Patton Avenue intersection by adding pavement markings and left turn signals
 - Increase the tree canopy within the interstate buffer along the Burton Street neighborhood where possible
 - Although the Burton Street Neighborhood Plan indicates that the Community Baptist Church will be displaced, the project designs have since been refined to eliminate the need to relocate this property. Only a small portion of the parking lot is anticipated to be impacted, and the church will not need to be relocated.
- Historic Architectural Resources
 - Pursuant to Section 106 of the National Historic Preservation Act, the State Historic Preservation Office (SHPO) concurred with NCDOT's determination that the preferred alternative would have an "adverse effect" on a local landmark, Riverside Cemetery, within the Montford Area Historic District. NCDOT is working with the newly-formed

Asheville Aesthetics Advisory Committee (AAC) to design appropriate landscaping measures to minimize the visual effects of the elevated roadway adjacent to the cemetery. Further coordination regarding mitigation opportunities for this resource will occur during development of the Section 106 MOA.

- Pursuant to Section 106, the SHPO concurred with the determination that there would be a “no adverse effect” on the Aycock Primary School, a resource within the West Asheville/Aycock School Historic District, due to the mitigation measures associated with the environmental commitments made by NCDOT. Right-of-way would need to be acquired within the historic district’s boundaries; however, with regard to the existing stone wall, arrowhead monument, and several trees at the school, protective measures will be utilized during construction.
- Redesign of the Aycock Primary’s School’s (part of the historic West Asheville/Aycock School Historic District) traffic pattern and purchase of a vacant lot on Argyle Lane could recoup the 25 parking spaces impacted and alleviate the access issues. Construction easements would increase with this scenario but NCDOT is investigating the constructability and design details for the new parking lot in consultation with the school and HPO. In addition to recouping the 25 parking spaces, NCDOT commitments include the:
 - Preservation of screening trees along the west side of classrooms
 - Installation of fencing (six feet in height at a minimum and the school’s chosen material) between the greenway and the school yard
 - Protection of the trees and Arrowhead monument on school grounds during construction
- Pursuant to Section 106, the SHPO concurred with the determination that there would be a “no adverse effect” on the William Worley House. NCDOT has coordinated with the property owner and has committed to reimbursing the owner for the costs to install central heat/AC, storm windows, and insulation based on the lowest of 3 bids provided to NCDOT by the property owner.
- Pursuant to Section 106, the SHPO concurred with the determination that there would be a “no adverse effect” on the Freeman House. NCDOT has coordinated with the property owner and has committed to reimbursing the owner for the costs to install central heat/AC, storm windows, and insulation based on the lowest of 3 bids provided to NCDOT by the property owner. In addition, NCDOT will install landscaping along the edges of their property facing the new facility.
- NCDOT is coordinating with the property owners of the historic architectural resources and determining appropriate mitigation for the sites, which will be included in the e106 Form for Adverse Effect and incorporated in the stipulations of a Memorandum of Agreement (MOA).
- Archaeological Resources
 - Archaeological Site 31BN826 is recommended National Register of Historic Places (NRHP)-eligible under Criterion D and will be adversely affected; therefore, portions of this site within the new right-of-way will be mitigated by a data recovery plan once right-of-way is acquired.

- Site 31BN828 and 31BN825, which are recommended NRHP-eligible under Criterion D, are within proposed or existing right-of-way, and will be avoided during the construction phase of the project. If avoidance of adverse effects to 31BN828 and 31BN825 are deemed not possible at a later date, a data recovery plan should be developed and executed to compensate for impacts to the sites.
- Deep testing is required in five locations covering approximately 22 acres and five unassessed sites (31BN823, 31BN868, 31BN870, 31BN871, and 31BN873) that are within the existing right-of-way. This work will be done once right-of-way is acquired by NCDOT. If any are determined eligible for the NRHP, NCDOT will coordinate with SHPO and other consulting parties as identified on appropriate mitigation.
- All potential mitigation at these sites will be covered in the e106 Form for adverse effect and incorporated in the stipulations of the MOA. The MOA will be completed and filed with the ACHP prior to signature of the ROD.
- Placement of bents would be required for bridges being constructed over the French Broad River. NCDOT will place signage along the river warning of construction activities. NCDOT will work with Buncombe County Parks and Recreation (BCPR) to alert boaters of the construction at BCPR's boat launch locations. In addition, safe passage lanes under the bridge will be provided for the duration of construction.
- The preliminary traffic noise analysis conducted for the proposed project found 6 locations where noise barriers may be feasible and reasonable. A more detailed review will be completed during project final design to determine whether these or other noise barriers are feasible and reasonable.
- The City of Asheville has requested the inclusion of bicycle and pedestrian betterments in the project design. The construction of the betterments as part of the proposed project will be dependent upon a cost-sharing and maintenance agreement between NCDOT and the City of Asheville. NCDOT will continue to coordinate with the City of Asheville on the inclusion of bicycle and pedestrian facilities.
- The City of Asheville has established an Aesthetics Advisory Committee (AAC) to work in an advisory capacity to address aesthetic treatments that may be incorporated in the proposed project. NCDOT will coordinate with the AAC and the City of Asheville throughout the remaining planning and design of the project.
- NCDOT will coordinate with the City of Asheville regarding maintenance of traffic on the French Broad River Greenway during development of final plans for the project.
- The recommended lane changes that improve operations at the Acton Circle and Smokey Park Highway intersection will be included in final design.
- NCDOT is committed to minimizing the overall footprint of the project, and additional concepts developed in cooperation with the City of Asheville will be considered as part of the Design-Build process.
- NCDOT will manage invasive plant species on the Department's right-of-way, as appropriate.
- During construction, every feasible effort will be made to minimize the generation of waste, to recycle materials for which viable markets exist, and to use recycled products and materials in the development of the project where suitable.

- Prior to the start of project construction activities, an erosion and sedimentation control plan will be prepared in accordance with the NCDOT guidelines in *Best Management Practices for Protection of Surface Waters* (NCDOT 1997) and *NCDOT Stormwater Best Management Practices Toolbox* (NCDOT 2014d). BMPs to minimize sedimentation and erosion impacts during construction include, but are not limited to, the following:
 - Scheduling construction activities to minimize exposed area and duration of exposure
 - Clearing only minimal distances ahead of grading
 - Temporary seeding, sodding, and/or mulching of disturbed areas
 - Using gravel or straw on exposed surfaces prior to revegetation
 - Revegetating as soon as possible after construction
 - Using energy dissipators at outfalls
 - Constructing temporary sediment traps
 - Using silt fences
 - Covering stockpiled materials
 - Wetting exposed areas during windy conditions
- NCDOT will complete an Interstate Access Report after the signing of the Final Environmental Impact Statement and submit to the Federal Highway Administration (FHWA) for review and comments, prior to completion of the ROD.
- A workplan will be developed based on the final design to address any contaminated material that may be encountered at Hazardous Materials Site 45. FHWA suggests testing this site prior to right-of-way acquisition so any cleanup cost of the site due to hazardous materials may be considered at the time of right-of-way acquisition.
- Sampling of the landfill site along the French Broad River will be conducted prior to right of way acquisition. A work plan will be developed based on the final design to address any contaminated material that may be encountered during construction.

Summary

Federal Highway Administration

Administrative Action: Final Environmental Impact Statement (FEIS).

The content of this FEIS conforms to the requirements of the Council on Environmental Quality guidelines, which provide direction regarding implementation of the procedural provisions of the National Environmental Policy Act of 1969 (NEPA) and the Federal Highway Administration (FHWA) *Guidance for Preparing and Processing Environmental and Section 4(f) Documents* (USDOT/FHWA 1987) and updated Section 4(f) regulations in 23 CFR 774.

The North Carolina Department of Transportation (NCDOT) and FHWA are the lead agencies for the proposed project.

Contacts

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Overview

The Draft Environmental Impact Statement (DEIS) for NCDOT State Transportation Improvement Program (STIP) project I-2513 (I-26 Connector) was approved in October 2015. A corridor public hearing was held in November 2015 following distribution of the DEIS. The purpose of the corridor public hearing was to obtain public input on the detailed study alternatives presented in the DEIS. This FEIS is a continuation of the project development process. The DEIS provides the basis for the FEIS. The final step in the process will be the publication of a Record of Decision, and a notice of availability, in the Federal Register. This environmental process includes opportunities for all interested parties to participate in the process and contribute comments, questions, and

suggestions. The FEIS summarizes the materials contained in the DEIS and presents the information about the new and updated analyses that were completed after the DEIS was distributed.

At a NEPA/Section 404 merger team meeting held on May 18, 2016, the merger team, which is made up of environmental resource and regulatory agencies, concurred on Alternative F-1 in Section C, the I-240 Widening Alternative in Section A, and Alternative 4-B in Section B as the least environmentally damaging practicable alternative (LEDPA) for the proposed project, in accordance with the procedures detailed in the NEPA/Section 404 Merger Process.

The following summary provides a synopsis of the information presented in the body of the FEIS and is meant to convey a brief summary of general information about the project. For a more detailed description of the elements of the study, please refer to the information presented in the body of the FEIS. At the end of this summary, Table S-1 presents a quantitative summary of the project impacts.

Purpose and Need

What is the I-26 Connector project?

The I-26 Connector project is an interstate freeway project that would connect I-26 in southwestern Asheville to US 19-23-70 in northwest Asheville and have a total length of approximately 7 miles. The I-26 Connector would extend I-26 from I-40 to US 19-23-70 and would allow for the eventual designation of I-26 from Charleston, South Carolina, to Johnson City, Tennessee, once a remaining section from the north end of this project to Mars Hill, North Carolina, is completed. The I-26 Connector would upgrade and widen I-240 from I-40 to Patton Avenue and then cross the French Broad River as a new freeway to US 19-23-70 slightly south of the Broadway interchange.

Why is the I-26 Connector needed?

The project is needed to address traffic capacity problems along the existing I-240 corridor (future I-26), across the Captain Jeff Bowen Bridges to US 19-23-70. Presently numerous areas do not meet interstate design standards and cannot be designated I-26 without being improved. The project would improve traffic flow, address substandard roadway features, and provide an interstate roadway through West Asheville for the I-26 Corridor.

What is the history of the I-26 Connector?

The I-26 Connector was first studied as part of the Asheville Urban Area Corridor Preservation Pilot Project from 1989 to 1995. A preferred corridor was identified in the *Phase I Environmental Analysis – Asheville Urban Area* report (NCDOT 1995). Since 1995, the NCDOT Project Development and Environmental Analysis Branch has been working with the community and conducting detailed studies for the project.

In 2000, NCDOT held the Project Educational Forum and the Project Design Forum, which added the I-26/I-40/I-240 interchange to the project and included several new alternatives for the area

around the Captain Jeff Bowen Bridges. A DEIS was released in March 2008, and a public hearing was held on September 16, 2008. Due to several changes in the project alternatives and the technical studies for the project, the 2008 DEIS was rescinded and replaced by the 2015 DEIS. A public hearing was held for the 2015 DEIS on November 16, 2015. Since that time, NCDOT has held numerous meetings with community leaders, local interest groups, business groups, and affected businesses and neighborhoods to explain the proposed project.

How will traffic operate if the project is not built?

Traffic operations are evaluated using a “Level of Service (LOS)” rating ranging from A (best) to F (worst). Federal law (23 U.S.C. 109(b)) and regulation (23 CFR 625.4(a)) require this project to accommodate the types and volumes of traffic anticipated for such project for the 20-year period commencing on the date of approval of the plans, specifications, and estimates for construction of such project. LOS D has been determined to be an acceptable requirement for interstates in urban areas. In 2015, 11 of the 80 freeway elements were operating at an unacceptable LOS of E or F, and 3 of 14 signalized intersections were operating at an unacceptable LOS of E or F.

What are the existing safety problems along the corridor?

To evaluate safety along the corridor, the roadways were broken into 10 segments and crash data were analyzed to determine whether the crash rates exceeded the statewide average for similar facilities or whether they exceeded the critical crash rate. This allows identification of segments that have statistically significant crash rates that may denote a safety deficiency. Six of the 10 segments exceeded the statewide average and the critical crash rate. One segment exceeded the statewide average. Based on an analysis of the types of crashes for the segments that exceeded the critical crash rate, it is apparent that rear-end collisions due to vehicles being stopped or slowed down make up the majority of the accidents.

What are the roadway deficiencies along the existing corridor?

The existing route that is currently serving I-26 traffic has numerous design deficiencies that do not meet current standards. The corridor was evaluated based on 19 design criteria and 24 locations were shown to have at least one substandard element; 14 of these locations had multiple deficiencies.

The most common deficiency in the existing corridor is substandard horizontal clearance, including locations where bridge widths are inadequate. Of the 24 locations with roadway deficiencies, 12 locations are due to bridge width and horizontal clearance deficiencies; for an additional 7 locations, bridge width or horizontal clearance is a contributing factor.

Geometric deficiencies can be found at 12 locations. Geometric deficiencies occur where there are inadequate speed change lanes, substandard horizontal or vertical alignment, low vertical clearance at structures, left-hand entrances or exits, and interchanges that do not provide for all movements.

Other existing deficiencies include undesirable cross-section elements such as vertical curbs and narrow roadway shoulders in five locations, three locations with deficient stopping sight

distance, and one location with a break in the control of access. Table 1-4 in the body of the FEIS provides a complete summary of the existing deficiencies and the sites where they are located.

Alternatives

What are the different sections of the project?

The project is broken into three separate sections. The first section, Section C, was added after the Project Design Forum in 2000 and includes the area around the I-26/I-40/I-240 interchange. Section A of the project is the widening and improvements along I-240 from slightly north of the I-26/I-40/I-240 interchange to slightly south of Patton Avenue. Section B of the project is from slightly south of the Patton Avenue interchange to US 19-23-70 near the Broadway interchange and includes a new roadway and bridges across the French Broad River. Section B also includes improvements to Riverside Drive.

What alternatives were considered for the I-26 Connector?

NEPA requires that a full range of alternatives be considered for this project. Five general types of alternatives were considered and were evaluated to determine whether they could meet the stated Purpose and Need. The No-Build Alternative assumes that the study area would evolve as currently planned, but without constructing the I-26 Connector project. The Transportation Systems Management Alternatives would coordinate the individual elements of the transportation system to achieve the maximum efficiency, productivity, and utility of the existing system while minimizing cost and inconvenience to motorists. It could include improving signal timing and coordination, minor realigning of intersections, and adding turning lanes. The Travel Demand Management Alternatives would improve the efficiency of the transportation system by reducing travel demand rather than increasing the capacity of the roadway. Measures such as ridesharing, flexible work schedules, telecommuting, bicycling, and walking are often used. The Mass Transit Alternatives would provide high-capacity, energy-efficient transportation through the use of bus or passenger rail facilities. The build alternatives would include construction of transportation facilities to improve the traffic operations of the transportation system.

What alternatives were examined and eliminated from further consideration?

Following the evaluation of the preliminary alternatives, the No-Build, Transportation Systems Management, Travel Demand Management, and Mass Transit Alternatives were determined to not be reasonable because they would not meet the Purpose and Need for the project. The No-Build Alternative was carried forward under NEPA to allow for a basis of comparison of the detailed study alternatives. Therefore, the only type of alternative that would meet the Purpose and Need would be the construction of a build alternative. In order to provide the required number of lanes along this section to meet capacity demands and to meet an LOS of D or better, a detailed traffic capacity analysis was performed. The alternative evaluation considered numerous build alternatives, and several were eliminated from further consideration due to either not meeting the Purpose and Need for the project or not being feasible from an engineering standpoint.

What alternatives were selected for detailed study?

Following the evaluation of the preliminary alternatives, four build alternatives in Section C, one build alternative in Section A, and four build alternatives in Section B were selected as detailed study alternatives and analyzed in the DEIS. The following were carried forward as detailed study alternatives:

- Section C
 - Alternative A-2
 - Alternative C-2
 - Alternative D-1
 - Alternative F-1
- Section A
 - I-240 Widening Alternative
- Section B
 - Alternative 3
 - Alternative 3-C
 - Alternative 4
 - Alternative 4-B

How was the preferred alternative selected?

Following distribution of the DEIS in October 2015 and the corridor public hearing in November 2015, the NEPA/Section 404 Merger Team concurred on Alternative F-1 in Section C, I-240 Widening Alternative in Section A, and Alternative 4-B in Section C as the LEDPA. According to the Clean Water Act, the LEDPA is the least environmentally damaging practicable alternative that satisfies the purpose and need for the project. The NEPA/Section 404 Merger Team concurred on the LEDPA as the preferred alternative after considering environmental and community impacts calculated based on the proposed preliminary designs presented in the 2015 DEIS and public comments gathered on the DEIS.

What design refinements occurred as a part of the preliminary design revisions for the preferred alternative?

Following the publication of the DEIS, the FBRMPO revised its travel demand model. This revised model and associated revisions to the traffic forecast and capacity analysis allowed the design team to incorporate several refinements into the project to reduce impacts of the preferred alternative. Major design refinements of the preferred alternative include:

- Reducing the number of through lanes in Section A from eight lanes to six lanes
- Eliminating the Amboy Road Extension and reconfiguring the design between Amboy Road and Brevard Road to include a split diamond configuration and a multi-use path adjacent to the eastbound ramp
- Positioning Amboy Road under I-26 to reduce potential impacts to the Fairfax Avenue/Virginia Avenue communities and Carrier Park
- Eliminating the collector/distributor roads in Section C

- Eliminating the left-over turn lane for eastbound Patton Avenue traffic to access the Westgate Shopping Center
- Realigning the West Asheville Greenway to follow the proposed ramp in the southeast quadrant of the I-26/Patton Avenue interchange in order to eliminate various impacts
- Reconfiguring I-26/I-40/Patton Avenue interchange to a traditional diamond interchange.

How many lanes would be included for the I-26 Connector?

The design standards, set by the American Association of State Highway Officials (AASHTO), for interstate facilities require that the design must accommodate the traffic volumes for at least 20 years from the time the project begins construction. Therefore, the minimum number of lanes required to accommodate the projected traffic volumes were evaluated for each section of the project. The I-26 Connector would include six through travel lanes (three in each direction) for the section from I-40 to Patton Avenue (where it is combined with I-240) and six through travel lanes (three in each direction) from Patton Avenue to Broadway. The DEIS evaluated eight through travel lanes in Section A; however, the results of updated traffic analyses after selection of the preferred alternative resulted in the recommendation of a six-lane typical section for basic freeway lanes on I-26/I-240, from I-40 to US 19-23-70, for the preferred alternative.

How would traffic operate for the preferred alternative once the I-26 Connector is constructed?

The preferred alternative is designed to accommodate the projected 2040 traffic volumes at a LOS of D or better within the limits of construction for the proposed project.

Would there be any roadway deficiencies after the project is completed?

The refined design for the preferred alternative includes design features that are not preferred, but are acceptable for inclusion as an interstate route. In addition, the preferred alternative would not address some of the roadway deficiencies that are beyond the limits of construction and were not essential to the I-26 Connector project. The substandard elements not included within the construction of the I-26 Connector project could be addressed as part of another project in the future. Some deficiencies that previously occurred in the designs used to analyze detailed study alternatives in the DEIS have been eliminated due to design refinements of the preferred alternative. Some deficiencies remain due to various constraints or in an effort to minimize impacts.

How much would the preferred alternative cost?

The cost of the preferred alternative includes the cost to construct the roadway, purchase the right-of-way for the roadway, and relocate utilities. The total cost of the preferred alternative is as follows:

Section C – Alternative F-1	\$217,457,000
Section A – I-240 Widening Alternative	\$199,441,000

Section B – Alternative 4-B

\$564,943,000*

*Section B estimate includes Riverside Drive improvements, formerly STIP project U-5868.

Affected Environment and Environmental Consequences

Community Effects

How would the project impact community facilities and services?

The DEIS reported impacts to the French Broad River Greenway; however, design refinements to the preferred alternative have avoided impacting this resource. The preferred alternative would impact the existing Amboy Road frontage of Carrier Park for additional right-of-way and construction easements. This area is currently utilized for parking, and according to local officials, future plans for the park include the removal of this parking area.

While no schools would be displaced by the preferred alternative, it is anticipated that temporary impacts and changes in access would result for the Isaac Dickson School located on Hill Street. In addition, the existing driveway that connects to the I-240 eastbound entrance ramp at Haywood Road in Section A would be eliminated, requiring access modifications to Aycock Primary School.

The EIS Relocation Reports and the Burton Street Neighborhood Plan indicate that Community Baptist Church in the Burton Street Community would be displaced as a result of the preferred alternative in Section A; however, designs have since been refined to eliminate the need to relocate this property. Only a small portion of the parking lot is anticipated to be impacted, and the church will not need to be relocated.

The First Church of God at 20 Hanover Street south of Haywood Road may be affected, but not relocated by the project. Widening existing I-240 and modifying the exit ramp to Haywood Road may change the existing access to the First Church of God due to the closure of Hanover Street at Haywood Road.

How would the project affect neighborhoods and community cohesion?

Several communities located within the study area show signs of cohesion and several communities have strong neighborhood bonds. Overall, the proposed project is not anticipated to result in substantial negative effects to the cohesiveness of the overall study area. In Section C, the preferred alternative no longer directly impacts the Clairmont Crest and Willow Lake Mobile Home Park communities. Noise impacts reported in the DEIS would likely be reduced due to the shift in the preliminary designs to the south. In Section A, the proposed project is anticipated to displace some housing units in the Kentucky/Hanover/Pisgah View Area community, Burton Street community, and Fairfax Avenue/Virginia Avenue community. However, the overall effect of the preferred alternative on the Fairfax Avenue/Virginia Avenue community is anticipated to provide better local connectivity to and circulation within the community, including a direct vehicular and pedestrian connection to Carrier Park.

In Section B, the proposed project is anticipated to displace some housing units in the Westwood Place community and Burton Street community. The Hillcrest Apartment community would receive benefits from the project by enhancing access and mobility to the network.

How would the project affect concentrations of low income or minority populations?

The effects on low-income and minority populations were evaluated based on the effects to neighborhoods and communities, combined with the identification of communities that had high concentrations of low-income or minority populations. After evaluation in the DEIS, it was recommended that additional public outreach occur for the Burton Street neighborhood to determine ways to mitigate the impacts of the proposed project. NCDOT, in coordination with the Burton Street Community Association and the City of Asheville Planning and Neighborhood Services Department, received input from residents and stakeholders within the community as to what additional transportation improvements might be made in the area to offset or lessen the burden of the overall project impacts. A community-driven Burton Street Neighborhood Plan has been developed and includes a list of strategies that will be implemented by NCDOT to mitigate impacts from the proposed project.

Would the project be consistent with local and regional plans?

There are over 20 local and regional plans that include recommendations for areas within the project study area. Based on an evaluation of these plans, the preferred alternative is generally consistent with the plans.

The purpose of the project does not require that the preferred alternative meet the recommendations of the local plans.

How would the project affect bicycle and pedestrian transportation?

In general, the I-26 Connector project would improve both bicycle and pedestrian mobility within the study area through the inclusion of bicycle lanes and sidewalks on many of the cross street roadways affected by the project. The project is generally consistent with the local pedestrian, bicycle, and greenway plans. NCDOT policies prescribe that certain pedestrian improvements require partial funding by and formal requests from the local governments. After selection of the preferred alternative, the City of Asheville identified potential bicycle and pedestrian accommodations (referred to as betterments) throughout the project study area. The preferred alternative preliminary designs include some of these betterments and/or do not preclude the facilities from being constructed during the construction of the proposed project or in the future. NCDOT is currently coordinating cost-sharing with the City of Asheville for the bicycle and pedestrian facilities.

Would the project require relocating any houses, businesses, or cemeteries?

The project would require the relocation of houses and businesses to construct the improvements being made for the preferred alternative. The project would not affect any cemeteries within the study area. Relocations estimated in each section of the preferred alternative are as follows:

Section	Residential	Business	Non-Profit
Section C	14	2	0
Section A	71	14	1
Section B	29	19	1

How would the existing business community be affected?

Because the project is not diverting traffic away from the existing highway corridor, it is not likely that there would be any negative long-term effects on retail sales as a result of the proposed project. Less than half of the business relocations would be considered retail establishments and would result in a loss of retail sales if they were unable to be relocated. It is likely that some negative effects on retail sales may occur during the construction of the proposed project; however, it is not likely that the project would result in substantial effect on the retail sales in the area of the proposed project. In addition, the proposed project does not substantially alter the existing access to and from the freeway and is not likely to lead to any large commercial developments outside of the central business district; therefore, it is not likely to have a substantial adverse effect on established business districts.

Cultural Resource Effects***Would historic resources be affected?***

The study area includes 16 historic resources that are either on the National Register of Historic Places or eligible for inclusion on the register. Based on consultation with the State Historic Preservation Office, the historic resources are evaluated in accordance with Section 106 of the National Historic Preservation Act and the effects on the property are determined based on the magnitude of the effect on the property. Three classifications are included in the evaluation: “no effect,” “no adverse effect,” and “adverse effect.” The preferred alternative would have “no effect” for six of the historic resources. Nine additional properties were determined to have “no adverse effect” and one property was determined to have an “adverse effect” from the project.

Would archaeological resources be affected?

The study area includes four archaeological sites that have been determined to be eligible for the National Register of Historic Places and an additional five sites within the proposed right-of-way that would require additional evaluation to determine whether they are eligible. Further documentation of the mitigation for archaeological resources will occur during development on the Section 106 Memorandum of Agreement.

Natural Resource Effects***How would biotic resources be affected?***

Biotic resources are the terrestrial and aquatic communities and wildlife within the study area. Three terrestrial communities were identified within the study area for the proposed project: Mesic Mixed Forests, Alluvial Hardwood Forests, and Maintained/Disturbed. Fragmentation and

loss of wildlife habitat would be an unavoidable consequence of the preferred alternative. However, the proposed project is not expected to result in adverse impacts to wildlife due to the existing urbanized nature of the project study area. Impacts to water resources in the project study area may result from construction activities. Temporary construction impacts due to erosion and sedimentation would be minimized through implementation of a stringent erosion control schedule and the use of best management plans. Long-term impacts to streams along the preferred alternative would be limited to stream reaches within the road facility footprint only. Impacts to stream reaches adjacent to the facility footprint would be temporary and localized during construction. Long-term impacts to adjacent reaches resulting from construction are expected to be negligible.

How would water quality be affected?

The project is not expected to have a significant effect on drainage patterns or groundwater, but would increase the amount of impervious surface due to the expanded roadway. The effects on surface water would likely be proportional to the increase in impervious surface and dependent on how feasible it would be to provide mitigation to improve the water quality. Given the minimal indirect effects of the project, any contribution of the project to cumulative effects resulting from current and planned development patterns should be minimal. For these reasons, potential indirect and cumulative effects to downstream water quality should be minimal.

What impacts would occur to waters under the jurisdiction of the United States Army Corps of Engineers?

The U.S. Army Corps of Engineers has jurisdiction over wetlands and streams within the study area, and any impacts to these resources will be mitigated. Impacts to streams and wetlands were calculated within the slopes stakes of the current preliminary design plus 25 feet. The reduction in impacts from the designs used in the DEIS to the current designs of the preferred alternative resulted in an overall reduction of 724 linear feet of stream impacts and reduction of 0.63 acre of wetlands.

Would habitat used by threatened and endangered species be affected?

Buncombe County has 15 species that are protected under the provisions of Section 7 of the Endangered Species Act. Of the 15 species listed for Buncombe County, only eight of the species have habitat present within the study area. It was determined that the biological conclusion for the Appalachian elktoe and gray bat would be “may affect, likely to adversely affect.” The biological conclusion for ten threatened or endangered species was that the project would have “no effect.” Surveys were conducted to investigate the presence of roosting and foraging habitat for gray bat. All bridges/overpasses and culverts that met minimum size requirements (5 feet by 200 feet) within the project study area were checked for evidence of bat use. This included checks of bridges that span the French Broad River including the I-40 dual bridges, and bridges on Amboy Road, Haywood Road, and Pearson Bridge Road, among others. Two culverts showed evidence of bat use. Section 7 compliance for the gray bat (*Myotis grisescens*) will be sought and secured prior to signing the Record of Decision (ROD).

The Freshwater Mussel Survey Report completed by NCDOT in January 2018 evaluated the presence of freshwater mussels within the project study area and noted the Appalachian elktoe was not found at any sites within the project study area. The study did indicate, however, that Appalachian elktoe are present in the mainstream French Broad River upstream of surveyed sites, approximately 1.5 river miles from the project study area boundary. Therefore, NCDOT is assuming presence and Section 7 compliance for the Appalachian elktoe (*Alasmidonta raveneliana*) will be sought and secured prior to signing the ROD.

Physical Characteristic Effects

How would traffic noise levels change?

For Design Year 2040 traffic volumes, the Build condition resulted in 112 predicted traffic noise impacts within Section A, 134 predicted traffic noise impacts within Section B and 171 predicted traffic noise impacts within Section C.

Furthermore, temporary construction noise impacts – some of them potentially substantial – may occur due to the close proximity of numerous noise-sensitive receptors to project construction activities. It is the recommendation of this traffic noise analysis that all reasonable efforts should be made to minimize exposure of noise-sensitive areas to construction noise impacts.

Would the project include noise walls?

A traffic noise evaluation was performed that identified 8 noise barriers that preliminarily meet feasibility and reasonableness criteria found in the NCDOT Traffic Noise Policy. A more detailed analysis will be completed during project final design. Noise barriers preliminarily found to be feasible and reasonable during the preliminary noise analysis may not be found to be feasible and reasonable during the final design noise analysis due to changes in proposed project alignment and other design considerations, surrounding land use development, or utility conflicts, among other factors. Conversely, noise barriers that preliminarily were not considered feasible and reasonable may meet the established criteria and be recommended for construction.

How would the project affect air quality?

The proposed project is located in Buncombe County, which complies with the NAAQS. The proposed project is located within an attainment area; therefore, 40 CFR Parts 51 and 93 are not applicable. Therefore, the project is not anticipated to create any adverse effects on the air quality of this attainment area. This evaluation completes the assessment requirements for air quality of the 1990 Clean Air Act Amendments and the NEPA process.

How would the visual quality be changed?

Visual impacts of Section B would generally be enhanced or improved for those using the facility and degraded for those viewing the freeway from off the road. The preferred alternative would include two additional flyover bridges across the French Broad River; one approximately 285 feet

south and one approximately 550 feet to the north of the I-26 crossing. The three new bridges across the French Broad River would introduce new prominent features that would be out of context with the existing viewshed. Conversely, opportunities for views and new vistas of Asheville, the French Broad River, and surrounding mountains and hills would exist for motorists using the new roadway. The proposed design that would reconfigure the I-240 interchange with US 19-23-70/Patton Avenue would generally be consistent with the existing visual environment.

How would the project affect hazardous material sites?

Based on preliminary evaluations of hazardous materials within the study area, it was determined that the severity of impact as a result of crossing any of the sites would be low, with the exception of the landfill along the east bank of the French Broad River. Impacts to the former landfill would be classified as high.

How would the project affect floodplains?

Due to the linear nature of the project and the existing roadway configurations, the preferred alternative would not completely avoid impacts to floodplains. Impacts to floodplains will be minimized to the greatest extent possible.

Indirect and Cumulative Effects

What indirect and cumulative effects could be expected within the study area as a result of the project?

The proposed project is not anticipated to result in substantial indirect or cumulative effects. Indirect effects are effects that occur later in time as a result of the project, including changes in land use, population density, or growth rate. In general, the project is located within a developed area and would not be providing additional access to areas that are currently not developed. The project does have the potential to somewhat accelerate planned infill, redevelopment, and development in the vicinity of the project; however, it is not expected to result in a noticeable impact to natural resources or downstream water quality. Cumulative effects are effects on the environment that occur from the incremental effect of the project combined with past, present, and reasonably foreseeable future projects. Overall, the proposed project, while affecting some neighborhoods through relocations, improving traffic flow in the general vicinity, and combining with other development activity in the area, imparts low to moderate cumulative effects in the Asheville area.

Required Permits and Actions

What permits would be required for the I-26 Connector project?

The project is anticipated to require the following permits:

- North Carolina Division of Water Quality: Section 401 Certification and Stormwater Certification
- North Carolina Division of Forest Resources: Burning Permit

- United States Army Corps of Engineers: Section 404 Permit and Section 10 Permit
- United States Fish and Wildlife Service: Section 404 and Section 10 Permit Review and Section 7 Consultation: Appalachian Elktoe and Gray Bat.

What are the unresolved issues for the I-26 Connector project?

Issues that will need to be resolved as the project development process continues include additional coordination, investigation, and documentation relating to historic resources; additional hazardous material investigations; coordination on threatened and endangered species effects and mitigation; coordination with permitting and regulatory agencies; and municipal agreements with the City of Asheville for bicycle, pedestrian, and aesthetic betterments to be incorporated as part of the project.

Section 4(f)

Would resources that are protected by Section 4(f) of the Department of Transportation Act of 1966 be used?

Section 4(f) provides protection to historic properties, public parks, and recreation areas. The preferred alternative would result in a “use” of four historic properties and one park/recreation area. Use of a Section 4(f) property occurs when land is permanently incorporated into a transportation facility; or when there is a temporary occupancy of land that is adverse in terms of the statute's preservation purpose; or when there is a constructive use (a project's proximity impacts are so severe that the protected activities, features, or attributes of a property are substantially impaired). The following resources would include use of a Section 4(f) property: Asheville School (Section C), West Asheville/Aycock School Historic District (Section A), the William Worley House (Section B), Carrier Park (Section A), and one archaeological site.

Would any of the impacts to resources protected by Section 4(f) be de minimis impacts?

De minimis impacts are impacts that would not result in an “adverse effect” on the protected resource. For historic properties, *de minimis* impacts are defined as a determination of “no adverse effect” or “no historic properties affected” in compliance with Section 106 of the National Historic Preservation Act. For parks and recreational facilities, *de minimis* is defined as impacts that do not “adversely affect the activities, features, and attributes” of the protected resource. For the proposed project, the following protected properties would be considered *de minimis* impacts: the Asheville School, the West Asheville/Aycock School District, the William Worley House, Haywood Street United Methodist Church, Carrier Park (Section A), and archaeological site 31BN623.

Public and Agency Involvement

What are the opportunities for public involvement in the I-26 Connector project?

There have been numerous opportunities for public involvement over the past decade that have provided important insight into the study area and the potential alternatives for the project. A public hearing was held on November 15, 2016, at the Renaissance Hotel to solicit input from the

public and to answer any questions about the project. Since the public hearing, NCDOT has coordinated with several local officials and communities to discuss the proposed impacts of the preferred alternative and potential design revisions. Another public hearing will be held following the publication of the FEIS, and the public is strongly encouraged to attend, ask questions, and provide comments on the preferred alternative presented for the project.

How do I provide comments on the I-26 Connector project?

Comments can be provided as either written or verbal comments. Verbal comments will be taken at the public hearing and through the project hotline. Written comments can be made in one of three ways: by e-mail to dweaver@ncdot.gov, through the web site at <https://www.ncdot.gov/projects/asheville-i-26-connector>, or via mail to:

Derrick Weaver, PE
Environmental Policy Unit Head-North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, NC 27699-1598

What comments and concerns have been expressed by the public during previous public involvement efforts?

NCDOT received approximately 1,483 comment sheets, e-mails, letters, form letters, hotline calls, verbal comments, and/or Engage NCDOT posts regarding the project.

The major comments and concerns expressed by the public include the following:

- Minimization of the project footprint
- Concerns about the impacts to residences and businesses and how it would affect the local economy and tax base
- Comments requesting a greater emphasis on multi-modal amenities such as bicycle, pedestrian, and transit solutions

What comments and concerns have been expressed by the environmental resource and regulatory agencies?

There has been coordination with environmental resource and regulatory agencies throughout the duration of the project development process. Currently, no major comments have been raised by the agencies.

What are the controversial issues for the I-26 Connector?

The two main issues of controversy for the project were the need for eight lanes for Section A of the project to accommodate the projected future traffic volumes and the local desire to have the separation of local and interstate traffic included as part of the Purpose and Need. With the selection of the preferred alternative and design revisions as a part of updated traffic analyses, these controversial issues have been resolved.

Next Steps

When will construction on the I-26 Connector begin?

Construction for the project is to begin in 2021.

Quantitative Summary of Project Impacts

A summary of the impacts for the preferred alternative compared to the impacts of the preferred alternative as presented in the DEIS are summarized in Table S-1.

Table S-1: Summary of Project Impacts by Section

Resource	Section C (I-26/I-40/I-240 Interchange)		Section A		Section B (New Location across French Broad)	
	Alternative F-1		I-240 Widening		Alternative 4-B	
	Draft EIS	Final EIS	Draft EIS	Final EIS	Draft EIS	Final EIS
Project Features						
Length (miles)						
I-26	2.2	2.2	2.0	2.0	2.5	2.5
I-40/I-240	2.8	2.8	0.0	0.0	1.5	1.5
Total Length	5.0	5.0	2.0	2.0	4.0	4.0
Interchanges	3	3	3	3	3	3
Railroad Crossings	2	2	0	0	5	5
Navigable Waterway Crossings	1	1	0	0	4	4
Construction Cost	\$203,300,000	\$200,570,000	\$105,700,000	\$152,903,000	\$291,300,000	\$448,193,000
Right-of-Way Cost	\$17,100,000	\$12,423,000	\$29,400,000	\$44,502,000	\$36,800,000	\$95,374,000
Utilities Cost	\$2,100,000	\$4,464,000	\$3,400,000	\$2,036,000	\$3,900,000	\$13,576,000
Total Cost	\$222,500,000	\$217,457,000	\$138,500,000	\$199,441,000	\$332,000,000	\$564,943,000
Socioeconomic Features						
Relocations						
Residential	31	14	81	71	33	29
Business	5	2	17	14	34	19
Nonprofit	0	0	1	1	1	1
Total	36	16	99	86	68	50
Schools Relocated	0	0	1	0	0	0
Churches Relocated	1	0	1	0	1	0
Parks and Recreational Areas Impacted	1	0	2	1	0	0
Cemeteries Impacted	0	0	0	0	0	0
Physical Environment						
Noise Impacts (No-Build)	193	140	181	131	243	123
Noise Impacts (before abatement)	304	171	198	112	224	134
Noise Impacts (after abatement)	274	72	94	17	89	99

Resource	Section C (I-26/I-40/I-240 Interchange)		Section A		Section B (New Location across French Broad)	
	Alternative F-1		I-240 Widening		Alternative 4-B	
	Draft EIS	Final EIS	Draft EIS	Final EIS	Draft EIS	Final EIS
Hazardous Material Sites (moderate or high) Impacted	1	0	0	0	1	1
Floodplain Impacts (acres)	16.63	14.23	8.36	6.75	3.91	2.57
Floodway Impacts (acres)	2.00	1.72	1.94	1.02	0.38	0.36
Land Use Impacts by Zoning Category (acres)						
Residential Single-Family Districts	12.5	5.4	8.4	3.5	7.5	3.9
Residential Multifamily Districts	16.0	5.4	26.5	16.8	17.0	8.9
Neighborhood Business District	0	0.0	0	0.1	0.1	0.1
Community Business Districts	0.0	0.0	4.9	0.0	0.0	0.0
Industrial	0	0.0	0	0.0	0.4	0.4
Institutional District	34.5	9.5	13.6	4.1	0.4	0.1
Office	0.0	0.0	0.0	0.0	0.0	0.0
Highway Business District	7.8	0.1	1.9	2.0	14.3	2.0
Regional Business District	27.1	0.3	0.0	0.0	10.5	6.9
Central Business District	0.0	0.0	0.4	0.0	0.3	0.1
Commercial	24.8	4.9	2.7	1.8	0.0	0.0
Resort District	0.0	0.0	0.0	0.0	19.6	16.9
River District	0.0	0.0	6.3	3.2	22.3	15.3
Haywood Road	--	0.0	--	4.8	--	0.0
Total	122.6	25.7	64.7	36.1	92.5	54.5
Cultural Resources						
Historic Properties – Section 106 Effects	0	0	1 Adverse Effect	0	1 Adverse Effect	1 Adverse Effect
Historic Properties Impacted	1	1	2	1	2	1
Archeological Sites Impacted	6	4	2	2	0	0
Natural Environment						
Biotic Resources (acres)						
Maintained/disturbed	171.93	157.1	91.08	81.3	124.82	121.8
Mesic Mixed Forest	111.26	105.4	47.41	42.7	40.67	32.7
Alluvial Hardwood Forest	6.55	3.7	1.50	1.4	3.88	3.8
Open Water	0.17	0.20	0	0	0.00	0
Total	289.90	266.40	139.99	125.40	169.37	158.30

Resource	Section C (I-26/I-40/I-240 Interchange)		Section A		Section B (New Location across French Broad)	
	Alternative F-1		I-240 Widening		Alternative 4-B	
	Draft EIS	Final EIS	Draft EIS	Final EIS	Draft EIS	Final EIS
Increase in Impervious Area (acres)	134.6	98.2	63.8	61.9	99.7	101.6
Stream Crossing Impacts (#)	12	12	4	5	7	7
Stream Impacts (linear feet)	1,984	1,376	798	640	2,128	2,171
Wetland Impacts (#)	12	6	1	1	2	1
Wetland Impacts (acres)	1.86	1.27	0.01	0.01	0.10	0.04
Pond Impacts(#)	0	0	0	0	0	0
Pond Impacts(acres)	0	0	0	0	0	0
Protected Species Adversely Affected	Unresolved	2	Unresolved	2	Unresolved	2

^a Stream, wetland, and pond impacts calculated using design slope stakes plus 25-foot buffer. All other impacts calculated using right-of-way.

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Appendix I: 2015 DEIS Reevaluation

In accordance with the National Environmental Policy Act (NEPA), the North Carolina Department of Transportation (NCDOT) published a Draft Environmental Impact Statement (DEIS) for the I-26 Connector project in October 2015. The DEIS described the purpose of and need for the project, identified project alternatives, and evaluated them for potential environmental effects. Since the DEIS was published, a preferred alternative has been chosen based on feedback from the public and environmental regulatory and resource agencies. This Final Environmental Impact Statement (FEIS) is presented in the same order as the DEIS, with clarification and updates such as changes in the existing environment, updated impacts anticipated from the preferred alternative, and responses to comments received on the DEIS. Some information from the DEIS is summarized, and substantive new information is noted in italics.

CHAPTER 1. PURPOSE OF AND NEED FOR THE PROJECT

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 to upgrade the corridor to accommodate future traffic volumes. 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) *2040 Metropolitan Transportation Plan* (FBRMPO 2015). The proposed action is also included in NCDOT's 2018-2027 State Transportation Improvement Program (STIP) (NCDOT 2017) 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 2015f).

As part of the NEPA study conducted for the I-26 Connector project, the reports listed in Chapter 9 were prepared, which are available for review at the NCDOT office in Raleigh, North Carolina, and are incorporated into this FEIS 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-0010 (US 19-23-70 improvements from Asheville to the Tennessee state line) is completed, it will 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 increase traffic demands along I-240 west of Asheville. The increase in traffic volumes further contributes to the congestion and delays along I-240.
- **Roadway Deficiencies:** Interstates within the project 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.

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 (2040 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

- 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

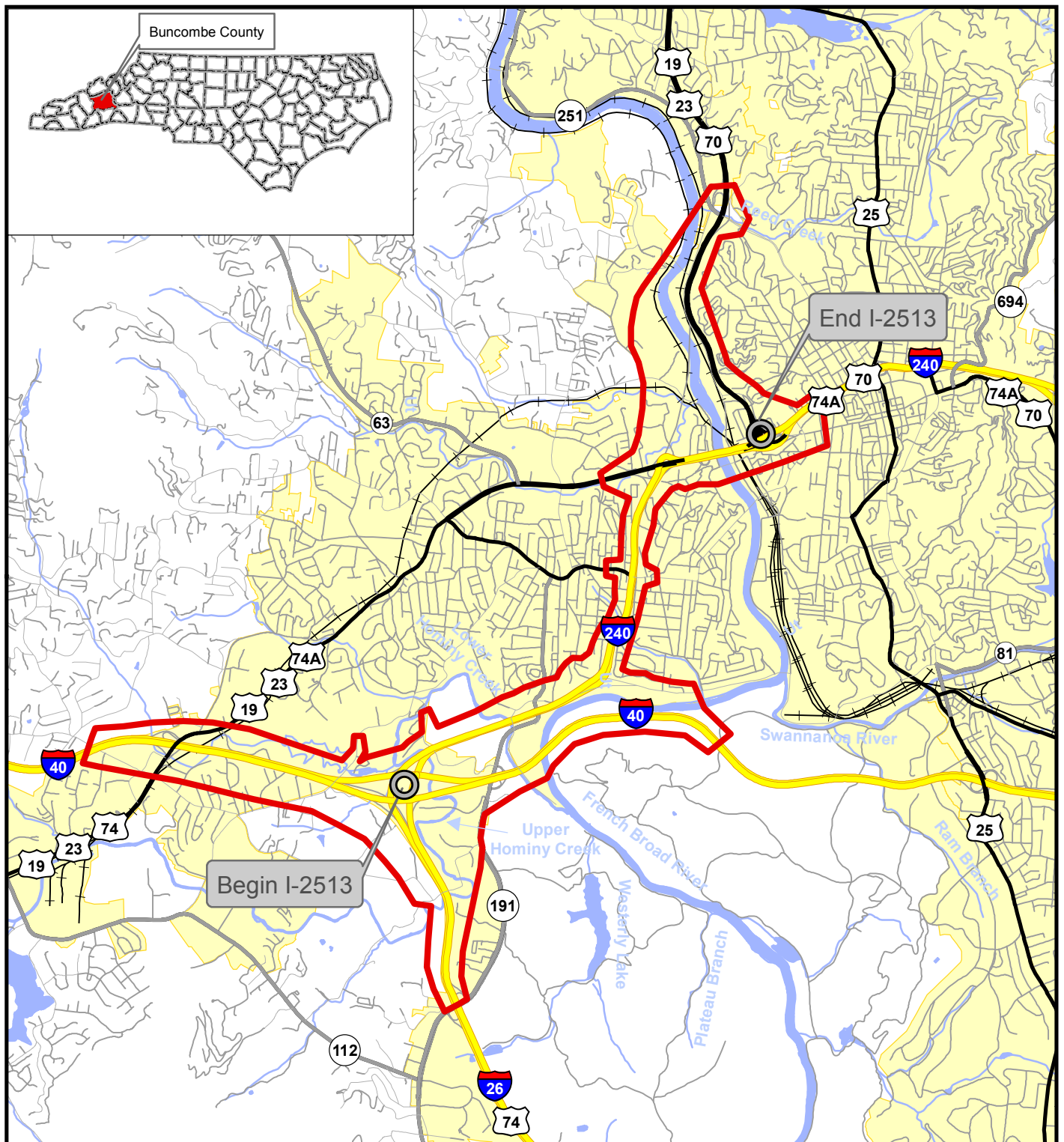
The City of Asheville is located in Buncombe County entirely within the mountainous region of North Carolina. The project study area is shown on Figure 1-2. Asheville and the surrounding area are part of the region known as Appalachia, which surrounds the Appalachian Mountains and stretches from southern 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 project 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.

1.4.2 PROJECT HISTORY

As noted in the DEIS, the I-26 Connector was first funded in 1989 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), to study the I-26 Connector in Asheville and to recommend a preferred corridor alignment for the facility. In 1995, NCDOT published the *Phase I Environmental Analysis—Asheville Urban Area* (Phase I Study) for the I-26 Connector (NCDOT 1995), which included data collected from consultations with federal and state environmental agencies, environmental and design studies, and public involvement, and included a preferred corridor for the I-26 Asheville Connector.

In 1995, the states of North Carolina and Tennessee executed agreements with FHWA pursuant to title 23 United States Code [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 that time, NCDOT has held numerous meetings with community leaders, local interest groups, business groups, and affected businesses and neighborhoods to explain the proposed project.



North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

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

Date: May 2018



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Figure 1-2

Project Study Area

To bring the greater community to a consensus, a Community Coordinating Committee (CCC) was formed in 1999. With the help of NCDOT and the City of Asheville, the CCC conducted a series of public meetings in 2000 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 desired design-related goals for consideration as the project developed. The City of Asheville included these recommendations in the *Asheville City Development Plan 2025* (City of Asheville 2002a).

NCDOT continued to develop 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, culminating in the preparation of a DEIS in March 2008 and public hearings in September 2008. Following the public hearings, 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 the project, a conceptual alignment developed by the Asheville Design Center (ADC). In conjunction with this change, one of the existing alternatives (Section B Alternative 2) was eliminated from the alternatives being considered. Due to the addition of Section B 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.

Due to a new project funding priority rating system implemented by NCDOT in 2010, the DEIS was put on hold. Project development studies for the I-26 Connector were re-initiated in spring 2012, and project alternatives in Section B (the new location portion north of Patton Avenue, across the French Broad River) were modified to avoid impacts to the Emma Road community and to identify multi-modal connectivity between west Asheville and Asheville. A new alternative, Section B Alternative 3-C, was developed to further reduce impacts to the natural and human environments. Alternative 3-C is similar to Section B Alternative 3, but with a smaller footprint connecting to US 19-23 farther south of the Alternative 3 connection. Additional improvements to all alternatives were completed to better accommodate future traffic demands while trying to further avoid or minimize impacts to the communities.

A public meeting was held in May 2014 to present Alternative 3-C and updated information regarding the alternatives and design plans. In 2015 the NEPA/Section 404 Merger Team (Merger Team) officially added Alternative 3-C as a detailed study alternative to be discussed in the DEIS. The Merger Team is made up of environmental and regulatory resource agencies to provide a forum to reach consensus on ways to facilitate meeting the regulatory requirements of Section 404 of the Clean Water Act (CWA) during the NEPA decision-making phase of transportation projects.

Based on the updated designs of the detailed study alternatives, environmental and engineering studies were revised to evaluate the direct, indirect, and cumulative effects of each alternative.

These studies were then used to prepare the 2015 DEIS, which was signed in October 2015. The public hearing for the 2015 DEIS was held on November 16, 2015. Approximately 500 citizens attended and 1,454 comments were received throughout the comment period.

In March 2016, NCDOT and the City of Asheville established the I-26 Connector Working Group, which initiated a series of meetings between members of the City of Asheville City Council, the Asheville Design Center, Buncombe County, FHWA, FBRMPO, NCDOT, and other stakeholders. The purpose of these working group meetings was to discuss methodologies for various technical aspects of the project, discuss FHWA and NCDOT policies that factor into designs of the various project alternatives, receive feedback from local officials and public citizens on various aspects of the project, discuss bicycle and pedestrian accommodations, among other topics. The I-26 Connector Working Group will continue to coordinate with NCDOT throughout development of the project and into final design.

The Merger Team met on May 18, 2016, to choose a preferred alternative. Section C – Alternative F-1, Section A – Widening Alternative, and Section B – Alternative 4-B, were chosen as the least environmentally damaging practicable alternative (LEDPA).

Since the approval of the DEIS and the selection of the LEDPA, preliminary designs have been refined based on updated traffic studies and public and resource agency comments on the 2015 DEIS. Additionally, NCDOT has been participating in periodic meetings with the City of Asheville, local organizations, adjacent neighborhoods, and historic property owners in order to better understand concerns and to obtain input on how the project could be refined to better fit within the context of Asheville while meeting local and regional needs. In 2017, the project team began preparing technical studies to determine the human and natural environmental impacts of the preferred alternatives for inclusion in the FEIS.

1.5 SYSTEM LINKAGE

Currently, I-26 connects the Port of Charleston, South Carolina, to I-40 near Asheville, North Carolina. 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 a partial interchange, does not provide the necessary connections between roadways that serve all intended directions of travel.

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:

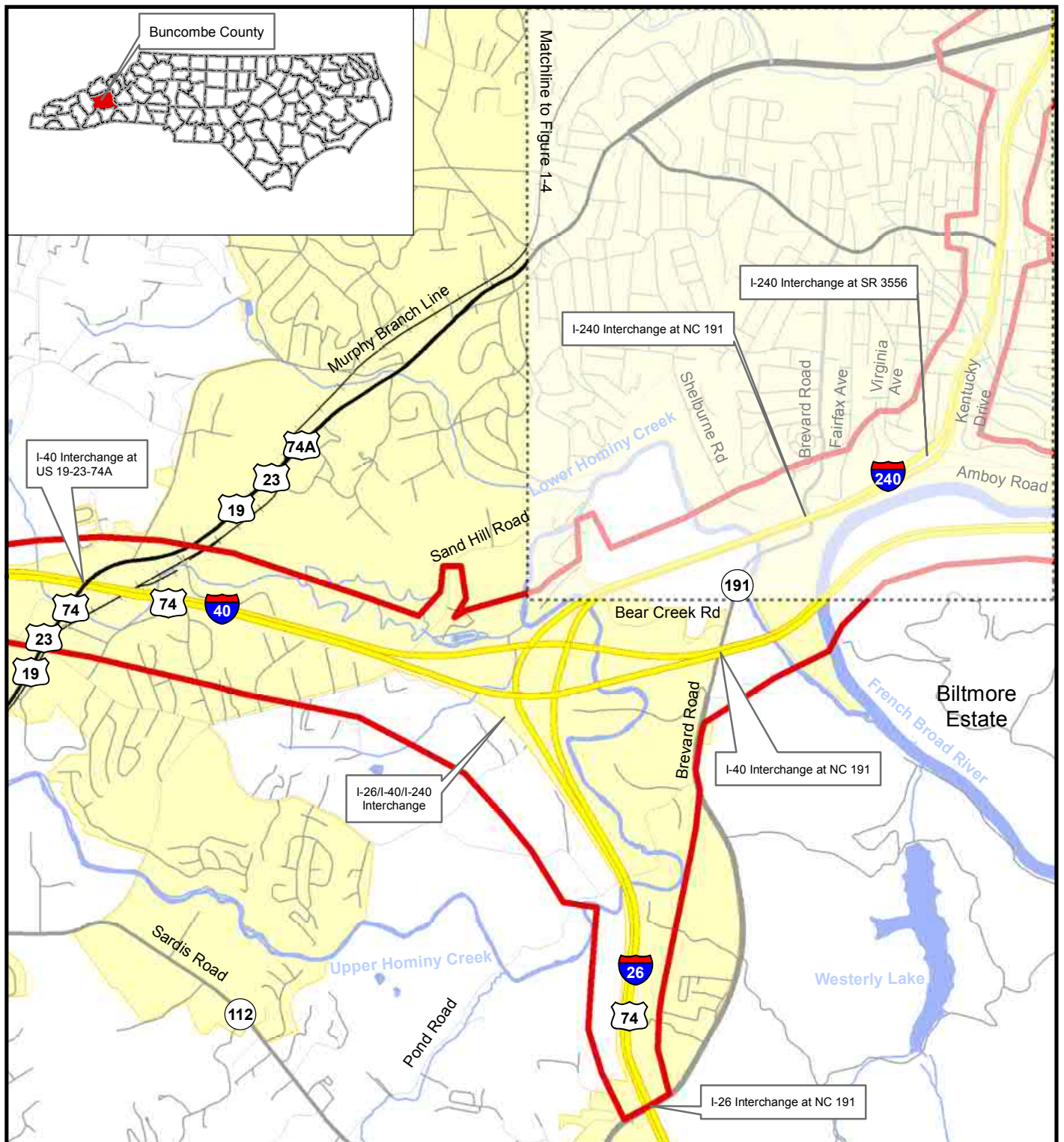
- Directional interchange with partial movements at I-26/I-40
- NC 191 (Brevard Road)
- Directional interchange with partial movements at SR 3556 (Amboy Road)
- US 19-23 Business/SR 3548 (Haywood Road)
- US 19-23-74A/Patton Avenue
- Directional interchange with partial movements at US 19-23-70/Patton 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 Railway (NS) lines and one Blue Ridge Southern Railway line. The NS S-line, including switching facilities, runs 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

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

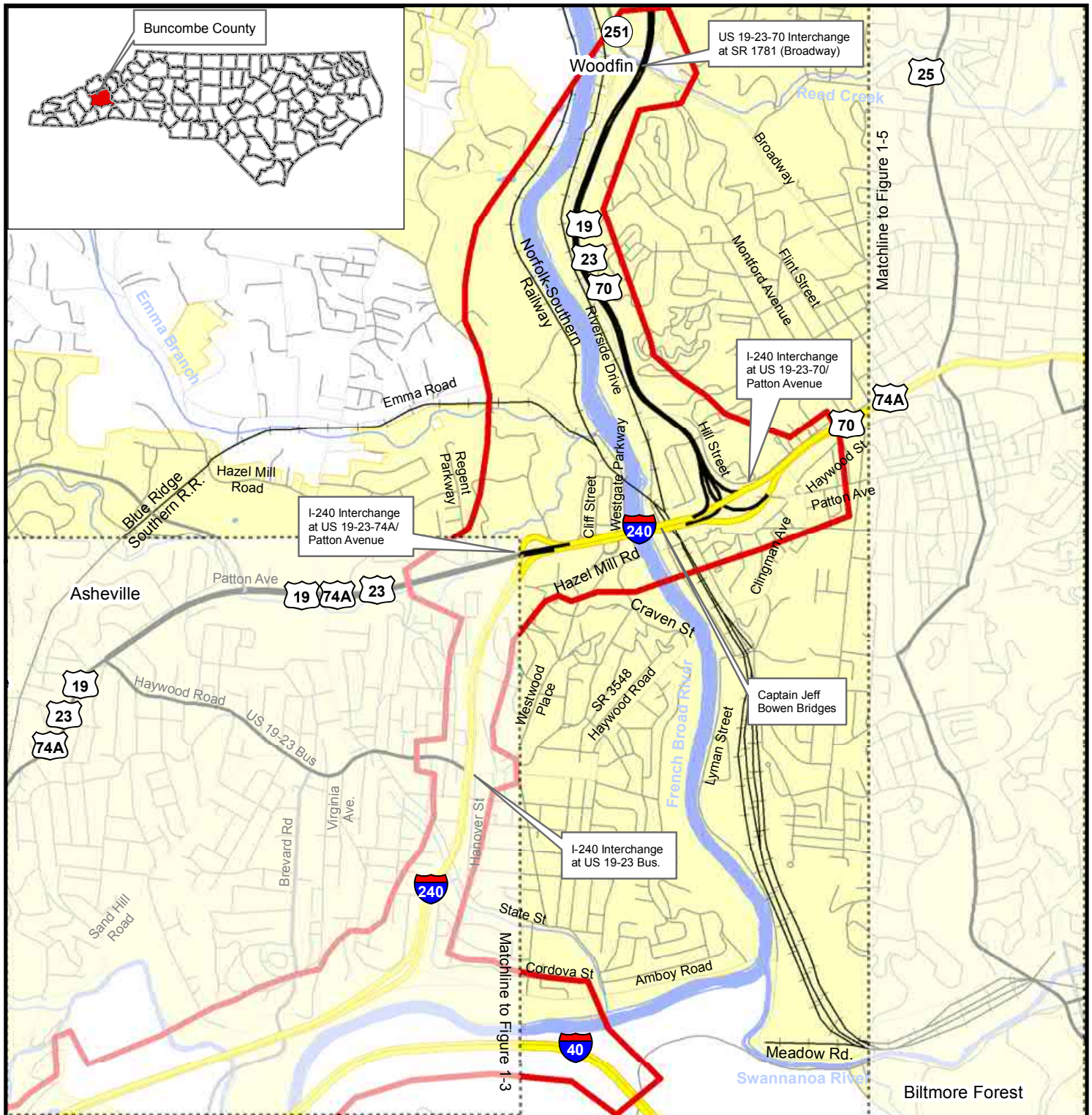
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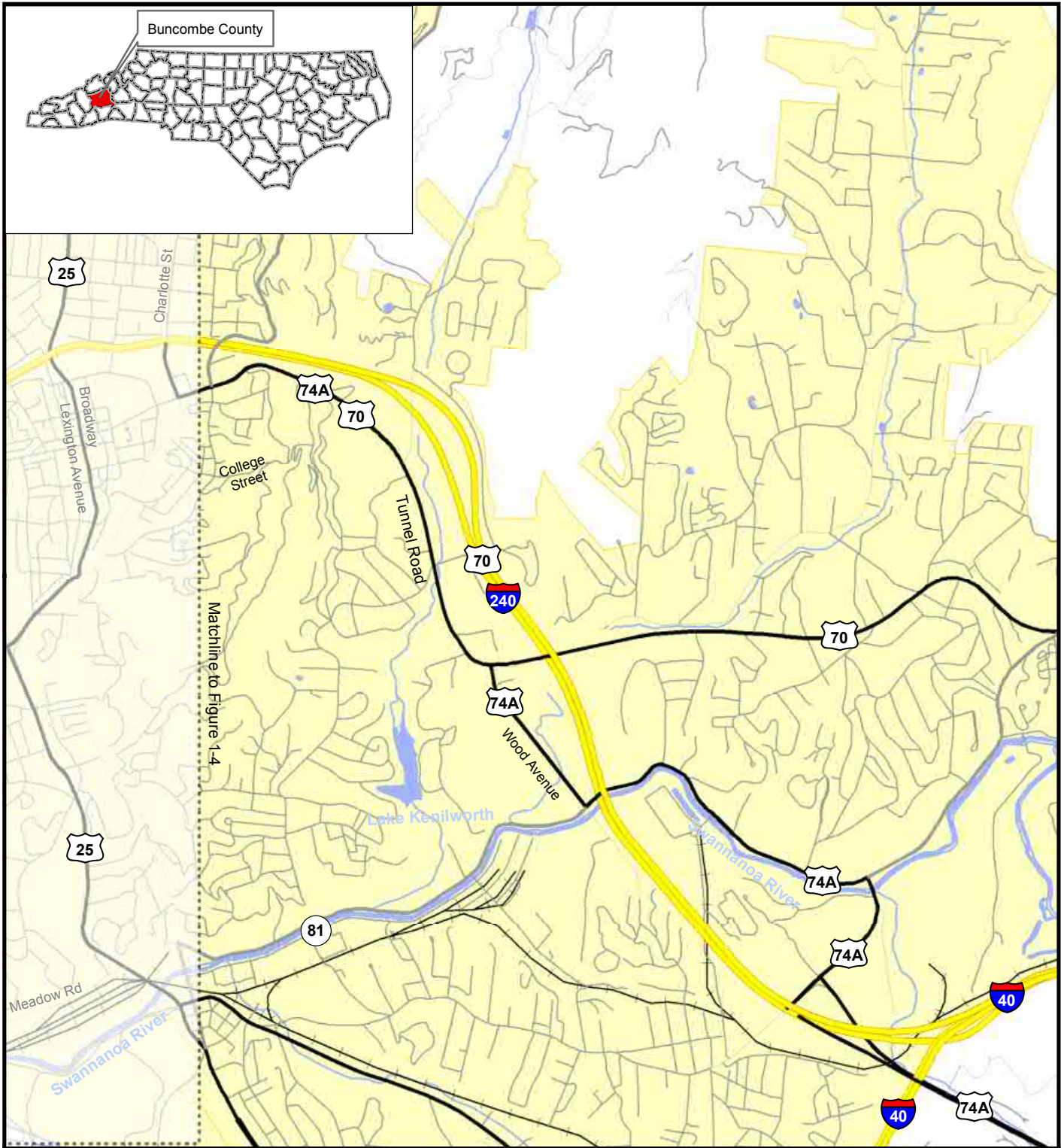


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Figure 1-3

Existing Roadway Network





North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

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

Date: May 2018



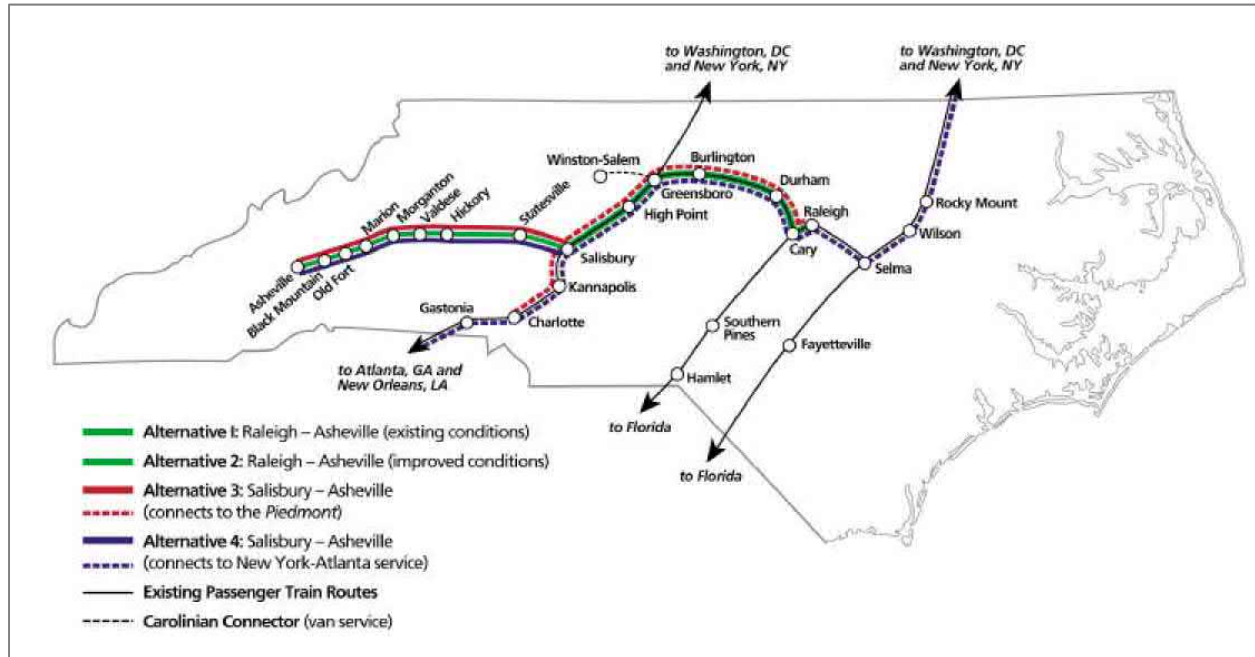
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Figure 1-5

Existing Roadway Network

Currently, passenger rail does not serve the Asheville metropolitan area or western North Carolina. In 2001, the 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 NS 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 financial status and cost of track improvements, NCDOT recommended delaying the start of passenger train service to western North Carolina (NCDOT 2007).

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 2018).

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. A replacement runway and taxiway addition is currently under construction and is expected to be completed by the end of 2018 (Asheville Regional Airport Authority 2013).

1.5.1.3 Transit

Public transportation is provided by Asheville Redefines Transit (ART). The ART provides fixed-route bus service throughout the Asheville area, including on and around the University of North Carolina (UNC) Asheville 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 18 bus routes are currently (2018) in operation.

Transit outside the City of Asheville is provided by Mountain Mobility and is administered by the Buncombe County Planning and Development's Transportation Division. 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"). 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 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, second-home owners, and distribution-related industries.

The 2018 addendum to the I-2513 Community Impact Assessment Update (CIA) (AECOM 2018c) used 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. Between 2000 and 2010, the DSA experienced population growth of 11.6 percent (see Table 1-1). The population of Asheville grew at a rate of 21.1 percent, while Buncombe County's population increased by 15.5 percent during the same period. In comparison, the population of North Carolina grew by 18.5 percent. Population growth continued between 2010 and 2015 in the DSA, City of Asheville, Buncombe County, and North Carolina, but at a slower rate. The population grew in the DSA by 4.3 percent, in Asheville by 4.1 percent, in Buncombe County by 3.8 percent, and in North Carolina by 3.2 percent.

Table 1-1: Population Trends

Area	Population			Growth (2000-2010)		Growth (2010-2015)	
	2000	2010	2015	Difference	% Change	Difference	% Change
DSA	18,886	21,063	21,960	2,197	11.6%	897	4.3%
Asheville	68,889	83,393	86,789	14,504	21.1%	3,396	4.1%
Buncombe County	206,315	238,318	247,336	32,003	15.5%	9,018	3.8%
North Carolina	8,049,313	9,535,483	9,845,333	1,486,170	18.5%	309,850	3.2%

Source: Minnesota Population Center. National Historical Geographic Information System: Version 11.0 [Database]. Minneapolis: University of Minnesota. 2016. <http://doi.org/10.18128/D050.V11.0>. Census 2000/Census 2010 Time Series Tables Geographically Standardized

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, the Strategic 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 2015-2019 Comprehensive Economic Development Strategy (CEDS) (Land of Sky Regional Council 2015). The CED follows guidelines released by the US Economic Development Administration in February 2015. The Land of Sky CEDS is a strategy-driven plan developed by local representatives from private, public, and nonprofit sectors. The plan includes four sections, summary and background of economic conditions in the region; strengths, weaknesses, opportunities, and threats analysis; an action plan, and an evaluation framework. The Land of Sky CEDS aligns with NC Tomorrow, North Carolina's statewide CEDS (North Carolina

Association of Regional Councils 2017). The 2015-2019 CEDS plan identified challenges along the I-26 corridor in Asheville that present opportunities to responsibly develop affordable housing. Transportation strategies identified in the plan include the integration of transportation with land use decision-making processes and coordinating a Transportation Demand Management (TDM) program within the region.

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.

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. 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 Environmental Impact Statement.
- 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 the 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.

In 2018, the City of Asheville adopted the Asheville City Development Plan 2025 with Living Asheville, A Comprehensive Plan for Our Future (City of Asheville 2018). The plan reiterates the themes of the 2025 plan and notes the city should continue to monitor the potential impacts of the I-26 Connector and the potential need to think strategically about development and redevelopment in the nearby vicinity.

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 the 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.

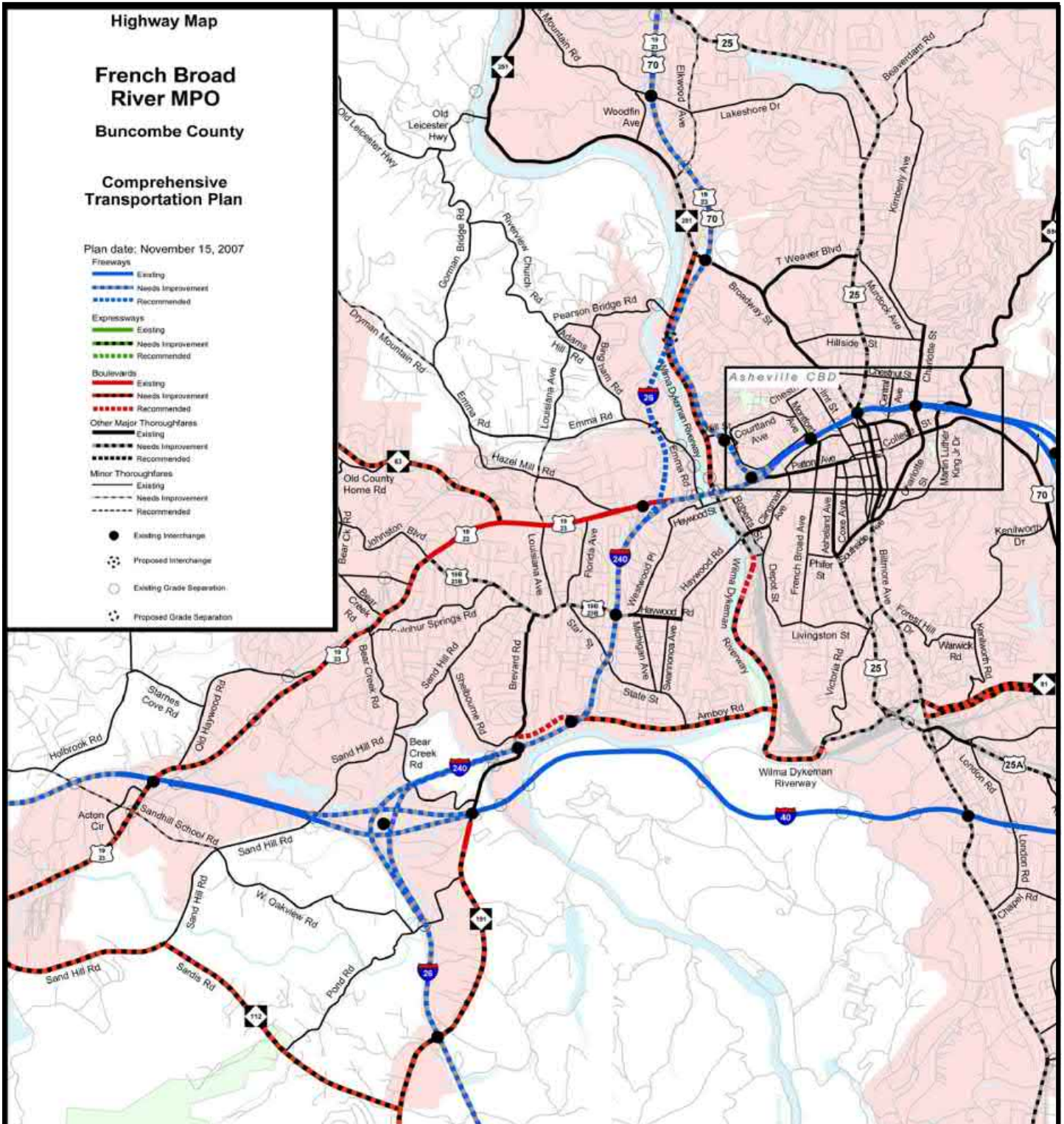
Highway Map

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



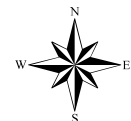
North Carolina
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I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Date: May 2018



Note: Figure Not To Scale

Figure 1-7

2007 FBR MPO
Comprehensive
Transportation Plan

1.7.1.2 Asheville in Motion Mobility Plan (2016)

The Asheville in Motion: City of Asheville Mobility Plan, adopted in 2016, is an expression of the local mobility strategy as opposed to the regional focus of the FBRMPO and the state focus of NCDOT (City of Asheville 2016). The mobility plan outlines needs exclusive to the Asheville area and aligns itself with other Asheville policies and goals from local plans. One such plan is the Wilma Dykeman RiverWay Plan, which recommends constructing the I-26 Connector to provide a connection between downtown and the River Arts District (RiverLink 2004).

The goal of the Asheville in Motion: City of Asheville Mobility Plan is to identify the multi-modal needs of Asheville and create strategies for addressing those needs. Within this plan are four plan frameworks highlighting pedestrian, bicycle, greenway, and transit issues. The recommendations that resulted include requiring multi-modal on new development, using a variety of bicycle facilities to promote connectivity, focusing transit efforts in town so that frequency is increased and more user friendly during peak hours, and connecting more residential neighborhoods to greenway facilities. Within the project study area, the Haywood Road corridor is noted as a priority corridor to increase bicycle facilities to enhance community vibrancy and increase vehicular activity.

1.7.1.3 GroWNC Regional Plan (2017)

The GroWNC Regional Plan, adopted in 2017, covers a five county region: Buncombe, Haywood, Henderson, Madison, and Transylvania counties. The planning processes began in 2011 after the region received a \$1.6 million grant from the Department of Housing and Urban Development (HUD) through the Partnership for Sustainable Communities. The purpose of the plan is to offer recommendations for planning efforts along the lines of incorporating land use, economic development, workforce development, transportation, and other infrastructure investments through the Southern Appalachian region. The I-26 corridor is listed as a major regional corridor within the GroWNC region and notes its importance to the economy of the region for the movement of goods through the five counties (GroWNC 2017).

1.7.1.4 French Broad River MPO Metropolitan Transportation Plan 2015-2040 (2015)

At the time of publication of the DEIS, the proposed project was included in the 2035 Long Range Transportation Plan (2035 LRTP) adopted on September 23, 2012 (FBRMPO 2012). The updated plan, called the 2040 Metropolitan Transportation Plan (MTP) (2040 MTP), was adopted in September 2015 (FBRMPO 2015). The 2040 MTP is the guiding document for future investments in transportation-related activities and services—roads, transit services, aviation, bicycle and pedestrian facilities—to match anticipated growth in the western North Carolina region. It plans for the next 25 years of transportation projects, from 2015 to 2040. The main goals of this plan are to develop and maintain a safe and efficient system for transportation, and to enhance the environment and livability of the area by providing an optimum level of service, choice, mobility, convenience, and energy efficiency. Further, 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 2015).

1.7.1.5 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 project 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).

While not project specific, the 2040 Plan stipulates that 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.

The 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, and 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 (2018)

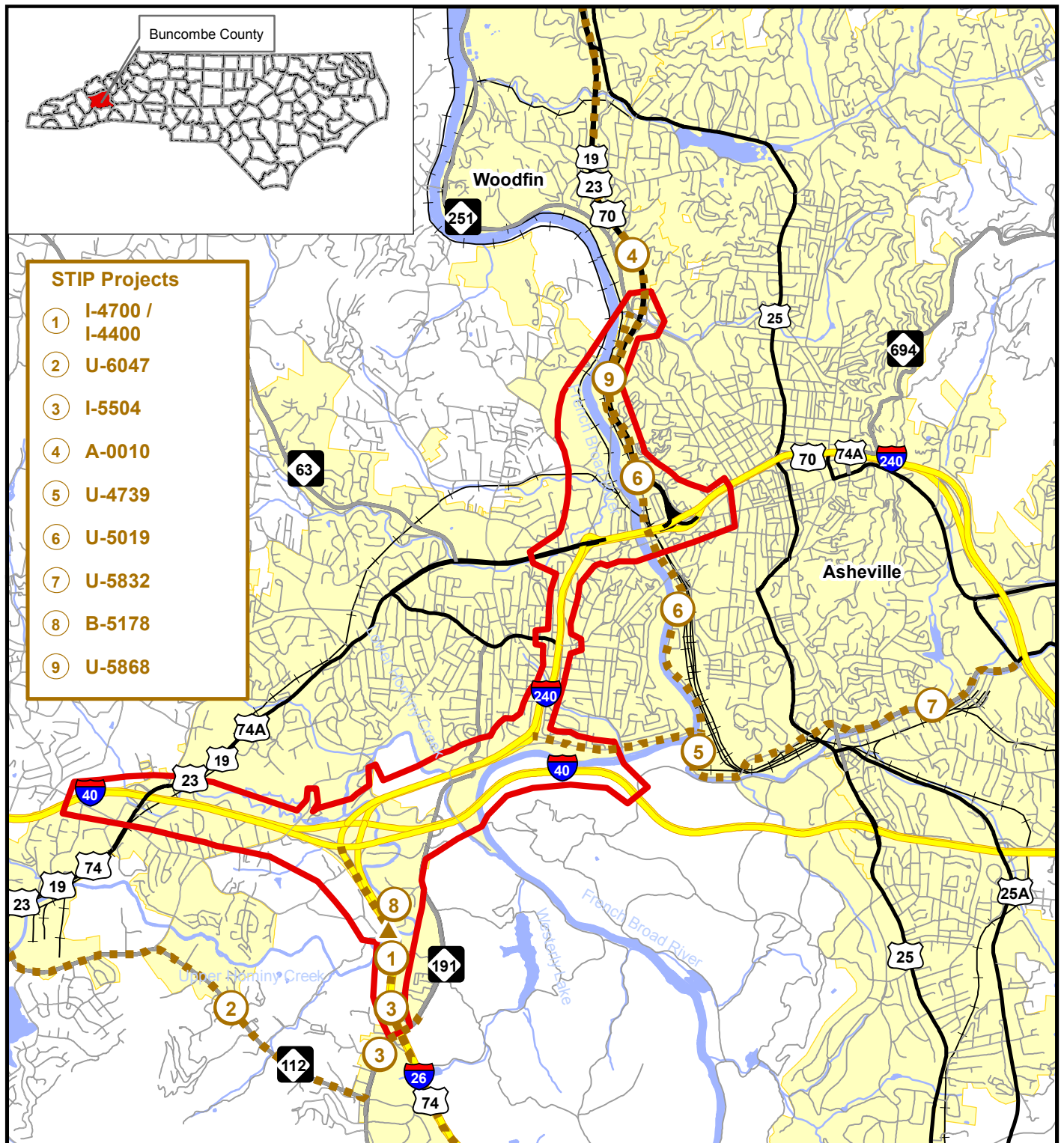
The proposed project is included in NCDOT's 2018-2027 STIP (NCDOT 2017) as project I-2513. The STIP indicates that the proposed project would be a 4.7-mile multi-lane freeway, part on new location from I-26 to US 19-23-70. Right-of-way acquisition and construction for all sections are scheduled for fiscal year 2020. 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 Project Study Area

STIP No. ^a	Description	Schedule – Fiscal Year	Number on Figure 1-8
I-4700	I-26 – From NC 280 to I-40 at Asheville. Add additional lanes.	Right-of-way - 2018 Construction – 2019	1
I-4400	US 25 (Exit 54) to NC 280 (Exit 40). Widen to add additional lanes.	Right-of-way – 2018 Construction - 2019	1
U-6047	NC 191 (Brevard Road) to US 19/23 (Smokey Park Highway). Widen roadway	Right-of-way – 2022 Construction – 2025	2
I-5504	NC 191 (Brevard Road). Upgrade interchange.	Under Construction	3
A-0010A	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) – 2020 A-10AB & AC - unfunded Projects A-10B,C and D – complete	4
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 – 2025	5
U-5019	Wilma Dykeman RiverWay in Asheville.	Under Construction	6
U-5832	SR 3214 (Biltmore Avenue) to US 74A (South Tunnel Road). Widen existing roadway.	Right-of-way – 2020 Construction – 2022	7
B-5178	Replace bridge 100235 and Bridge 100238 over SR 3431 (Pond Road) and Hominy Creek.	Right-of-way – 2019 Construction – 2020	8
U-5868	Riverside Drive – NC 251 (Broadway) to I-40/SR 1231 (Hill Street) – Widen Roadway	Right-of-way – 2020 Construction - 2020	9
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 – 2018 Construction – 2020	Outside map view.

Source: NCDOT 2017.

^a I – Interstate Projects. A – Appalachian Projects. U – Urban Projects. E – Enhancement Projects.



1.8 TRAFFIC CAPACITY

1.8.1 EXISTING TRAFFIC CAPACITY ANALYSIS

Since the publication of the Traffic Operations Technical Memorandum (URS 2015i), which presented traffic operations information used in the DEIS, updated traffic studies have been prepared to re-evaluate traffic conditions for refinement of the preferred alternative and are based on the updated TDM provided by the FBRMPO. The following sections are based on the 2018 Traffic Operations Technical Memorandum (AECOM 2018g) and present traffic volumes and operational analyses for the existing (year 2015) and the traffic volumes for the projected design year (year 2040) 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 project study area as listed in Table 1-3.

Table 1-3: Existing Roadway Characteristics

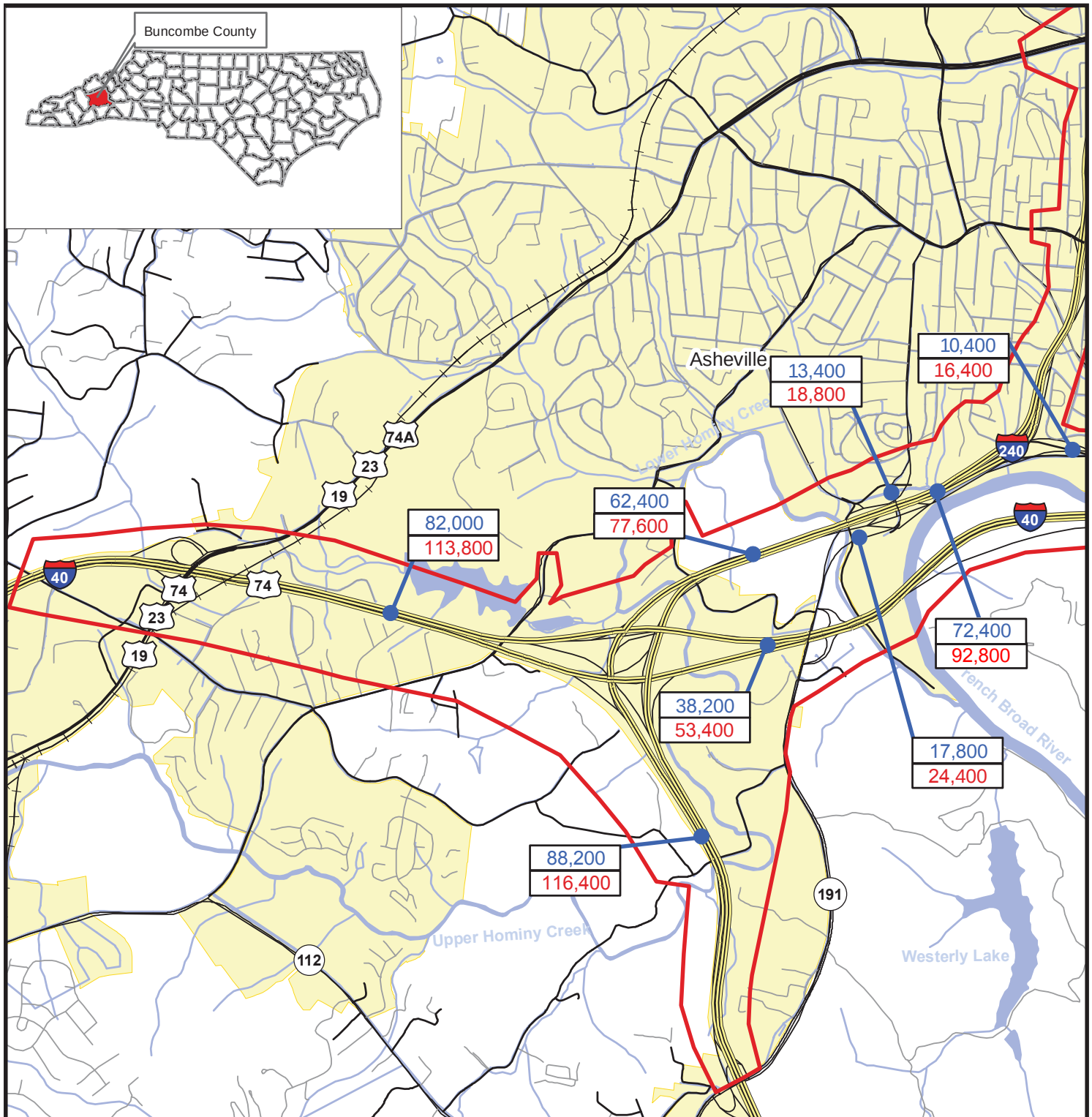
Roadway Name	Classification	Posted Speed Limit	Typical Section
I-40 – NC 191 to US 19-23-74	Freeway	60 mph	4-lane Divided
I-26 – NC 191 to I-40/I-240	Freeway	60 mph	4-lane Divided
I-240 – I-26/I-40 to Haywood Road	Freeway	55 mph	4-lane Divided
I-240 – Haywood Road to Patton Avenue	Freeway	50 mph	4-lane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

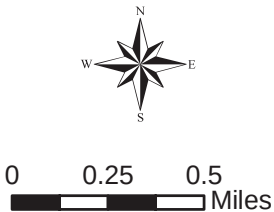
Source: URS 2015i.

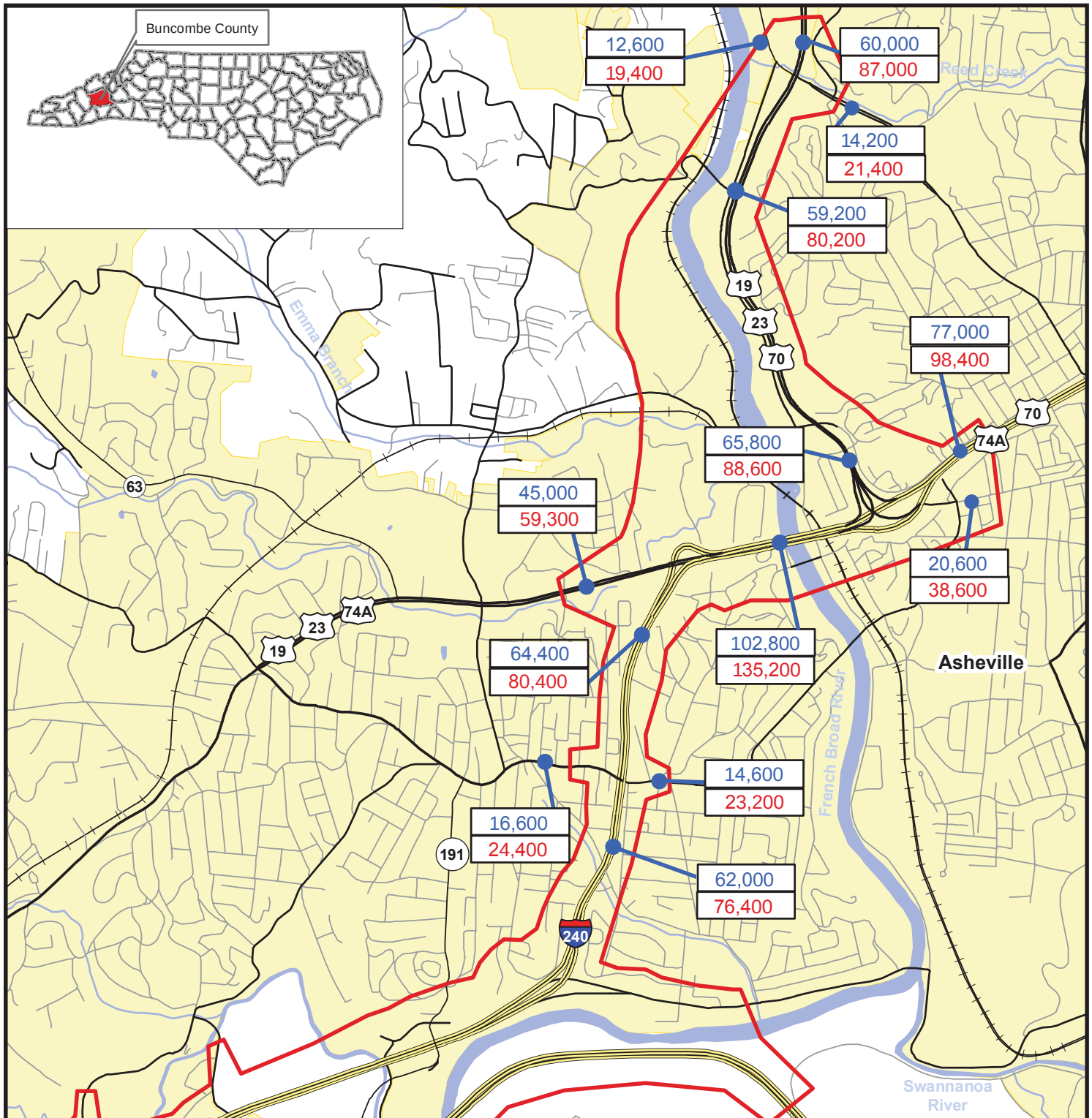
1.8.1.2 Existing 2015 Traffic Conditions

The traffic forecasts used for the traffic operations analyses were obtained from the Traffic Forecast Report for TIP Project No. I-2513, I-26 Connector (AECOM 2016). The traffic forecasts provided peak hour and annual average daily traffic (AADT) volumes for the transportation network within the project study area for the Existing No-Build Conditions (year 2015) and the Future No-Build Scenario (year 2040). 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 62,000 AADT to 102,800 AADT, and volumes on US 19-23-70 range from 57,600 AADT to 65,800 AADT. The existing volumes on I-40 range from 38,200 AADT to 82,000 ADT within the project study area. The existing volume on I-26 as it approaches I-40 is 88,200 AADT.



North Carolina Department of Transportation 	Legend - Interstate - US Highway - NC Highway - State Route - Local Road - Railroad - Streams (non-delineated) - Project Study Area - Municipal Boundaries - Water 2015 Existing Average Daily Traffic 2040 No-Build Average Daily Traffic	Date: July 2016 
I-26 Asheville Connector Buncombe County STIP Project No. I-2513	Figure 1-9 2015 Existing/ 2040 No-Build Average Daily Traffic	



North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Date: July 2016



0 0.25 0.5
Miles

Figure 1-10

**2015 Existing/ 2040
No-Build Average
Daily Traffic**

1.9 ROADWAY DEFICIENCIES

Congress, in 23 Code of Federal Regulations (CFR) 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 20-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 American Association of State Highway 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.

NCDOT surveyed interstates in the project area to identify existing roadway deficiencies that do not meet design standards associated with interstate freeways. Table 1-4 and Figure 1-22 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.

1.10 TRAFFIC SAFETY ANALYSIS

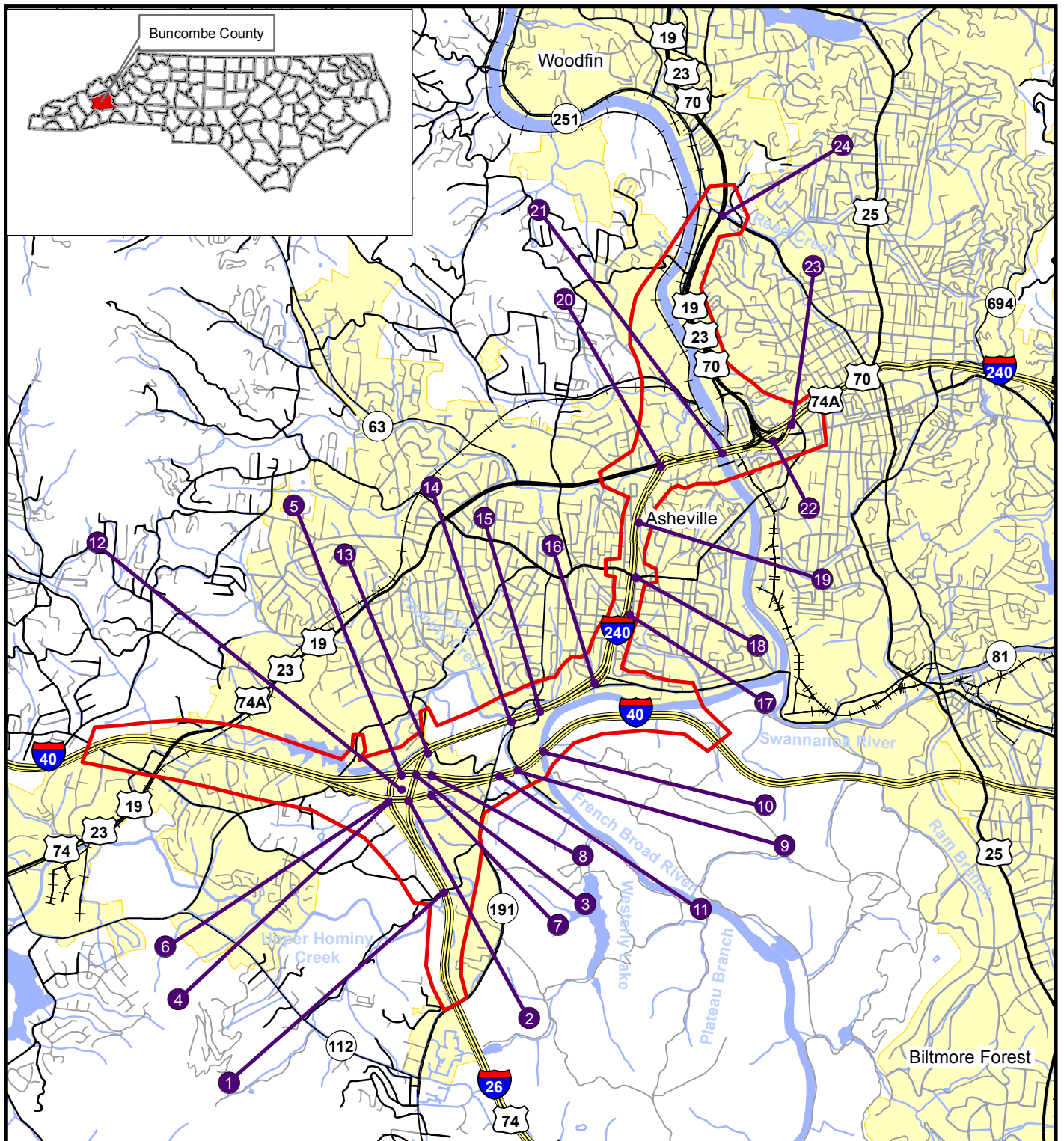
This section presents a summary of the traffic safety analysis for the proposed project (AECOM 2018d). The analysis included major roadway segments that the proposed project would potentially affect. The segments analyzed within the project study area included 2,736 crashes, of which 12 resulted in a fatality and 4 involved pedestrians or cyclists, for the period from February 1, 2013, to January 31, 2018. 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 more than 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]) and 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 1-5 and Figure 1-12 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.

Table 1-4: 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
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 2015g).



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I-26 Asheville Connector
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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



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Miles

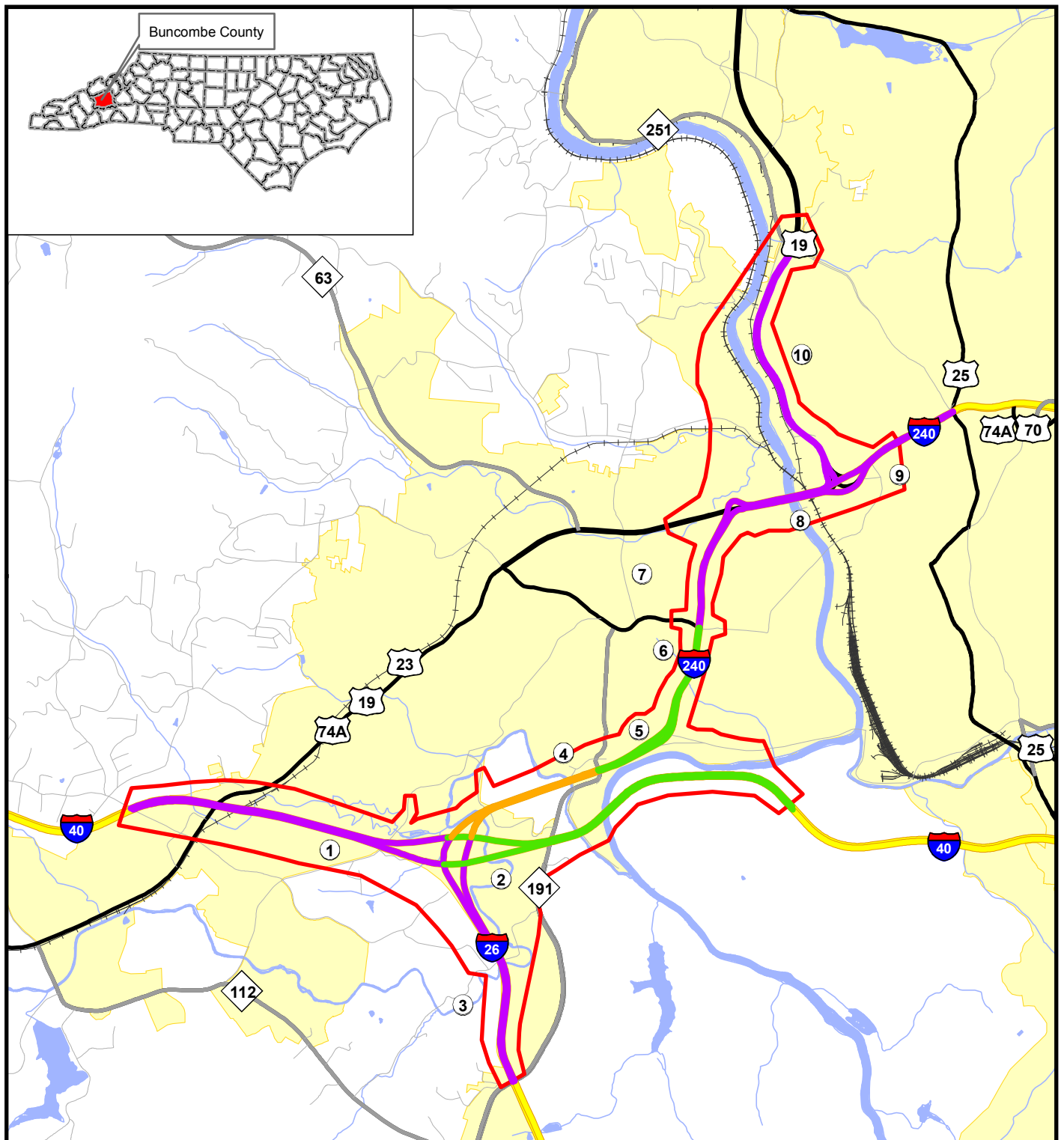
Figure 1-11

**Roadway Deficiencies
Summary**

Table 1-5: Accident Analysis – Comparison to Statewide Average and Critical Crash Rate

<i>Segment Number</i>	<i>Roadway</i>	<i>From/To</i>	<i>2013-2018 Total Crash Rate</i>	<i>2013-2015 Statewide Crash Rate</i>	<i>Critical Crash Rate</i>	<i>Exceeds</i>
1	I-40	SR 1224 (Monte Vista Road) to I-40/I-240	155.8	109.14	119.58	Statewide/ Critical
2	I-40	I-26/I-240 to Winery Road	76.33	109.14	121.45	None
3	I-26	I-40/I-240 to NC 191 (Brevard Road)	144.76	109.14	120.67	Statewide/ Critical
4	I-240	I-40/I-26/US 74 to NC 191 (Brevard Road)	120.64	109.14	126.72	Statewide
5	I-240	NC 191 (Brevard Road) to SR 3556 (Amboy Road)	87.02	109.14	131.55	None
6	I-240	SR 3556 (Amboy Road) to US 19 Bus./SR 3548 (Haywood Road)	103.17	109.14	129.30	None
7	I-240	US 19-23 Bus./SR 3548 (Haywood Road) to US 19-23-74A/Patton Avenue	245.91	109.14	126.68	Statewide/ Critical
8	I-240	US 19-23-74A(Patton Avenue) to US 19-23-70	816.97	109.14	127.8	Statewide/ Critical
9	I-240	US 19-23-70 to US 25 (Merrimon Avenue/Broadway)	215.54	109.14	123.27	Statewide/ Critical
10	US 19-23-70	NC 251/SR 1781 (Broadway) to I-240	114.11	83.08	93.82	Statewide/ Critical

Source: AECOM 2018d.



North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Does Not Exceed Statewide or Critical Crash Rates
- Exceeds Statewide Crash Rates
- Exceeds Statewide and Critical Crash Rates
- Expanded Project Study Area
- # Analysis Segment
- Interstate
- US Highway
- State Highway
- State Route
- +— Railroad
- Streams (non-delineated)
- Water
- Municipal Boundary

Date: March 2018



0 0.5 1
Miles

Figure 1-12

**Crash Analysis
Locations and
Total Crash Rate Results**

Six of the ten 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. One of the ten segments analyzed within the project study area resulted in total crash rates exceeding the statewide average crash rate. The analysis completed for the 2015 DEIS using crash data from 2009 to 2012 resulted in 6 of 11 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.

The first segment that exceeded both the statewide and critical rates was along I-40 from SR 1224 (Monte Vista Road) to I-26/I-240 (Segment #1). The segment had a total of 437 crashes, including 265 rear-end collisions due to a vehicle being stopped or slowed down (61 percent of total) and 75 crashes involving sideswipes (17 percent of total).

The second segment that exceeded both the statewide and critical rates was along I-26 from I-40/I-240 to NC 191 (Brevard Road) (Segment #3). The segment had a total of 334 crashes, including 123 rear-end collisions due to a vehicle being stopped or slowed down (37 percent of total) and 111 crashes involving sideswipes (33 percent of total).

The third segment that exceeded both the statewide and critical rates was along I-240 from just north of US 19-23 Business/SR 3548 (Haywood Road) to US 19-23-74A (Patton Avenue) (Segment #7). The segment had a total of 250 crashes, including 78 rear-end collisions due to a vehicle being stopped or slowed down (31 percent of total) and 49 crashes involving sideswipes (20 percent of total).

The fourth segment that exceeded both the statewide and critical rates was along I-240 from just north of US 19-23-74A (Patton Avenue) to US 19-23-70 (Segment #8). The crash rate for this segment is over six times the calculated critical crash rate. The segment had a total of 736 crashes, including 465 rear-end collisions due to a vehicle being stopped or slowed down (63 percent of total) and 159 crashes involving sideswipes (22 percent of total).

The fifth segment that exceeded both the statewide and critical rates was along I-240 from just north of US 19-23-70 to US 25 (Merrimon Avenue/Broadway) (Segment #9). The segment had a total of 334 crashes, including 232 rear-end collisions due to a vehicle being stopped or slowed down (70 percent of total) and 56 crashes involving sideswipes (17 percent of total).

The sixth segment that exceeded both the statewide and critical rates was along US 19-23-70 from just south of NC 251 (Broadway/Riverside Drive) to just north of I-240 (Segment #10). The segment had a total of 233 crashes, including 138 rear-end collisions due to a vehicle being stopped or slowed down (59 percent of total) and 41 crashes involving sideswipes (18 percent of total).

The presence of multiple segments within the project 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.

In accordance with NEPA, NCDOT published a DEIS for the I-26 Connector project in October 2015. The DEIS described the purpose of and need for the project, identified project alternatives, and evaluated them for potential environmental effects. Since the DEIS was published, a preferred alternative has been chosen based on feedback from the public and environmental regulatory and resource agencies. This FEIS is presented in the same order as the DEIS, with clarification and updates such as changes in the existing environment, updated impacts anticipated from the preferred alternative, and responses to comments received on the DEIS. Some information from the DEIS is summarized, and substantive new information is noted in italics.

CHAPTER 2. DESCRIPTION OF ALTERNATIVES CONSIDERED

The alternatives considered for the proposed project are described in this chapter. Each alternative was evaluated with respect to its ability to meet the purpose of and need for the proposed action. A number of preliminary alternatives were developed and evaluated during the early phases of the project studies, including the No-Build Alternative, transportation system management (TSM) alternatives, TDM alternatives, and build alternatives. A discussion of the alternatives considered for the proposed action, the process of elimination of those alternatives not determined reasonable and feasible, and the basis for the selection of the alternatives carried forward for detailed study are provided in this chapter.

2.1 NO-BUILD ALTERNATIVE

The No-Build Alternative assumes the local transportation system would evolve as currently planned, but without implementation of the proposed project. With the exception of routine maintenance, no change would take place along the existing corridors in the project study area.

There are no right-of-way or construction costs associated with the No-Build Alternative. There would be no impacts to streams, wetlands, or other natural and cultural resources, and there would not be any residential or business impacts. However, the No-Build Alternative would not meet any of the purposes identified for the proposed action, nor would it solve or alleviate any of the needs described in Chapter 1. Additionally the No-Build Alternative is not consistent with adopted local, regional, and state transportation plans. Therefore, the No-Build Alternative was not considered a reasonable and feasible alternative for this project.

In accordance with NEPA (40 CFR 1502.14(d)) and FHWA guidelines, the No-Build Alternative is given full consideration and provides baseline conditions with which to compare the improvements and consequences associated with the alternatives carried forward for detailed study. The “No-Build” or “no project” alternative is always considered an option throughout the study. It cannot be ruled out until the various “build” alternatives’ effects have been thoroughly studied, and all comments from government agencies and the public fully considered and responded to. Consideration of the “No-Build” alternative assumes that the transportation network in the project study area continues to develop as called for in the 2040 MTP (FBRMPO 2015) but without the I-26 Connector project.

2.2 TRANSPORTATION SYSTEM MANAGEMENT ALTERNATIVES

The goal of TSM is to maximize the efficiency of the existing transportation system, improve air quality, and enhance safety and mobility of vehicles and goods. This is achieved by coordinating individual elements of the transportation system through regulatory and control policies. TSM measures enhance the operations of a facility through infrastructure, operational, and technological improvements while minimizing capital outlay and inconvenience to motorists.

2.2.1 OPERATIONAL IMPROVEMENTS

TSM measures focus on operational improvements to minimize inefficient travel and include, but are not limited to, optimizing traffic signal timing, signal coordination, ramp metering, speed restrictions, access control, special events management strategies, incident management, and turn prohibitions. TSM operational measures usually can be implemented easily and require little capital investment relative to build alternatives.

The implementation of TSM operational improvements would not acceptably rectify the operational deficiencies along existing I-240. The corridor already has full access control and does not have any traffic signals along the route to optimize or coordinate.

2.2.2 PHYSICAL IMPROVEMENTS

TSM physical improvements include such measures as grade separations, adding turning lanes, realigning intersections, or installing new traffic signals. Physical improvements require greater capital investment than operational improvements; however, the benefits of the physical improvements could be more substantial. Through the project study area, existing I-240 is a controlled access, four-lane divided facility with no at-grade intersections to accommodate turn lanes. Striping, warning devices, and improved signing have been introduced and may provide safety benefits; however, these changes do not satisfy the long-term need for substantial additional capacity along the corridor.

The evaluation of both operational and physical TSM improvements shows these measures would not provide the additional capacity needed to improve the traffic operations along the corridor to an acceptable level. Additionally, the TSM alternative would not meet the need for system linkage along the I-26 Corridor. Therefore, the TSM alternative was not considered reasonable and feasible for this project.

2.3 TRANSPORTATION DEMAND MANAGEMENT ALTERNATIVES

TDM is a term given to a variety of measures used to improve the efficiency of the existing transportation system. TDM addresses traffic congestion by reducing travel demand for the existing transportation system rather than increasing transportation capacity and focuses on alternatives such as ridesharing, flexible work schedules, telecommuting, guaranteed ride programs, bicycling, walking, and transit.

Commuters frequently are the focus of TDM actions because of their regular, predictable driving patterns, the possibilities of employer partnerships, and the opportunities for

ridesharing programs. TDM tools, such as ridesharing and guaranteed ride programs, reduce congestion by increasing vehicle occupancy rates. Other TDM tools, such as flexible work schedules, move trips from peak congestion times to non-peak periods. Telecommuting allows people to work from home, reducing the number of trips. Encouraging alternate modes of transportation, such as bicycling and walking, also reduces trips.

Existing TDM measures in the area include the Strive Not to Drive program, which has been in place since 1991. This program encourages citizens to reduce car use for a one-week period per year and recently introduced a Car Free Friday event.

Another TDM program promoted by the City of Asheville and funded by the NCDOT Public Transportation Division is Share the Ride NC (www.sharetheridenc.org). The program allows participants to find carpool partners within the area they are traveling.

TDM is a valuable component of transportation planning in Asheville, but TDM measures alone would not meet the purpose of and need for the project. TDM measures would not substantially reduce peak hour traffic and would not provide adequate relief of congestion along the project facilities. Additionally, the TDM alternative would not provide the system linkage along the I-26 Corridor included in the project purposes. Therefore, TDM was not considered reasonable and feasible for this project.

2.4 MASS TRANSIT ALTERNATIVES

The Mass Transit Alternatives include bus or rail passenger service and could include the implementation of express lanes for transit vehicles. A major advantage of mass transit is that it can provide high-capacity, energy-efficient movement in densely traveled corridors. Additionally, it serves high and medium density areas by offering a low-cost option for automobile owners who do not wish to drive and those without access to an automobile. Based on the 2013-2017 American Community Survey (ACS), less than 1 percent of workers in Buncombe County use public transportation as their primary method of transportation to work (URS 2013). Three general types of mass transit alternatives are presented in the following sections with an assessment of the ability of these alternatives to meet the purpose and need summarized in Section 1.3.

2.4.1 BUS ALTERNATIVES

The most typical multi-modal transportation system in North Carolina involves a fixed route, fixed schedule bus system. Because the proposed project corridor serves both local and long distance trips, bus services that meet each need should be evaluated.

For regional and statewide users, Greyhound Lines, Incorporated (Greyhound) currently provides daily commercial bus service to Asheville. Greyhound operates five daily bus routes that pass through and stop in Asheville. Southeastern Stages operates one daily route between Asheville and Atlanta. There are no routes that go through Madison County, Hendersonville, Weaverville, or Woodfin.

The ATS currently operates 18 bus routes within the city on a daily basis. Seven of the 18 routes provide service on roads that fall within the project study area. Additionally, ATS has service to and from Black Mountain and the Asheville Regional Airport (ATS 2018). Several other local mass transit systems operate in the Asheville area, providing links to Black Mountain, Hendersonville, and Waynesville.

2.4.2 RAIL ALTERNATIVES

Any rail alternatives should be evaluated based on the ability to provide both local and long distance trips. Currently the only rail service in the Asheville area is freight service provided by NS. Regular passenger train service to Asheville ended in 1975. NCDOT completed a study in 2001 to provide passenger service to western North Carolina. While not currently funded, NCDOT continues to work with communities on station and rail safety improvements while working to identify funding to restore passenger rail service to western North Carolina (NCDOT 2001). The recommended route would run from Asheville to Salisbury, with connections to long distance trains such as the Carolinian or a proposed New York Atlanta service. One of the purposes of the proposed project is to complete a link in the I-26 system connecting Charleston, South Carolina, to I-81 in Tennessee. This link would traverse Buncombe County in the north-south direction, which would run perpendicular to the proposed passenger rail service.

The Land of Sky Regional Council identified transportation as a first tier goal as part of their Economic Development Strategy (Land of Sky Regional Council 2015). One of the objectives of this goal is to “provide 21st century multi-modal transportation to the entire Five-County transportation planning region, featuring light rail infrastructure and increased public transit options linking nodes of high-density development.” As it currently stands, no studies have been initiated to evaluate the feasibility of any such routes. Therefore, with no planned rail service that would serve local trips or passenger rail that would serve north-south through trips, rail would not have the ability to meet the purpose of and need for the project.

Due to the lack of planned rail service improvements that would adequately serve the travel demand generated in the project study area, the use of rail alternatives is not feasible for the proposed action.

2.4.3 TRANSIT EXPRESS LANE ALTERNATIVES

Conventional bus service and fixed guideway rail transit are not the only types of mass transit that are present across the United States. Bus rapid transit (BRT) is an emerging technique of providing transit service in urban areas. BRT involves coordinated improvements in a transit system’s infrastructure, equipment, operations, and technology that give preferential treatment to buses on urban roadways. BRT is not a single type of transit system; rather it encompasses a variety of approaches, including buses using express lanes as either exclusive busways or high occupancy vehicle (HOV) lanes with other vehicles. BRT service also improves bus service on city arterial streets. Busways, special roadways designed for the exclusive use of buses, can be totally separate roadways or operate within highway rights-of-way separated from other traffic by barriers (United States General Accounting Office 2001).

The use of BRT along the freeway corridors within the project study area would not provide substantial benefit as the freeways are radial routes and the routes would likely need to run along the arterials to serve the urban core of Asheville. Additionally, the use of express lanes along the freeway would require reconstruction of the interstate due to the existing median width not being adequate to provide express lanes. Conversion of an existing lane to an express lane is not possible because NCDOT and FHWA do not endorse the conversion of existing general purpose lanes to HOV lanes or express lanes. Therefore, the use of BRT and/or express transit lanes would not be a feasible alternative for the proposed action.

One transit alternative that may be possible in the project study area is a bus on shoulder system (BOSS). BOSS allows authorized buses to operate on the shoulders of selected freeways at low speeds during periods of congestion in order to bypass traffic and maintain transit schedules. A BOSS could be evaluated in the corridor, but if a BOSS was implemented, it is not anticipated that the ridership numbers would be high enough to make an impact on traffic.

Mass transit alternatives would either not be feasible or alone would not attract sufficient ridership to alleviate projected congestion along the project corridor. The *Asheville Travel Model* already takes into account transit ridership in the projected traffic volumes for the proposed project (Martin/Alexiou/Bryson, PLLC 2004). The logit choice model from the *French Broad River Metropolitan Planning Organization Travel Demand Model* (Martin/Alexiou/Bryson, PLLC 2007) showed 0.5 percent of trips using transit in 2035, indicating a transit alternative would take a substantial shift in mode choice in order to meet the purpose of and need for the project. Mass transit alternatives would not meet the project purposes related to system linkage along the I-26 Corridor. Therefore, mass transit measures implemented alone were not considered reasonable and feasible for this project.

2.5 BUILD ALTERNATIVES

2.5.1 LOGICAL TERMINI/INDEPENDENT UTILITY

FHWA regulations (23 CFR 771.111(f)) state that, in order to ensure meaningful evaluation of alternatives and to avoid commitments to transportation improvements before they are fully evaluated, a project must, “connect logical termini and be of sufficient length to address environmental matters on a broad scope; not restrict consideration of alternatives for other reasonably foreseeable transportation improvements; and have independent utility or independent significance.”

The build alternatives for the proposed project begin at the I-26/I-40/I-240 interchange and end at the US 19-23-70 interchange with SR 1781 (Broadway).

The I-26 Connector project would provide a needed link in the I-26 Corridor by improving and constructing a multi-lane freeway, part on new location, from I-26 southwest of Asheville to US 19-23-70 (Future I-26) in northwest Asheville. About two-thirds of the project is related to improvements to I-240 on the west side of Asheville.

The eastern terminus of the proposed action is located just south of and includes improvements to the I-26/I-40/I-240 interchange in southwest Asheville, which is the western terminus of the I-26 Widening Project (NCDOT Project No. I-4400/I-4700). This end point for the eastern terminus was chosen in order to include improvements to the I-240 system interchange and the related improvements to I-240 in the same project.

The western terminus of the proposed action is the US 19-23-70 and I-240 interchange, which is the eastern terminus of the US 19-23 (Future I-26) Improvements Project (NCDOT Project No. A-0010A). This end point for the western terminus was chosen in order to connect the existing I-26 Corridor with the future I-26 Corridor (US 19-23-70), and to reduce congestion on the I-240/US 19-23 interchange east of the French Broad River, thereby reducing congestion on I-240 on the north side of Asheville.

Although there are two transportation improvement projects adjacent to the proposed action, the US 19-23 (Future I-26) Improvements Project (NCDOT Project No. A-0010A) and the I-26 Widening Project (NCDOT Project No. I-4400/I-4700), the proposed action has logical termini and independent utility.

The A-0010A Project is north of and immediately adjacent to the proposed action. The northern portion of the proposed action is proposed on new location from I-240 to the tie-in with US 19-23-70 just south of the interchange at Exit 25 where the A-0010A Project ends. The tie-in points for the I-2513 new location alternatives are south of Exit 25 and do not restrict the consideration of alternatives for improvements to Exit 25 or the widening of US 19-23-70 as proposed in the A-0010A Project.

The eastern portion of the proposed action includes improvements to the I-26/I-40/I-240 interchange. The I-4400/I-4700 Project is located south of and immediately adjacent to the proposed action and will widen I-26 up to the I-26/I-40/I-240 interchange, which is a logical dispersion point for traffic. The improvements to the I-26/I-40/I-240 interchange included in the proposed action do not restrict consideration of alternatives for the widening of and improvements to I-26 as proposed in the I-4400/I-4700 Project.

The proposed action's termini, with interstate to interstate interchanges at both ends, are logical endpoints. The proposed project would not require immediate transportation improvements beyond the termini or along the connecting facilities. Locations where the project's termini connect to, or adjoin other STIP projects, are logical endpoints because the proposed project serves different purposes and would have independent needs from the other projects. Thus, the proposed project has independent utility and its construction would be a useful and reasonable expenditure of funds, even if no additional transportation improvements in the area are made. The proposed project is of sufficient length to allow for evaluation of alternatives and environmental issues on a broad basis and would neither restrict consideration of alternatives nor prohibit implementation of other reasonably foreseeable transportation improvement projects. Further, as described in the *Asheville Regional Cumulative Impacts Study* (NCDOT 2014a), NCDOT has considered the indirect and cumulative effects of the proposed action in combination with proposed projects I-4400, I-4700, I-4759, and A-0010A.

2.5.2 DESIGN FEATURES OF BUILD ALTERNATIVES

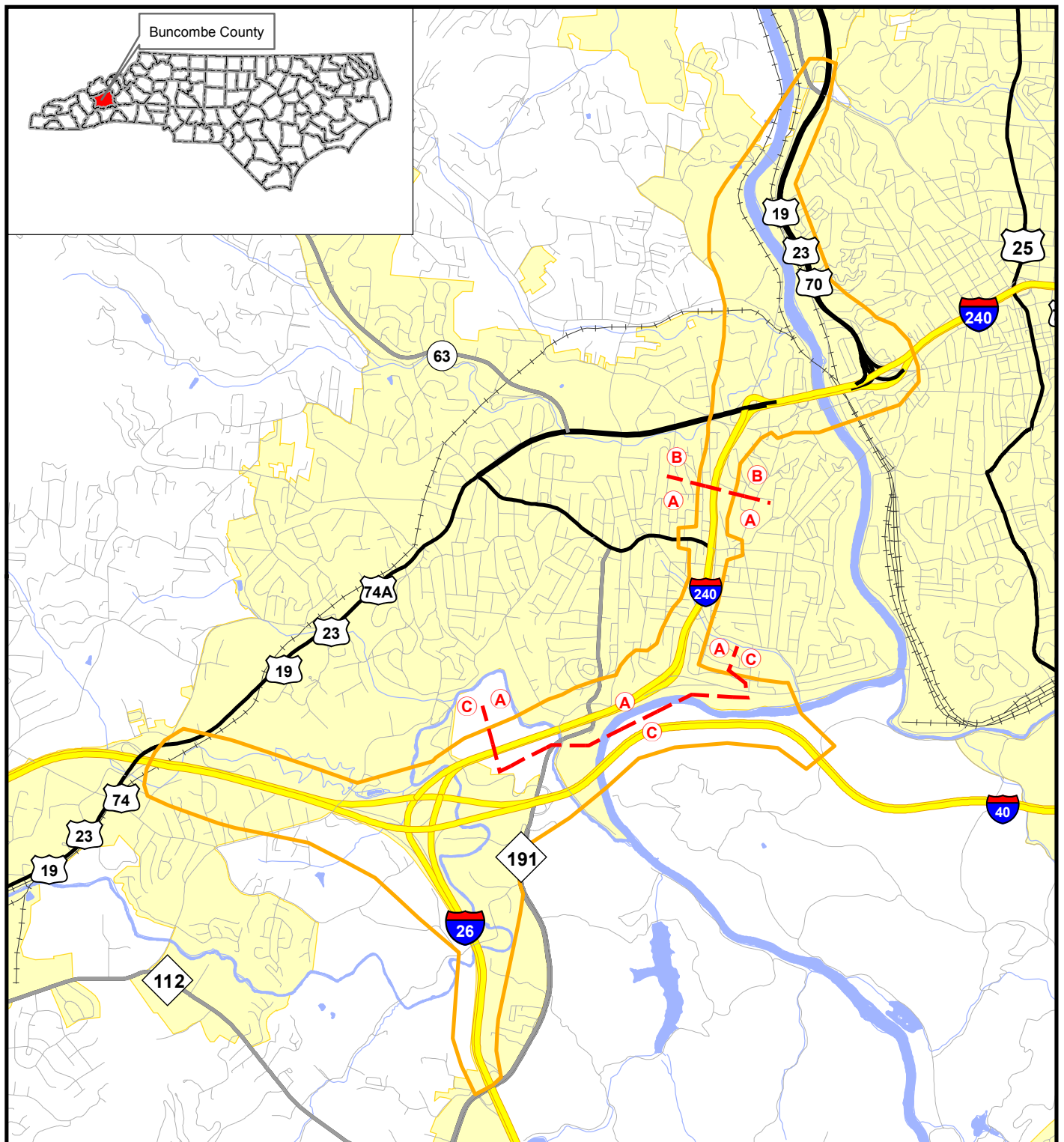
Roadway design criteria used to develop the build alternatives are provided in the DEIS and include an assessment of determining the appropriate number of lanes required for the proposed project. Using the methods presented in the 2010 *Highway Capacity Manual* (TRB 2010) and determining the amount of space needed to operate a facility at the desired minimum level of service (LOS) of D, it was recommended to provide eight basic freeway lanes on I-26/I-240, from I-40 to US 19-23-74A (Patton Avenue) and six basic freeway lanes on I-26, from US 19-23-74A (Patton Avenue) to US 19-23-70 for the build alternatives to meet the capacity need presented in the purpose of and need for the proposed project.

The study area for the proposed project, shown on Figure 2-1, was developed iteratively in coordination with local officials to encompass the range of alternatives being considered to meet the purpose and need and connect the logical termini of the proposed project. The project study area includes the corridor required to improve existing I-240 from the I-26/I-40/I-240 interchange to the current I-240 interchange with US 19-23-74A (Patton Avenue) west of the French Broad River. From this interchange northward, the project study area is expanded to provide for a freeway on new location that would cross the French Broad River and tie into existing US 19-23-70 on the east side of the French Broad River. The project study area also includes the current I-40 interchange with US 19-23-74A (Smoky Park Highway) and the I-40 corridor between this interchange and the I-26/I-40/I-240 interchange.

2.5.3 SUMMARY OF DEVELOPMENT OF PRELIMINARY BUILD ALTERNATIVES

In accordance with NEPA (23 CFR 771.123) and FHWA guidelines, the DEIS must discuss the range of alternatives being considered including all “reasonable alternatives” under consideration and those “other alternatives” that were eliminated from further study (USDOT/FHWA 1987). Due to the extensive history of the development of alternatives for the proposed project, the DEIS provided a detailed summary of the preliminary build alternatives evaluated from 1995 to 2014. A summary of the preliminary build alternatives considered is included below and a timeframe in which the alternatives were considered is shown on Figure 2-2. A description of the alternatives carried forward for detailed study in the DEIS are included in Section 2.5.4.

In 1995, after evaluating numerous corridors, a single widening corridor was developed for Section A. The corridor from the Phase I study recommended alternative was used to develop a best-fit design alternative that would avoid and minimize impacts to the human and natural environments along the I-240 corridor (NCDOT 1995). At the same time as the Section A corridor was being developed, three alternatives for Section B were also being developed. These alternatives were labeled Alternative 1, 2, and 3. Alternative 1 was eliminated from further study in 1998 and Alternatives 2 and 3 were carried forward.



North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

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

Date: May 2018

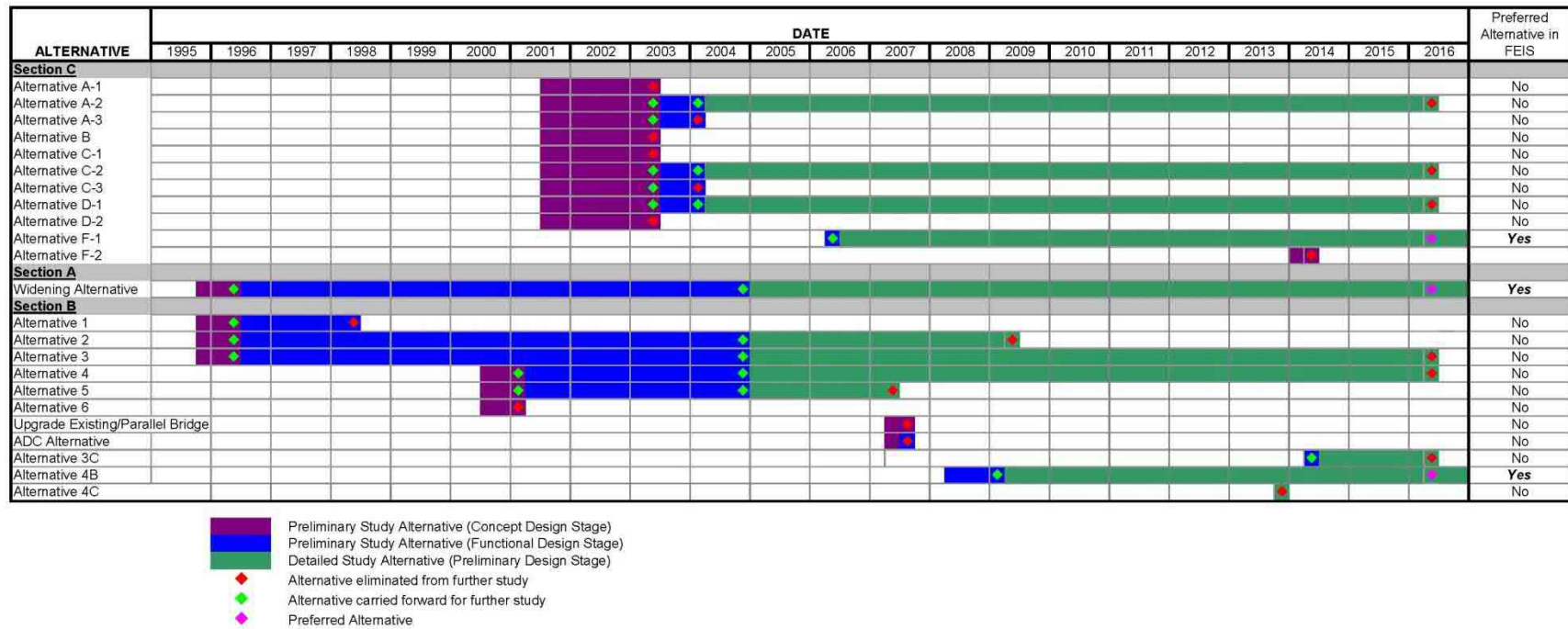


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Figure 2-1

**Project Study Area
and Sections**

Figure 2-2: Timeframe of Alternatives Considered



Three additional alternatives for Section B, Alternatives 4, 5, and 6, resulted from the July 2000 Project Design Forum. In early 2001, the CCC and NCDOT decided to eliminate Alternative 6 from further study and carry forward Alternatives 4 and 5. In summer 2007, due to concerns with traffic operations, Alternative 5 was eliminated as a detailed study alternative. Also as a result of the design forum, the I-26/I-40/I-240 interchange was added to the proposed project in mid-2001 as Section C. At this point, four different interchange types were developed with each having several design options relating to the area between the I-26/I-40/I-240 interchange and the I-40 interchange with NC 191 (Brevard Road). The alternatives were labeled as Alternatives A, B, C, and D with numbers appended to designate the different design options. Alternative B was eliminated from further study in late 2003. Three of the alternatives with selected design options were carried forward as Alternatives A-2, C-2, and D-1.

In early 2006, NCDOT added an additional alternative to Section C that would upgrade the I-26/I-40/I-240 interchange and provide the missing movements but still generally maintain the existing configuration of the interchange. This alternative was labeled F-1 and was determined to be reasonable and was therefore carried forward.

Two additional alternatives for Section B were considered in summer 2007, one to upgrade the existing alignment with a parallel bridge serving Patton Avenue traffic and a variation of Alternative 4 developed by the ADC. Following the evaluation of these alternatives, both alternatives were eliminated from further study.

Following the completion of the Rescinded 2008 DEIS, a new alternative that refined the alternative developed by the ADC was developed and was added as Alternative 4-B. Also, an updated traffic forecast was developed for the project that resulted in several design changes to the alternatives. Following a detailed evaluation of traffic capacity and design, Alternative 2 was eliminated from further study due to concerns with traffic operations.

Two more alternatives for Section B were included for evaluation between 2013 and 2014. Those alternatives were Alternative 3-C and Alternative 4-C. Alternative 4-C was eliminated from further study at the end of 2013, while Alternative 3-C was carried forward as an alternative to be studied in the DEIS.

In early 2014 Alternative F-2 was developed to potentially minimize impacts to the human and natural environment and to provide a lower cost option for consideration. The configuration of the I-26/I-40/I-240 interchange was similar to the interchange in Alternative F-1. Following more detailed evaluation, Alternative F-2 was later eliminated from further study.

The NEPA/Section 404 Merger Team concurred in January 2015 that the remaining alternatives to be studied in the DEIS would include Alternatives A-2, C-2, D-1, and F-1 in Section C, the Section A widening alternative, and Alternatives 3, 4, 3-C, and 4-B in Section B. After publication of the DEIS in October 2015 and the corridor public hearing in November 2015, the NEPA/Section 404 Merger Team chose Section C – Alternative F-1, Section A – Widening Alternative, and Section B – Alternative 4-B, as the LEDPA in May 2016. The preliminary designs for these alternatives were then updated based on revised traffic studies.

After selection of the preferred alternative, NCDOT was requested to investigate the feasibility of constructing a tunnel in Section B under the French Broad River. A Tunnel Feasibility Evaluation Memorandum investigated the feasibility of a subsurface passage of the French Broad River by I-26 and the I-240 connection ramps in Section B. The full memorandum is included in Appendix A. Several major challenges were found with this option and it was determined not to be feasible. Challenges and concerns include:

- *The alignment would require curves within the tunnel and greater shoulder widths to provide adequate sight distance, thus increasing the bank to bank river crossing from 400 feet to 700 feet.*
- *Relocation of Smith Mill Creek.*
- *Impractical ramp ties at Patton Avenue and additional weaving movements.*
- *Increased impacts to the C.F. Worley House and Montford Hills Historic District.*
- *I-240 westbound ramp and I-26 would remain aerial.*
- *Substantially increased construction and maintenance costs*

In April 2018, NCDOT began coordinating with the City of Asheville's consultant Sam Schwartz on various design recommendations from the City of Asheville. A full analysis of Alternative 4-B by the City of Asheville and their design recommendations for Section B was finalized in September 2018 and is included in Appendix B.

2.5.4 BUILD ALTERNATIVES CARRIED FORWARD FOR DETAILED STUDY IN THE DEIS

The alternatives described in this section were found to meet the purpose of and need for the proposed project, to accommodate the range of alternatives, and to be reasonable and feasible; and therefore were carried forward as detailed study alternatives in the DEIS. These alternatives are shown on Figure 2-3 through Figure 2-5.

Section C

Alternative A-2

Features of Alternative A-2 include:

- Fully-directional interchange at I-26/I-40/I-240 with flyover ramps and no loops.
- Reconstruction of I-40/NC 191 (Brevard Road) interchange to a modified diamond configuration.
- Braided ramps along I-40 eastbound between I-26/I-40/I-240 interchange and I-40/NC 191 (Brevard Road) interchange.
- Collector/Distributor (C/D) roadway along I-40 westbound from east of I-40/NC 191 (Brevard Road) interchange to within the I-26/I-40/I-240 interchange.
- Reconstruction of I-40/US 19-23-74A (Smoky Park Highway) interchange utilizing existing configuration, but realigning ramps on the north of I-40.
- Two C/D roadways north and south of I-40 from west of I-26/I-40/I-240 interchange to within or west of the I-40/US 19-23-74A (Smoky Park Highway) interchange.

- No access to NC 191 (Brevard Road) along I-40 eastbound for traffic coming from I-26 and I-240. Existing NC 191 (Brevard Road) interchanges on I-26 and I-240 would provide access.

Alternative C-2

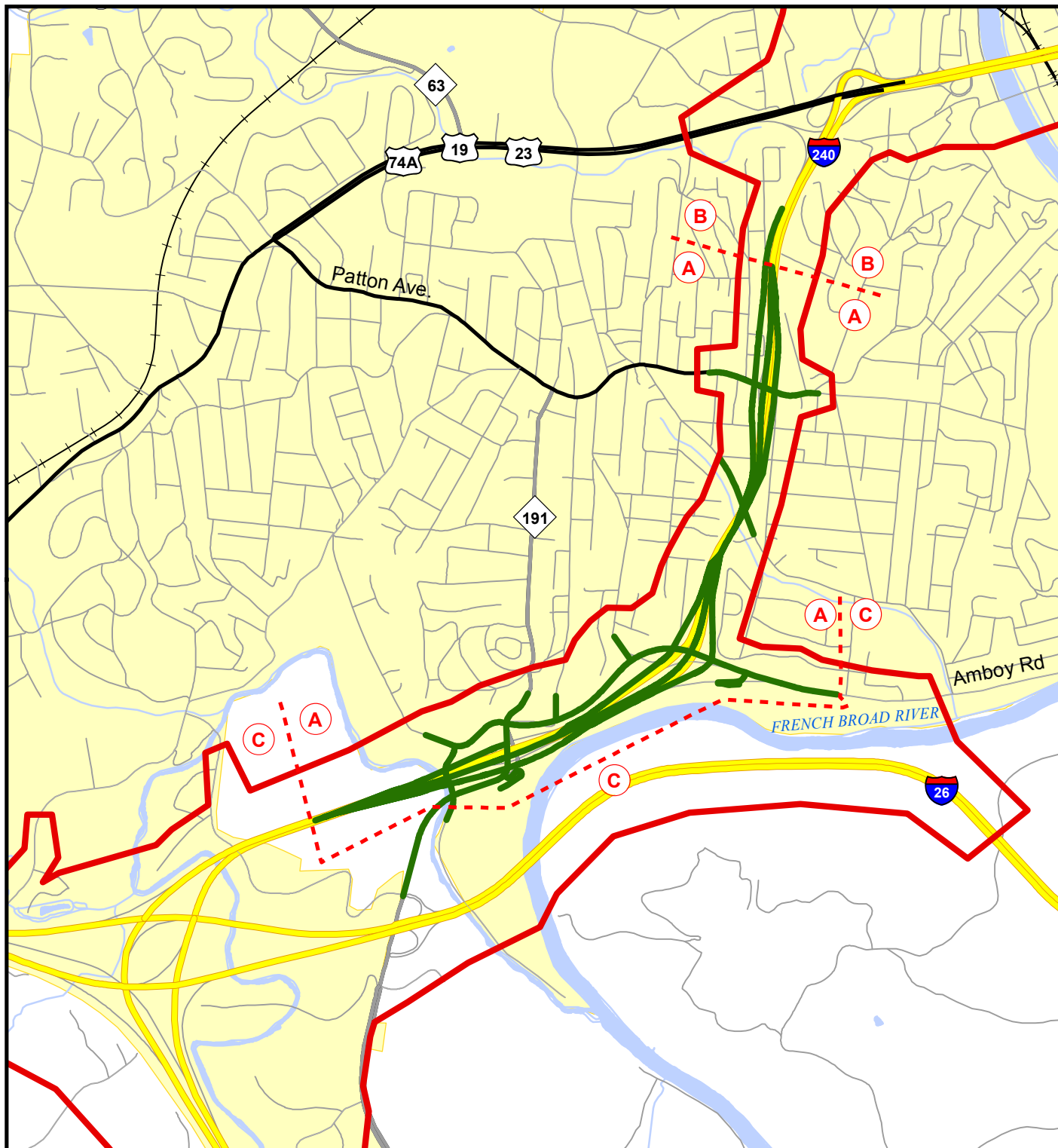
Features of Alternative C-2 include:

- Two of the fully-directional flyover ramps for the I-26/I-40/I-240 interchange included in Alternative A-2 would become loops.
- C/D roadway along I-26 eastbound would accommodate weaving movement between loops.
- Reconstruction of I-40/NC 191 (Brevard Road) interchange utilizing existing configuration, but updating to current design standards.
- C/D roadway along I-40 eastbound and westbound from within the I-26/I-40/I-240 interchange to east of I-40/NC 191 (Brevard Road) interchange.
- Reconstruction of I-40/US 19-23-74A (Smoky Park Highway) interchange utilizing existing configuration, but realigning ramps on the north of I-40.
- Two C/D roadways north and south of I-40 from west of I-26/I-40/I-240 interchange to within or west of the I-40/US 19-23-74A (Smoky Park Highway) interchange.
- Full access to NC 191 (Brevard Road) along I-40 eastbound and westbound for traffic coming to and from I-26 and I-240.

Alternative D-1

Features of Alternative D-1 include:

- One of the fully-directional flyover ramps for the I-26/I-40/I-240 interchange included in Alternative A-2 would become a loop.
- Reconstruction of I-40/NC 191 (Brevard Road) interchange to a standard diamond configuration.
- Braided ramps along I-40 eastbound between I-26/I-40/I-240 interchange and I-40/NC 191 (Brevard Road) interchange.
- No access to I-26/I-240 along I-40 westbound for traffic coming from NC 191 (Brevard Road). Existing NC 191 (Brevard Road) interchanges on I-26 and I-240 would provide access.
- Braided ramp along I-40 westbound from I-40/NC 191 (Brevard Road) interchange to within the I-26/I-40/I-240 interchange.
- Reconstruction of I-40/US 19-23-74A (Smoky Park Highway) interchange utilizing existing configuration, but realigning ramps on the north of I-40.
- Two C/D roadways north and south of I-40 from west of I-26/I-40/I-240 interchange to within the I-40/US 19-23-74A (Smoky Park Highway) interchange.
- No access to NC 191 (Brevard Road) along I-40 eastbound for traffic coming from I-26 and I-240. Existing NC 191 (Brevard Road) interchanges on I-26 and I-240 would provide access.



North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

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

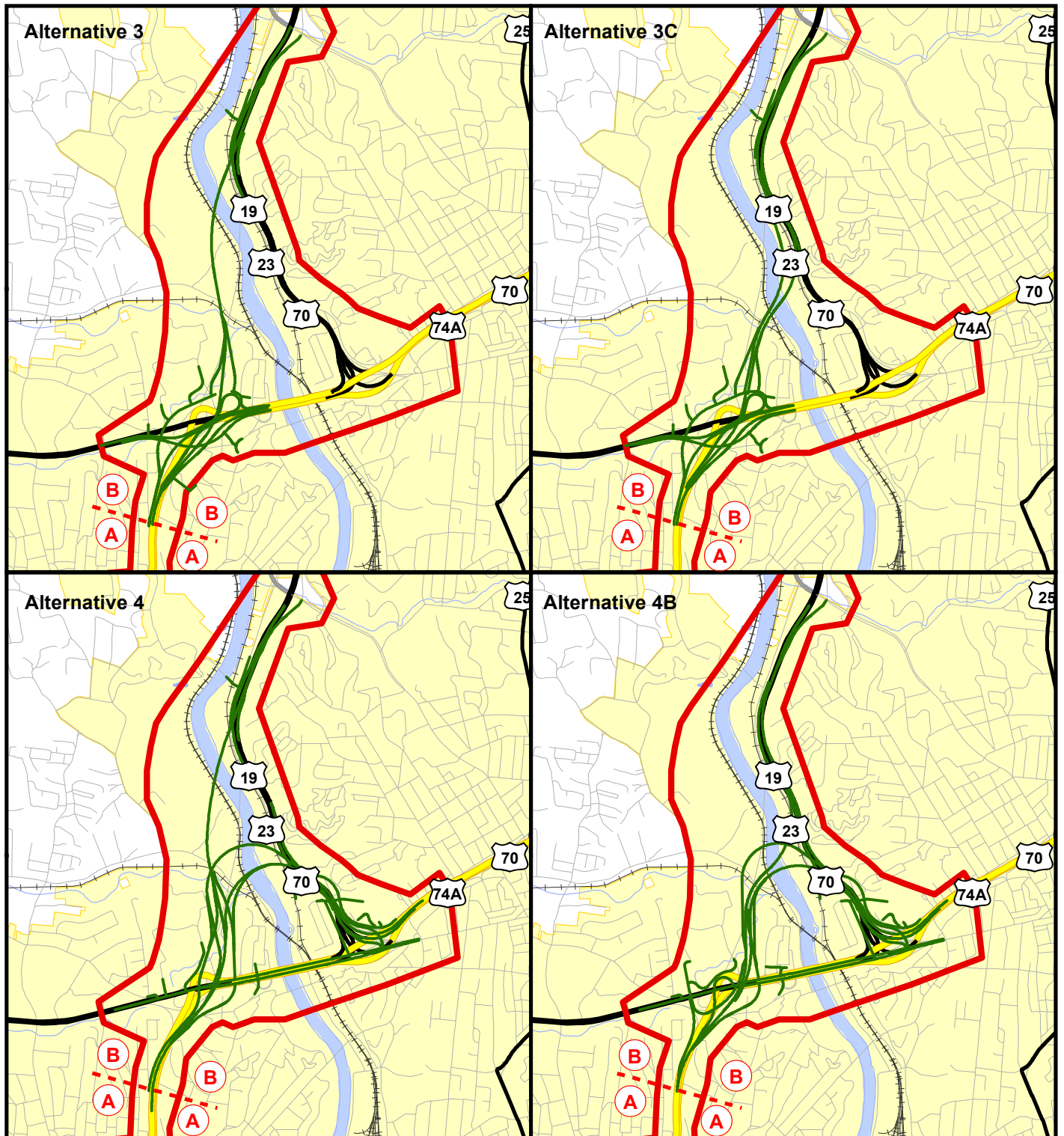
Date: May 2018



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Figure 2-3

**Section A
Detailed Study
Alternative**



North Carolina
Department of Transportation



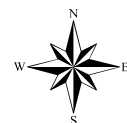
I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Section Boundaries
- Detailed Study Alternative
- Interstate
- US Highway
- State Highway
- State Route
- Local Roads
- Railroad
- Streams (non-delineated)
- Project Study Area
- Water
- Municipal Boundary

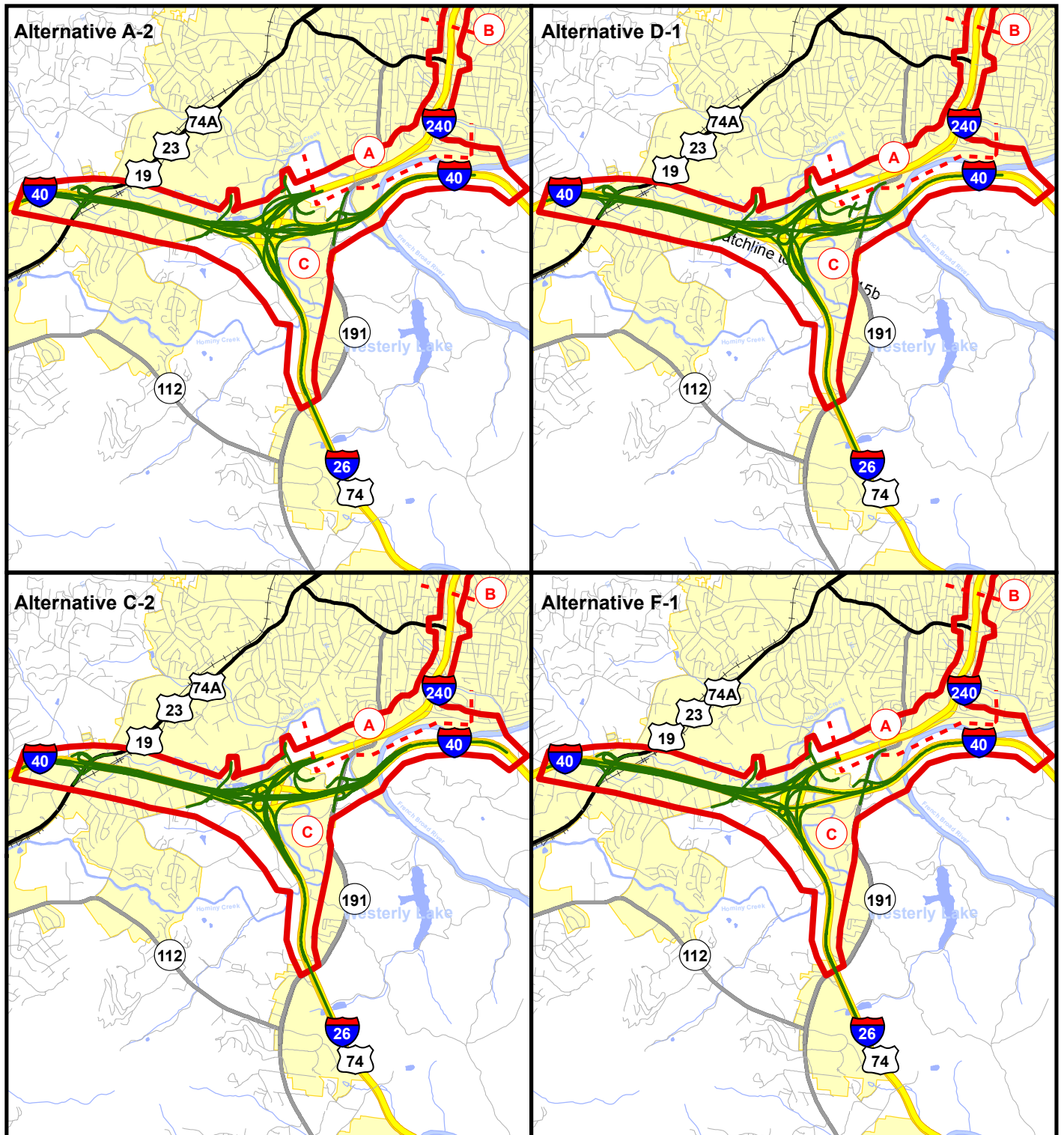
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Figure 2-4

Section B
Detailed Study
Alternatives



North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Section Boundaries
- Detailed Study Alternative
- Interstate
- US Highway
- State Highway
- State Route
- Local Roads
- Railroad
- Streams (non-delineated)
- Project Study Area
- Water
- Municipal Boundary

Date: May 2018



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Figure 2-5

Section C
Detailed Study
Alternatives

Alternative F-1

Features of Alternative F-1 include:

- Maintaining the existing I-26/I-40/I-240 interchange configuration and adding a loop and a ramp to provide for the missing movements.
- Reconstruction of I-40/US 19-23-74A (Smoky Park Highway) interchange utilizing existing configuration, but realigning ramps on the north of I-40.
- Two C/D roadways north and south of I-40 from west of I-26/I-40/I-240 interchange to within the I-40/US 19-23-74A (Smoky Park Highway) interchange. *Note: this alternative was selected as the preferred alternative in Section C, and when designs were refined the C/D roadways were removed due to updated traffic analyses. See Section 2.6.4.4.*
- I-40/NC 191 (Brevard Road) interchange would maintain existing configuration.
- Full access to NC 191 (Brevard Road) along I-40 eastbound and westbound for traffic coming to and from I-26 and I-240.

Section A – I-240 Widening Alternative

Features of Section A – I-240 Widening Alternative include:

- Reconstruct the I-26/I-240 and NC 191 (Brevard Road) interchange to a diamond interchange that would eliminate I-26 eastbound/I-240 westbound exit to NC 191 (Brevard Road).
- Upgrade the existing I-26/I-240 and SR 3556 (Amboy Road) interchange to a full interchange with a conventional diamond configuration.
- Extend SR 3556 (Amboy Road) over I-26/I-240 and continue parallel with I-26/I-240 to the existing intersection of NC 191 (Brevard Road).
- Upgrade the existing I-26/I-240 and US 19-23 Business (Haywood Road) interchange to a tight urban diamond interchange (TUDI) configuration.

Section BAlternative 3

Features of Alternative 3 include:

- Upgrading the existing I-240 interchange with US 19-23-74A (Patton Avenue) to accommodate the connection for the new location portion of I-26.
- Crosses over the Crowne Plaza Resort golf course.
- Creates a new crossing for I-26 over the French Broad River, approximately one mile north of the existing Captain Jeff Bowen Bridges.
- Does not include construction on I-240 east of the French Broad River.
- Does not separate I-240 traffic from Patton Avenue traffic across the Captain Jeff Bowen Bridges.

Alternative 3-C

Features of Alternative 3-C include:

- Upgrading the existing I-240 interchange with US 19-23-74A (Patton Avenue) to accommodate the connection for the new location portion of I-26.
- Crosses over the Crowne Plaza Resort golf course.
- Creates a new crossing for I-26 over the French Broad River, approximately one-half mile north of the existing Captain Jeff Bowen Bridges.
- Does not include construction on I-240 east of the French Broad River.
- Does not separate I-240 traffic from Patton Avenue traffic across the Captain Jeff Bowen Bridges.

Alternative 4

Features of Alternative 4 include:

- Upgrading the existing I-240 interchange with US 19-23-74A (Patton Avenue) to accommodate the connection for the new location portion of I-26.
- Crosses over the Crowne Plaza Resort golf course.
- Creates three new crossings over the French Broad River. Two slightly to the north of the existing Captain Jeff Bowen Bridges would carry I-240 traffic and the third, carrying I-26, would be located approximately one mile to the north.
- Separates I-240 traffic from Patton Avenue traffic across the Captain Jeff Bowen Bridges and includes construction on I-240 east of the French Broad River.

Alternative 4-B

Features of Alternative 4-B include:

- Upgrading the existing I-240 interchange with US 19-23-74A (Patton Avenue) to accommodate the connection for the new location portion of I-26.
- Crosses over the Crowne Plaza Resort golf course.
- Creates three new crossings over the French Broad River, to the north of the existing Captain Jeff Bowen Bridges. Two bridges would carry I-240 traffic, with the third carrying I-26.
- Separates I-240 traffic from Patton Avenue traffic across the Captain Jeff Bowen Bridges and includes construction on I-240 east of the French Broad River.

2.5.5 SUMMARY OF DETAILED STUDY ALTERNATIVE IMPACTS

Estimated environmental impacts associated with the detailed study alternatives are detailed in the DEIS and summarized in Table 2-1.

Table 2-1: Summary of Detailed Study Alternative Impacts

	Section C (I 26/I 40/I 240 Interchange)				Section A	Section B (New Location across French Broad)			
	Alt. A 2	Alt. C 2	Alt. D 1	Alt. F 1	I 240 Widening	Alt. 3	Alt. 3C	Alt. 4	Alt. 4B
Project Features									
Length (miles)									
I-26	2.2	2.2	2.2	2.2	2.0	2.4	2.5	2.4	2.5
I-40/I240	2.9	3.2	2.8	2.8	0.0	0.6	0.6	1.5	1.5
Total Length	5.1	5.4	5.0	5.0	2.0	3.0	3.1	3.9	4.0
Interchanges	3	3	3	3	3	2	2	3	3
Railroad Crossings	2	2	2	2	0	3	3	8	5
Navigable Waterway Crossings	1	1	1	1	0	2	3	4	4
Construction Cost	\$286,100,000	\$269,700,000	\$263,100,000	\$203,300,000	\$105,700,000	\$190,200,000	\$191,200,000	\$255,600,000	\$291,300,000
Right of Way Cost	\$26,600,000	\$22,400,000	\$33,800,000	\$17,100,000	\$29,400,000	\$42,800,000	\$36,200,000	\$45,500,000	\$36,800,000
Utilities Cost	\$2,200,000	\$2,000,000	\$2,300,000	\$2,100,000	\$3,400,000	\$3,100,000	\$3,300,000	\$3,600,000	\$3,900,000
Total Cost	\$314,900,000	\$294,100,000	\$299,200,000	\$222,500,000	\$138,500,000	\$236,100,000	\$230,700,000	\$304,700,000	\$332,000,000
Socioeconomic Features									
Relocations									
Residential	50	32	38	31	81	34	23	46	33
Business	6	6	7	5	17	24	33	24	34
Nonprofit	0	0	0	0	1	2	1	2	1
Total	56	38	45	36	99	60	57	72	68
Schools Relocated	0	0	0	0	1	0	0	0	0
Churches Relocated	1	1	1	1	1	0	0	1	1
Parks and Recreational Areas Impacted	1	1	1	1	2	0	0	0	0
Cemeteries Impacted	0	0	0	0	0	0	0	0	0
Physical Environment									
Noise Impacts (No-Build)	193	193	193	193	181	94	94	243	243
Noise Impacts (before abatement)	218	255	214	304	198	193	133	312	224
Noise Impacts (after abatement)	188	225	184	274	94	60	37	126	89
Hazardous Material Sites (moderate or high) Impacted	1	1	1	1	0	1	1	1	1
Floodplain Impacts (acres)	20.53	20.39	18.06	16.63	8.36	9.36	7.65	8.13	3.91
Floodway Impacts (acres)	2.74	4.23	2.27	2.00	1.94	2.88	2.96	0.69	0.38
Land Use Impacts by Zoning Category (acres)									
Residential Single-Family Districts	19.3	12.7	19.7	12.5	8.4	4.0	4.3	6.4	7.5

	Section C (I 26/I 40/I 240 Interchange)				Section A	Section B (New Location across French Broad)			
	Alt. A 2	Alt. C 2	Alt. D 1	Alt. F 1	I 240 Widening	Alt. 3	Alt. 3C	Alt. 4	Alt. 4B
Residential Multifamily Districts	21.4	15.4	15.2	16.0	26.5	26.5	17.0	27.6	17.0
Neighborhood Business District	0	0	0	0	0	0.2	0.2	0.3	0.1
Community Business Districts	0.0	0.0	0.0	0.0	4.9	0.1	0.1	0.04	0.0
Industrial	0	0	0	0	0	4.0	0.0	2.4	0.4
Institutional District	38.6	38.6	35.4	34.5	13.6	0.4	0.4	0.2	0.4
Office	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Highway Business District	11.4	9.6	9.7	7.8	1.9	14.8	15.8	14.0	14.3
Regional Business District	32.3	32.4	34.1	27.1	0.0	15.4	15.4	9.3	10.5
Central Business District	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.2	0.3
Commercial	28.7	31.4	30.8	24.8	2.7	0.0	0.0	0.0	0.0
Resort District	0.0	0.0	0.0	0.0	0.0	22.1	21.5	37.2	19.6
River District	0.0	0.0	0.0	0.0	6.3	11.2	24.8	16.1	22.3
Total	151.8	140.1	144.9	122.6	64.7	98.9	99.7	113.7	92.5
Human Environment									
<i>Community Effects (# of communities within or adjacent to study area with benefit or burden from proposed alternatives)</i>									
High Benefit	-	-	-	-	-	-	-	-	-
Moderate Benefit	-	-	-	-	-	-	-	1	1
Low Benefit	-	-	-	-	-	-	-	2	2
Neutral	-	-	2	-	1	5	5	1	1
Low Burden	2	2	-	2	3	4	4	4	4
Moderate Burden	-	-	-	-	1	1	1	2	2
High Burden	-	-	-	-	-	-	-	-	-
Cultural Resources									
Historic Properties – Section 106 Effects	0	0	0	0	0	0	0	0	1 Adverse Effect
Historic Properties Impacted	2	2	1	1	2	2	2	2	2
Archeological Sites Impacted	5	6	5	6	2	1	1	1	0
Natural Environment									
<i>Biotic Resources (acres)</i>									
Maintained/ disturbed	192.86	191.47	188.84	171.93	91.08	87.85	83.96	126.50	124.82
Mesic Mixed Forest	140.72	137.11	135.08	111.26	47.41	39.02	33.32	40.02	40.67
Alluvial Hardwood Forest	8.97	9.11	8.33	6.55	1.50	5.87	4.76	3.10	3.88
Open Water	0.19	0.39	0.24	0.17	0	0.00	0.00	0.00	0.00
Total	342.75	338.07	332.49	289.90	139.99	132.74	122.04	169.63	169.37

	Section C (I 26/I 40/I 240 Interchange)				Section A	Section B (New Location across French Broad)			
	Alt. A 2	Alt. C 2	Alt. D 1	Alt. F 1	I 240 Widening	Alt. 3	Alt. 3C	Alt. 4	Alt. 4B
Impervious Surface Increase (acres)	74.43	82.03	61.33	57.12	27.45	29.68	28.37	38.26	40.45
Stream Impacts (#)	12	12	13	12	4	7	6	6	7
Stream Impacts (linear feet)	2,965	2,779	2,938	1,984	798	3,874	3,639	1,839	2,128
Wetland Impacts (#)	13	12	13	12	1	3	2	4	2
Wetland Impacts (acres)	2.62	2.36	2.01	1.86	0.01	0.22	0.11	0.22	0.10
Pond Impacts(#)	0	0	0	0	0	3	0	3	0
Pond Impacts(acres)	0	0	0	0	0	0.6	0	0.53	0
Protected Species Adversely Affected	Unresolved	Unresolved	Unresolved	Unresolved	Unresolved	Unresolved	Unresolved	Unresolved	Unresolved

2.5.6 SELECTION OF PREFERRED ALTERNATIVE

Following publication of the DEIS, NCDOT conducted a public hearing and solicited comments from the public and regulatory agencies. At the end of the comment period, NCDOT completed an evaluation of the impacts and traffic operations of all detailed study alternatives to select a preferred alternative for the project.

The NEPA/Section 404 Merger Team selected NCDOT's preferred alternative of Section C – Alternative F-1, Section A – I-240 Widening Alternative, and Section B – Alternative 4-B, as the LEDPA in May 2016. This was after consideration of the impacts to the human and natural environment summarized in the DEIS and shown in Table 2-1, comments received from the public, and coordination with local officials.

2.6 DESIGN FEATURES OF THE PREFERRED ALTERNATIVE

Since publication of the DEIS and selection of the preferred alternative, updated traffic studies have been prepared to re-evaluate traffic conditions for refinement of the preferred alternative and are based on the updated Travel Demand Model provided by the FBRMPO.

2.6.1 DESIGN CRITERIA

Roadway design criteria used to develop the preferred alternative for the proposed project are presented in Table 2-2. The criteria were developed based on the following design standards and take into account the proposed project's functional classification and design speed:

- *AASHTO – A Policy on Geometric Design of Highways and Streets, 2011 Edition*
- *AASHTO – A Policy on Design Standards – Interstate System, January 2005 Edition*
- *NCDOT – Roadway Design Manual 2006, as amended (NCDOT 2006b)*

Table 2-2: Roadway Design Criteria for Preferred Alternative

<i>Design Element</i>	<i>Roadway</i>	<i>Design Criteria</i>
<i>Design Speed</i>	<u>Interstates</u>	
	I-26	60 mph
	I-26/I-240 combined	60 mph
	I-240	50 mph
	I-40	60 mph
	<u>Freeway to Freeway Interchange Connections</u>	
	I-40 EB To I-26 WB/I-240 EB Ramp	50 mph
	I-40 EB To I-26 EB Ramp	50 mph
	I-40 WB To I-26 WB/I-240 EB Ramp	30 mph
	I-40 WB To I-26 EB Ramp	50 mph
	I-26 WB To I-40 WB Ramp	50 mph
	I-26 WB To I-40 EB Ramp	50 mph
	I-26 EB/I-240 WB To I-40 WB Ramp	50 mph
	I-26 EB/I-240 WB To I-40 EB Loop	30 mph
	I-26 WB/I-240 EB To I-240 EB	50 mph
	I-240 WB To I-26 EB/I-240 WB	50 mph
	<u>Freeway to Crossroad Interchange Connections</u>	
	Split Diamond Ramps	40 mph
	Ramps	40-55 mph
	Loops	25-30 mph
	<u>Interchange Connections</u>	
	US 19-23-70	50 mph
	US 19-23-74A (Patton Avenue)	50 mph
	US 19-23 Bus. (Haywood Road)	25 mph
	SR 3556 (Amboy Road)	40 mph
	NC 191 (Brevard Road) at I-26/I-240	40 mph
	NC 191 (Brevard Road) at I-40	50 mph
	<u>Cross Street</u>	
	All cross streets	In accordance with functional classification
<i>Right-of-Way Width</i>		Variable to maintain construction and maintenance
<i>Lane Width</i>	Freeway	12 feet
	Ramp – single lane	16 feet
	Loop – single lane	16 feet plus curve widening if needed
	Cross Street	12 feet (desirable)

Design Element	Roadway	Design Criteria
<i>Shoulder Width</i>	<i>I-26</i>	<i>14 feet outside (12 paved)/12 feet inside paved to barrier</i>
	<i>I-26/I-240 combined</i>	<i>14 feet outside (12 paved)/12 feet inside paved to barrier</i>
	<i>I-40</i>	<i>14 feet outside (12 paved)/10 feet inside paved to barrier</i>
	<i>Ramp</i>	<i>14 feet (4 feet paved) without guardrail</i>
	<i>Loop</i>	<i>12 feet desirable (4 feet paved)</i>
<i>Median Width</i>	<i>I-26</i>	<i>26 to 35 feet with median barrier</i>
	<i>I-26/I-240 Combined</i>	<i>26 to 35 feet with median barrier</i>
	<i>I-40</i>	<i>22 feet with median barrier</i>
<i>Vertical Grades</i>		<i>In accordance with AASHTO design standards based on rolling terrain</i>
<i>Super-elevation Rate</i>	<i>Freeway</i>	<i>$e_{max} = 8$ percent</i>
	<i>Bridges</i>	<i>$e_{max} = 6$ percent</i>
<i>Vertical Clearance</i>		<i>17 feet (minimum)</i>

Source: AASHTO 2005; AASHTO 2011; NCDOT 2006b.

It is expected that incidental bicycle and pedestrian improvements will be included in the final design of the project, which will be coordinated with the City of Asheville. These facilities should be designed using the AASHTO Guide for the Development of Bicycle Facilities (AASHTO 2012).

2.6.2 TYPICAL SECTIONS

The results of updated traffic analyses after selection of the preferred alternative resulted in the recommendation of a six-lane typical section for basic freeway lanes on I-26/I-240, from I-40 to US 19-23-70, for the preferred alternative.

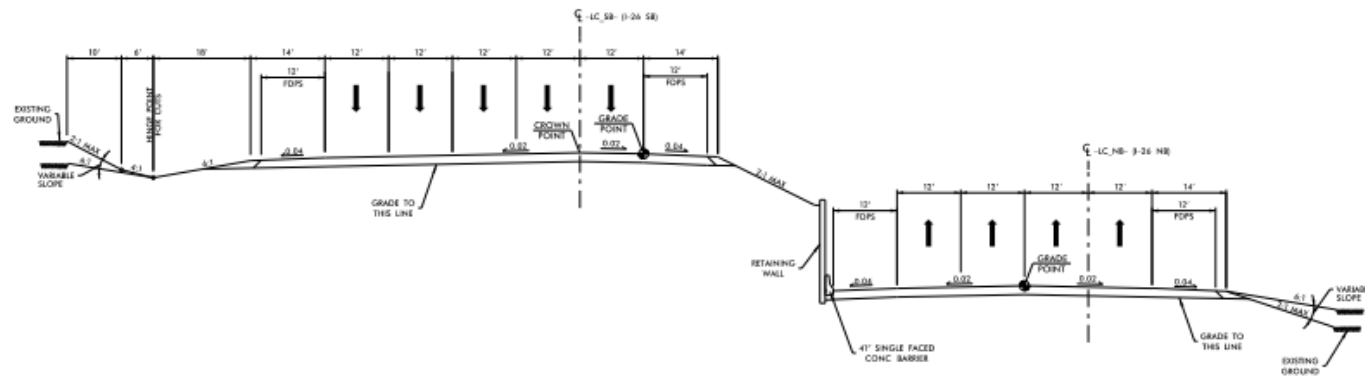
The typical section has auxiliary lanes between interchanges due to the close proximity of the interchanges. The premise behind the enhanced typical section is that the traffic volumes between interchanges would be greater than those in the area within the interchanges. The area within the interchange is typically the area between where a ramp exits the freeway to an intersecting roadway and where the entrance ramp merges back onto the freeway.

Based on Table 2-3, the preferred alternative would require a minimum of four and a maximum of eight basic freeway lanes on I-26 to meet the capacity need presented in the purpose and need for the proposed project. A detailed description of the typical sections for the proposed project is presented in the remainder of this section. The four typical sections are displayed in Figure 2-6 through Figure 2-9.

2.6.2.1 I-26 South of the I-40 Interchange

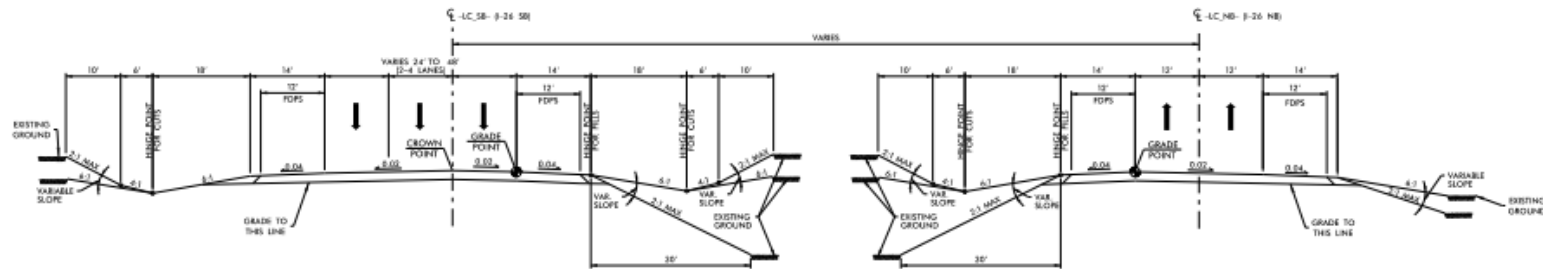
This segment included the use of three typical sections. South of the I-40 interchange, I-26 is a basic eight-lane section with 12 foot travel lanes, 12 foot paved shoulders, and a varying median width. I-26 is divided by barriers and a retaining wall. In this area of the project, I-26 is transitioning to tie to the I-4400/I-4700 project.

Figure 2-6: I-26 Typical Section 1



I-26 SOUTH OF I-40 INTERCHANGE

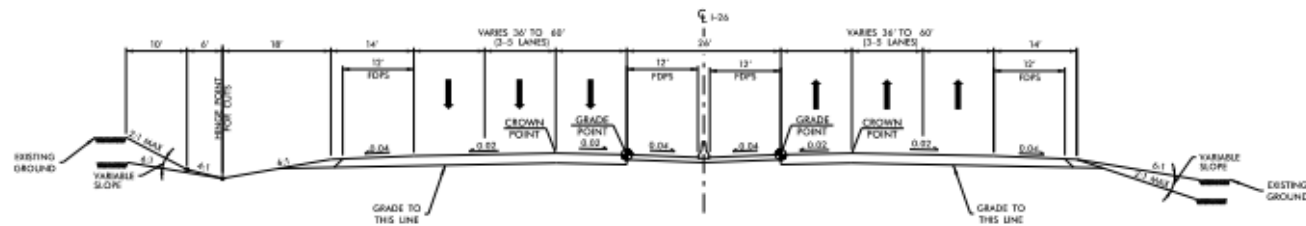
Figure 2-7: I-26 Typical Section 2



I-26 THRU I-40 INTERCHANGE

[illegible]

Figure 2-9: I-26 Typical Section 4



I-26 FROM PATTON AVE. TO BROADWAY

2.6.2.2 I-26 through the I-40 Interchange

Throughout the I-40 interchange, I-26 utilizes a basic four-lane typical section with a bifurcated median. The design includes 12 foot travel lanes and 12 foot paved shoulders. The median allows for up to approximately 460 foot separating eastbound and westbound traffic. This portion of the project uses standard cut and fill slopes to tie construction to existing ground.

2.6.2.3 I-26 from I-40 interchange to Patton Avenue

North of the I-40 interchange, I-26 transitions to a six-lane basic freeway section separated by a 35 foot median and a 41-foot concrete barrier with planter. I-26 is designed with 12-foot travel lanes and 12-foot paved shoulders. This portion of the project uses standard cut and fill slopes to tie construction to existing ground.

2.6.2.4 I-26 North of the I-40 Interchange to SR 1781 (Broadway)

The median narrows to 26 feet over the French Broad River bridges, where it transitions to an eight-lane typical section from US 19-20-70 to SR 1781. I-26 is designed with 12 foot travel lanes and 12 foot paved shoulders.

2.6.3 UPDATED TRAFFIC OPERATIONS ANALYSES

Since the publication of the DEIS, updated traffic studies have been prepared to re-evaluate traffic conditions for refinement of the preferred alternative and are based on the updated Travel Demand Model provided by the FBRMPO. The following sections are based on the Traffic Forecast Report for TIP Project No. I-2513, I-26 Connector (AECOM 2016) and the Traffic Capacity Analysis Memorandum (AECOM 2018f). Information is presented on the traffic volumes and operational analyses for the existing (year 2015) and projected design year (year 2040) for the project study area roadway network to assess how well the project would function and what types of deficiencies could be caused by the project.

2.6.3.1 Year 2040 No-Build Traffic Projections

The traffic forecasts used for the traffic operations analyses were obtained from the Traffic Forecast Report for TIP Project No. I-2513, I-26 Connector (AECOM 2016). The traffic forecasts were used to develop peak hour volumes for AM and PM peak periods for the transportation network within the project study area for the Future No-Build Scenario (year 2040). The 2040 No-Build peak hour and ADT volumes were determined through the use of the 2015 Asheville Travel Model Version 2. Projected 2040 No-Build ADT volumes for existing roadways within the project study area are shown on Figure 2-10a through Figure 2-10f. Projected traffic volumes on I-240 range from 76,400 ADT to 135,200 ADT; and volumes on US 19-23-70 range from 80,200 ADT to 88,600 ADT. The projected volumes on I-40 range from 53,400 ADT to 113,800 ADT within the study area. The projected volume on I-26 as it approaches I-40 is 116,400 ADT.

2.6.3.2 Year 2040 No-Build Capacity Analysis

The No-Build Alternative assumes the local transportation system would evolve as currently planned, but without implementation of the proposed project. With the exception of routine maintenance, no change would take place along the existing corridors within the project study area.

The planned improvements, within the study area of the proposed project, were identified by reviewing the 2040 MTP.

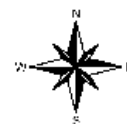
- Basic Freeway Segments
- Freeway Ramp Junctions
- Freeway Weaving Segments
- Signalized Intersection
- Unsignalized Intersection*
- LOS of V/C Ratio - AM(PM)
- Analysis Reference Number
- Average Daily Traffic

Figure 2-10a

2040 No-Build Average Daily Traffic and Level of Service

- Basic Freeway Segments
- Freeway Ramp Junctions
- Freeway Weaving Segments
- Signalized Intersection
- Unsignalized Intersection*
- LOS of V/C Ratio - AM(PM)
- Analysis Reference Number
- Average Daily Traffic

Date: November 2017



Not to Scale

Figure 2-10b

2040 No-Build Average Daily Traffic and Level of Service

North Carolina
Department of Transportation



I-26 Connector
Buncombe County

TIP Project No. I-2513

Legend

- Basic Freeway Segments
- ▲ Freeway Ramp Junctions
- ◆ Freeway Weaving Segments
- Signalized Intersection
- Unsignalized Intersection*
- A(A) LOS of V/C Ratio - AM(PM)
- {1} Analysis Reference Number
- #### Average Daily Traffic

Date: November 2017

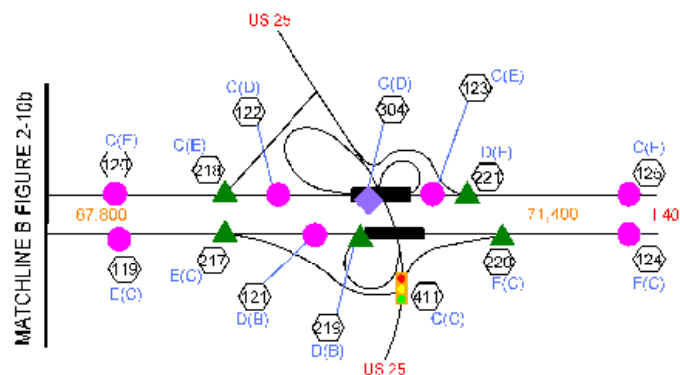
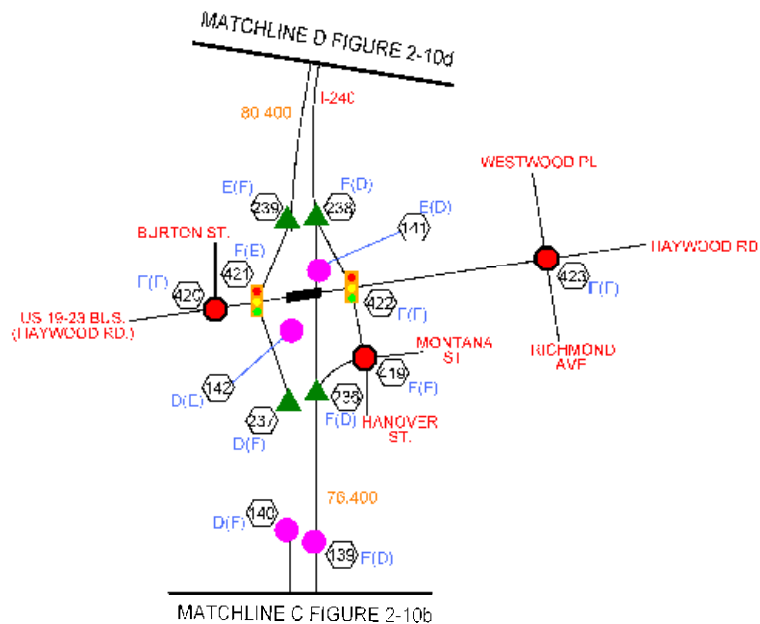


Not to Scale

Figure 2-10c

2040 No-Build Average Daily
Traffic and Level of Service

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

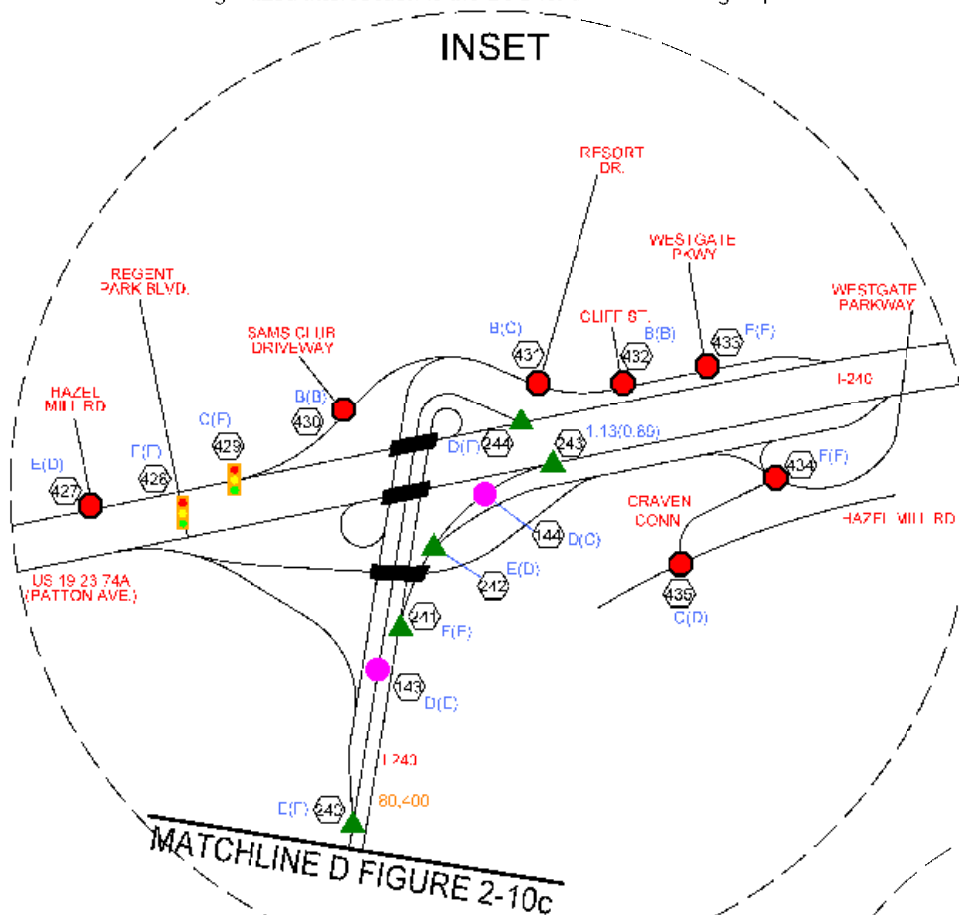


- Basic Freeway Segments
- Freeway Ramp Junctions
- Freeway Weaving Segments
- Signalized Intersection
- Unsignalized Intersection*
- LOS of V/C Ratio - AM(PM)
- Analysis Reference Number
- Average Daily Traffic

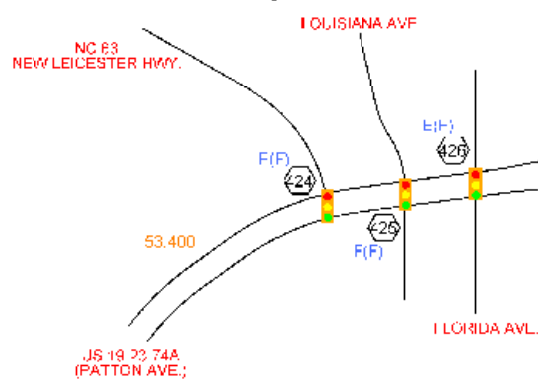
Figure 2-10d

2040 No-Build Average Daily Traffic and Level of Service

INSET



SEE INSET



MATCHLINE D FIGURE 2-10c

MATCHLINE E FIGURE 2-10e

North Carolina
Department of Transportation



I-26 Connector
Buncombe County

TIP Project No. I-2513

Legend

- Basic Freeway Segments
- ▲ Freeway Ramp Junctions
- ◆ Freeway Weaving Segments
- Signalized Intersection
- Unsignalized Intersection*
- A(A) LOS of V/C Ratio - AM(PM)
- 1 Analysis Reference Number
- #### Average Daily Traffic

Date: November 2017

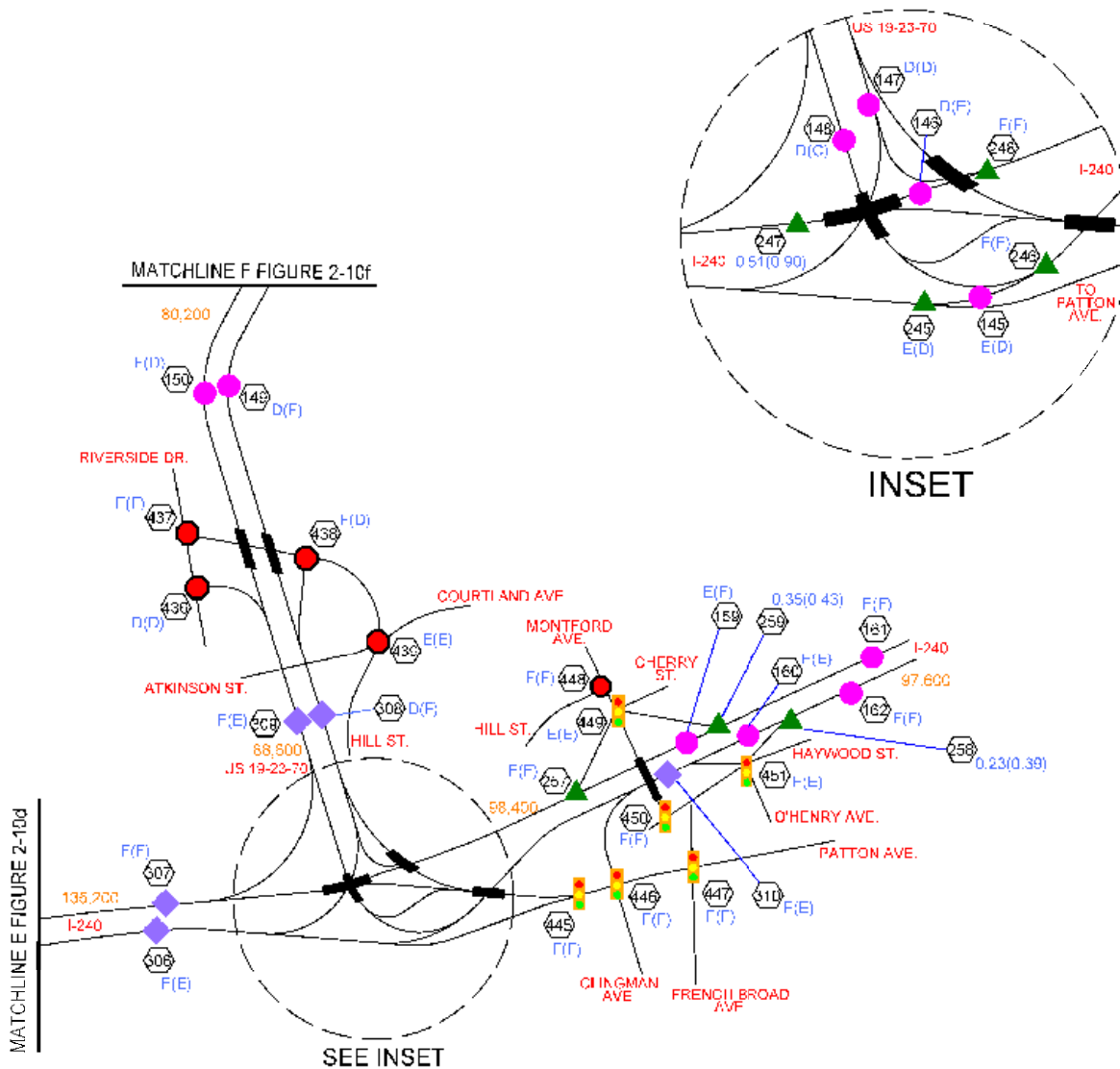


Not to Scale

Figure 2-10e

2040 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



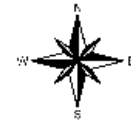
I-26 Connector
Buncombe County

TIP Project No. I-2513

Legend

- Basic Freeway Segments
- ▲ Freeway Ramp Junctions
- ◆ Freeway Weaving Segments
- Signalized Intersection
- Unsignalized Intersection*
- A(A) LOS of V/C Ratio - AM(PM)
- Analysis Reference Number
- ##### Average Daily Traffic

Date: November 2017

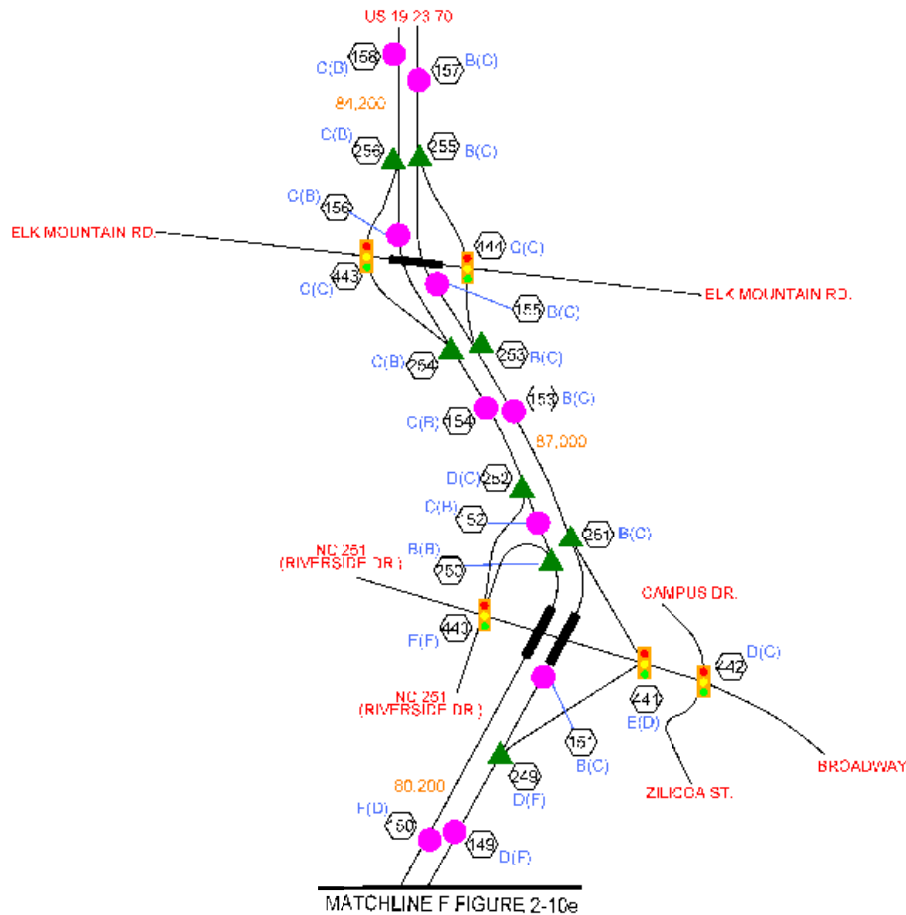


Not to Scale

Figure 2-10f

2040 No-Build Average Daily
Traffic and Level of Service

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



The methods developed in the 2010 Highway Capacity Manual were used to determine the future LOS for the freeway segments and signalized intersections at ramp terminals for the No-Build Alternative. A summary of the LOS results for the freeway basic segments, freeway merges and diverges, freeway weaving, and signalized intersections is shown on Figure 2-10a through Figure 2-10f. The results of the analysis show that, within the project area, 13 of 27 basic freeway segments, 20 of 25 freeway ramp junctions and major diverges, 5 of 7 major merges and isolated ramp roadways, 7 of 8 freeway weaving segments, 10 of 13 signalized intersections, and 10 of 16 unsignalized intersections will operate at LOS E or worse or a volume to capacity ratio (V/C) ratio of 0.85 or worse, with a total of 49 analysis segments operating at LOS F or a V/C ratio over 1.0 during the AM peak hour, PM peak hour, or both. A detailed description of the analysis of the traffic operations is included in the Traffic Capacity Analysis Memorandum (AECOM 2018f).

2.6.3.3 Year 2040 Build Traffic Projections

The traffic forecasts used for the traffic operations analyses were obtained from the Traffic Forecast Report for TIP Project No. I-2513, I-26 Connector (AECOM 2016). The traffic forecasts were used to develop peak hour volumes for AM and PM peak periods for the transportation network within the project study area for the Future Build Scenario (year 2040) for the preferred alternative. The 2040 build peak hour and ADT volumes were determined through the use of the 2015 Asheville Travel Model Version 2.

Future traffic volumes range from 39,600 ADT to 104,400 ADT on US 19-23; from 46,000 ADT to 118,800 ADT on I-40; from 46,800 ADT to 86,400 ADT on I-240; and from 64,800 ADT to 128,600 ADT on I-26, which includes existing I-26, the proposed I-26/I-240 combined roadway and the proposed new location I-26.

2.6.3.4 Year 2040 Build Traffic Capacity Analysis

The methods developed in the 2010 Highway Capacity Manual were used to determine the future LOS for the freeway segments and signalized intersections at ramp terminals for the build alternatives. A summary of the LOS results for the freeway basic segments, freeway merges and diverges, freeway weaving, and signalized intersections is included in the following sections and the LOS for each alternative is shown on Figure 2-11a through Figure 2-11f. The analysis of the build alternatives assumes that the local transportation system would evolve as currently planned, including the implementation of the proposed project. Assumptions regarding how the transportation system adjacent to the project study area will be developed include analysis of the improvements presented in the 2040 MTP.

The results of the analysis show that no basic freeway segments, freeway ramp junctions and major diverges, major merges and isolated ramp roadways, freeway weaving segments, signalized intersections, or unsignalized intersections will operate at LOS E or worse or a V/C ratio of 0.85 or worse. A detailed description of the analysis of the traffic operations is included in the Traffic Capacity Analysis Memorandum (AECOM 2018f).

North Carolina
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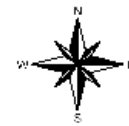
I-26 Connector
Buncombe County

TIP Project No. I-2513

Legend

- Basic Freeway Segments
- ▲ Freeway Ramp Junctions
- ◆ Freeway Weaving Segments
- Signalized Intersection
- Unsignalized Intersection*
- A(A) LOS of V/C Ratio - AM(PM)
- Analysis Reference Number
- #### Average Daily Traffic

Date: November 2017

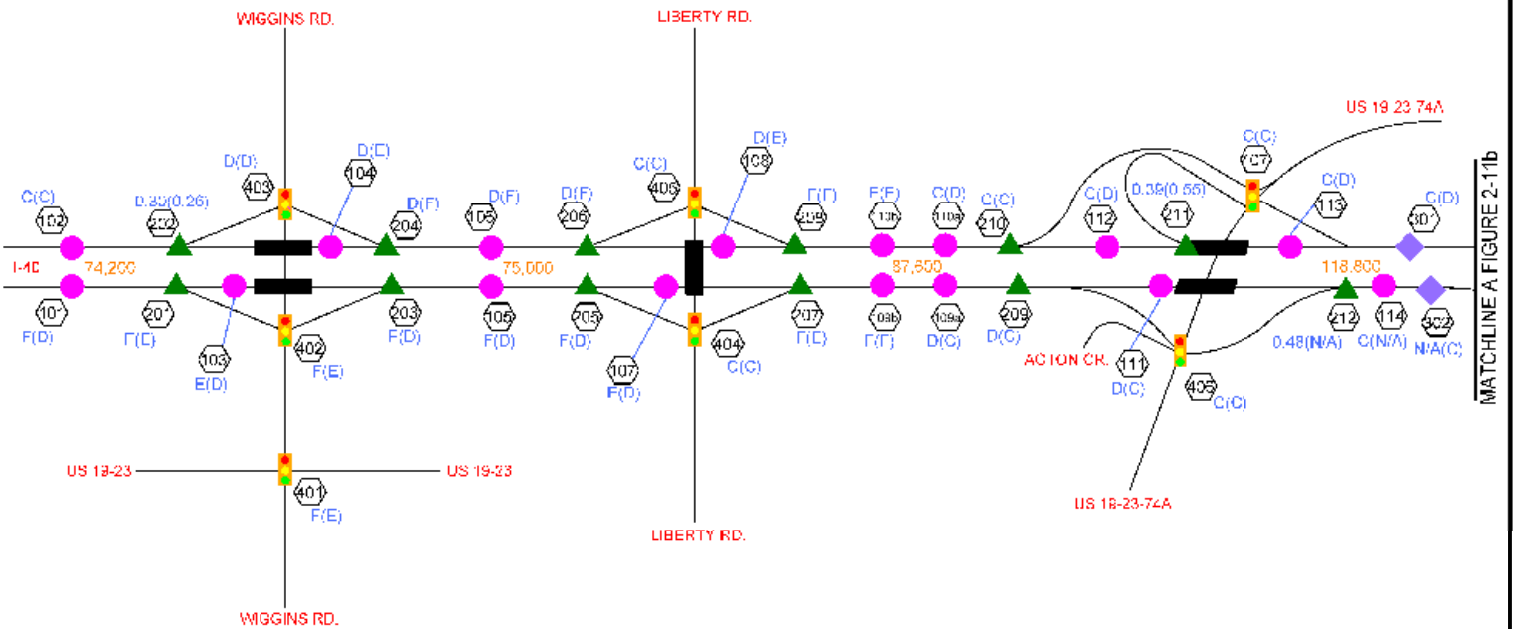


Not to Scale

Figure 2-11a

2040 Build Average Daily
Traffic and Level of Service

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



MATCHLINE A FIGURE 2-11b



Legend

- Basic Freeway Segments
- ▲ Freeway Ramp Junctions
- ◆ Freeway Weaving Segments
- Signalized Intersection
- Unsignalized Intersection*
- A(A) LOS of V/C Ratio - AM(PM)
- 1 Analysis Reference Number
- #### Average Daily Traffic

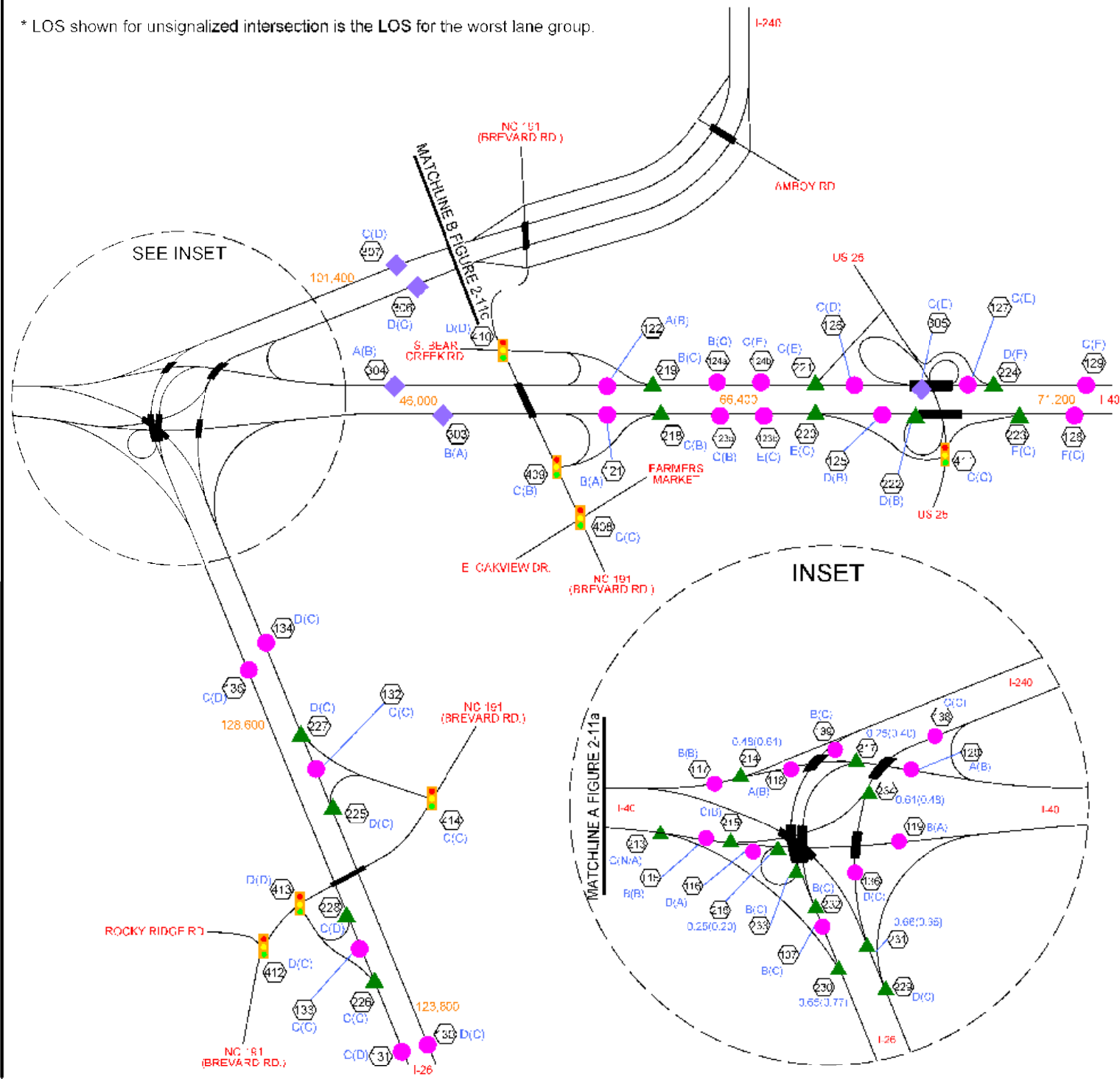


Not to Scale

Figure 2-11b

2040 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



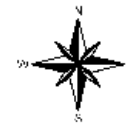
I-26 Connector
Buncombe County

TIP Project No. I-2513

Legend

- Basic Freeway Segments
- ▲ Freeway Ramp Junctions
- ◆ Freeway Weaving Segments
- Signalized Intersection
- Unsignalized Intersection*
- Roundabout
- A(A) LOS or V/C Ratio - AM(PM)
- 1 Analysis Reference Number
- #### Average Daily Traffic

Date: November 2017

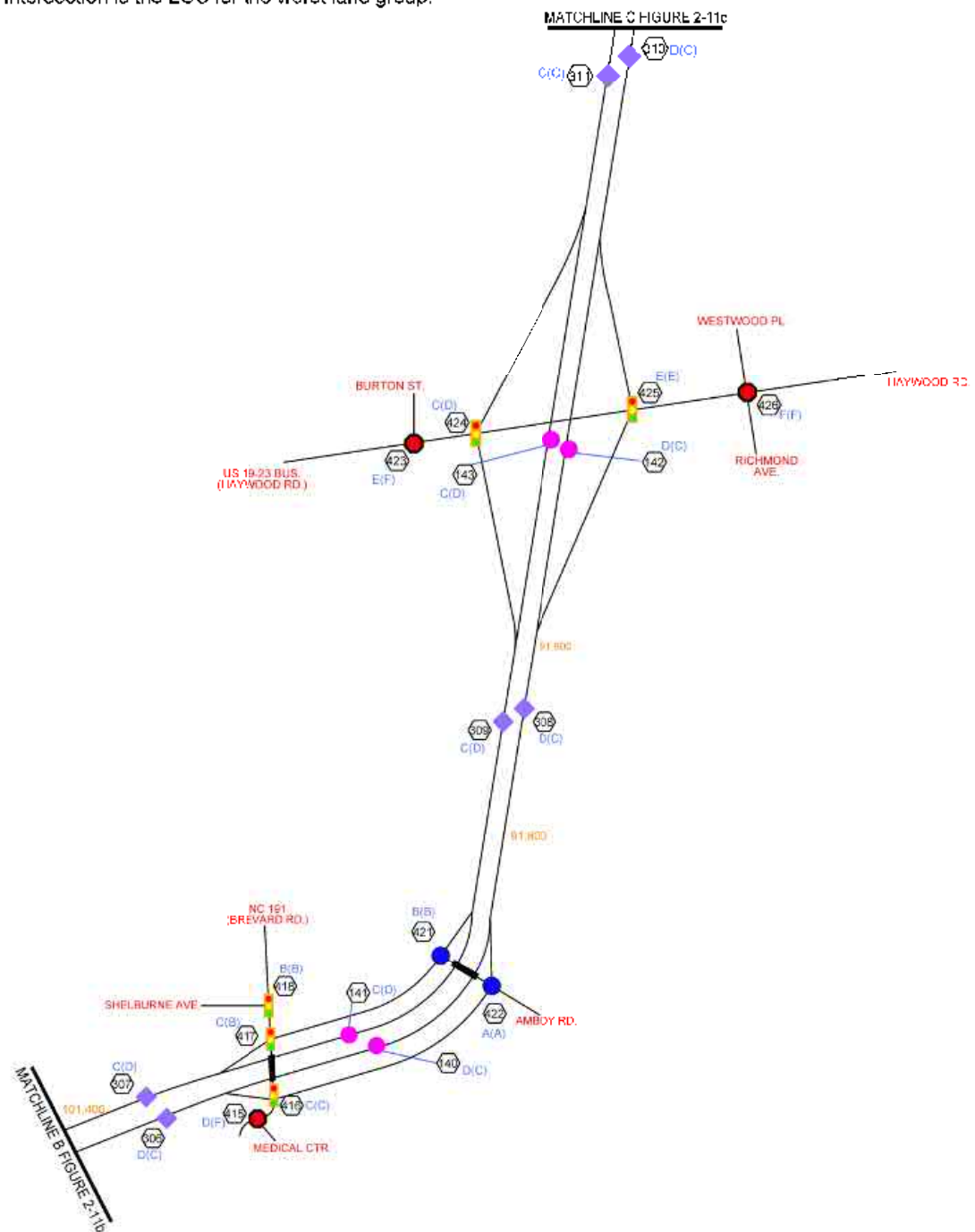


Not to Scale

Figure 2-11c

2040 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



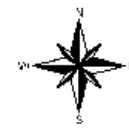
I-26 Connector
Buncombe County

TIP Project No. I-2513

Legend

- Basic Freeway Segments
- ▲ Freeway Ramp Junctions
- ◆ Freeway Weaving Segments
- Signalized Intersection
- Unsignalized Intersection*
- Roundabout
- A(A) LOS or V/C Ratio - AM(PM)
- 1 Analysis Reference Number
- #### Average Daily Traffic

Date: November 2017

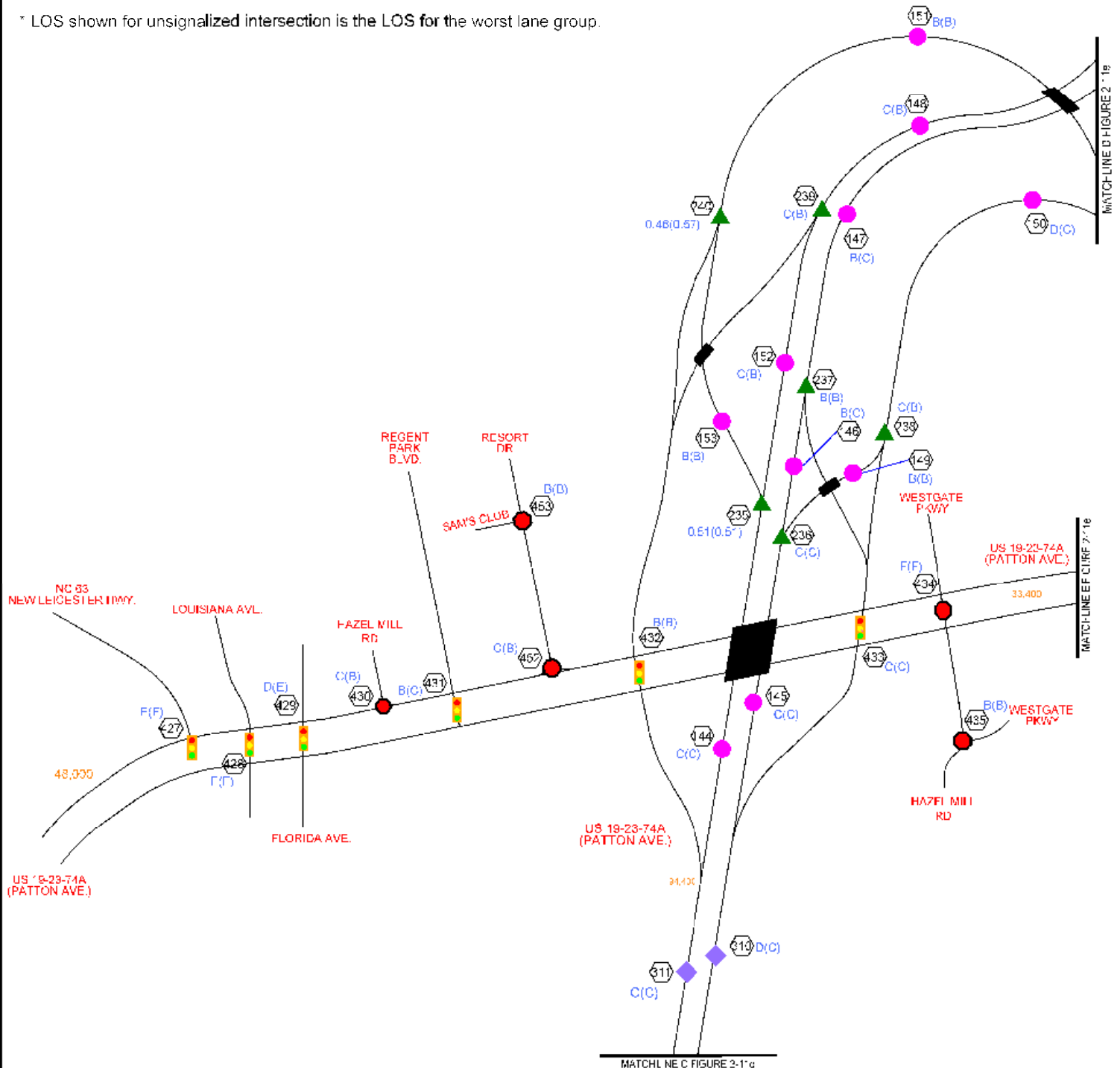


Not to Scale

Figure 2-11d

2040 Build Average Daily
Traffic and Level of Service

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



MATCHLINE C FIGURE 2-11c

MATCHLINE D FIGURE 2-11e

MATCHLINE E FIGURE 2-11f

North Carolina
Department of Transportation



I-26 Connector
Buncombe County

TIP Project No. I-2513

Legend

- Basic Freeway Segments
- ▲ Freeway Ramp Junctions
- ◆ Freeway Weaving Segments
- Signalized Intersection
- Unsignalized Intersection*
- A(A) LOS of V/C Ratio - AM(PM)
- Analysis Reference Number
- #### Average Daily Traffic

Date: November 2017

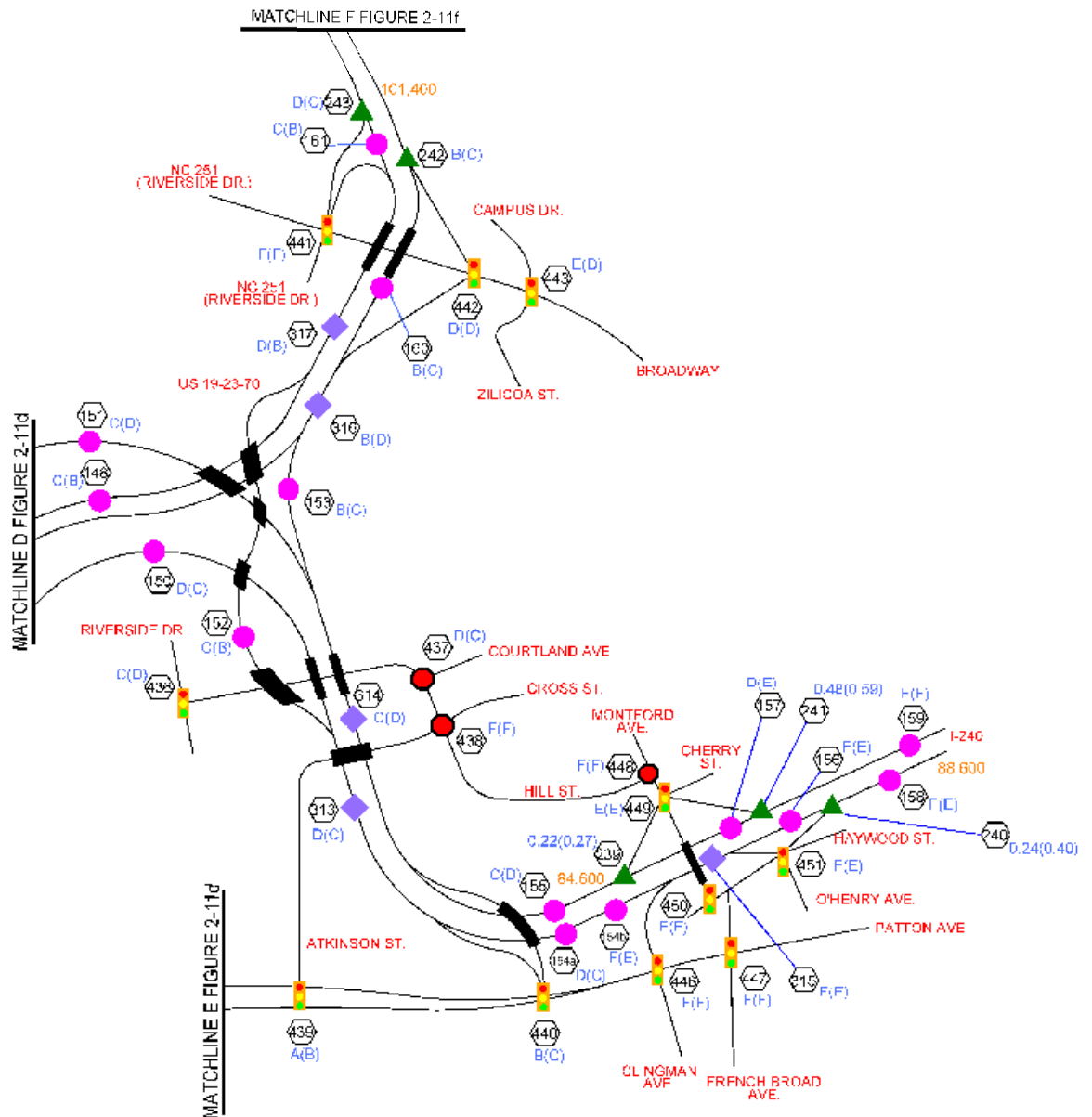


Not to Scale

Figure 2-11e

2040 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 Connector
Buncombe County

TIP Project No. I-2513

Legend

- Basic Freeway Segments
- ▲ Freeway Ramp Junctions
- ◆ Freeway Weaving Segments
- Signalized Intersection
- Unsignalized Intersection*
- A(A) LOS of V/C Ratio - AM(PM)
- 1 Analysis Reference Number
- #### Average Daily Traffic

Date: November 2017

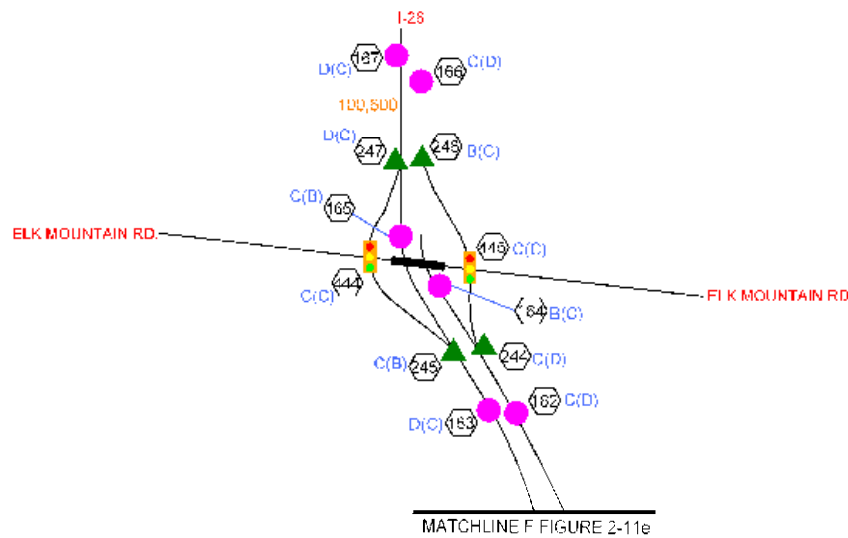


Not to Scale

Figure 2-11f

2040 Build Average Daily
Traffic and Level of Service

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



2.6.4 DESIGN REFINEMENTS OF THE PREFERRED ALTERNATIVE

As previously discussed, following publication of the DEIS, the FBRMPO revised its travel demand model. This revised model, and associated revisions to the traffic forecast and capacity analysis, allowed the design team to incorporate several refinements into the project to reduce impacts of the preferred alternative. The revised designs of the preferred alternative for Section C, A, and B are shown on Figures 2-12, 2-13, and 2-14, respectively.

2.6.4.1 Number of Lanes in Section A

Traffic studies used to analyze detailed study alternatives in the DEIS showed the minimum number of lanes required to accommodate the projected traffic volumes would include eight through travel lanes (four in each direction) for the section from I-40 to Patton Avenue (where it is combined with I-240) and six through travel lanes (three in each direction) from Patton Avenue to Broadway.

The results of updated traffic analyses after selection of the preferred alternative resulted in the recommendation of a six-lane typical section for basic freeway lanes on I-26/I-240, from I-40 to US 19-23-70.

2.6.4.2 I-26 Configuration between Amboy Road and Brevard Road

In March 2017, the project team met with the Fairfax/Virginia Avenue Community to discuss the Amboy Road design and its impact to area residents. Residents expressed concern that allowing right-in/right-out movements from Amboy Road Extension to the neighborhood would cause a significant amount of cut-through traffic. Community members also expressed concerns about the lack of greenway access and connectivity shown on the 2015 DEIS designs. It was requested the project team investigate eliminating the Amboy Road extension and the connections to Fairfax and Virginia avenues, and redesigning this section of the project to provide a split diamond interchange on I-26 between Amboy Road and Brevard Road.

The project team developed and evaluated three options: the configuration as shown in the DEIS, a split diamond configuration, and a split diamond configuration with roundabouts at the Amboy Road ramp terminals. For the split diamond configurations, a multi-use path is shown adjacent to, but barrier separated from, the eastbound ramp between Amboy Road and Brevard Road. The project team presented these options to the Fairfax/Virginia Avenue Community in September 2017 to provide residents an opportunity to review the conceptual designs developed as a result of the meeting held with the community in March 2017. Attendees agreed that the concept using the split diamond configuration with roundabouts at the ramp terminals was most consistent with the neighborhood's vision of the project. It was determined to carry this concept forward into the preliminary design for the preferred alternative.

2.6.4.3 Amboy Road

The detailed study alternative designs showed Amboy Road extending over I-26 and intersecting with Brevard Road. When the Brevard Road/Amboy Road interchange was revised to a split diamond configuration, the project team performed an "over/under" study to determine

whether Amboy Road should be positioned above or below I-26. This study determined that, with the split diamond configuration, positioning Amboy Road under I-26 would cause the least impacts to the Fairfax/Virginia Avenue Community as well as Carrier Park, a Section 4(f) resource discussed further in subsequent chapters.

2.6.4.4 I-40 Collector/Distributor Roads

The revised traffic studies used to refine the preferred alternative designs showed traffic volumes were reduced within the project limits along I-40. As a result, the project team was able to eliminate approximately 20,000 feet of C/D roads in Section C of the project. This reduced impacts adjacent to both eastbound and westbound I-40 west of the I-26 interchange.

2.6.4.5 Exit 44 Ramp over Railroad

The project team determined that, due to the elimination of the westbound C/D road along I-40 in Section C, it was acceptable geometrically to add a new ramp connecting westbound I-40 to northbound Smoky Park Highway at Exit 44 and revise the existing loop to serve only westbound I-40 to southbound Smoky Park Highway traffic.

2.6.4.6 Left-over on Patton Avenue in Section B

The designs used to analyze the detailed study alternatives in the DEIS included a left-over turn lane for eastbound Patton Avenue traffic to access the Westgate Shopping Center. Since eastbound traffic can use Hazel Mill Road and Westgate Parkway to access the shopping center, it was determined acceptable to eliminate this redundant access for eastbound traffic for the preferred alternative.

2.6.4.7 West Asheville

The detailed study alternative designs showed the West Asheville Greenway following or using Hazel Mill Road in the southeast quadrant of the I-26/Patton Avenue interchange. The refined designs for the preferred alternative realign the greenway to follow the proposed ramp in the southeast quadrant, which will eliminate right-of-way impacts, eliminate conflicts between vehicular and greenway traffic, and provide better connectivity of the proposed West Asheville Greenway to Patton Avenue.

2.6.4.8 I-26/I-240/Patton Avenue Interchange

The designs for this interchange used to analyze the detailed study alternatives in the DEIS included a modified partial cloverleaf interchange. The modification, an extra loop in the northwest quadrant, was added to accommodate the large volume of outbound Patton Avenue traffic accessing I-26/I-240 eastbound. In April 2018, NCDOT began coordinating with the City of Asheville's consultant Sam Schwartz on various design recommendations from the City of Asheville. One of these recommendations included revising this interchange to an urban diamond type configuration. Alternative 4-B was revised to include a diamond interchange at the I-26/I-240/Patton Avenue, which required the addition of approximately 8.5 acres of right of way; however, no additional residential relocations were necessary, and one business relocation

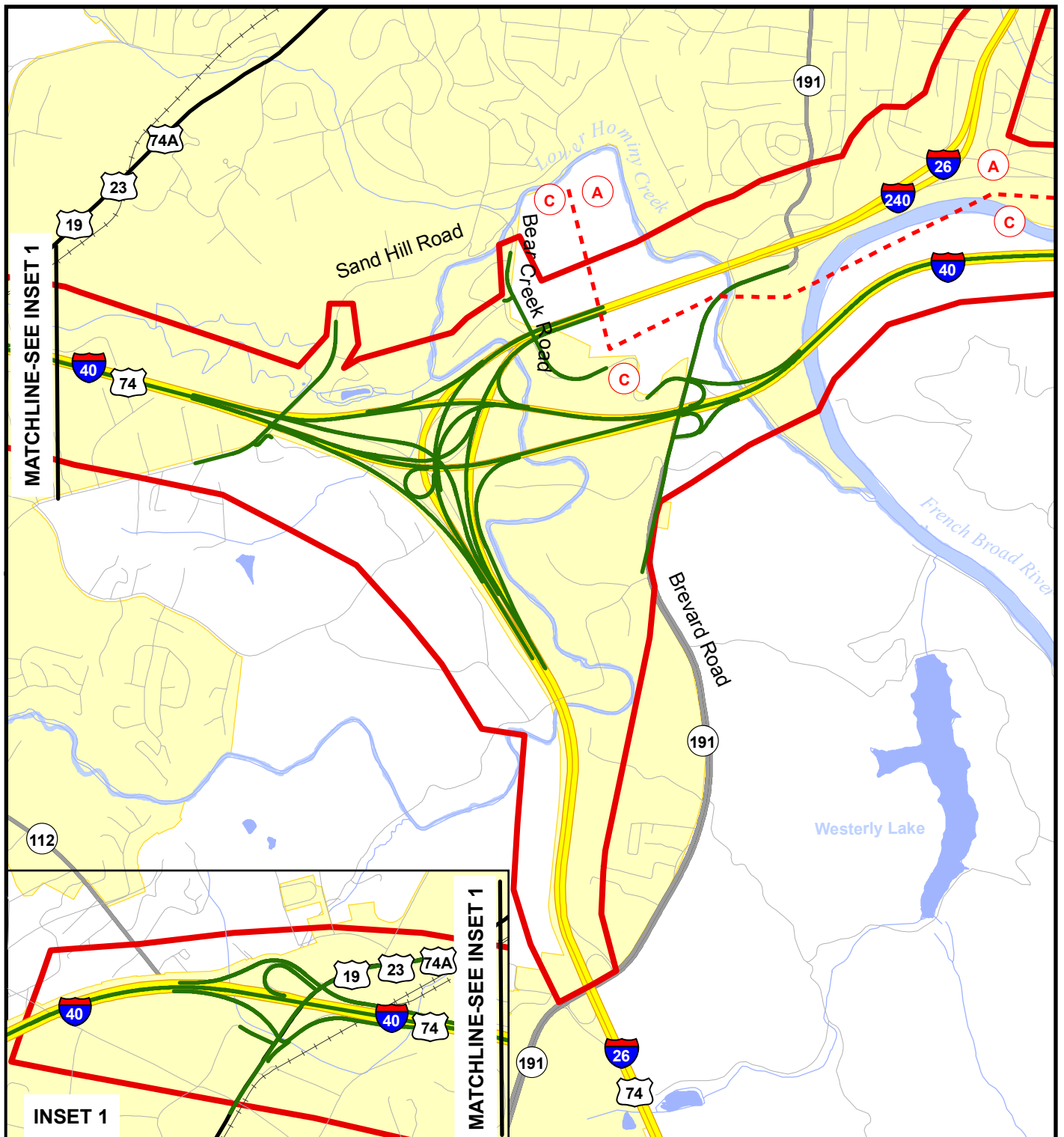
was eliminated. The full analysis of Alternative 4-B by the City of Asheville and their design recommendations for Section B was finalized in September 2018 and is included in Appendix B.

2.6.4.9 Riverside Drive Widening

Since publication of the 2015 DEIS, the Riverside Drive Widening project, formerly STIP U-5868 has been included in Section B. The improvements along Riverside Drive include the addition of a center turning lane and a 10-foot multi-use path to the west of the roadway, from Hill Street to Broadway.

2.6.5 ROADWAY DEFICIENCIES OF THE PREFERRED ALTERNATIVE

As discussed in the DEIS, each of the detailed study alternatives was designed to meet the 13 controlling criteria defined by FHWA for approval of the interstate designation for I-26. As with the design of these alternatives, the refined design for the preferred alternative includes design features that are not preferred, but are acceptable for inclusion as an interstate route. In addition, the preferred alternative would not address some of the roadway deficiencies that are beyond the limits of construction and were not essential to the I-26 Connector project. The substandard elements not included within the construction of the project could be addressed as part of another project in the future.



North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Section Boundaries
- Project Study Area
- Detailed Study Alternative
- Interstate
- US Highway
- State Highway
- State Route
- Local Road
- + + + Railroad
- Streams (non-delineated)
- Water
- Municipal Boundary

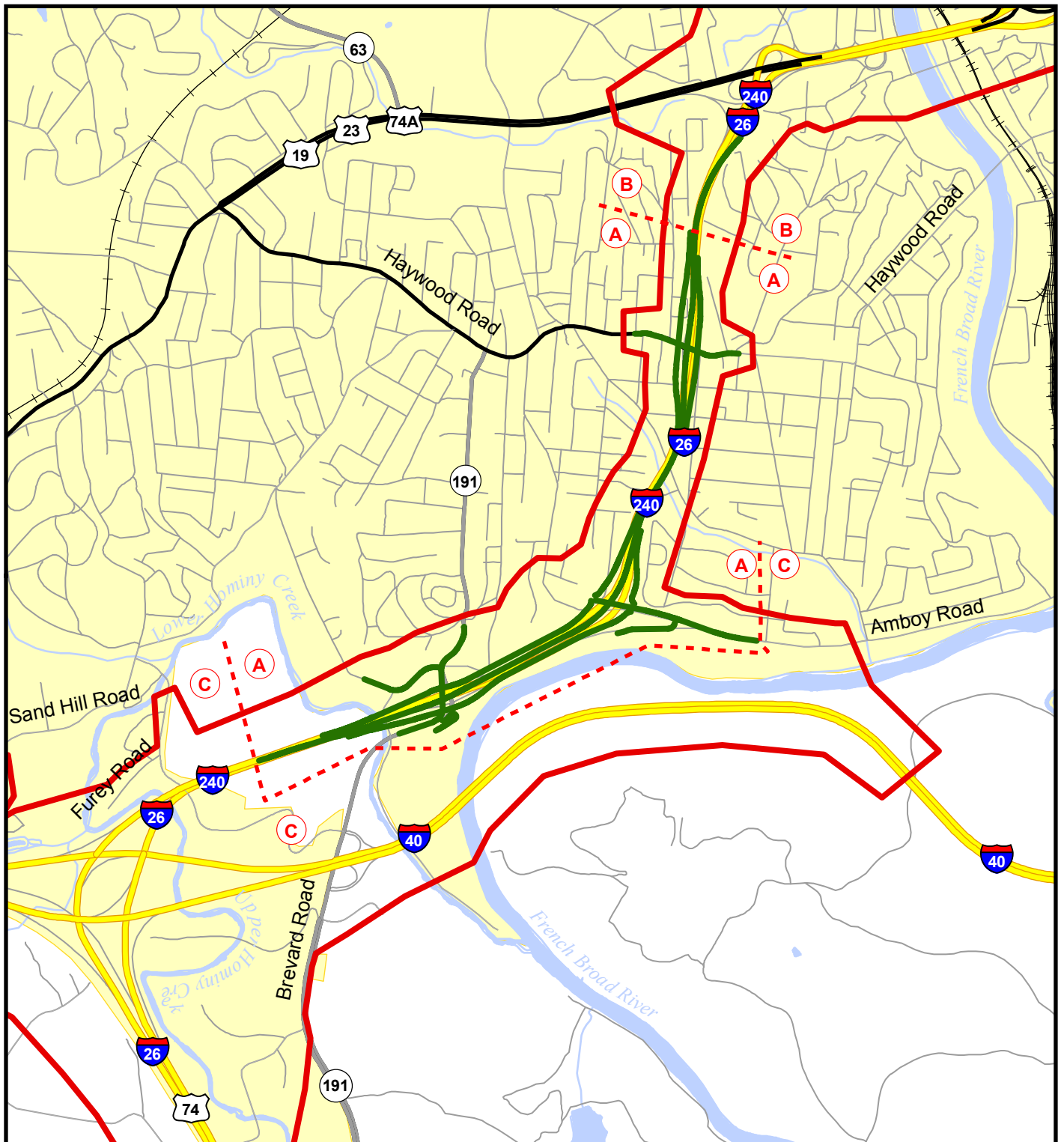
Date: August 2018



0 1,000 2,000
Feet

Figure 2-12

**Section C
Preferred Alternative**



North Carolina
Department of Transportation



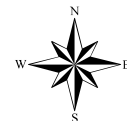
I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Section Boundaries
- Project Study Area
- Detailed Study Alternative
- Interstate
- US Highway
- State Highway
- State Route
- Local Road
- + + Railroad
- Streams (non-delineated)
- Water
- Municipal Boundary

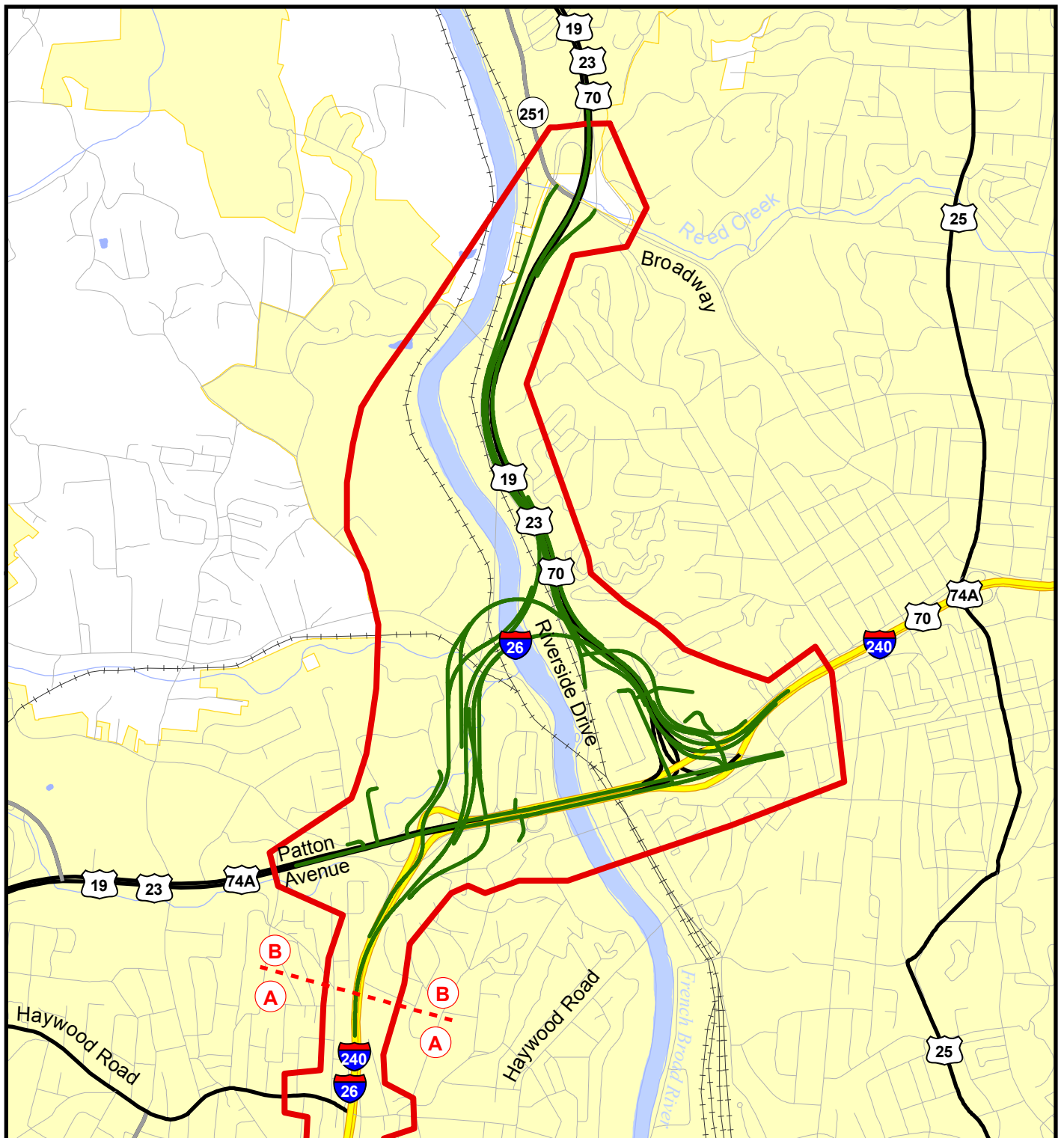
Date: August 2018



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Feet

Figure 2-13

**Section A
Preferred Alternative**



North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Section Boundaries
- Project Study Area
- Detailed Study Alternative
- Interstate
- US Highway
- State Highway
- State Route
- Local Road
- + + + Railroad
- Streams (non-delineated)
- Water
- Municipal Boundary

Date: August 2018



0 1,000 2,000
Feet

Figure 2-14

**Section B
Preferred Alternative**

The existing deficient roadway elements along I-26, I-40, I-240, US 19-23-70, and their associated interchanges are presented in Chapter 1. The elements of the preferred alternative that do not fully meet design standards are described below. Some deficiencies that previously occurred in the designs used to analyze detailed study alternatives in the DEIS have been eliminated due to design refinements of the preferred alternative. Some deficiencies remain due to various constraints or in an effort to minimize impacts.

2.6.5.1 Section C

The elements for the preferred alternative in Section C that would not fully meet design standards or recommendations are included in Table 2-3.

Table 2-3: Roadway Deficiencies of Preferred Alternative in Section C

Roadway Segment	Deficient Element
I-40/I-26 interchange	The ramp from I-40 westbound to I-26 eastbound utilizes a left-hand exit from I-40 and a left-hand entrance to I-26. Left-hand entrances and exits are not prohibited, but they are not recommended.
I-40/I-26 interchange	The ramp from I-26 westbound to I-40 westbound utilizes a left-hand exit from I-26 and a left-hand entrance to I-40. Left-hand entrances and exits are not prohibited, but they are not recommended.
I-40/I-26 interchange	The ramp from I-40 EB to I-26 WB utilizes a left-hand exit from I-40 and a left-hand entrance to I-26. Left-hand entrances and exits are not prohibited, but they are not recommended.
I-40/I-26 interchange	<i>The ramp from I-40WB to I-26WB utilizes a 30 mph design speed. A 50 mph design speed is desirable for this movement.</i>

The three design deficiencies noted in the DEIS remain as part of the preferred alternative refined designs. The I-40 eastbound to I-26 westbound left-hand exit was previously accommodated via a right-hand exit and a C/D road. As part of the minimization efforts, the C/D road has been eliminated from the project. In addition to minimizing the overall project footprint, a left-hand exit also eliminates a fourth level to the I-26/I-40 interchange.

An additional deficiency was included in the preferred alternative designs at the ramp from I-40 westbound to I-26 westbound, which utilizes a 30 mph design speed where a 50 mph design speed is desirable. This movement is constrained geometrically by the skew of the existing facilities, the French Broad River, and additional right-of-way impacts. This deficiency is mitigated by providing sufficient deceleration and acceleration lengths for vehicles making this move.

2.6.5.2 Section A

Three roadway deficiencies were reported in the DEIS for Section A. One of these deficiencies related to the interface between Sections A and B. This deficiency did not exist with Alternative 4-B and is therefore eliminated from the preferred alternative design revisions.

A second deficiency reported in the DEIS for the previous designs was eliminated during design revisions for the preferred alternative at the I-26/I-240 interchange at NC 191 (Brevard Road).

The interchange did not provide the I-26 eastbound to I-240 westbound to NC 191 (Brevard Road) movement. Since the Amboy Road and NC 191 interchanges were redesigned as a split diamond configuration, the deficient element was eliminated in the preferred alternative design refinements and all movements are provided.

The third deficient element reported in the DEIS, which noted the lack of controlled access for a distance of 100 feet along US 19-23 Business (Haywood Road), could not be eliminated in the preferred alternative design refinements. The access is required for the West Asheville/Aycock School Historic District property, which is listed on the National Register of Historic Places (NRHP). In order to control the access for 100 feet, a greater impact to this resource would be required.

2.6.5.3 Section B

The elements for the preferred alternative in Section B that would not fully meet design standards or recommendations are included in Table 2-4.

Table 2-4: Roadway Deficiencies for Section B – Alternative 4-B

Roadway Segment	Deficient Element
I-26/I-240 Interchange at Patton Avenue	The interchange would not provide for all traffic movements because the I-240 westbound to I-26 westbound movement and the I-26 eastbound to I-240 eastbound movement would not exist.
I-26 Interchange at US 19-23-70	The interchange would not provide for all traffic movements because the I-26 westbound to US 19-23-70 southbound movement and the US 19-23-70 northbound to I-26 eastbound movement would not exist.
I-240 Interchange with US 19-23-70	The interchange would not provide for all traffic movements because the I-240 eastbound to US 19-23-70 northbound movement and the US 19-23-70 southbound to I-240 westbound movement would not exist.
I-240/US 19-23-70/Patton Avenue Interchange	The interchange would not provide for all traffic movements because the I-240 westbound to Patton Avenue westbound and eastbound movements would not exist.

These elements were all included in the DEIS designs and have not been eliminated in the design refinements. The first three deficient elements would be due to the inability to provide for all traffic movements at the I-26/I-240 interchange with Patton Avenue, the I-26 interchange with US 19-23-70, and the relocated I-240 interchange with US 19-23-70. The primary reason the access could not be accommodated is due to the constraints within the corridor, including the urban development and natural features such as the French Broad River. The traffic movements that are not included in the interchanges would be redundant movements to those that occur at an interchange in advance of the interchange with the missing movements; therefore, these movements would only serve traffic that missed an earlier exit. Due to the difficulties in providing all movements at a single interchange as a result of the urban location, topographic constraints, and the French Broad River, the intent of the three interchanges is to act as a single interchange that is spread out to form a triangle that when combined provide for all traffic movements.

A partial interchange between I-240/US 19-23-70 and Patton Avenue is due to topographical constraints, a school, a daycare center, and a church adjacent to the interstate and the close proximity to the interchanges at I-240/Montford Avenue and the relocated I-240 interchange with US 19-23-70. Access to Patton Avenue from I-240 would be provided at the interchange of I-26/I-240 and US 19-23-74A, west of the French Broad River.

2.7 PROJECT COSTS OF PREFERRED ALTERNATIVE

Table 2-5 lists the construction, right-of-way, and utility costs for the preferred alternative prepared by NCDOT.

Table 2-5: Project Costs

	Section C	Section A	Section B
Construction Cost	\$200,570,000	\$152,903,000	\$448,193,000
Right of Way Cost	\$12,423,000	\$44,502,000	\$95,374,000
Utilities Cost	\$4,464,000	\$2,036,000	\$13,576,000
Total Cost	\$217,457,000	\$199,441,000	\$564,943,000

Source: NCDOT Roadway Design Unit, NCDOT Right of Way Unit, and NCDOT Utilities Unit (2018)

The Moving Ahead for Progress in the 21st Century Act (MAP-21) requires a financial plan for all Federal-aid projects with an estimated total cost of \$500 million or more to be prepared by FHWA based on reasonable assumptions. The \$500 million threshold includes all project costs, such as engineering, construction, ROW, utilities, construction engineering, and inflation. FHWA prepared a cost estimate review in September 2018 to verify the reasonableness of the current total cost estimate to complete the project in year of expenditure dollars. Probability ranges for the cost estimate indicating best and worst-case scenarios were presented that represent the current stage of project design. The review team also determined potential schedule impacts on the project cost. The results of the analysis forecasted a range of total project costs for the I-26 Connector Project ranging from \$1.10 billion to \$1.42 billion.

In accordance with NEPA, NCDOT published a DEIS for the I-26 Connector Project in October 2015. The DEIS described the purpose of and need for the project, identified project alternatives, and evaluated them for potential environmental effects. Since the DEIS was published, a preferred alternative has been chosen based on feedback from the public and environmental regulatory and resource agencies. This FEIS is presented in the same order as the DEIS, with clarification and updates such as changes in the existing environment, updated impacts anticipated from the preferred alternative, and responses to comments received on the DEIS. Some information from the DEIS is summarized, and substantive new information is noted in italics.

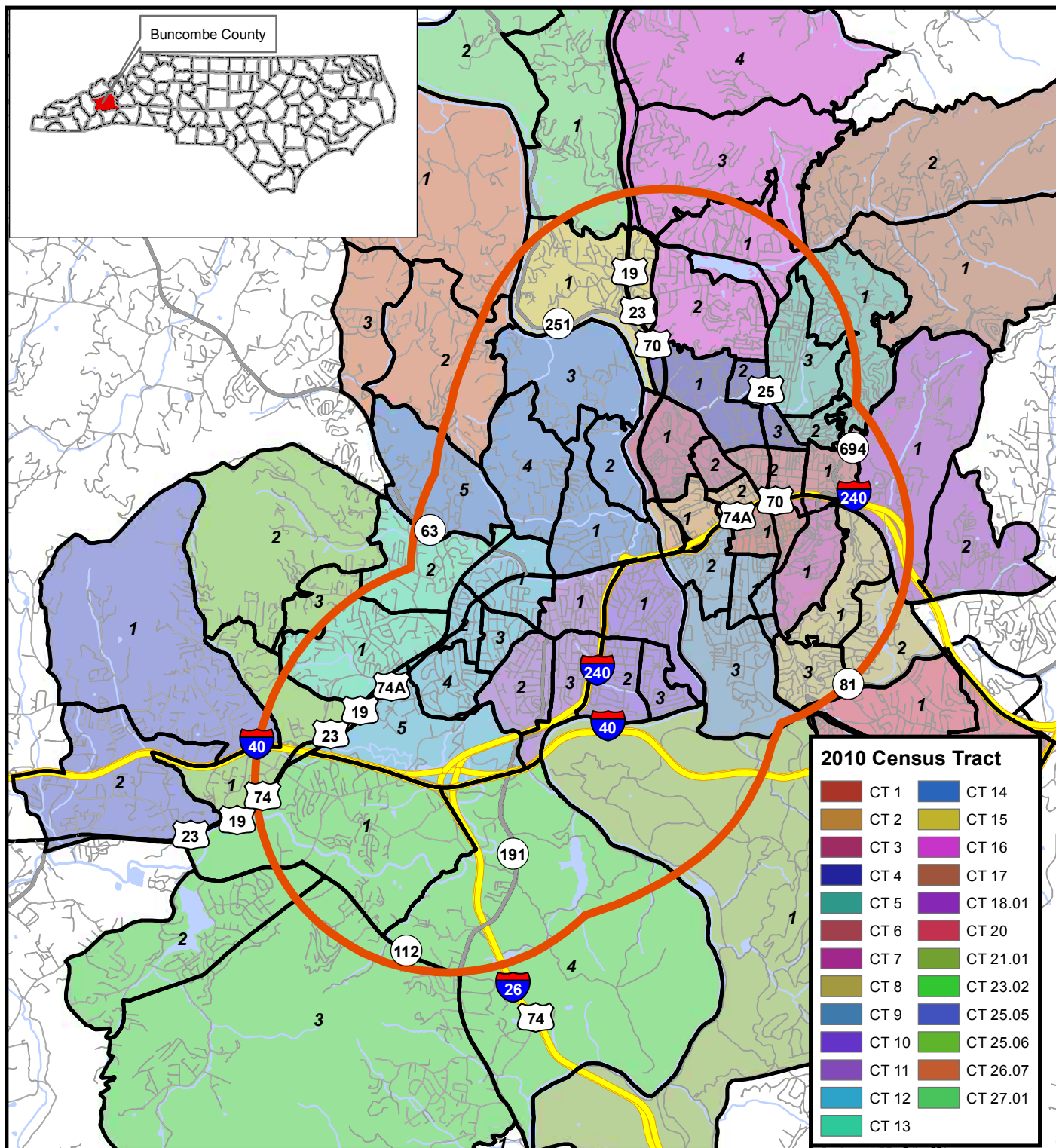
CHAPTER 3. EXISTING ENVIRONMENTS

The existing human, physical, cultural, and natural environments within the project study area are described in Chapter 3 of the DEIS. The inventory and evaluation of the existing environment provides the necessary baseline from which to assess and document potential impacts of the preferred alternative.

3.1 HUMAN CHARACTERISTICS

Characteristics of the human environment in the project study area were examined and reported in several documents: the *Indirect Screening and Land Use Scenario Assessment* (ILUS/LUSA) (URS 2015d), the *Cumulative Effects Study Update* (URS 2015a), and a number of technical sub-reports, including the *Community Impact Evaluation Criteria Technical Memorandum* (URS 2015c), *Local Plans Consistency Assessment* (URS 2015k), *Direct Land Use and Economic Effects Assessment* (URS 2015l), *Non-Census-Based Demographics Employment Characteristics* (URS 2015m), *Historical Context Memorandum* (URS 2015n), *Pedestrian Work Zone Assessment* (URS 2015o), *Protected Populations Methodology* (URS 2015p), *Protected Populations Impacts* (URS 2015q), and *Study Area Methodology* (URS 2015r). Once a preferred alternative was selected, the LUSA and CIA were updated via addenda to describe any updated information regarding existing resources (AECOM 2018a, 2018c).

As part of the ILUS/LUSA, a future land use study area (FLUSA), or the area in which it is expected the project could influence land use, was delineated. The FLUSA is the area surrounding a construction project that could possibly be indirectly affected by the actions of others as a result of the completion of the project and nearby projects. This study area encompasses all the areas examined for potential increases in development pressure as a result of project construction and is shown on Figure 3-1.



North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Interstate
- US Highway
- State Highway
- State Route
- Local Road
- Streams (non-delineated)
- Future Land Use Study Area
- Water
- 2010 Census Block Group
(1 is Block Group Number)

Date: May 2018



0 0.75 1.5
Miles

Figure 3-1

**Future Land Use
Study Area**

A Direct Community Impact Area (DCIA) was identified for the purposes of evaluating the effects of the project on the surrounding community. The DCIA identifies the area that is likely to be directly affected in any way during and after project completion. In order to collect US Census data representative of the DCIA, a Demographic Study Area (DSA) was identified that represents all block groups that contain any portion of the DCIA. Both the DCIA and DSA are shown on Figure 3-2. The following 2010 US Census tracts and block groups are included in the DSA:

- Census Tract 2, Block Groups 1 and 2
- Census Tract 3, Block Groups 1 and 2
- Census Tract 4, Block Group 1
- Census Tract 6, Block Group 2
- Census Tract 9, Block Groups 2 and 3
- Census Tract 10, Block Groups 1 and 2
- Census Tract 11, Block Groups 1, 2, and 3
- Census Tract 12, Block Group 5
- Census Tract 14, Block Groups 1 and 2

3.1.1 POPULATION CHARACTERISTICS

Community-based demographic data were gathered from the 2010 US Census and the 2013-2017 ACS and are summarized in the following sections.

3.1.1.1 Population Growth

Between 2000 and 2010, the DSA experienced population growth of 11.6 percent (see Table 3-1). The population of Asheville grew at a rate of 21.1 percent, while Buncombe County's population increased by 15.5 percent during the same period. In comparison, the population of North Carolina grew by 18.5 percent. Population growth continued between 2010 and 2015 in the DSA, City of Asheville, Buncombe County, and North Carolina, but at a slower rate. The population increased in the DSA by 4.3 percent, in Asheville by 4.1 percent, in Buncombe County by 3.8 percent, and in North Carolina by 3.2 percent.

Table 3-1: Population Trends

Area	Population			Growth (2000-2010)		Growth (2010-2015)	
	2000	2010	2015	Difference	% Change	Difference	% Change
DSA	18,886	21,063	21,960	2,197	11.6%	897	4.3%
Asheville	68,889	83,393	86,789	14,504	21.1%	3,396	4.1%
Buncombe County	206,315	238,318	247,336	32,003	15.5%	9,018	3.8%
North Carolina	8,049,313	9,535,483	9,845,333	1,486,170	18.5%	309,850	3.2%

Source: Minnesota Population Center. 2016. National Historical Geographic Information System: Version 11.0 [Database]. Census 2000/Census 2010 Time Series Tables Geographically Standardized. Minneapolis: University of Minnesota. <http://doi.org/10.18128/D050.V11.0>.

Population projections for Buncombe County and the State of North Carolina are shown in Table 3-2. The data indicate that Buncombe County's population should continue to increase with an annualized growth rate of 1.3 percent, which is generally consistent with traffic forecast growth rates in the study area (AECOM 2016).

Table 3-2: Population Projections (2010-2035)

Area	Population				Annualized Growth Rate
	2010	2020	2030	2035	2010-2035
Buncombe County	238,318	270,935	302,284	317,960	1.3%
North Carolina	9,535,483	10,619,432	11,759,744	12,327,153	1.2%

Source: North Carolina Office of State Budget and Management, <https://www.osbm.nc.gov/demog/county-projections>

3.1.1.2 Ethnic Composition

The ethnic composition of the DSA, City of Asheville, Buncombe County, and State of North Carolina are compared in Table 3-3.

According to the 2013-2017 ACS estimates, 76.4 percent of the DSA identified themselves as white, 17.1 percent as African American, 1.3 percent as Asian, and less than 1 percent as American Indian/Alaskan Native. Approximately 4 percent of the DSA identified themselves as two or more races.

Table 3-3: Population by Ethnicity

Race	Demographic Study Area		Asheville		Buncombe County		North Carolina	
	#	%	#	%	#	%	#	%
White	17,086	76.4%	74,021	82.9%	224,099	88.8%	6,937,466	69.0%
Black or African American	3,828	17.1%	10,700	12.0%	15,871	6.3%	2,159,427	21.5%
American Indian / Alaska Native	92	0.4%	283	0.3%	999	0.4%	117,998	1.2%
Asian	282	1.3%	1,777	2.0%	3,152	1.2%	269,164	2.7%
Native Hawaiian / Pacific Islander	0	0.0%	0	0.0%	251	0.1%	6,393	0.1%
Other Race	210	0.9%	406	0.5%	2,015	0.8%	310,920	3.1%
Two or More Races	879	3.9%	2,131	2.4%	5,881	2.3%	251,196	2.5%
Total	22,377	100.0%	89,318	100.0%	252,268	100.0%	10,052,564	100.0%

Race	Demographic Study Area		Asheville		Buncombe County		North Carolina	
	#	%	#	%	#	%	#	%
Total Hispanic	1,739	7.8%	5,243	5.9%	16,254	6.4%	914,792	9.1%

Source: US Census Bureau, American Community Survey 2013-2017

3.1.1.3 Age Composition

In 2010, the median age within the DSA (34.7) was lower than that of the other geographic areas studied (see Table 3-4).

Table 3-4: Median Age (2010)

	DSA	Asheville	Buncombe County	North Carolina
Median Age	34.7	38.2	40.6	37.4

Source: US Census Bureau, Summary File 1, Tables DP1 (2010).

3.1.1.4 Housing Characteristics

Between 2000 and 2010, the number of households in the DSA increased by 27.1 percent as compared to 17.1 percent in Buncombe County. The higher growth rate could possibly be attributed to the abundance of infill development occurring within the DSA.

In 2013, the median home value in the DSA (\$234,064) was higher than that in Buncombe County (\$209,800).

The DSA generally has a lower homeownership rate than Buncombe County. In 2013, 46.8 percent of homes in the DSA were occupied by the owner, while 63.7 percent of the homes in Buncombe County were occupied by the owner. Homeownership in the DSA and Buncombe County decreased by 6.5 percent and 4.6 percent, respectively, between 2000 and 2010.

3.1.2 ECONOMIC CHARACTERISTICS

3.1.2.1 Business and Employment

Buncombe County has traditionally had one of the more diverse economies in western North Carolina. Despite the decline of manufacturing, numerous other industries have flourished, creating a net gain of jobs throughout the region.

According to 2013-2017 ACS data, the median commuting time for the Buncombe County workforce was 20.1 minutes. The median commuting time for all North Carolina workers was 24.3 minutes.

According to data from the North Carolina Department of Commerce (2017), 11 companies within Buncombe County employ over 1,000 people each:

- *Memorial Mission Hospital Inc.*

- *Buncombe County Board of Education*
- *Ingles Markets Inc.*
- *Veterans Administration*
- *Biltmore Workforce Management Inc.*
- *County of Buncombe*
- *City of Asheville*
- *Wal-Mart Associates Inc.*
- *Mission Medical Associates Inc.*
- *A-B Tech*
- *Community Carepartners Inc.*

According to the 2013-2017 ACS, employment in Buncombe County increased by 5.0 percent between 2000 and 2010 and increased by 1.4 percent between 2010 and 2015. Buncombe County has experienced employment growth and losses throughout various industry sectors. The largest job loss between 2000 and 2010 in terms of numbers of jobs lost was in the manufacturing sector (5,892 jobs lost). The largest job increases during that time period (in terms of numbers of jobs gained) was experienced in the health care and social assistance sector (4,998 jobs gained). Accommodation and food services experienced the largest percentage growth during this time (32.6 percent), while agriculture, forestry, fishing, and hunting experienced the largest percentage loss (-40.2 percent). Between 2010 and 2015, the largest job loss by industry in Buncombe County was in the public administration sector, while the largest increases were in real estate/rental and leasing, administrative, and accommodation and food services.

The historical unemployment trends for the City of Asheville and Buncombe County are shown in Table 3-5. In general, the unemployment rate of Asheville and Buncombe County has been less than that of North Carolina.

Table 3-5: Unemployment Trends

Area	Unemployment Rate			Unemployment Rate		
	2000	2010	Difference	2010	2015	Difference
City of Asheville	3.5%	8.4%	4.9%	8.4%	6.9%	-1.5%
Buncombe County	3.4%	8.4%	5.0%	8.4%	7.0%	-1.4%
North Carolina	3.7%	10.5%	6.8%	10.5%	9.4%	-1.1%

Source: American Community Survey 2013-2017, Table S2301 (Employment Status)

3.1.2.2 Income and Poverty Level

The 2017 median household income for the DSA (\$43,370) was lower than in Buncombe County (\$48,464). The DSA had a higher percentage of people living below poverty (24.7 percent) than Buncombe County (13.2 percent) in 2017 (see Table 3-8).

Asheville Housing Authority or HUD-insured communities are located within the following block groups:

- Census Tract 2, Block Group 1 (Hillcrest Apartments)

- Census Tract 3, Block Group 1 (Klondyke Apartments)
- Census Tract 10, Block Group 2 (Pisgah View Apartments)
- Census Tract 14, Block Group 2 (Woodridge Apartments)

3.1.2.3 Educational Attainment

In general, the education attained by people in Asheville is higher than in Buncombe County and North Carolina. According to 2013-2017 ACS data, approximately 48 percent of the population in Asheville achieved some sort of college degree (Associates, Bachelors, or Graduate) as compared to 38 percent in Buncombe County and 30 percent in North Carolina.

3.1.3 COMMUNITY FACILITIES AND SERVICES

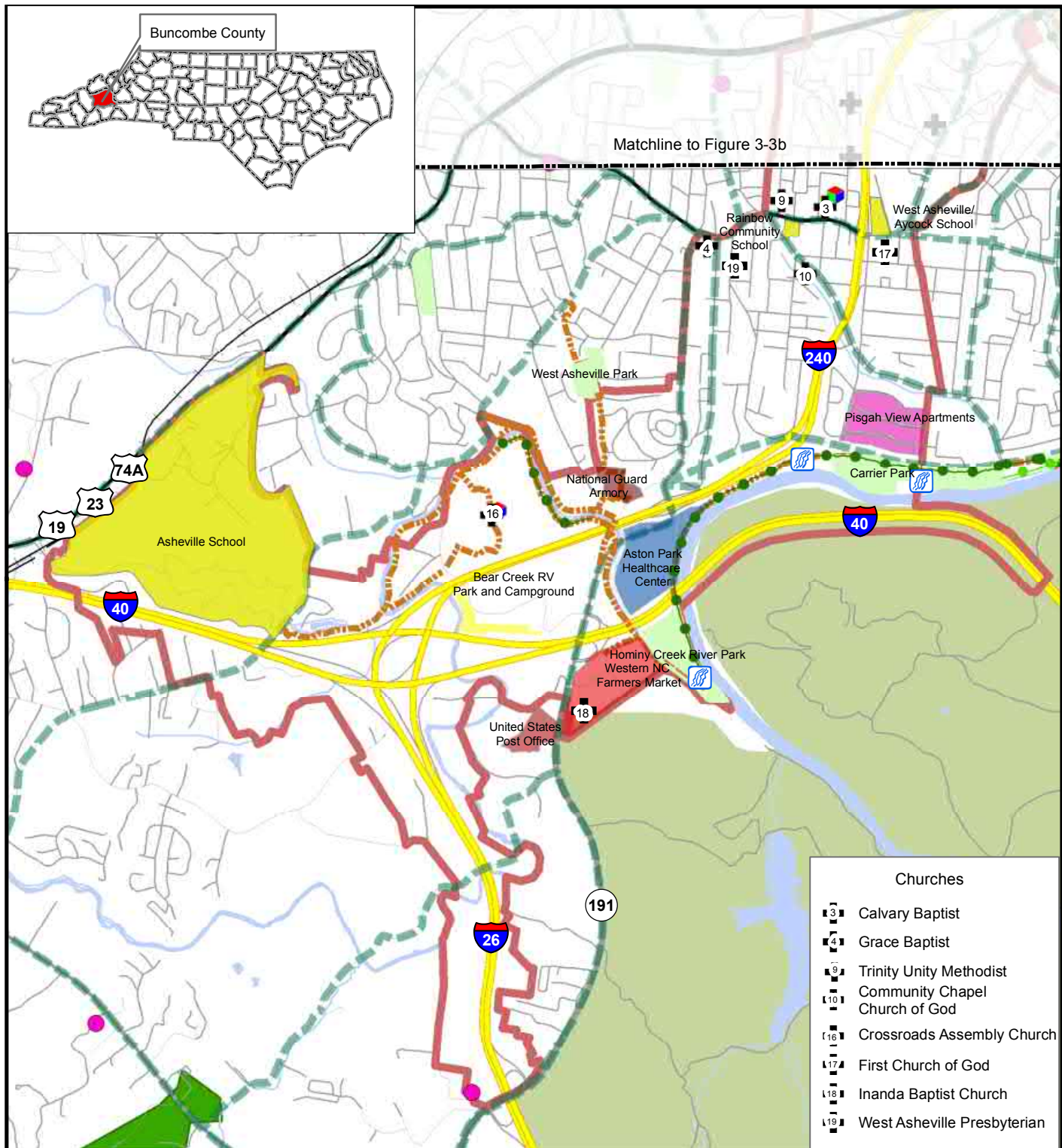
The community facilities described in Section 3.1.3 of the DEIS are summarized in the following sections and shown on Figure 3-3a and Figure 3-3b.

3.1.3.1 Parks and Recreational Facilities

The City of Asheville owns and operates 14 parks in the DCIA. This includes Carrier Park, Hummingbird Park, Burton Street Community Center and Park, Jean Webb Park, Murray Hill Park, Owens-Bell Park, Riverside Cemetery, Southside Center, Aston Park, Magnolia Park, Tempie Avery Montford Community Center, West Asheville Park, the Montford Recreation Complex, and the Food Lion Skate Park. Carrier Park is located adjacent to Amboy Road and the French Broad River and is a Section 4(f) facility. The Buncombe County Parks & Recreation Department owns and operates Hominy Creek River Park at the confluence of Hominy Creek and the French Broad River. The Bear Creek RV Park & Campground is a privately-owned campground and recreational vehicle facility located along South Bear Creek Road.

An existing section of the French Broad River Greenway along Amboy Road (SR 3556) currently connects Carrier Park near the project to the French Broad River Park to the east. The greenway extends west along the French Broad River to Hominy Creek Park at the mouth of Hominy Creek. As planned, the entire greenway will extend on both sides of the French Broad and Swannanoa rivers and will be comprised of greenway corridors and future park destinations. The greenway is owned by the City of Asheville and is accessible to the public for recreation. Facilities include greenspace, the trail, wildflower garden, gazebo, picnic tables and grills, observation deck, playground, parking, and dog park.

The French Broad River Paddle Trail includes eight access points within the DCIA. The paddle trail is a recreational watercraft trail created and operated by Mountain True and RiverLink. The paddle trail facilitates public access to, and camping on, over 140 miles of the French Broad River.



**North Carolina
Department of Transportation**



**I-26 Asheville Connector
Buncombe County**

STIP Project No. I-2513

Legend

- French Broad River Paddle Trail Access Points
- Railroad
- Interstate
- US Highway
- State Highway
- State Route
- Local Road
- Streams (non-delineated)
- Water
- Pisgah National Forest
- DCIA
- Daycares
- Emergency Services
- City of Asheville Greenways
- Trail Network
- Bike Route
- Biltmore Estate
- Parks
- School

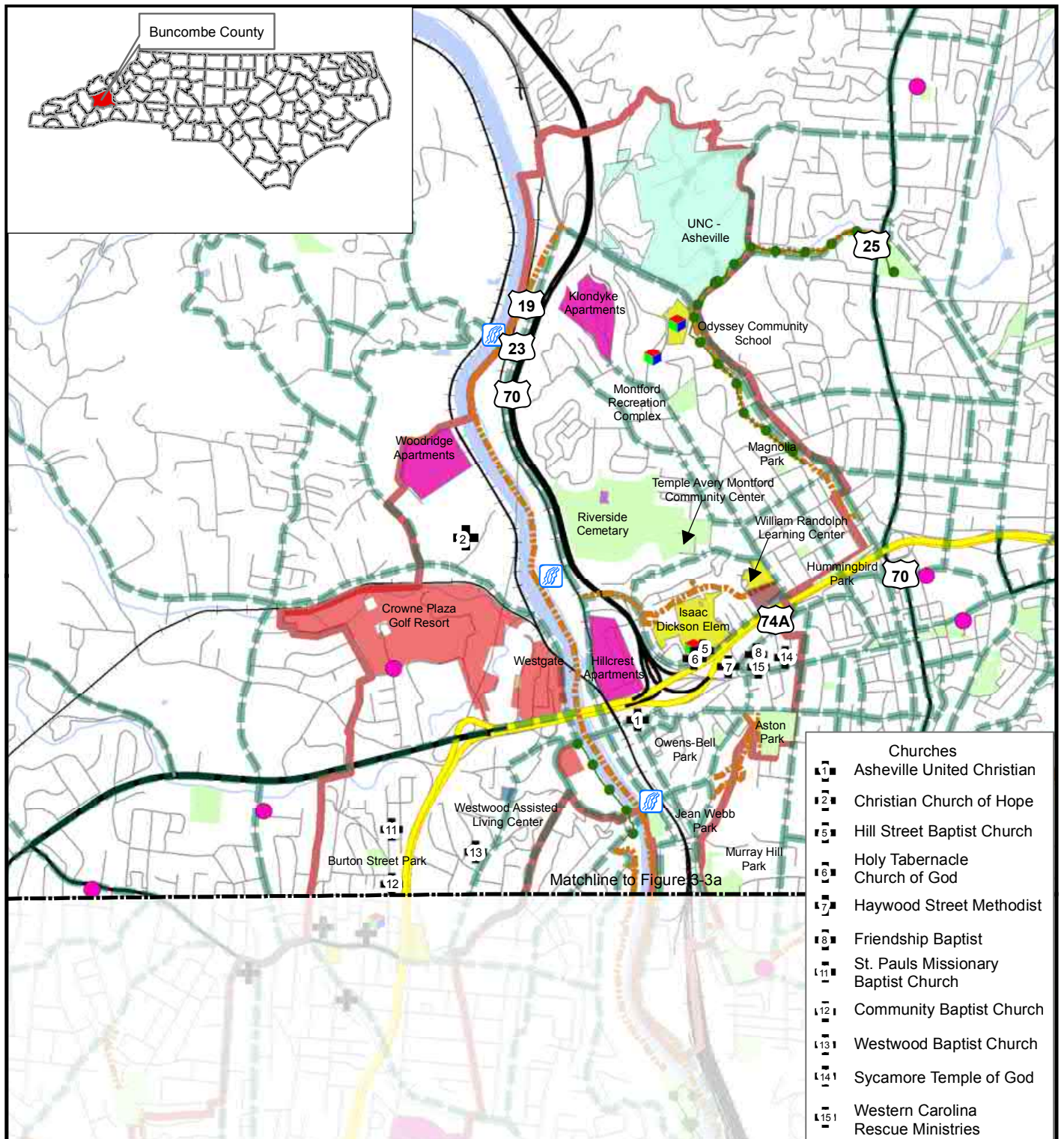
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Figure 3-3a

Community Facilities



North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- French Broad River Paddle Trail Access Points
- Railroad
- Interstate
- US Highway
- State Highway
- State Route
- Local Road
- Streams (non-delineated)
- Water
- DCIA
- Daycares
- Emergency Services
- City of Asheville Greenways
- Trail Network
- Bike Route
- Parks
- Public Housing
- School
- University

Date: May 2018



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Figure 3-3b

Community Facilities

3.1.3.2 Schools

NCDOT geographic information system (GIS) data (January 2018) and field observations revealed six schools within the DCIA, including Isaac Dickson Elementary, William Randolph Learning Center, Aycock Primary School, Rainbow Community School, Odyssey Community School, and Asheville School. Isaac Dickson Elementary school is a magnet school located on Hill Street and the William Randolph Learning Center is located on Montford Avenue. The Odyssey Community School is located along Zillicoa Street. The Asheville City Schools Pre-School and the Rainbow Mountain School are located on Haywood Road east and west of the project area, respectively. The Asheville School is located between Sand Hill Road and US 19-23 in the southwestern part of the DCIA. The UNC-Asheville campus is also located partially within the DCIA. The campus is located northeast of the proposed northern terminus of the project.

3.1.3.3 Daycare Facilities

Four daycare facilities were identified within the DCIA, including the Odyssey Community School (formerly known as Little Beaver Daycare), Hill Street Baptist Church Daycare on Hill Street, Crossroads Children's Center on Bear Creek Road, and Cavalry Baptist Church Child Enrichment Center on Haywood Road west of the project study area.

3.1.3.4 Churches and Cemeteries

At least 25 churches were identified within the DCIA, several of which are located close to the project alignment.

The only known cemetery adjacent to the project is the City of Asheville's Riverside Cemetery located east of existing US 19-23-70, approximately 1,800 feet north of the Hill Street exit. Established in the 1880s, Riverside Cemetery is still active with more than 13,000 graves, 9,000 monuments, and 12 family mausoleums. This cemetery is part of the Montford Historic District listed in the NRHP (see Section 3.4.1).

3.1.3.5 Commercial Corridors and Nodes

Several key commercial corridors and nodes are located within the DCIA and are described in detail in the DEIS. The primary commercial corridors within the DCIA are located along Haywood Road, Patton Avenue, and Riverside Drive. The Crowne Plaza Resort, Westgate Shopping Center, and several other businesses are concentrated around the I-240/Patton Avenue interchange. Both Westgate Shopping Center and Crowne Plaza Resort have undergone recent renovation and other development enhancements. The Crowne Plaza Resort is a multi-activity resort center with a golf course, tennis facilities, rock wall, zip-lining, and swimming facilities for use by resort guests. The Western North Carolina Farmers Market is a regional farmers market located at the I-40/NC 191 interchange. Numerous light industrial businesses and commercial businesses are located along the French Broad River and near the railroad system. Professional offices and commercial properties are concentrated along Zillicoa Street.

3.1.3.6 Post Offices

No post offices were identified in the DCIA. A post office is located just outside of the DCIA southwest of the I-40/NC 191 interchange.

3.1.3.7 Hospitals

No hospitals were identified in the DCIA. The Aston Park Health Care Center is located on NC 191 in the southern portion of the DCIA. The Westwood Assisted Living Center is located on Westwood Place. According to local officials, there is also a medical clinic (Western North Carolina Community Health Services – Minnie Jones Family Health Center) just outside of the DCIA near the intersection of Haywood Road and Ridgelawn Road. It is likely that this clinic provides medical services to persons residing within the DCIA.

3.1.3.8 Land and Water Conservation Fund Properties

Section 6(f) properties, usually parks that have received any amount of financing from Land and Water Conservation Funds, need to be documented and cleared through the US Department of the Interior. The National Park Service's (NPS) Land and Water Conservation Fund website indicates there are two known Section 6(f) resource in the DCIA (Montford Recreation Complex and French Broad River Park) (NPS 2010).

3.1.3.9 Crime, Safety and Emergency Services

Information on crime, safety, and emergency services was gathered through phone interviews with local officials and field observations. According to local officials, Pisgah View Apartments, Hillcrest Apartments, and Klondyke Apartments experience more crime than the remainder of Asheville. The City of Asheville Police Department provides protection throughout the DCIA.

The Buncombe County Rescue Squad Station #2 is the only emergency services facility identified within the DCIA. It is located along Hansel Avenue north of Patton Avenue (see Figure 3-4). The Buncombe County Rescue Squad, City of Asheville Fire Department, and Buncombe County Emergency Services provide emergency medical services throughout the DCIA using several facilities located outside of the DCIA.

The City of Asheville Fire Department Station #3 is located south of Patton Avenue just west of the DCIA, while Station #11 is located in the southern portion of the DCIA near the I-26/NC 191 interchange. The City of Asheville Fire Department provides fire service throughout the DCIA.

Local officials indicated that the pedestrian bridge for the Hillcrest Apartments was closed due to criminal activity but has since been re-opened due to a number of pedestrian deaths attributed to crossing I-240/Patton Avenue on foot. Residents of the Fairfax/Virginia and Kentucky/Hanover/Pisgah View communities indicated that lighting is a concern at the State Street underpass, which is frequently used by pedestrians and bicyclists to cross under I-240.

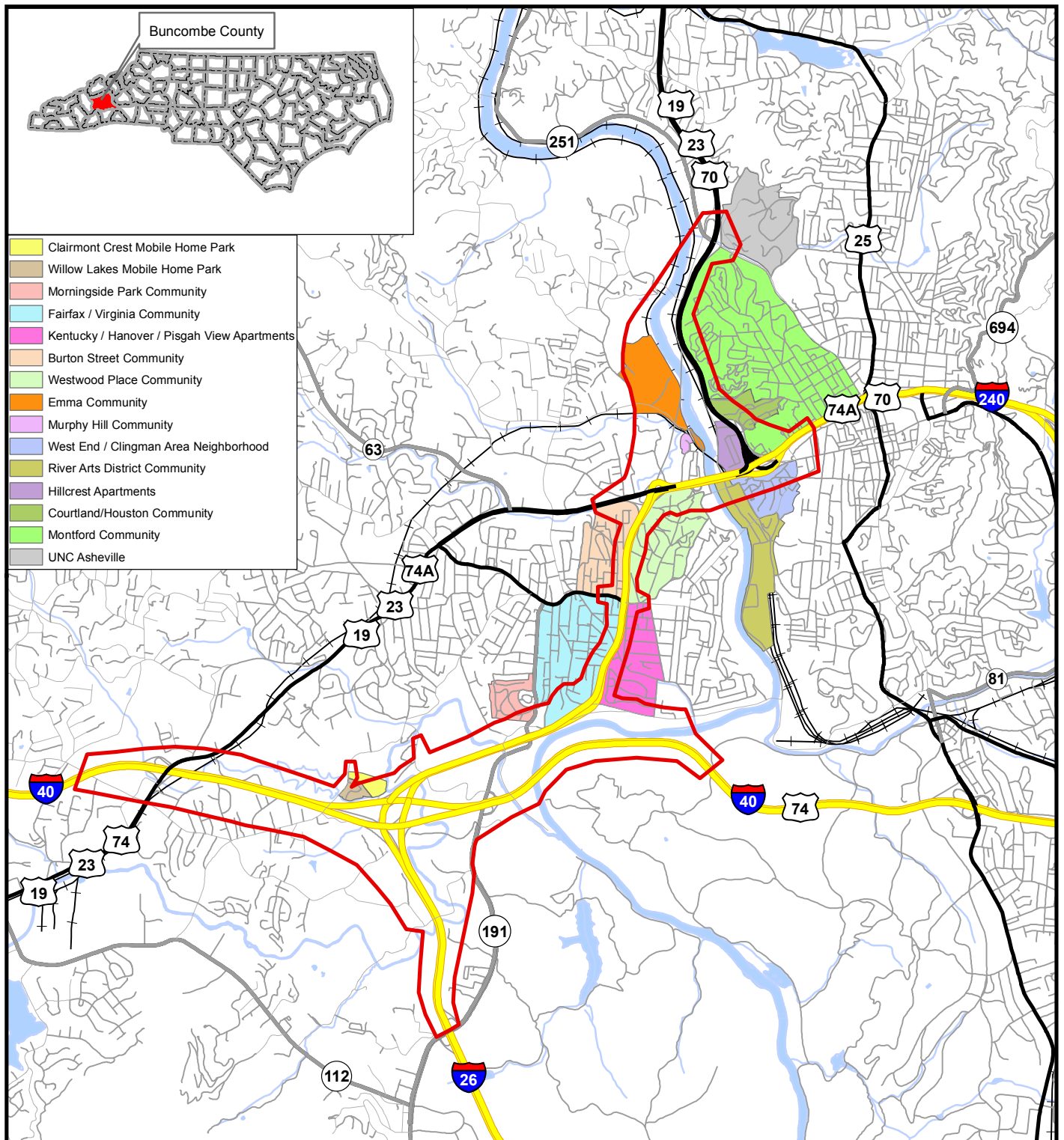
3.1.3.10 Public Housing Units

Approximately 650 public housing units are contained in three Asheville Housing Authority communities located within the DCIA and are operated by the Housing Authority of the City of Asheville. The Pisgah View Apartments are located just north of Amboy Road in the southeastern portion of the DCIA (see Figure 3-3). The Pisgah View Community Center and Head Start Center are also located within the Pisgah View Apartments complex. The Hillcrest Apartments are located between Riverside Drive, US 19-23-70, and I-240. The Carl Johnson Community Center and Head Start Center is also located within the Hillcrest Apartments complex. The Klondyke Apartments public housing complex is located along Montford Avenue in the northern portion of the DCIA. An additional 160 income-restricted units in the Woodridge Apartments located along Bingham Road are operated by the Asheville-Woodridge Limited Partnership.

3.1.4 NEIGHBORHOODS AND COMMUNITIES

3.1.4.1 Identified Communities

The DEIS discusses the 15 communities identified within the project study area, based on field reviews and discussions with local planners. Each of the communities was delineated and a community boundary was established to allow for further analysis of each community, as shown on Figure 3-4. A community profile was developed for each of the communities and is described in detail in the DEIS.



North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

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

Date: May 2018



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Figure 3-4

Communities

3.1.4.2 Past Transportation-Related Projects

Communities in the project study area have been affected by past transportation-related projects. As the population of Buncombe County grew from approximately 130,000 in 1960 to 206,000 in 2000, a corresponding increase occurred in the size and scope of the transportation network. The National Interstate and Defense Highways Act of 1956 began the era of connecting population centers with controlled access freeways.

Prior to the 1960s, there were no freeways in the Asheville area. The primary routes in West Asheville, and those connecting West Asheville to downtown, were US 19-23 Bypass along Patton Avenue and US 19-23 Business along Haywood Road. The Patton Avenue crossing of the French Broad River was constructed from 1948 to 1950 and was named the Great Smoky Mountains Park Bridge (also known as the northern Captain Jeff Bowen Bridge) due to it being a “gateway” to tourism and the Great Smoky Mountains National Park. According to the *West End/Clingman Small Area Plan* (City of Asheville 1996), the extension of Patton Avenue to the Captain Jeff Bowen Bridge crossing of the French Broad River in the late 1940s bisected the West End/Clingman Area Neighborhood (WECAN) and required the demolition of many homes within the neighborhood.

During the 1960s, like many parts of the country, the transportation system in Asheville expanded through the development of interstate highways. By 1970, the portions of I-40 and I-26 within the study area had been constructed; however, these highways were constructed in relatively rural settings without major disruption to any communities. In the late 1960s the construction of the “Cross-town Expressway” was completed, which severed several existing neighborhoods within the project study area. The Cross-town Expressway included a second bridge across the French Broad River, parallel to the Captain Jeff Bowen Bridge and had interchanges with US 19-23/Patton Avenue, US 19-23 Business (Haywood Road), Amboy Road, Brevard Road, and I-26/I40. The Cross-town Expressway required further relocations in the West End/Clingman area and severed several local street connections. The construction also bisected several local roadways in West Asheville that are parts of communities identified for the proposed project. The Kentucky/Hanover/Pisgah View Area Community and Fairfax/Virginia Community were once connected by streets that were bisected, including Pennsylvania Avenue, Montana Avenue, Alabama Avenue, New Jersey Avenue, and Stewart Street. The Cross-town Expressway also rerouted Amboy Road onto the expressway, severing connections to Virginia Avenue, Fairfax Avenue, and Brevard Road. Farther north, Wilmington Street was severed, which had connected the Burton Street Community directly to the Westwood Place Community. The Cross-town Expressway was redesignated as I-240 in 1976 and the name eventually faded from common use by the local residents.

During the 1970s, the only major change to the transportation system in the study area was the construction of US 19-23-70 as a freeway from Patton Avenue, northward to Madison County. There was little change in the transportation system during the period from the late 1970s to the late 1990s. In the late 1990s, the only major construction within the proposed project study area was modifying the interchange along I-240 at Brevard Road. The early 2000s saw the completion of the extension of I-26 from Mars Hill to the Tennessee border, north of the project study area.

3.1.5 TITLE VI OF THE 1964 CIVIL RIGHTS ACT AND ENVIRONMENTAL JUSTICE

Title VI of the Civil Rights Act of 1964, and related statutes, requires there be no discrimination in federally-assisted programs on the basis of race, color, national origin, age, sex, or disability. EO 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” prohibits discrimination based on race, color, sex, and national origin in the provision of benefits and services resulting from federally-assisted programs and activities.

3.1.5.1 Environmental Justice

Environmental justice refers to the equitable treatment of people of all races, cultures, ages, and incomes with respect to development, implementation, and enforcement of environmental laws, regulations, and policies. This section identifies special populations based on those set forth in Title VI of the Civil Rights Act of 1964 and EO 12898, to ensure that the project does not have a disproportionately high and adverse impact or deny benefits of the project. If special populations are present within the DCIA, community outreach, including meaningful non-traditional methods, will be identified.

The Council on Environmental Quality (CEQ) has oversight of the federal government’s compliance with EO 12898. CEQ has developed guidance to further assist agencies with their procedures so that environmental justice concerns are effectively identified and addressed. Based on the CEQ guidance, low-income populations should be identified with the annual statistical poverty thresholds from the US Census Bureau’s Current Population Reports (Series P-60 on Income and Poverty). Minority populations, based on the CEQ guidance, should be identified where either (1) the minority population of the affected area exceeds 50 percent or (2) the minority population percentage of the affected area is meaningfully greater than the minority population in the general population or other appropriate unit of geographic analysis. This section assesses environmental justice based on the race and low-income thresholds put forth by CEQ.

Title VI of the Civil Rights Act of 1964, and related statutes, requires there be no discrimination in federally-assisted programs on the basis of race, color, national origin, age, sex, or disability. EO 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” provides that “each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health and environmental effects of its program, policies, and activities on minority populations and low-income populations.” Special populations may include the elderly, children, the disabled, low-income areas, American Indians, and other minority groups. EO 12898 requires that Environmental Justice principles be incorporated into all transportation studies, programs, policies, and activities. The three environmental principles are (1) to ensure the full and fair participation of all potentially affected communities in the transportation decision-making process; (2) to avoid, minimize, or mitigate disproportionately high and adverse human health or environmental effects, including social and economic effects, on minority or low-income populations; and (3) to fully evaluate the benefits and burdens of transportation programs, policies, and activities upon low-income and minority populations.

3.1.5.2 Affected Populations

Once the communities were identified, the following thresholds were used to screen for minority and low-income populations that would be considered protected:

- Community minority population that exceeds 50 percent of the total community/area population
- Community minority population that is more than 10 percentage points higher than Buncombe County's minority populations
- Community/area low-income population that is more than 5 percentage points greater than Buncombe County's low-income populations

Using the NCDOT Demographic Analysis Tool, a spatial analysis of non-white populations was conducted for the project. The NCDOT tool utilizes 2013-2017 ACS data at the block group level to identify non-white populations that are 10 percentage points higher than the corresponding non-white population in Buncombe County. The threshold for minority populations was determined to be 26.3 percent and the threshold for low-income populations was determined to be 18.2 percent for below poverty populations, 9.7 percent for very poor populations, and 15.7 percent for near poor populations. Census data indicate 8 block groups exceeding the minority population threshold and 11 block groups exceeding the low-income population threshold (Table 3-6, Table 3-7, Figure 3-5a, and Figure 3-5b).

Since publication of the DEIS, CT 3, BG 2, located in Montford, generally bounded by Broadway Street and Montford Avenue, no longer exceeds the low-income threshold. Block groups no longer exceeding the minority threshold include:

- CT 11, BG 1: Burton Street Community
- CT 6, BG 2: located outside of the DCIA generally bounded by Broadway Street, Hillside Street, and Charlotte Street

New moderate-sized home construction has been observed in the Burton Street neighborhood attributing to the shift in the demographic makeup of the DSA.

Table 3-6: Block Groups with Minority Populations Above the Threshold

Geography (Community)	Total Population	White, Non-Hispanic		Minority Population (Threshold: 26.3%)	
		#	%	#	%
CT 2, BG 1 (Hillcrest Apartments Community, Houston/Courtland Community, Montford Community)	709	427	60.2%	282	39.8%
CT 2, BG 2 (Montford Community)	765	564	73.7%	201	26.3%
CT 3, BG 1 (Montford Community)	1,447	849	58.7%	598	41.3%
CT 3, BG 2 (Montford Community)	932	753	80.8%	179	19.2%
CT 4, BG 1 (UNC Asheville)	2,851	2,411	84.6%	440	15.4%
CT 6, BG 2	1,341	1,048	78.2%	293	21.8%

Geography (Community)	Total Population	White, Non-Hispanic		Minority Population (Threshold: 26.3%)	
		#	%	#	%
CT 9, BG 2 (West End/Clingman Area Neighborhood, River Arts District Community)	712	406	57.0%	306	43.0%
CT 9, BG 3 (West End/Clingman Area Neighborhood, River Arts District Community)	1,733	828	47.8%	905	52.2%
CT 10, BG 1 (Westwood Place Community)	1,808	1,435	79.4%	373	20.6%
CT 10, BG 2 (Kentucky/Hanover/Pisgah View Apartments)	1,931	1,290	66.8%	641	33.2%
CT 11, BG 1 (Burton Street Community)	1,045	789	75.5%	256	24.5%
CT 11, BG 2 (Morningside Park Community, Fairfax Avenue/Virginia Avenue Community)	1,746	1,670	95.6%	76	4.4%
CT 11, BG 3 (Fairfax Avenue/Virginia Avenue Community)	1,961	1,562	79.7%	399	20.3%
CT 12, BG 5 (Clairmont Crest Mobile Home Park, Willow Lake Mobile Home Park)	820	560	68.3%	260	31.7%
CT 14, BG 1 (Emma Road/Bingham Road Community, Murphy Hill Community)	1,570	593	37.8%	977	62.2%
CT 14, BG 2 (Emma Road/Bingham Road Community)	1,006	688	68.4%	318	31.6%
DSA	22,377	15,873	70.9%	6,504	29.1%
City of Asheville	89,318	69,549	77.9%	19,769	22.1%
Buncombe County	252,268	211,110	83.7%	41,158	16.3%
North Carolina	10,052,564	6,397,460	63.6%	3,655,104	36.4%

Source: US Census Bureau, American Community Survey 5-year Estimates (2013-2017), Table B03002, "Hispanic or Latino Origin by Race."

Note: Block Groups shown in bold text indicate minority populations above the threshold.

Based on the information presented in Table 3-6, the block groups and corresponding communities that contain these block groups with minority populations meeting or exceeding the determined threshold include:

- CT 2, BG 1: Hillcrest Apartments and Houston/Courtland Community
- CT 2, BG 2 and CT 3, BG 1: Montford Community
- CT 9, BG 2: West End/Clingman Area Neighborhood (WECAN)
- CT 9, BG 3: River Arts District (RAD)
- CT 10, BG 2: Kentucky/Hanover/Pisgah View Area
- CT 12, BG 5: Clairmont Crest Mobile Home Park and Willow Lake Mobile Home Park
- CT 14, BG 1: Murphy Hill
- CT 14, BG 1 and BG 2: Emma Road/Bingham Road Area

Table 3-7: Block Groups with Poverty Rates Above the Threshold

Geography	Total Population	Below Poverty Level (Threshold: 18.2%)		Very Poor: Under 50% of Poverty Level (Threshold: 9.7%)		Near Poor: Between 100% and 149% of Poverty Level (Threshold: 15.7%)	
		#	%	#	%	#	%
CT 2, BG 1 (Hillcrest Apartments Community, Houston/Courtland Community, Montford Community)	709	246	34.7%	116	16.4%	161	22.7%
CT 2, BG 2 (Montford Community)	760	97	12.8%	59	7.8%	79	10.4%
CT 3, BG 1 (Montford Community)	1,417	588	41.5%	226	15.9%	179	12.6%
CT 3, BG 2 (Montford Community)	932	77	8.3%	19	2.0%	20	2.1%
CT 4, BG 1 (UNC Asheville)	1,743	300	17.2%	137	7.9%	223	12.8%
CT 6, BG 2 Montford Community	1,333	227	17.0%	126	9.5%	266	20.0%
CT 9, BG 2 (West End/Clingman Area Neighborhood)	712	396	55.6%	207	29.1%	28	3.9%
CT 9, BG 3 (River Arts District Community)	1,521	842	55.4%	273	17.9%	185	12.2%
CT 10, BG 1 (Westwood Place Community)	1,808	493	27.3%	265	14.7%	249	13.8%
CT 10, BG 2 (Kentucky/Hanover/Pisgah View Apartments)	1,931	726	37.6%	487	25.2%	119	6.2%
CT 11, BG 1 (Burton Street Community)	985	187	19.0%	41	4.2%	61	6.2%
CT 11, BG 2 (Morningside Park Community, Fairfax Avenue/Virginia Avenue Community)	1,746	85	4.9%	8	0.5%	97	5.6%
CT 11, BG 3 (Fairfax Avenue/Virginia Avenue Community)	1,828	163	8.9%	71	3.9%	221	12.1%
CT 12, BG 5 (Clairmont Crest Mobile Home Park, Willow Lake Mobile Home Park)	820	87	10.6%	81	9.9%	179	21.8%
CT 14, BG 1 (Murphy Hill Community)	1,570	529	33.7%	71	4.5%	340	21.7%
CT 14, BG 2 (Emma Road/Bingham Road Community)	1,006	107	10.6%	62	6.2%	656	65.2%
DSA	20,821	5,150	24.7%	2,249	10.8%	3,063	14.7%
City of Asheville	86,339	13,042	15.1%	5,096	5.9%	9,762	11.3%
Buncombe County	246,149	32,591	13.2%	11,669	4.7%	26,430	10.7%

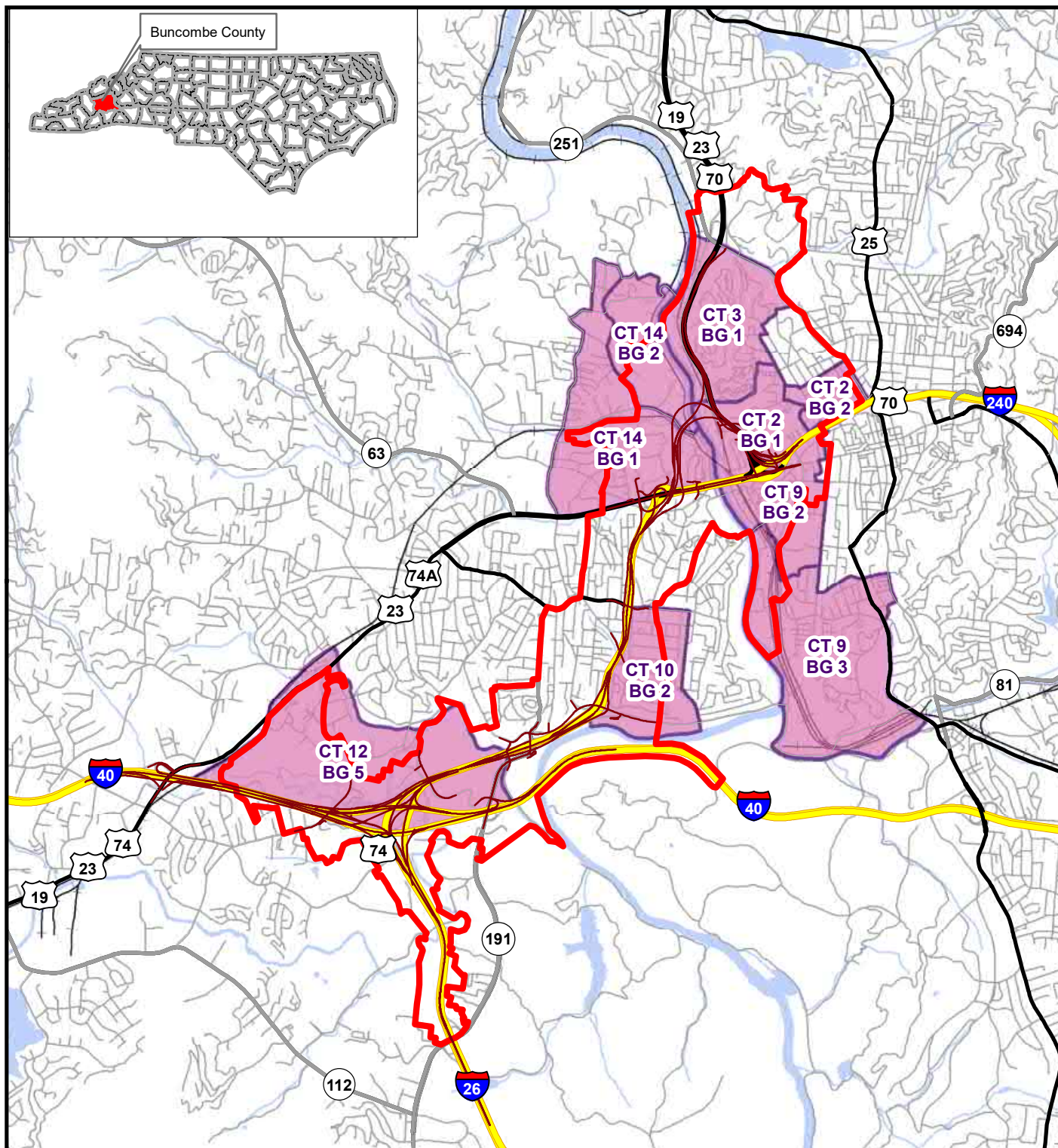
Geography	Total Population	Below Poverty Level (Threshold: 18.2%)		Very Poor: Under 50% of Poverty Level (Threshold: 9.7%)		Near Poor: Between 100% and 149% of Poverty Level (Threshold: 15.7%)	
		#	%	#	%	#	%
North Carolina	9,783,738	1,579,871	16.1%	688,118	7.0%	1,016,581	10.4%

Source: US Census Bureau, American Community Survey 5-year Estimates (2013-2017), Table C17002, "Ratio of Income to Poverty Level in the Past 12 Months."

Note: Block Groups shown in bold text indicate low-income populations above the threshold.

Based on the information presented in Table 3-7, the block groups and corresponding communities that contain these block groups with low-income populations meeting or exceeding the determined thresholds include:

- CT 2, BG 1: Hillcrest Apartments, Houston/Courtland Community, and Montford Community
- CT 3, BG 1: Montford Community
- CT 6, BG 2: Montford Community
- CT 9, BG 2: West End/Clingman Area Neighborhood (WECAN)
- CT 9, BG 3: River Arts District (RAD)
- CT 10, BG 1: Westwood Place
- CT 10, BG 2: Kentucky/Hanover/Pisgah View Area
- CT 11, BG 1: Burton Street
- CT 12, BG 5: Clairmont Crest Mobile Home Park and Willow Lake Mobile Home Park
- CT 14, BG 1: Murphy Hill
- CT 14, BG 2: Emma Road/Bingham Road Area



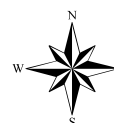
North Carolina
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I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

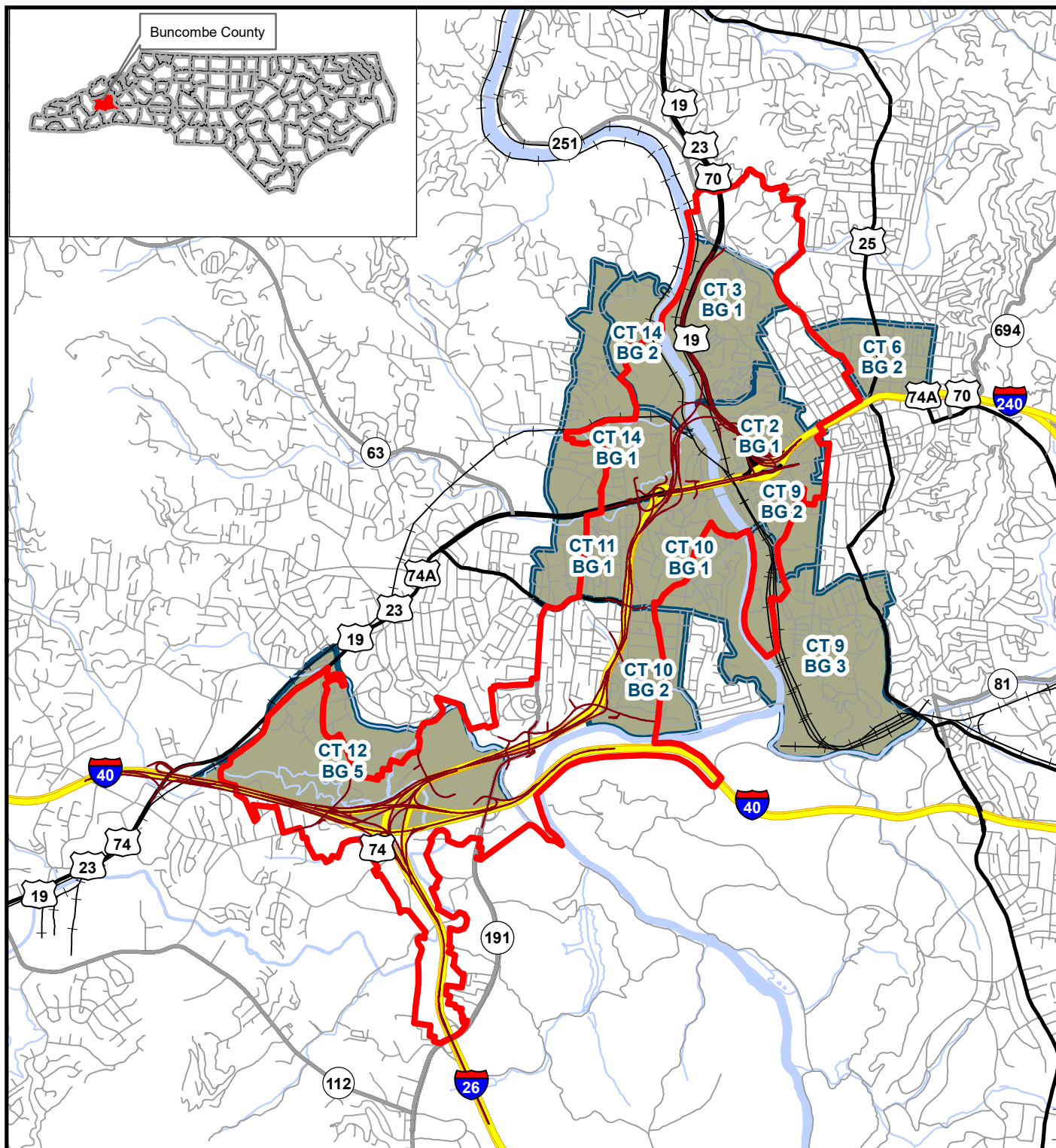
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Figure 3-5a

**Block Groups with Minority
Populations Above
the Threshold**



North Carolina
Department of Transportation



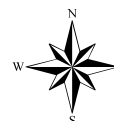
I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Preferred Alternative
- Interstate
- US Highway
- State Highway
- State Route
- Local Road
- + Railroad
- Direct Community Impact
- Streams (non-delineated)
- Water

Date: August 2019



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Figure 3-5b

**Block Groups with Poverty
Rates Above
the Threshold**

3.1.5.3 Limited English Proficiency

Most individuals living in the United States read, write, speak, and understand English. There are many individuals, however, for whom English is not their primary language. The 2010 Census shows that 26 million individuals speak Spanish and almost 7 million individuals speak an Asian or Pacific Island language at home. If these individuals have a limited ability to read, write, speak, or understand English, they are limited English proficient (LEP).

Failure to ensure that LEP persons can effectively participate in or benefit from federally assisted programs and activities may violate the prohibition against national origin discrimination under Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d) and the USDOT Title VI regulations at 49 CFR 21.

To clarify existing requirements for LEP persons under Title VI, on August 11, 2000, President Clinton issued Executive Order (EO) 13166, "Improving Access to Services for Persons with Limited English Proficiency." The EO requires each federal agency to examine the services it provides and develop and implement a system by which LEP persons can meaningfully access those services consistent with, and without unduly burdening, the fundamental mission of the agency.

The US Department of Justice (DOJ) is responsible for coordinating government-wide implementation of the EO. To assist agencies in fulfilling the mandates of the order, DOJ published a general LEP policy guidance document on August 16, 2000, and issued revised guidance on June 18, 2002. The EO states that agencies' LEP plans and guidance must be consistent with the DOJ LEP guidance.

In accordance with the EO, the USDOT issued *Policy Guidance Concerning Recipient's Responsibilities to Limited English Proficient (LEP) Persons* (USDOT 2005), which is modeled after DOJ's guidance. As described in the guidance, USDOT recipients are required to take reasonable steps to ensure meaningful access to their programs and activities by LEP persons. LEP data from the 2013-2017 ACS data were compiled for the project study area and are summarized in Table 3-8.

As shown in Table 3-8, Census data indicate three block groups (CT 12, BG 5; CT 14, BG 1 and CT 14, BG 2) with the presence of a Spanish-speaking population, and one block group (CT 11, BG 3) with an Asian/Pacific-speaking population that may require language assistance. More than 50 persons in each of these block groups speak English "less than very well."

Table 3-8: Limited English Proficiency Data by Block Group

Geography	Total Adult Population, 18 years and older	Primary Language of Group of Persons Who Speak English Less than Very Well							
		Spanish		Other Indo-Euro		Asian/Pacific		Other	
		#	%	#	%	#	%	#	%
CT 2, BG 1	523	-	0.0%	-	0.0%	-	0.0%	-	0.0%
CT 2, BG 2	631	6	1.0%	-	0.0%	-	0.0%	-	0.0%

Geography	Total Adult Population, 18 years and older	Primary Language of Group of Persons Who Speak English Less than Very Well							
		Spanish		Other Indo-Euro		Asian/Pacific		Other	
		#	%	#	%	#	%	#	%
CT 3, BG 1	1,090	-	0.0%	-	0.0%	12	1.1%	-	0.0%
CT 3, BG 2	738	5	0.7%	-	0.0%	-	0.0%	-	0.0%
CT 4, BG 1	2,585	-	0.0%	-	0.0%	8	0.3%	-	0.0%
CT 6, BG 2	1,133	16	1.4%	-	0.0%	-	0.0%	-	0.0%
CT 9, BG 2	694	3	0.4%	-	0.0%	-	0.0%	-	0.0%
CT 9, BG 3	1,233	-	0.0%	-	0.0%	-	0.0%	-	0.0%
CT 10, BG 1	1,531	10	0.7%	-	0.0%	-	0.0%	-	0.0%
CT 10, BG 2	1,202	23	1.9%	-	0.0%	-	0.0%	-	0.0%
CT 11, BG 1	897	-	0.0%	-	0.0%	-	0.0%	-	0.0%
CT 11, BG 2	1,332	-	0.0%	-	0.0%	-	0.0%	-	0.0%
CT 11, BG 3	1,620	14	0.9%	-	0.0%	112	6.9%	-	0.0%
CT 12, BG 5	581	96	16.5%	-	0.0%	-	0.0%	-	0.0%
CT 14, BG 1	1,273	482	37.9%	-	0.0%	9	0.7%	-	0.0%
CT 14, BG 2	779	79	10.1%	-	0.0%	-	0.0%	-	0.0%
DSA	17,842	734	4.1%	-	0.0%	141	0.8%	-	0.0%

Source: US Census Bureau, American Community Survey 5-year Estimates (2013-2017), Table B16004, "Age by Language Spoken at Home by Ability to Speak English for the Population 5 Years and Over."

3.2 LAND USE AND TRANSPORTATION PLANNING

Plans that have been adopted by the City of Asheville, Buncombe County, and NCDOT since the 2015 DEIS are described in this section. Plans discussed in the 2015 DEIS are still valid, unless otherwise noted here.

3.2.1 LAND USE PLANS

3.2.1.1 Existing Land Use

Existing land use in the FLUSA is depicted on Figures 3-6a and 3-6b. As shown, the majority of the FLUSA is residential, commercial, institutional, or recreational in nature.

Residential development is the dominant form of land use throughout the urbanized areas of Asheville, which includes most of the FLUSA north of I-40. Most residential land use within the FLUSA is single family in nature, with minimal amounts of multi-family housing. Large amounts of land are also utilized for commercial purposes, including downtown Asheville, the US 70 corridor, the US 19-23 corridor, along the French Broad River (including the RiverLink area), and several interchanges throughout the FLUSA (including the I-240 interchanges at Haywood Road, Patton Avenue, and Biltmore Avenue and the I-26 interchange at Brevard Road).

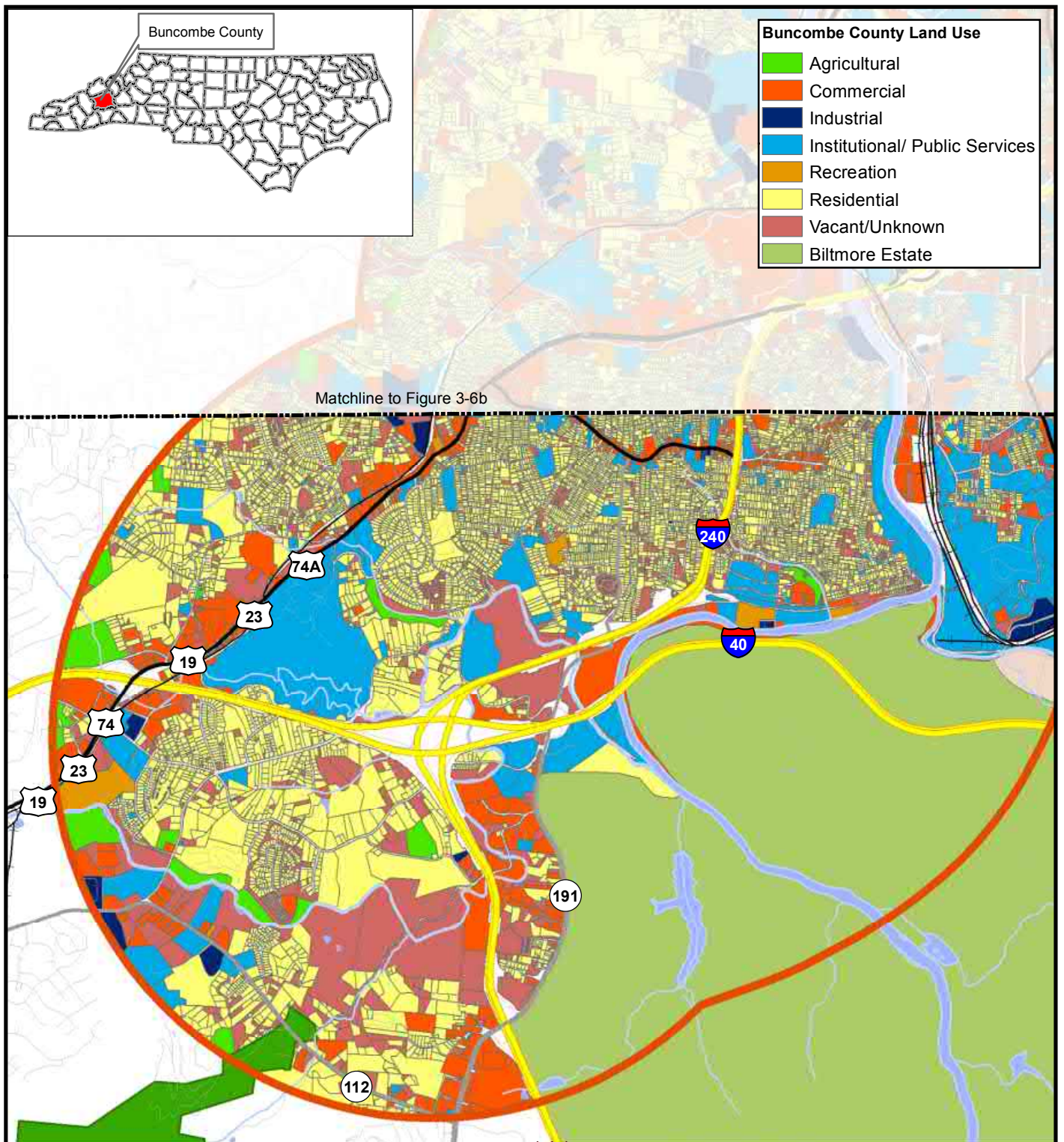
Most of the undeveloped land within the FLUSA is limited to its southwestern portion along Sardis Road, Pond Road, and Sand Hill Road and between Pearson Bridge Road and the French Broad

River in the northern portion of the FLUSA. Tracts of land utilized for institutional and recreational activities, including government offices, parks, schools, and churches, are also scattered throughout the FLUSA, primarily throughout the downtown area. The Biltmore Estate is a popular tourist destination located in the southeastern portion of the FLUSA.

3.2.1.2 Zoning Characteristics

Zoning applicable to the FLUSA, as identified in the ILUS/LUSA, is shown on Figure 3-7. The zoning predominant throughout the FLUSA is residential, including multi-family residential, high density, single family residential, and lesser amounts of low and medium density residential. Commercial zoning is concentrated along US 25, US 19-23, US 19-23 Business, Brevard Road, the French Broad River, and throughout downtown Asheville. Much of this zoning includes typical strip commercial development along major corridors, nodal development at major interchanges (such as the Brevard Road interchange on I-26), and the central business district of Asheville.

Industrial zoning is concentrated along Pond Road and Hominy Creek in the southern portion of the FLUSA, with isolated tracts of industrial zoning scattered throughout the remainder of the FLUSA. Several tracts of land zoned for institutional purposes also exist within the FLUSA, including the Asheville School (centered on the now drained Lake Ashnoca), UNC-Asheville (along Broadway north of downtown), and along US 25 south of downtown.



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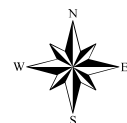
I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Interstate
- US Highway
- State Highway
- State Route
- Local Roads
- Railroad
- Streams (non-delineated)
- Water
- Pisgah National Forest
- Future Land Use Study Area
- Biltmore Forest
- Biltmore Estate

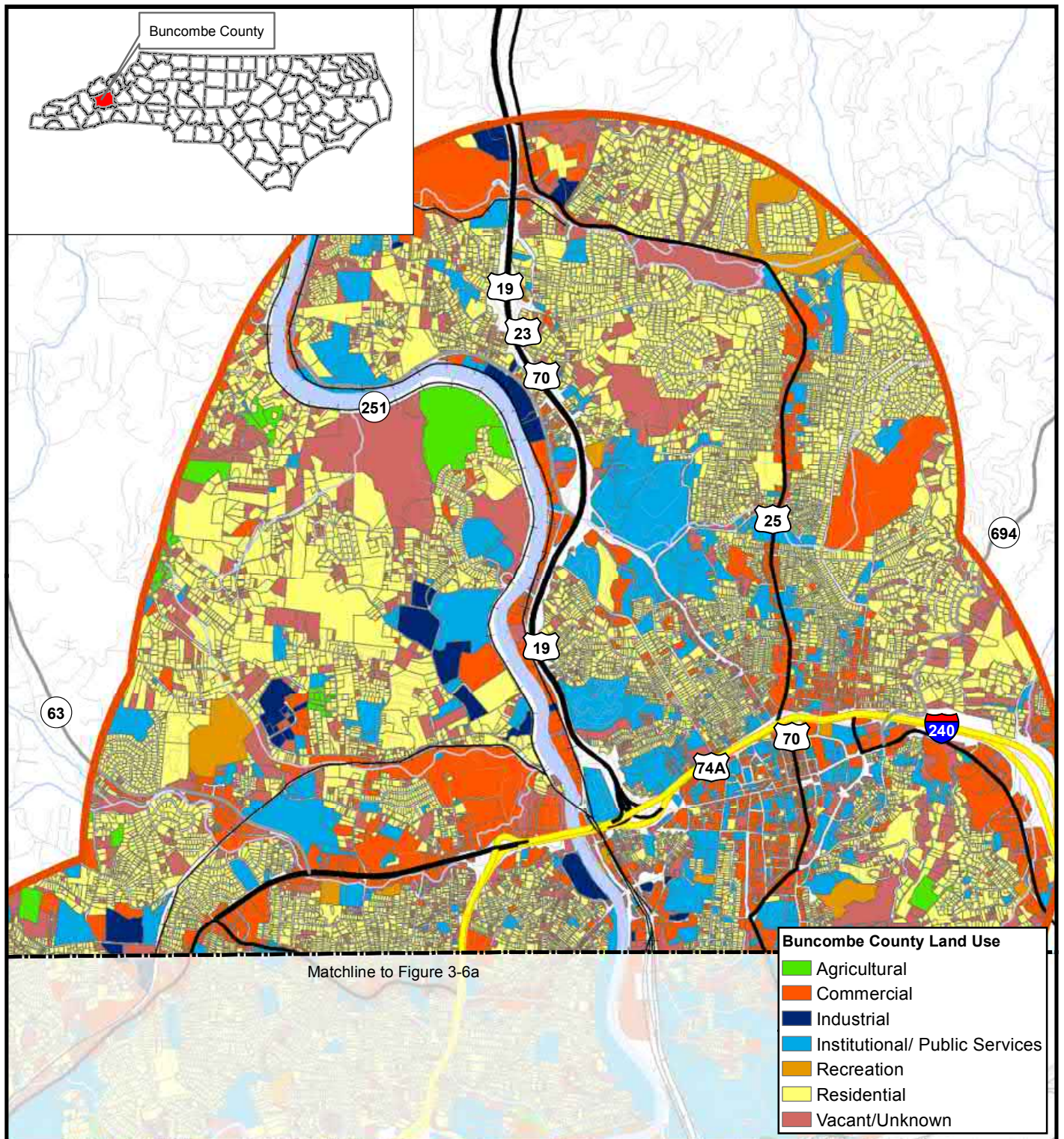
Date: May 2018



0 2,000 4,000
Feet

Figure 3-6a

Existing Land Use



North Carolina
Department of Transportation



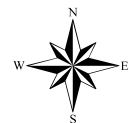
I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Interstate
- US Highway
- State Highway
- State Route
- Local Roads
- Railroad
- Streams (non-delineated)
- Future Land Use Study Area
- Water
- Pisgah National Forest

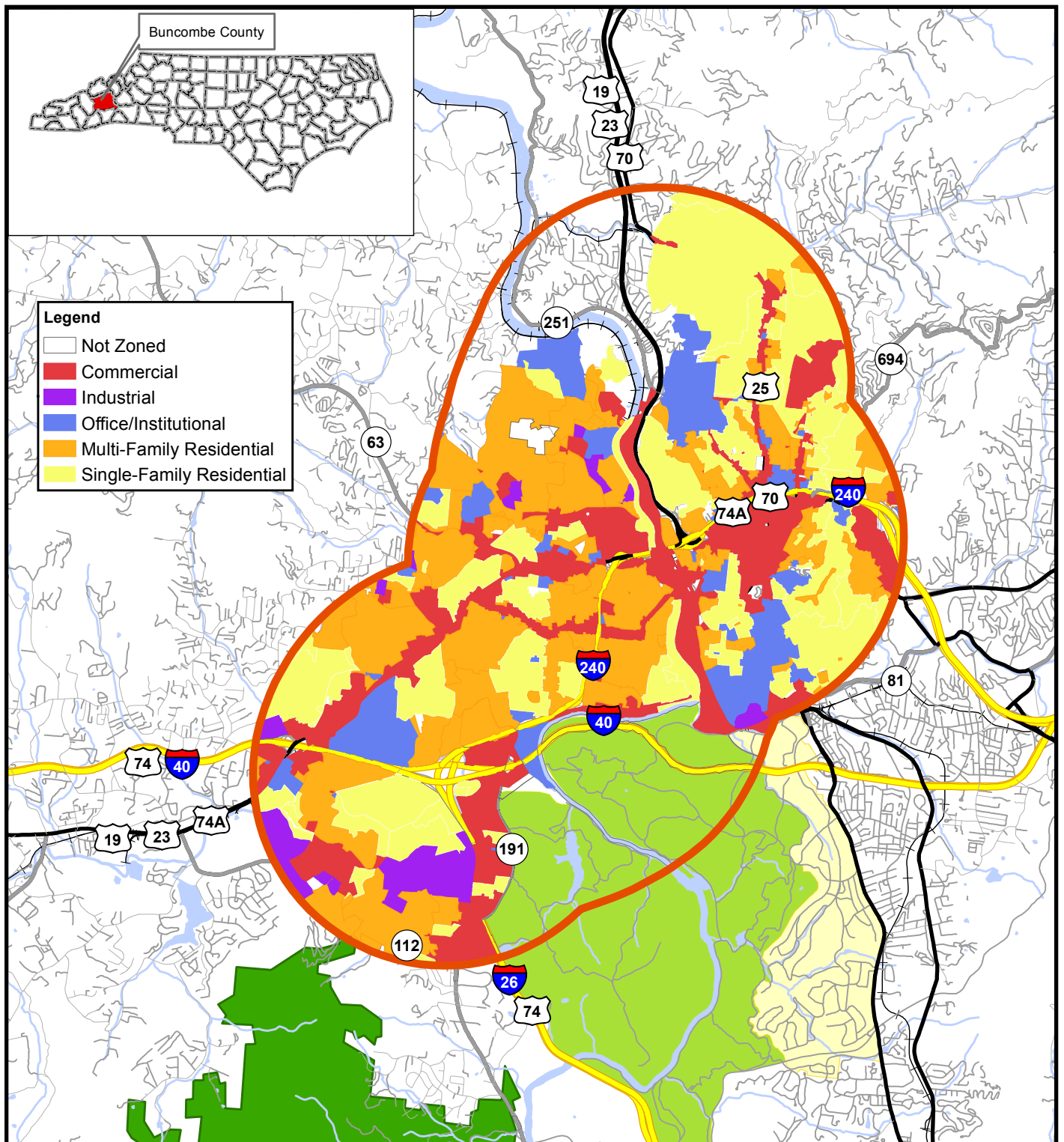
Date: May 2018



0 2,000 4,000
Feet

Figure 3-6b

Existing Land Use



**North Carolina
Department of Transportation**



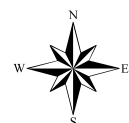
**I-26 Asheville Connector
Buncombe County**

STIP Project No. I-2513

Legend

- Local Road
- Interstate
- US Highway
- State Highway
- State Route
- Railroad
- Streams (non-delineated)
- Future Land Use Study Area
- Water
- Pisgah National Forest
- Municipal Boundaries
- Biltmore Estate

Date: May 2018



0 0.75 1.5
Miles

Figure 3-7

Zoning

3.2.1.3 Future Land Use

A region's land use plans and recent development activity are indicators of future land use. Both of these indicators were considered in the ILUS/LUSA. The findings of that assessment are reproduced in this section (HNTB North Carolina, PC 2010, AECOM 2018a).

Land Use Plans

Land use plans applicable to the project study area:

- *Haywood Road Form District (City of Asheville 2017c)*
- *A Strategic Plan for the Sustainable Economic Development of the City of Asheville, North Carolina (City of Asheville 2004)*
- *Broadway Corridor Action Plan (City of Asheville 2002b)*
- *Asheville City Development Plan 2025 (City of Asheville 2002a)*
- *Wilma Dykeman RiverWay Master Plan (RiverLink 2004)*
- *Brevard Road Corridor Study (City of Asheville 2005a)*
- *Living Asheville: A Comprehensive Plan for our Future (City of Asheville, 2018)*
- *Consolidated Strategic Housing and Community Development Plan (City of Asheville 2010a)*
- *Buncombe County Comprehensive Land Use Plan Update (Buncombe County 2013)*
- *West End/Clingman Small Area Plan (City of Asheville 1996)*
- *Asheville Downtown Master Plan (City of Asheville 2009a)*
- *Asheville Unified Development Ordinance (City of Asheville 2017a)*
- *Buncombe County Zoning Ordinance (Buncombe County 2017)*
- *GroWNC Regional Plan (GroWNC 2017)*
- *Burton Street Neighborhood Plan (Public Participation Partners for the Burton Street Community Association 2018)*

Available Land

There are 22,563 acres of land within the FLUSA. Approximately 4,889 acres (22 percent) of the land within the FLUSA is considered developable land that does not contain parks, Significant Natural Heritage Areas, National Register districts, or steep slopes greater than 15 percent. However, because many of the registered Natural Heritage Program Natural Areas remain under private ownership; it should be noted that protection of the land contained within them is not guaranteed. The 2015 DEIS estimated approximately 8,216 acres in the FLUSA (or 36 percent) could be considered available for development.

Most of the undeveloped land within the FLUSA is along Sardis Road, Pond Road, and Sand Hill Road and between Pearson Bridge Road and the French Broad River in the northern portion of the FLUSA.

Current Development Pressures

The 2015 ISLUSA and 2018 LUSA Addendum noted commercial and residential growth was expected to occur within the project study area in the form of infill, redevelopment, and new

development. According to Census data, BG 3, CT 1 (Montford community) experienced a 51.7 percent increase in population between 2000 and 2010, CT 12, BG 5 (located north of I-26 between Smoky Park Highway and Brevard Road) experienced a 41.8 percent increase. These block groups experienced a 4 percent and 38 percent increase, respectively, since the 2015 DEIS. The Houston/Courtland area (CT 3, BG 2) experienced a 32 percent increase in population since the 2015 ISLUSA. The areas along the French Broad River south of I-240 are areas with new development and the potential for additional development. New Belgium Brewery, a 133,000 square-foot brewery, opened in the spring of 2016 on the west side of the French Broad River. On the east side of French Broad River, the Riverside Arts District (RAD) continues to develop improvement plans in anticipation for growth. The RADTIP is a major construction plan to rebuild 2.2 miles of road along the east side of the river. The improvements include parking, wide sidewalks, and bicycle lanes. Construction on these improvements is projected to start spring 2018. The RADTIP would also develop 2.2 miles of the 17-mile Wilma Dykeman Greenway (RiverLink 2004). Outside of road improvements, RAD Lofts, a mixed-use development that would contain over 200 apartment units and other commercial space, was scheduled to begin construction in March 2018.

Through coordination with local officials since the publication of the DEIS, trends identified in the 2015 ISLUSA are anticipated to continue.

As discussed in Section 3.1.2.1, according to the 2013-2017 ACS, both Buncombe County and the City of Asheville had a lower unemployment rate than the state in 2000, 2010, and 2013. In general, the unemployment rate of Asheville and Buncombe County has been less than that of North Carolina.

The City of Asheville maintains a GIS database of Technical Review Committee project submittals from 2015 to the present (City of Asheville 2018). The database includes information on rezoning, site plans under review, and subdivisions. Information from the database can provide a visual representation of where and what type of development is occurring within the city and its extra territorial jurisdiction. The database includes 59 private development projects under review within the FLUSA, many of which are concentrated around downtown Asheville.

3.2.2 TRANSPORTATION PLANS

Several transportation plans relate to the study area for the proposed project, including highway plans, transit plans, and bicycle, pedestrian, and greenway plans. The DEIS includes a detailed summary of the various transportation plans that pertain to the project study area. This section only includes those plans adopted after publication of the DEIS.

3.2.2.1 Highway Plans

French Broad River MPO 2040 Metropolitan Transportation Plan (2015)

At the time of publication of the 2015 DEIS, the proposed project was included in the FBRMPO's 2035 Long Range Transportation Plan (2035 LRTP) adopted on September 23, 2012 (FBRMPO 2012). This plan was retired by the FBRMPO's 2040 Metropolitan Transportation Plan (2040 MTP)

adopted on September 24, 2015 (FBRMPO 2015). The main goals of this plan are to develop and maintain a safe and efficient system for transportation and to enhance 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 2015).

The 2040 MTP also includes several other projects within the study area of the proposed project, including:

- *Bent Creek Greenway-Phase I -- the I-26 Interchange at NC 191 Brevard Road to I-26 Interchange at NC 146 Long Shoals Road*
- *Bent Creek Greenway Phase II -- Hominy Creek River Park to I-26 Interchange at NC 191*
- *I-240 to SR 3214 (Biltmore Avenue) -- Lyman St/Meadow to I-240/reconnection from I-2513C (U 4739)*
- *Clingman Forest and Town Branch Greenways (U-5019A)*
- *Broadway Street Road Diet-- NC 251 Riverside Dr to I-240*
- *Riverside Drive SR 1477 (Wilma Dykeman Riverway PH 4)- NC 251 to Hill Street (U-5868)*
- *NC 251 Multi-use Path -- Broadway to Elk Mountain Road*

3.2.2.2 Bicycle, Pedestrian, and Greenway Plans

Blue Ridge Bike Plan (2013)

The Blue Ridge Bike Plan covers seven western counties: Buncombe, Haywood, Henderson, Jackson, Madison, Swain, and Transylvania counties. It is a joint plan among NCDOT-Division of Bicycle and Pedestrian Transportation, Land of Sky Regional Council, and Southwestern Commission. The purpose of the bike plan is to identify and define improvements needed to help foster a regional bicycle route system in western North Carolina. The plan identifies priority corridors by region and by county. Two regional priority routes and two county priority routes are located within the project study area (NCDOT 2013).

Asheville in Motion Mobility Plan (2016)

The Asheville in Motion: City of Asheville Mobility Plan, adopted in 2016, is an expression of the local mobility strategy as opposed to the regional focus of the FBRMPO and the state focus of NCDOT. The mobility plan outlines need exclusive to the Asheville area and aligns itself with other Asheville policies and goals from local plans. One such plan is the Wilma Dykeman RiverWay Plan, which recommends constructing the I-26 Connector to provide a connection between downtown and the River Arts District (RiverLink 2004).

The goal of the Asheville in Motion: City of Asheville Mobility Plan is to identify the multi-modal needs of Asheville and create strategies for addressing those needs. Within this plan are four plan frameworks highlighting pedestrian, bicycle, greenway, and transit issues. The recommendations

that resulted include requiring multi-modal on new development, using a variety of bicycle facilities to promote connectivity, focusing transit efforts in town so that frequency is increased and more user friendly during peak hours, and connecting more residential neighborhoods to greenway facilities. Within the study area, the Haywood Road corridor is noted as a priority corridor to increase bicycle facilities to enhance community vibrancy and increase vehicular activity (City of Asheville 2016).

3.2.2.3 Other Local Plans

In addition to the plans described above, several local plans relate to the proposed project. Additional plans are discussed in greater detail throughout the document and include the following:

- 2015-2019 Comprehensive Economic Development Strategy (Land of Sky Regional Council 2015)
- Asheville City Council Resolution 00-168 – Resolution Supporting the Report and Recommendations of the Community Coordinating Committee Regarding the I-26 Connector Project (2000)
- *Sustainability Management Plan* (City of Asheville 2009d)

3.3 PHYSICAL ENVIRONMENT CHARACTERISTICS

3.3.1 NOISE

This section is based on the draft *Traffic Noise Analysis for the I-26 Connector* prepared in August 2019 (NCDOT 2019a). Traffic noise impacts were determined from the procedures for the abatement of highway traffic noise and construction noise appearing in 23 CFR 772, as well as the *NCDOT Traffic Noise Abatement Policy* (NCDOT 2011). The analysis was conducted using FHWA's Traffic Noise Model version 2.5.

Noise can be defined as any sound that is undesirable. The magnitude of noise is defined by its sound pressure level (SPL), which is related to the ratio of the measured sound pressure over a reference sound pressure. The reference pressure is the pressure of the weakest sound audible to a healthy human hearing system. The resulting quantities from the ratio equation are expressed in terms of decibels (dB) on the SPL scale. A dB is an interval on the SPL scale, with 0 dB as the threshold of hearing and 130 dB as the level that causes pain.

A-weighted sound level quantities often correlate well with the subjective response of people to the magnitude of a sound level. For example, A-weighting takes into account the fact that humans are more sensitive to higher frequency sounds than lower frequency sounds. The term decibel is often abbreviated as dBA, meaning the sound, or noise, levels are A weighted.

Noise descriptors have been developed to more fully describe the noise environment and its effects on human activities. The most commonly used descriptor for vehicular traffic noise is the equivalent sound level (Leq), which is defined as the steady state sound level that contains the

same acoustic energy as the actual time varying sound level occurring over the same time period. Sound levels in this section are given as Leq for a one-hour time period.

3.3.1.1 Ambient Noise Measurements for Alternatives

Existing and ambient background noise measurements were taken in the vicinity of the project to determine existing noise levels for the identified land uses. The purpose of this noise level information was to quantify the existing acoustic environment and to provide a basis for assessing the impact of noise level increases. There are 13 traffic noise measurement sites, 12 ambient background noise measurement sites, and 4 long-term noise measurement sites.

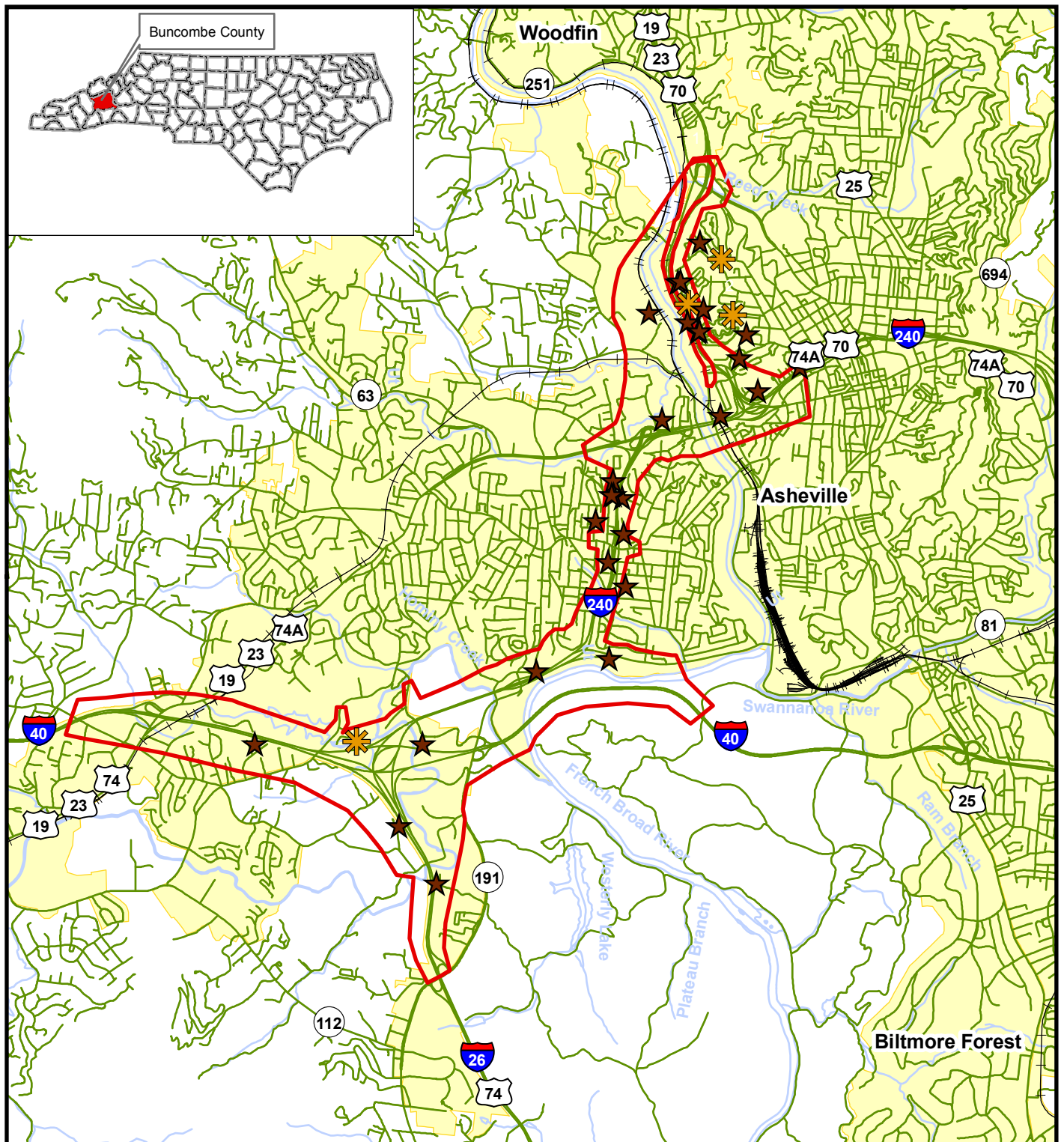
Table 3-9 provides a description of each short-term noise measurement site and the noise measure results. As shown in the table, measured Leq noise levels ranged from 48.2 dBA to 59.7 dBA for the ambient measurements. The noise measurement sites are shown on Figure 3-8.

Table 3-9: Ambient Noise Levels (Leq)

Site	Location	Site Type	Noise Level (dBA)
ST 1	556 Riverside Drive	Traffic	67.5 65.5
ST 2	Crowne Plaza Resort Tennis Courts	Ambient	48.2
ST 3	Amboy Road/ French Broad River Greenway	Ambient	58.8
ST 4	Hillcrest Apartments	Traffic	67.3 62.1 64.1
ST 5	Near St. Paul's Missionary Baptist Church	Traffic	71.7 57.0 52.6
ST 6	Wilmington Street	Traffic	66.5 63.1 64.2
ST 7	Hanover Street/Alabama Avenue	Traffic	65.4 60.9 58.8
ST 8	Fairfax Avenue	Traffic	60.5 58.6 59.6
ST 9	Asheville Primary School	Traffic	68.3 57.4 56.8
ST 10	Pennsylvania Avenue	Traffic	54.6 51.2 48.0

Site	Location	Site Type	Noise Level (dBA)
ST 11	Edwards Road	Traffic	53.8 50.8
ST 12	3 Selwyn Place	Ambient	58.5
ST 13	Schumacher Homes	Traffic	64.9 63.7
ST 14	24 Hazelnut Drive	Ambient	58.7
ST 15	Bear Creek RV Park	Ambient	59.7
ST 16	Riverside Cemetery	Traffic	68.8 62.9
ST 17	Amphitheater/Baseball Field at Montford Park Players	Ambient	50.1
ST 18	Asheville Community Center	Ambient	56.0
ST 19	Isaac Dickson Elementary School	Ambient	48.0
ST 20	Courtland Avenue	Ambient	46.2
ST 21	Westover Drive South	Ambient	52.0
ST 22	Westover Drive North	Traffic	62.4 58.7
ST 23	Hibriten Drive	Ambient	48.5
ST 24	Fayetteville Street	Traffic	62.8 55.8
ST 25	Baker Avenue	Ambient	46.9

Source: Traffic Noise Analysis for I-26 Connector (NCDOT 2019a).



North Carolina
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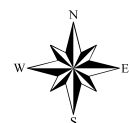
I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Ambient Noise Reading Location
- Traffic Noise Reading Location
- Highways
- Local Road
- Railroad
- Streams (non-delineated)
- Project Study Area
- Water
- Municipal Boundaries

Date: November 2018



0 0.5 1
Miles

Figure 3-8

**Noise Measurement
Locations**

3.3.2 AIR QUALITY

Air pollution originates from various sources. Emissions from industry and internal combustion engines are the most prevalent sources. The impact resulting from highway construction ranges from intensifying existing air pollution problems to improving the ambient air quality. Changing traffic patterns are a primary concern when determining the impact of a new highway facility or the improvement of an existing highway facility. Motor vehicles emit carbon monoxide (CO), nitrogen oxide (NO), hydrocarbons (HC), particulate matter, sulfur dioxide (SO₂), and lead (Pb) (listed in order of decreasing emission rate).

The Federal Clean Air Act of 1970 established the National Ambient Air Quality Standards (NAAQS). These were established in order to protect public health, safety, and welfare from known or anticipated effects of air pollutants. The NAAQS contain criteria for SO₂, particulate matter (PM₁₀, 10-micron and smaller, PM_{2.5}, 2.5-micron and smaller), CO, nitrogen dioxide (NO₂), ozone (O₃), and lead (Pb).

The primary pollutants from motor vehicles are unburned HC, NO_x, CO, and particulates. HC and NO_x can combine in a complex series of reactions catalyzed by sunlight to produce photochemical oxidants such as O₃ and NO₂. Because these reactions take place over a period of several hours, maximum concentrations of photochemical oxidants are often found far downwind of the precursor sources. These pollutants are regional problems. This section is based on the *Air Quality Report, I-26 Asheville Connector from I-40 to US-19-23-70 North of Asheville, Buncombe County* (NCDOT 2018a).

The Federal Clean Air Act of 1970, as amended (42 U.S.C. 7401) was enacted for the purpose of protecting and enhancing the quality of the nation's air resources to benefit public health, welfare, and productivity.

Air pollution is a general term that refers to one or more chemical substances that degrade the quality of the atmosphere. Individual air pollutants degrade the atmosphere by reducing visibility, damaging property, reducing the productivity or vigor of crops or natural vegetation, and/or harming human or animal health.

Air pollution originates from various sources. Emissions from industry and internal combustion engines are the most prevalent sources. The impact resulting from highway construction ranges from intensifying existing air pollution problems to improving the ambient air quality. Changing traffic patterns are a primary concern when determining the impact of a new highway facility or the improvement of an existing highway facility. Motor vehicles emit carbon monoxide, nitrogen oxide, hydrocarbons, particulate matter, sulfur dioxide, and lead (listed in order of decreasing emission rate).

3.3.2.1 Attainment Status

The I-26 Connector project is located in Buncombe County, which has been determined to comply with the National Ambient Air Quality Standards (NAAQS); therefore, 40 CFR 51 and 93 are not applicable.

3.3.2.2 Mobile Source Air Toxics

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. Environmental Protection Agency (EPA) regulate 188 air toxics, also known as hazardous air pollutants. The

EPA assessed this expansive list in its rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007), and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS). In addition, EPA identified nine compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 2011 National Air Toxics Assessment (NATA). These are 1,3-butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter (diesel PM), ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter. While FHWA considers these the priority MSAT, the list is subject to change and may be adjusted in consideration of future EPA rules.

According to EPA, the latest model MOVES2014 is a major revision to MOVES2010 and improves upon it in many respects. MOVES2014 includes new data, new emissions standards, and new functional improvements and features. It incorporates substantial new data for emissions, fleet, and activity developed since the release of MOVES2010. These new emissions data are for light- and heavy-duty vehicles, exhaust and evaporative emissions, and fuel effects. MOVES2014 also adds updated vehicle sales, population, age distribution, and vehicle miles travelled (VMT) data.

MOVES2014 incorporates the effects of three new Federal emissions standard rules not included in MOVES2010. These new standards are all expected to impact MSAT emissions and include Tier 3 emissions and fuel standards starting in 2017 (79 FR 60344), heavy-duty greenhouse gas regulations that phase in during model years 2014-2018 (79 FR 60344), and the second phase of light duty greenhouse gas regulations that phase in during model years 2017-2025 (79 FR 60344). Since the release of MOVES2014, EPA has released MOVES2014a. In the November 2015 MOVES2014a Questions and Answers Guide, EPA states that for on-road emissions, MOVES2014a adds new options requested by users for the input of local VMT, includes minor updates to the default fuel tables, and corrects an error in MOVES2014 brake wear emissions. The change in brake wear emissions results in small decreases in PM emissions, while emissions for other criteria pollutants remain essentially the same as MOVES2014.

Using EPA's MOVES2014a model, FHWA estimates that even if VMT increases by 45 percent from 2010 to 2050 as forecast, a combined reduction of 91 percent in the total annual emissions for the priority MSAT is projected for the same time period.

Diesel PM is the dominant component of MSAT emissions, making up 50 to 70 percent of all priority MSAT pollutants by mass, depending on calendar year. Users of MOVES2014a will notice some differences in emissions compared with MOVES2010b. MOVES2014a is based on updated data on some emissions and pollutant processes compared to MOVES2010b, and reflects the latest Federal emissions standards in place at the time of its release. In addition, MOVES2014a

emissions forecasts are based on lower VMT projections than MOVES2010b, consistent with recent trends suggesting reduced nationwide VMT growth compared to historical trends.

MSAT analyses are intended to capture the net change in emissions within an affected environment, defined as the transportation network affected by the project. The affected environment for MSATs may be different than the affected environment defined in the NEPA document for other environmental effects, such as noise or wetlands. Analyzing MSATs only within a geographically-defined “study area” will not capture the emissions effects of changes in traffic on roadways outside of that area, which is particularly important where the project creates an alternative route or diverts traffic from one roadway class to another. At the other extreme, analyzing a metropolitan area’s entire roadway network will result in emissions estimates for many roadway links not affected by the project, diluting the results of the analysis.

3.3.3 FARMLANDS

Criteria for identifying and considering the effects of federal programs on the conversion of farmland to nonagricultural uses are established in the Farmland Protection Policy Act (FPPA) (7 CFR 658). For the purposes of the FPPA, important farmland is divided into three categories: prime, unique, or of local or statewide importance (Public Law 97-98, Subtitle 1, Section 1540).

The project location is in the urbanized area of Asheville. The land in the vicinity of the project is sufficiently planned and actively being used for urban purposes. Thus, further analysis of prime and unique soils is not required in accordance with FPPA guidance.

3.3.4 UTILITIES

Electric service to local residents and businesses is provided by Progress Energy. Progress Energy has electric transmission lines within the project study area that run east-west, south of the I-26/I-40/I-240 interchange. The electric transmission lines then cross NC 191 (Brevard Road) south of I-40 before turning north paralleling the French Broad River on the west bank. These transmission lines continue to parallel the French Broad River northward until SR 3548 (Haywood Road) where they proceed northwest over I-240 and the Crowne Plaza Resort before exiting the project study area.

Water service within the project study area is provided by the Regional Water Authority of Asheville-Buncombe-Henderson. Water service is widespread in urbanized portions of Asheville and Woodfin, as well as Sardis Road, West Oakview Road, and Gorman Bridge Road areas in unincorporated Buncombe County (HNTB North Carolina, PC 2010).

Wastewater within the project study area is provided by the Metropolitan Sewer District of Buncombe County. Sewer lines are located throughout the project study area. Service areas within the project study area include most incorporated portions of Asheville and Woodfin and the Hominy Creek area in the southern portion of the project study area. The locations of water and sewer lines are shown on Figures 3-9a and 3-9b.

Natural gas is distributed and serviced throughout the project study area by the Public Service Company of North Carolina.

Telephone service is provided to the project study area by Bell South and AT&T. Bell South and AT&T have telephone and fiber optic cable along the major roads (including Patton Avenue) crossing the project. Overhead telephone lines and buried cable supported by Bell South are present on the northwest side of the project study area, near Brevard Road.

3.3.5 VISUAL QUALITY

Located in the mountainous regional landscape of North Carolina, the visual background of the project study area is comprised of changes in elevation punctuated by peaks, ridge lines, and valleys, and the winding course of the French Broad River. The city of Asheville is generally situated on a hill crest on a mountainous plateau along the French Broad River. The project study area runs in a north-south direction just west of the Asheville downtown area.

The visual features in the project study area consist of a variety of manmade and natural landscapes that include residential neighborhoods, industrial development, scattered homes, transportation (streets and highways) features, wooded uplands, streams, and the French Broad River. The project study area is comprised of three sections from south to north (Sections C, A, and B). Each of the three sections has a corresponding viewshed, the features and attributes of which are described in the DEIS.

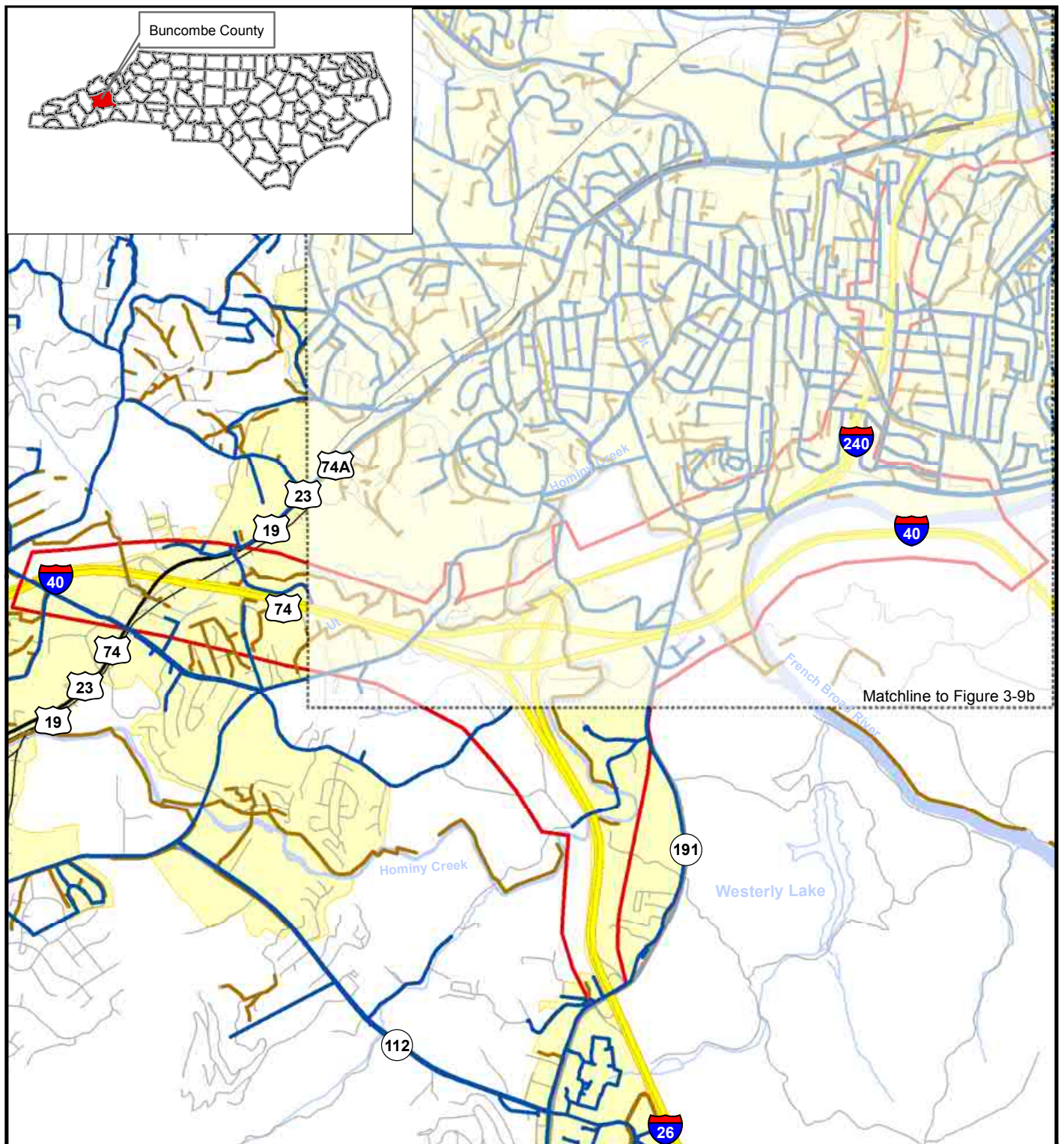
3.3.6 HAZARDOUS MATERIAL

Hazardous material sites are regulated by the Resource Conservation Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Hazardous materials are generally defined as material or a combination of materials that present a potential hazard to human health or the environment.

After selection of a LEDPA, the NCDOT GeoEnvironmental Unit provided an updated list of potentially hazardous sites within the project study area, which included 51 potential hazardous sites, as shown in Table 3-10 and on Figure 3-10.

No hazardous waste sites were identified within the project limits.

A Preliminary Site Assessment report was prepared in 1993 for an abandoned landfill located between Riverside Drive (SR 1477) and the French Broad River (Environmental Investigations, Inc. 1993, NCDOT 1993b). Based on observations of materials disposed of in the landfill, it is not likely that state or federal Superfund agencies would consider this site an imminent hazard or require evaluation (NCDOT 1993b).



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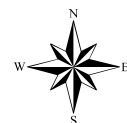
I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

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

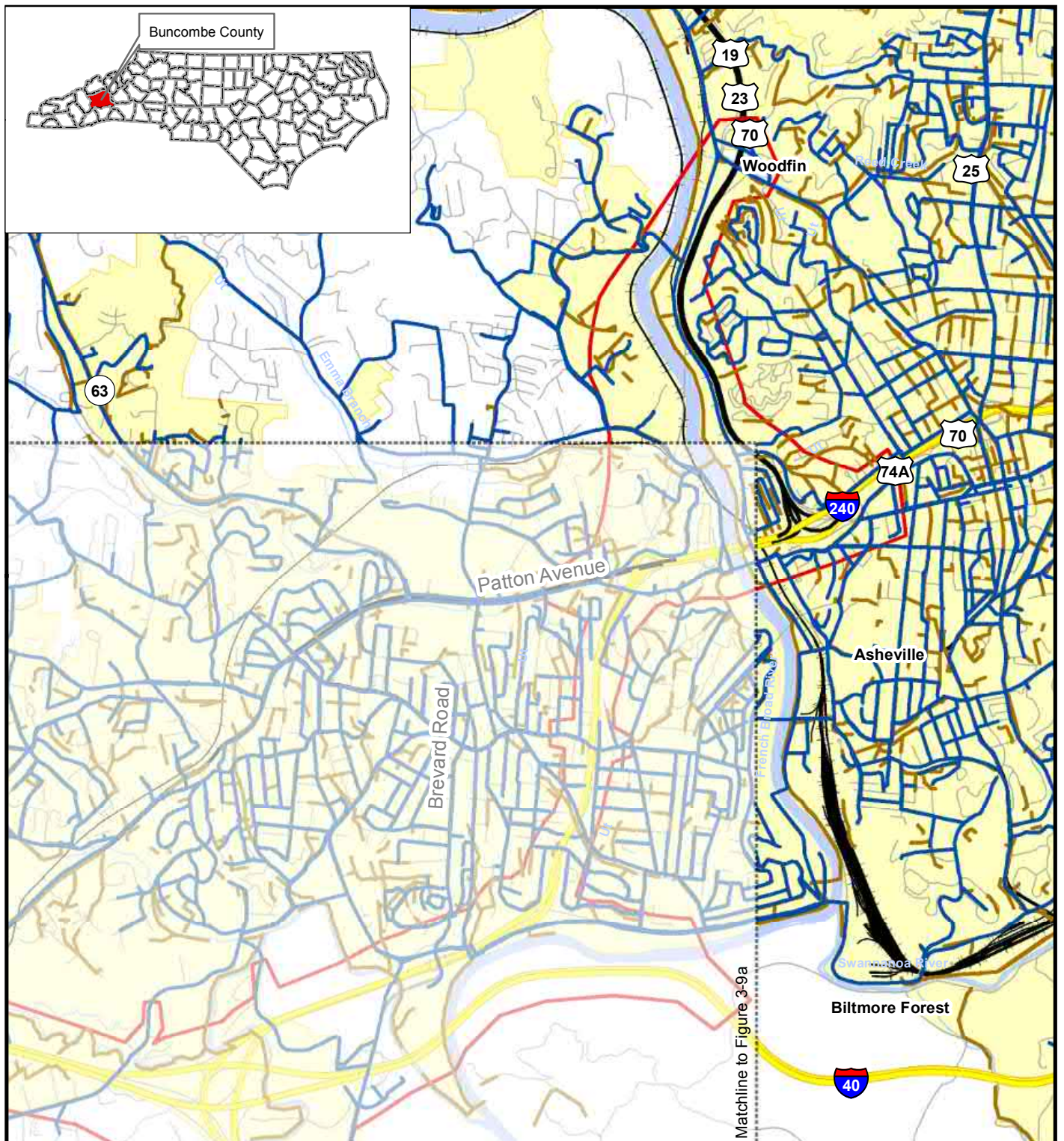
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Figure 3-9a

Utilities



North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

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

Date: May 2018



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Figure 3-9b

Utilities

Table 3-10: USTs, Landfills, and Other Potentially Contaminated Sites

Site #	Type	Location	UST Facility ID #	Property Name	UST Owner/ Property Owner	Anticipated Impact	Anticipated Risk	Comments
1	UST	95 Highland Center Boulevard	0-004206	Silver Brothers Inc.	T Pressley Trucking/Silver Brothers Property LLC	Petroleum-contaminated soils	Low	Former T. Pressley Trucking; 7 tanks closed in 1999; GWI 21627
2	Truck Shop	100 Highland Center Boulevard	N/A	West Carolina Freightliner	Farm Equipment Company of Asheville Inc.	Petroleum-contaminated soils	Low	Currently West Carolina Freightliner; truck shop
3	UST	301 Smoky Park Highway	0-000439	Mountain Energy # 18	Mountain Energy Corporation/ Morgan Legacy LLC	Petroleum-contaminated soils	Low	Active gas station/store; four tanks closed in 1994 and 5 current tanks; GWI 3754
4	UST	295 Smoky Park Highway	0-004255	Quality Properties LP	Mountain Empire Oil Company	Petroleum-contaminated soils	Low	Active gas station/store; five tanks closed in 1987, one tank closed in 1994 and four current tanks; GWI 10386, 22147
5	UST	305 Smoky Park Highway	0-007340	Dunkin Donuts	Citizens Fuel Company Superior Properties of Asheville	Petroleum-contaminated soils	Low	Currently Dunkin Donuts; Former Citizens Fuel Co #11; four tanks closed in 2004; GWI# 3752
6	Auto Repair Shop	9 Crowell Road	N/A	Smoky Mountain Auto Service	Marion Waldman and Roland Herbstreit	Petroleum-contaminated soils	Low	Operates as a repair shop
7	UST	285 Smoky Park Highway	Unknown	Leonard's Auto Mart	Leonard and Veronica Crook	Petroleum-contaminated soils	Low	Old service station; facility ID unknown; currently used car lot

Site #	Type	Location	UST Facility ID #	Property Name	UST Owner/ Property Owner	Anticipated Impact	Anticipated Risk	Comments
8	UST	266 Smoky Park Highway	0-004596	Several Businesses Mountain Tops Inc.	Adam Cornelia	Petroleum-contaminated soils	Low	Old service station (possibly former Smoky Park Chevron)
9	Machine Shop	90 McIntosh Road	N/A	Mitch's	William Bethune Trustee	TCH-contaminated soils	Low	RCRA requires soil cleanup; GWI# 13788
10	UST	99 Pond Road	N/A	JMJ Tomato Properties LLC	JMJ Tomato Properties LLC	Petroleum-contaminated soils	Low	Possible old gas station; no UST information; I-4400/4700 Site # 21 & B-5178 Site 3
11	Construction Debris	116 Pond Road	N/A	Henson's Inc. Mulch & More	Murmax, LLC	Construction, municipal and industrial yard waste	Low	Currently operates as landscaping supply facility; I-4400/4700 Site # 22 & B-5178 Site 4
12	UST	80 Pond Road	0-036323	Southern Concrete Materials Inc.	Southern Concrete Materials Inc.	Petroleum-contaminated soils	Low	Currently a concrete plant; former Pond Road Landfill; I-4400/4700 Site # 20 & B-5178 Site 2
13	Landfill/ Recycling	79 Pond Road	N/A	Mountain Metals recycling	Sonia G. Gribble	Brownfields Program Pond Road Landfill 09032-05-11	Low to Moderate	Currently a recycling center; former Pond Road Landfill; I-4400/4700 Site # 19 & B-5178 Site 1
14	UST Recycling	24 Pond Road	0-007878	Waste Management Recycling	Waste Management of Asheville/Waste Management of Carolinas Inc.	Petroleum-contaminated soils	Low	Currently a recycling facility; four tanks closed in 1992

Site #	Type	Location	UST Facility ID #	Property Name	UST Owner/ Property Owner	Anticipated Impact	Anticipated Risk	Comments
15	UST	601 Brevard Road	0-004214	Former Homer Smith Exxon	Homer Smith	Petroleum-contaminated soils	Low	Currently junk car; four tanks closed in 1998; GWI# 19970
16	UST	589 Brevard Road	0-004608	Subway Quick Trip # 1	ISI Enterprise	Petroleum-contaminated soils	Low	Restaurant/gas station; five tanks closed in 2007; three current tanks; GWI# 28302
17	UST	251 E. Oakview Road (12 East Oakview Road)	0-007247	Thurston Motor Line	Ed Weisiger (UST Owner) Thurston Motor Line	Petroleum-contaminated soils	Low	Former Brown Transport; currently may be Duke Carolina Progress
18	UST	40 Interstate Boulevard	N/A	Carolina Cat	Beacon Partners #8 LLC	Petroleum-contaminated soils/solvents	Low	Caterpillar Diesel Repair shop; former Carolina Tractor
19	Waste	190 Hominy Creek Road	NCD980558 035	Hominy Creek Landfill	Buncombe County	Waste	Low to moderate	Transfer station; dump closed in 1973
20	UST	380 Brevard Road	0-031264	Aston Park Health Center	Aston Park Health Center	Petroleum-contaminated soils	Low	One UST closed in 1990
21	UST	75 Shelburne Road	0-024263	National Guard Armory	National Guard State of NC	Petroleum-contaminated soils	Low	Three USTs closed in 1993, 1995, and 1999
22	UST	225 Amboy Road	0-004395	Wilsons RV Repair	Wilsons Mobile Home repairs/ Flora J. Wilson	Petroleum-contaminated soils	Low	Two USTs closed in 1989
23	Paint/Body Shop	448 Haywood Road	N/A	Silvers Auto Service	Michael D. Silver	Solvents	Low	Auto Repair Paint & Body Shop
24	UST	441 Haywood Road	0-030207	Asheville Pre School	Asheville BOE	Petroleum-contaminated soils	Low	Former Aycock Elem School; one current 15,000-gallon heating oil UST

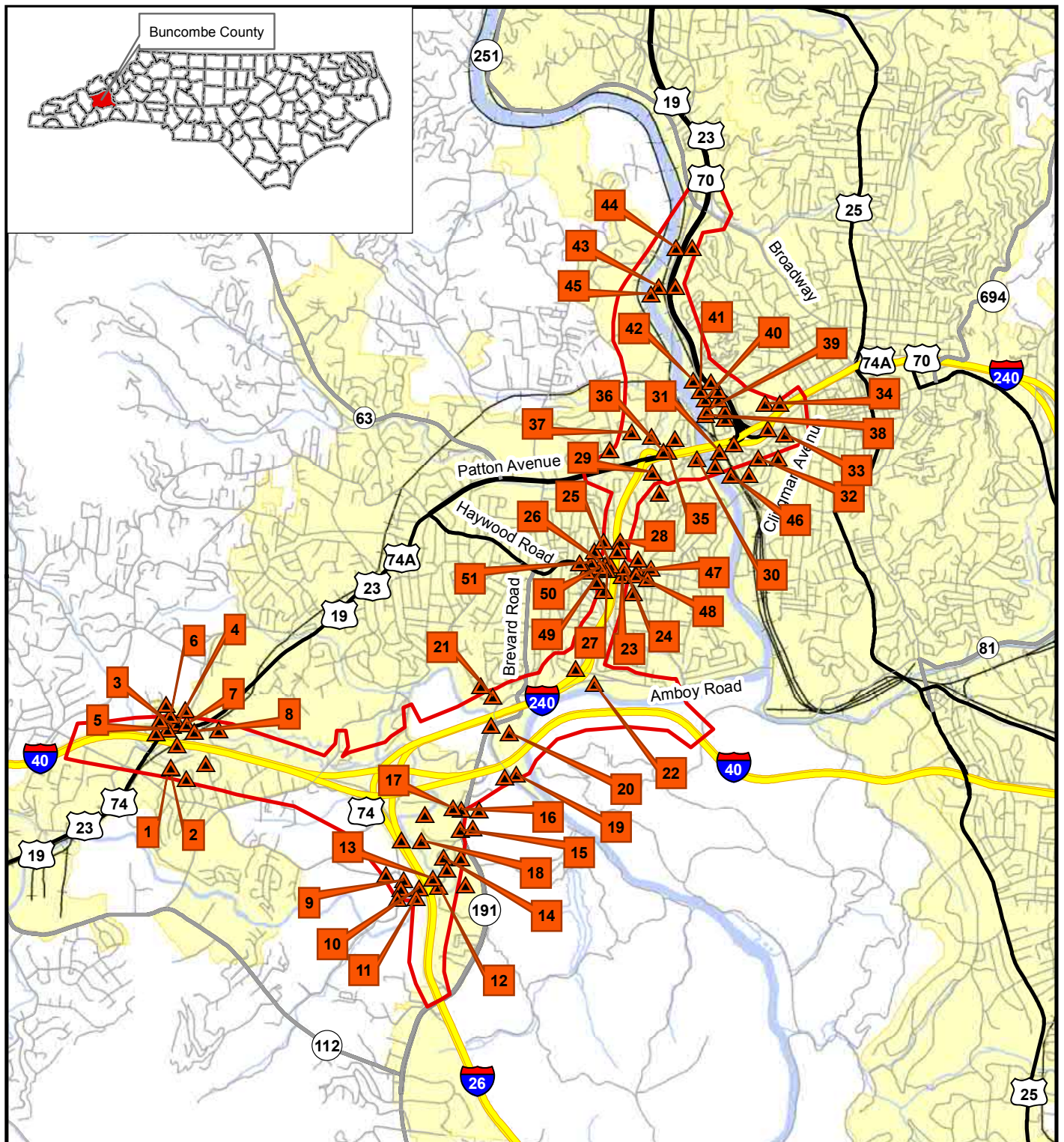
Site #	Type	Location	UST Facility ID #	Property Name	UST Owner/ Property Owner	Anticipated Impact	Anticipated Risk	Comments
25	UST	495 Haywood Road	0-032429	Haywood Quick Stop	DEU Enterprises/ Samuel J. Couch	Petroleum-contaminated soils	Low	Current convenience store; five current USTs
26	UST	507 Haywood Road	0-004483	Speedy Income Tax	Warren and Dianne Davenport	Petroleum-contaminated soils	Low	Former Frito Lay of Asheville; one UST closed in 1989
27	UST	476 Haywood Road	N/A	Daggitts Pawn	David E. Stevens	Petroleum-contaminated soils	Low	May have been a store/gas station at one time; no UST Information
28	UST	74 Argyle Lane	N/A	MCC Outdoor LLC	MCC Outdoor LLC	Petroleum-contaminated soils	Low	Vacant property; building footprint still visible; no UST information
29	UST	640 Patton Avenue (111 Hazel Mill Road)	0-021574	FedEx Shipping Center	FedEx Corp/Cole FE Asheville NC LLC	Petroleum-contaminated soils	Low	Two USTs closed in 1997 and 2000; NFA issued for Incidents 17600 & 20496
30	UST	167 Craven Street	0-004506	Currently a vacant lot	Buncombe County BOE/City of Asheville	Petroleum-contaminated soils	Low	Former Buncombe Co BOE Maintenance facility; six USTs closed between 1990 and 2008; GWIs 7402, 7404, and 7387 have been closed out
31	UST	300 Riverside Drive	0-021251	Former Westall-Chandley Lumber Company	Johnson-Chandley Lumber Company/ T&T Enterprises	Petroleum-contaminated soils	Low	GW1 #16114; one UST removed in 1991 (A-0010A Site 1)
32	UST	360 West Haywood Street	0-003636	Asheville Transit Authority	City of Asheville	Petroleum-contaminated soils	Low	Two USTs closed in 1993 and one closed in 1994; GWI #10964 and 28130

Site #	Type	Location	UST Facility ID #	Property Name	UST Owner/ Property Owner	Anticipated Impact	Anticipated Risk	Comments
33	UST	252 Patton Avenue	0-004339	Hunter Volvo	Paul S. Meeker	Petroleum-contaminated soils	Low	Formerly Meeker Lincoln-Mercury; one UST closed in place in 1989, one UST removed in 1992; GWI 8986 closed out in 1992
34	UST	125 Hill Street	0-030212	Dickson Elementary	Asheville City BOE	Petroleum-contaminated soils	Low	One current 10,000-gallon heating oil UST
35	UST	635 Patton Avenue	0-007590	The Auto Connection	Service Distributing Co/York Real Estate Investment LMT PTN	Petroleum-contaminated soils	Low	Former Serco Gas Station; four USTs closed in 2000; GWI# 22680 (A-0010A Site 2)
36	UST	639 Patton Avenue	N/A	Mr. Transmission	Jerry and Betty Jo Dean	Petroleum-contaminated soils	Low	Currently has in ground lifts (I-4400/4700 Site 12)
37	UST	645 Patton Avenue	0-036181	Sam's Club # 6452	Sams East, Inc./ Sams Real Estate Business Trust	Petroleum-contaminated soils	Low	Active gas station; three current USTs (I-4400/4700 Site 11)
38	Junk Yard	444 Riverside Drive	N/A	Asheville Auto Auction	Asheville Auto Auction Inc.	Petroleum-contaminated soils	Low	Currently a junk yard; no UST information (I-4400/4700 site # 15); see comments Site 45
39	Junk yard	448 Riverside Drive	N/A	Riverside Auto Parts	Scott Banks	Petroleum-contaminated soils	Low	Currently a junk yard; no UST information; See comments Site 45
40	Junk yard	452 Riverside Drive	N/A	A-1 Towing and Used Cars	Thomas A. Hutchinson	Petroleum-contaminated soils	Low	Currently a junk yard; no UST information (I-4400/4700 Site 16); see comments Site 45

Site #	Type	Location	UST Facility ID #	Property Name	UST Owner/ Property Owner	Anticipated Impact	Anticipated Risk	Comments
41	Farm Supplies	464 Riverside Drive	N/A	Southern States Farm Supply	Southern States Corporation	Pesticide	Low	Currently Southern States Farm Supplies; no UST information; see comments Site 45
42	Junk yard	665 Riverside Drive	N/A	Asheville Auto Parts	Terri S. Eury	Petroleum-contaminated soils	Low	Junk yard; no UST information; see comments Site 45
43	UST	690 Riverside Drive	0-007332	Riverside Stump Dump	Farm Equipment Co. of Asheville	Petroleum-contaminated soils	Low	Former Farm Equipment Co. of Asheville; four USTs closed in 1990 (A-0010A Site 4); see comments Site 45
44	UST	796 Riverside Drive	N/A	The Byway	Agiqua LLC	Petroleum-contaminated soils	Low	Possible old gas station; no UST information; see comments Site 45
45	Landfill	Along the Bank of the French Broad River	N/A	N/A	N/A	Landfill materials of unknown composition	High	Area along the French Broad River is the site of historic uncontrolled landfilling; site-specific data are needed for any route selected
46	Textile Manufacturing	122 Riverside Drive (formerly 191 Riverside Drive)	N/A	Cotton Mill Studios	River Link, Inc.	Petroleum-contaminated soils, PCE in groundwater	Low to Moderate	Brownfields Program Historic Cotton Mill 07015-03-11
47	UST	405 Haywood Road	0-000796	Gas-Up	Julian Agbala	Petroleum-contaminated soils	Low	Active gas station with six current tanks
48	UST	402 Haywood Road	N/A	B&K Auto Repair	James Ertzberger	Petroleum-contaminated soils	Low	Possible former gas station; no UST information

Site #	Type	Location	UST Facility ID #	Property Name	UST Owner/ Property Owner	Anticipated Impact	Anticipated Risk	Comments
49	UST	514 Haywood Road	N/A	Orellanas Auto & Tire Shop	Gerald Brooks	Petroleum-contaminated soils	Low	Possible former gas station; no UST information
50	UST	520 Haywood Road	N/A	C&J Motorcycle Service	J&J Motor Sports, LLC	Petroleum-contaminated soils	Low	Former gas station; no UST information
51	UST	547 Haywood Road	0-004386	Legal Aid of NC	R.N. Jarvis/ Thomas & Ann Franks	Petroleum-contaminated soils	Low	Former Jarvis Gulf gas station; six tanks closed in 1988

Source: Revised Geotechnical Pre-Scoping Report (NCDOT 2014c)



North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

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

Date: May 2018



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Figure 3-10

Hazardous Materials Sites

3.3.7 MINERAL RESOURCES

The project is located within the Blue Ridge Physiological Province. This province is characterized by mountainous areas of steep ridges, intermountain basins, and valleys that intersect at all angles, giving the area its rugged character.

The project study area is underlain by the Rome Formation, which is characterized by shale and siltstone interbedded with fine-grained sandstone and shaly dolomite. The geology of the Blue Ridge Province is made up of a complex mixture of granite, gneiss, volcanic, and sedimentary rock that has been compressed, broken, faulted, and twisted into folds. This region contains deposits of mica, feldspar, and quartz, which are useful in the ceramic, paint, and electronic industries. Rocks underlying Asheville are included in the Ashe Metamorphic Suite, Tallulah Falls Formation, and Alligator Back Formation, which were deposited 600 to 800 million years ago in the Precambrian era. At that time, sand, clay, and rocks were washed into a sea and mixed with material ejected from nearby volcanoes. Through plate tectonics, deeply buried rocks were altered by intense pressure and heat to form metamorphic gneiss and schist, which, in combination with granitic rocks, eventually formed the Appalachian Mountain chain (Ecoscience Corporation 2010).

Crushed stone, sand, and fieldstone are mined in the Asheville area. Crushed stone is necessary for all types of road construction and in any construction that requires the use of concrete. The Asheville area has an abundant supply of crushed stone. Other valuable and useful mineral commodities are produced in the region surrounding Asheville and Buncombe County; however, there are no active mines or quarries within or near the project study area.

3.3.8 FLOODPLAINS/FLOODWAYS

The project study area is contained within the French Broad River Basin, which is located west of the Eastern Continental Divide. The entire basin covers approximately 2,830 square miles (Federal Emergency Management Agency [FEMA] 2010). The project study area lies within the French Broad River sub-basin, approximately 54 miles downstream of the headwaters of the French Broad.

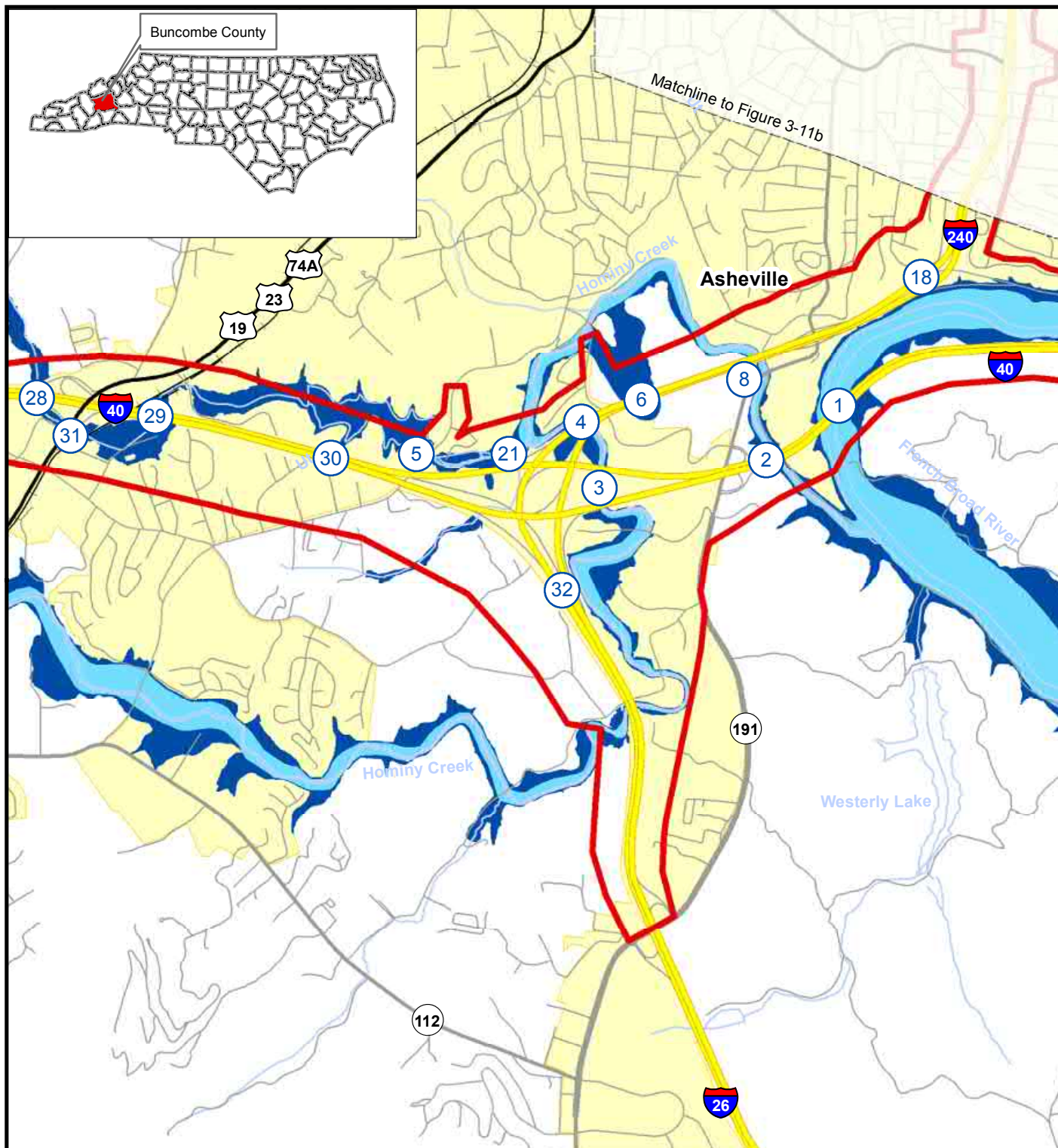
A principal tributary to the French Broad River in the Asheville vicinity is Hominy Creek. The only other named tributary to the French Broad River crossed by the project is Smith Mill Creek.

The existing roadways within the project study area include 23 crossings of FEMA floodplains. Table 3-11 and Figures 3-11a and 3-11b include an inventory of the existing crossings and the existing hydraulic features at the floodplain locations.

Table 3-11: Existing Hydraulic Crossings

Site	Stream	Location	Existing Structure
1	French Broad River	I-40, east of I-26	Bridges 356 and 352
2	Hominy Creek	I-40, east of NC 191	Bridges 344 and 347
3	Hominy Creek	I-40, east of I-26	Bridges 334 and 339
4	Hominy Creek	I-240, north of I-40	Bridges 70 and 66
5	Ragsdale Creek	SR 3412	Dual 9 foot by 9 foot box culvert
6	Unnamed Tributary to Hominy Creek	I-240, north of I-40	Dual 9 foot by 9 foot box culvert
8	Hominy Creek	I-240, west of NC 191	Bridges 206 and 208
13	French Broad River	I-240/Patton Avenue	Existing Captain Jeff Bowen Bridges 322 and 323
16	Reed Creek	US 19-23-70 and interchange	US 19-23-70 crosses over on Bridge 289 and ramps have box culvert crossings
17	Smith Mill Creek	Patton Avenue	Triple 8 foot by 11-foot box culverts
18	Unnamed Tributary 2A to French Broad River	I-240/Amboy Road	Single 48 inch pipe
19	Moore Branch	I-240, north of Amboy Road	Single 48 inch pipe
20	Unnamed Tributary 3C to Lower Hominy Creek	Shelburne Road	Single 66 inch pipe
21	Unnamed Tributary to Ragsdale Creek	I-40, west of I-240 and I-240 ramp	Single 6 foot by 9 foot box culvert
24	Tributary to French Broad River	US 19-23-70 and Riverside Drive	Single 8-foot by 8-foot box culvert
25	Tributary to French Broad River	US 19-23-70 and Riverside Drive	Single 84 inch pipe
28	Ragsdale Creek	I-40 West CD	Triple 7 foot by 9 foot box culverts
29	Ragsdale Creek	I-40 West CD	Triple 8 foot by 8 foot box culverts
30	Unnamed Tributary to Ragsdale Creek	I-40 West CD	One 48 inch pipe and one 30 inch pipe
31	<i>Ragsdale Creek</i>	<i>US 19/23</i>	<i>Triple 7-foot by 8-foot box culvert</i>
32	<i>UT to Hominy Creek</i>	<i>I-26/I-240</i>	<i>Single 60 inch pipe</i>
33	<i>UT to French Broad River</i>	<i>I-40/US 19</i>	<i>Single 66 inch pipe</i>
99	<i>UT to French Broad River</i>		<i>Single 60 inch pipe</i>

Sources: *Hydraulic Technical Report for I-2513 the I-26 Asheville Connector* (TGS Engineers 2010); *Final Hydraulic Aspects Report Addendum to the I-2513 Hydraulic Technical Report* (URS 2015b); *Hydraulic Aspects Report Addendum* (AECOM 2018b).



North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Interstate
- US Highway
- State Highway
- State Route
- Local Road
- + Railroad
- Streams (non-delineated)
- Floodway
- Water
- 100 Year Floodplain
- Project Study Area
- Municipal Boundaries
- 7 Crossing Site Number

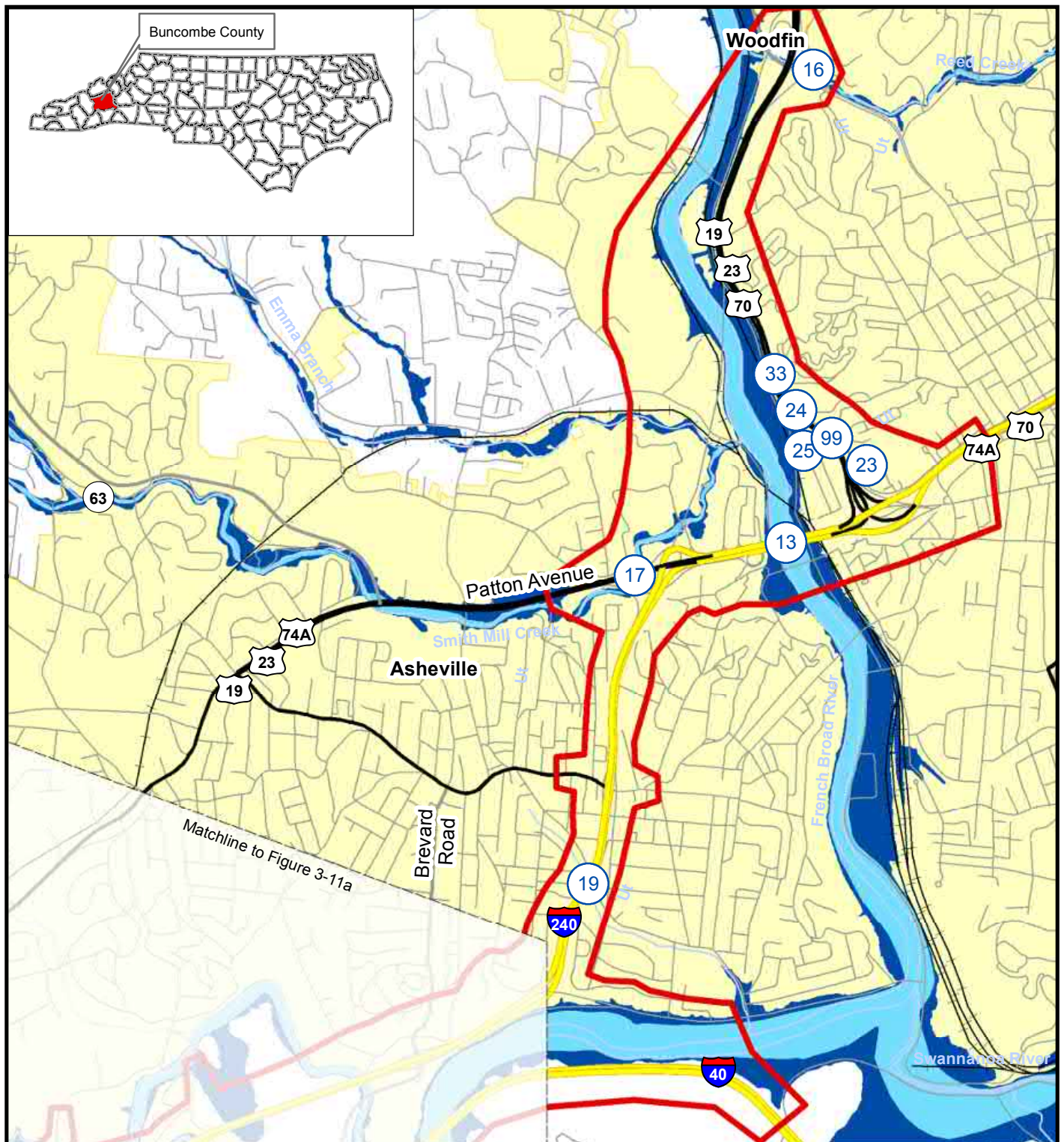
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Figure 3-11a

Floodplains and Floodways



**North Carolina
Department of Transportation**



**I-26 Asheville Connector
Buncombe County**

STIP Project No. I-2513

Legend

- Project Study Area
- Interstate
- US Highway
- State Highway
- State Route
- Local Road
- Railroad
- Streams (non-delineated)
- Floodway
- Water
- 100 Year Floodplain
- Municipal Boundaries
- 9 Crossing Site Number

Date: May 2018



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Miles**

Figure 3-11b

Floodplains and Floodways

3.3.9 PROTECTED LANDS

3.3.9.1 Wild and Scenic Rivers

Congress adopted the National Wild and Scenic Rivers Act in 1968 (Public Law 90-542; 16 U.S.C. 1271) to preserve certain rivers with outstanding natural, cultural, or recreational features in a free-flowing condition.

No rivers or sections of river within or near the project study area are designated as Wild, Scenic, or Recreational under the National Wild and Scenic Rivers Act (NPS 2018).

In 1971, North Carolina also passed a Natural and Scenic Rivers Act. There are no rivers or sections of rivers within or near the project study area that are designated under the North Carolina Natural and Scenic Rivers Act (NCDENR 2007).

3.3.9.2 State/National Forests

There are no state or national forests in the project study area; however, the Pisgah National Forest is located approximately 2 miles southwest of the I-26/I-40 interchange. The Pisgah National Forest consists of over one-half million acres of forest surrounding Mount Pisgah. It is owned and managed by the US Forest Service.

The Blue Ridge Parkway enters the Pisgah National Forest approximately 5 miles south of the project study area. The Parkway consists of 469 miles of scenic roadway that connects the Shenandoah National Park in Virginia with the Great Smoky Mountains National Park in North Carolina and Tennessee. The Parkway is a Designated All-American Road and is managed by the NPS. Several smaller parks and trails branch from the Parkway.

3.3.9.3 Gamelands and Preservation Areas

There are no gamelands in the project study area. A bear sanctuary, managed jointly by the US Forest Service and the North Carolina Wildlife Resources Commission (NCWRC), is located within the Pisgah National Forest. The sanctuary is located in the interior portion of the park, in Transylvania County. Within the northern portion of the project study area, the French Broad River is designated as a Land Trust Priority Area.

3.4 CULTURAL RESOURCES

The project is subject to compliance with Sections 106 and 110 of the National Historic Preservation Act (NHPA) of 1966, as amended, in which it is stated:

The head of any Federal agency having direct or indirect jurisdiction over a proposed Federal or federally assisted undertaking in any State and the head of any Federal department or independent agency having authority to license any undertaking shall, prior to the approval of the expenditure of any Federal funds on the undertaking or prior to the issuance of any license, as the case may be, take into account the effect of the undertaking on any district, site, building, structure,

or object that is included in or eligible for inclusion in the National Register. The head of any such Federal agency shall afford the Advisory Council on Historic Preservation established under Title II of this Act a reasonable opportunity to comment with regard to such undertaking. (16 U.S.C. 470f)

Section 110(f) of the NHPA requires that Federal agencies exercise a higher standard of care when considering undertakings that may directly and adversely affect National Historic Landmarks (NHLs). The law requires that agencies, "to the maximum extent possible, undertake such planning and actions as may be necessary to minimize harm to such landmark." In those cases when an agency's undertaking directly and adversely affects an NHL, or when Federal permits, licenses, grants, and other programs and projects under its jurisdiction or carried out by a state or local government pursuant to a Federal delegation or approval so affect an NHL, the agency should consider all prudent and feasible alternatives to avoid an "adverse effect" on the NHL. [Sec. 110(a)(2)(B) and Sec. 110(f)].

The methods used to identify historic architectural and archaeological resources in the project study area and the results of those investigations are described in this section.

3.4.1 HISTORIC ARCHITECTURAL RESOURCES

The information in this section is from the *Historic Architectural Resources Survey Update Report* prepared for this project (Acme Preservation Services, LLC 2015) based on the earlier *Historic Architectural Resources Survey Report* (Alexander Mattson and Associates, Inc. 2006). The 2006 Historic Architectural Resources Survey was undertaken in accordance with the Department of Transportation Act of 1966, Section 106 of the NHPA of 1966, as amended (36 CFR 800), and the FHWA's *Guidance for Preparing and Processing Environmental and Section 4(f) Documents* (USDOT/FHWA 1987). The survey followed the 2003 *Section 106 Procedures and Report Guidelines* (NCDOT 2003b).

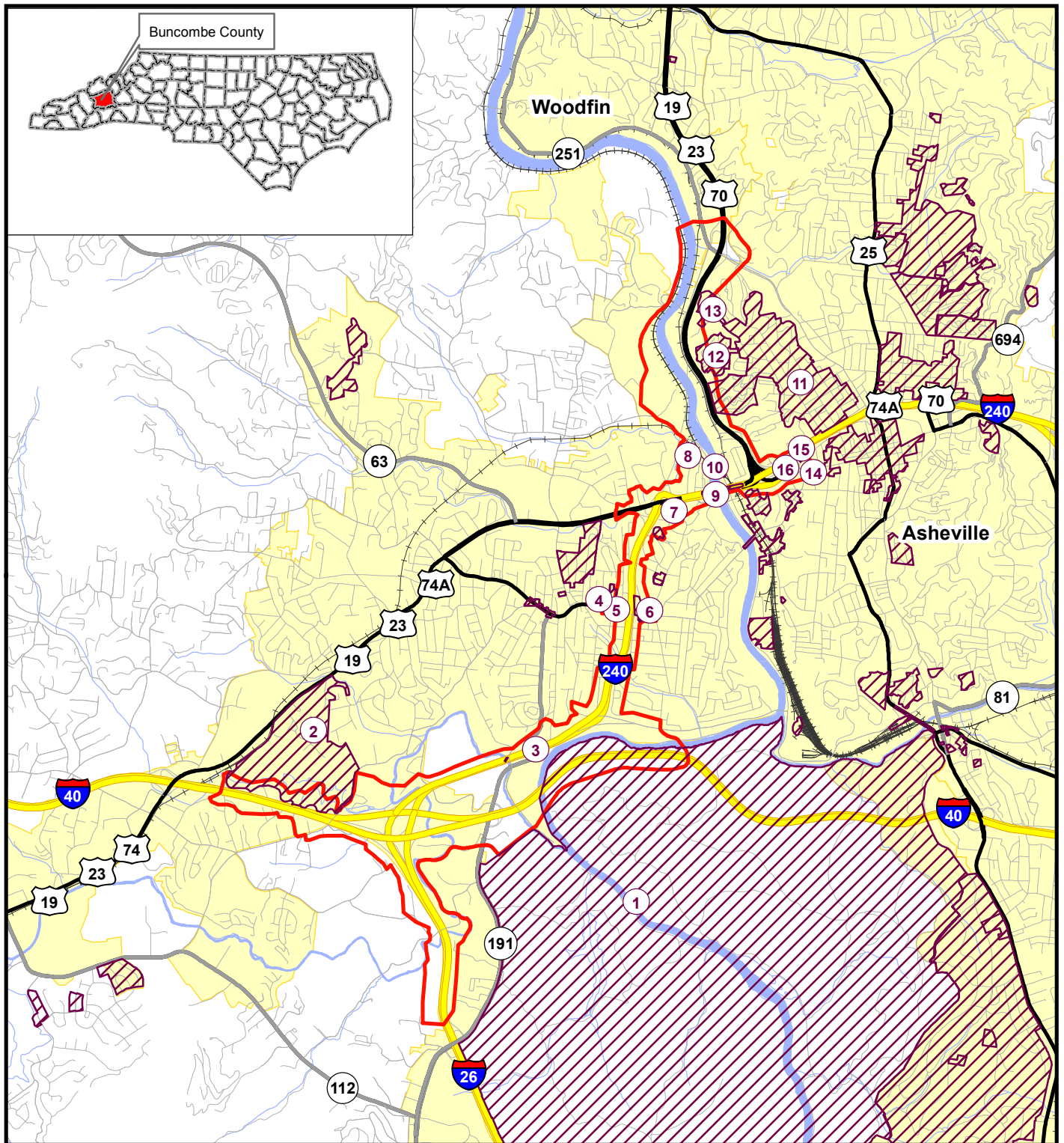
The survey was conducted with the following goals: (1) to determine the historic architectural area of potential effects (APE) for the project, which is defined as the geographic area or areas within which a project may cause changes to the character or use of historic properties, if any such properties exist; (2) to identify all resources of at least 50 years of age within the historic architectural APE; and (3) to evaluate these resources according to NRHP criteria (36 CFR 60).

All historic resources were identified and surveyed in the historic architectural APE. Fifteen of these resources were listed in the NRHP (NRHP-listed) or determined eligible for listing (NRHP-eligible). These historic resources are summarized in Table 3-12 and shown on Figure 3-12. A letter from the State Historic Preservation Officer (SHPO) concurring with the status of the historic resources as listed in the table is provided in Appendix C. Detailed descriptions and photographs of the resources are provided in the *Historic Architectural Resources Survey Update Report* and the 2015 DEIS (Acme Preservation Services, LLC 2015). Additional details about historic sites that are also subject to Section 4(f) requirements are provided in Chapter 5.

Table 3-12: Historic Architectural Resources in the APE

Name	Type	No. on Figure
Biltmore Estate	NHL	1
Asheville School	NRHP-listed	2
Buncombe County Bridge 216	NRHP-eligible	3
Calvary Baptist Church	NRHP-eligible	4
Baker Building	NRHP-eligible	5
West Asheville/Aycock School Historic District	NRHP-listed	6
William Worley House	NRHP-eligible	7
Freeman House	NRHP-eligible	8
Mrs. Minnie Alexander Cottage	NRHP-listed	9
Buncombe County Bridge 323 (formerly Great Smoky Mountains Park Bridge)	NRHP-eligible	10
Southern Railroad Bridge	NRHP-eligible	11
Montford Area Historic District	NRHP-listed	12
Montford Hills	NRHP-eligible	13
Montford Hills & Hibriten Drive Boundary Expansion	NRHP-eligible	14
Whiteford G. Smith House	NRHP-listed	15
Haywood Street United Methodist Church	NRHP-eligible	16

Source: *Historic Architectural Resources Survey Update Report* (Acme Preservation Services, LLC 2015).



North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- # Historic Resource
- Historic Resources
- Area of Potential Effect
- Interstate
- US Highway
- State Highway
- State Route
- Local Roads
- Railroad
- Streams (non-delineated)
- Water
- Municipal Boundary

Date: May 2018



0 0.5 1
Miles

Figure 3-12

**Historic Architectural
Resources**

3.4.2 ARCHAEOLOGICAL RESOURCES

The methods and findings of the archaeological investigations conducted for the project are reported in detail in the Revised Draft Report, Archaeological Survey and Evaluation for the I-26 Asheville Connector, Buncombe County, North Carolina (Archaeological Survey and Evaluation Report) (TRC Garrow Associates, Inc. 2007). Background research, field work, and analysis were used to identify archaeological resources within the archaeological APE for the project. The archaeological APE and survey areas for the project were identified by NCDOT. The results of the archaeological investigations described in the report are presented in this section.

The Archaeological Survey and Evaluation Report revisited and identified 29 archaeological resources. These resources include 1 previously-recorded site (31BN623) and 28 newly-identified sites. Of the 29 resources, 4 were recommended as eligible for the National Register of Historic Places (NRHP), 18 were recommended as not eligible for the NRHP, and 7 were recommended for further work (mechanically-assisted stripping and/or deep testing) to make an informed NRHP-eligibility recommendation. These findings are summarized in Table 3-13.

Table 3-13: Archaeological Resources

Site Number	Finding	Site Number	Finding
31BN623	Recommended eligible for NRHP listing	31BN830	Recommended not eligible for NRHP listing
31BN825	Recommended eligible for NRHP listing	31BN831	Recommended not eligible for NRHP listing
31BN826	Recommended eligible for NRHP listing	31BN832	Recommended not eligible for NRHP listing
31BN828	Recommended eligible for NRHP listing	31BN833	Recommended not eligible for NRHP listing
31BN815	Recommended not eligible for NRHP listing	31BN869	Recommended not eligible for NRHP listing
31BN816	Recommended not eligible for NRHP listing	31BN872	Recommended not eligible for NRHP listing
31BN817	Recommended not eligible for NRHP listing	31BN876	Recommended not eligible for NRHP listing
31BN818	Recommended not eligible for NRHP listing	31BN814	Recommended for further testing
31BN819	Recommended not eligible for NRHP listing	31BN823	Recommended for further testing
31BN820	Recommended not eligible for NRHP listing	31BN867	Recommended for further testing
31BN821	Recommended not eligible for NRHP listing	31BN868	Recommended for further testing
31BN822	Recommended not eligible for NRHP listing	31BN870	Recommended for further testing
31BN824	Recommended not eligible for NRHP listing	31BN871	Recommended for further testing

Site Number	Finding	Site Number	Finding
31BN827	Recommended not eligible for NRHP listing	31BN873	Recommended for further testing
31BN829	Recommended not eligible for NRHP listing		

In addition to the 29 archaeological resources, the Archaeological Survey and Evaluation Report recommended that several areas should be subjected to mechanically-assisted deep testing to identify whether any buried sites are present. These include floodplain and terrace formations along Hominy Creek, Smith Mill Creek, and the French Broad River.

In September 2017, NCDOT archaeological personnel compared the design plans with recorded sites and areas recommended for deep testing with heavy machinery. Site maps from the DEIS were inspected to identify overlapping project limits that may create an adverse effect. This review resulted in the following recommendations. It was determined no additional survey work would be needed because all design elements fall within the previously-surveyed APE. NRHP-eligible site 31BN826 will be adversely affected, and these adverse effects will be mitigated. NRHP-eligible site 31BN828 will not be adversely affected. Although site 31BN623 is NRHP eligible, it was determined during a meeting with SHPO and FHWA on June 30, 2015, that the placement of fill over a portion of the site would have a no adverse effect with conditions that iron markers be placed adjacent to structural remains to mark their extent prior to the placement of fill. Five locations totaling 22 acres will require deep testing, and five known archaeological sites not yet assessed for NRHP-eligibility will be evaluated during the deep testing program. All further work will be carried out once right-of-way is acquired.

3.4.2.1 NRHP-Eligible Resources

Of the 29 resources identified during the I-2513 archaeological survey and testing project, 4 sites (31BN623, 32BN825, 31BN826, and 31BN828) were recommended eligible for the NRHP. Two of these four resources (31BN623 and 31BN826) are located within the preferred alternative and will be impacted; site 31BN828 and 31BN825 are located within the existing right-of-way, but will be avoided. A commitment to avoidance of site 31BN828 and 31BN825 will be carried forward through the construction phase of the project. If avoidance of adverse effects to 31BN828 and 31BN825 is deemed not possible, a data recovery plan should be developed and executed to compensate for impacts to the site.

Site 31BN623, which is believed to represent the remains of the early twentieth century Lower Hominy Creek Hydroelectric Plant, is recommended NRHP-eligible under Criterion A due to its association with the early hydroelectric and streetcar industries. The site does not appear to have archaeological research potential and so is not eligible for the NRHP under Criterion D. A meeting was held with staff from SHPO and FHWA on June 30, 2015, to discuss effects to site 31BN623. Fill associated with the project will cover a small portion of one wall feature. It was agreed that this would have a no adverse effect upon the site with the commitment that NCDOT place iron markers at either end of the wall to mark its extent prior to the placement of fill.

Site 31BN826 consists of an upland lithic scatters overlooking Ragsdale Creek (formerly Lake Ashnoca). It appears to date primarily to the Late Archaic period, although no diagnostic artifacts were found. Site 31BN826 is recommended NRHP-eligible under Criterion D and falls within the proposed right of way for the preferred alternative. Data recovery excavations are recommended to mitigate any effects caused by construction of the project.

3.4.2.2 NRHP-Unassessed Resources and Deep Testing Areas

As stated in the DEIS, seven other archaeological sites (Table 3-13) were recommended for additional investigations as a result of the archaeological survey and testing studies for the proposed project. The recommended additional investigations include mechanically-assisted stripping and deep testing in order to make an informed NRHP-eligibility recommendation for these resources. Sites 31BN814 and 31BN867 are not within the proposed right-of-way of the preferred alternative and therefore do not require additional investigations. Site 31BN871 is located within the existing right-of-way for the project but will not be impacted by construction. A commitment to avoidance of this site will be carried forward through the construction phase of the project.

Site 31BN823 is situated on the French Broad River floodplain in the southern part of the project area. Deep testing is needed at this location to search for and assess whether buried cultural deposits are present.

Four of these sites (31BN868, 31BN870, 31BN871, and 31BN873) appear to have the potential to contain prehistoric and/or nineteenth century historic period features. As this potential could not be adequately investigated with test unit excavation during the original survey and testing project, limited topsoil stripping and deep testing are recommended to allow a definitive characterization of the NRHP eligibility of these sites.

Additional geomorphic evaluation and deep testing is recommended at five other locations covering approximately 22 acres along the corridor where there is potential for deeply buried deposits, including floodplains and terraces along Hominy Creek, Smith Mill Creek, and the French Broad River. Many of these locations (such as along Hominy Creek at the south end of Section C, and along the French Broad River in Section B) are covered with pavement or extensive fill deposits. Although their topographic settings suggest that buried deposits could be present, it is uncertain whether any deposits that may have been present have survived modern disturbances. In other locations, such as along Smith Mill Creek, deposits could exist beneath relatively shallow blankets of historic alluvium.

3.4.2.3 NRHP-Ineligible Resources

The remaining 17 sites (31BN815 through 31BN822, 31BN824, 31BN827, 31BN829 through 31BN833, 31BN869, and 31BN872), along with isolated find 31BN876, are recommended as ineligible for the NRHP. These 18 resources do not appear to have the potential to provide substantive data concerning the prehistoric or historic occupations of these areas, and no additional work is recommended.

3.5 NATURAL ENVIRONMENT CHARACTERISTICS

Aspects of the existing natural environment in the project study area are detailed in the DEIS, which include soils and geology, biotic communities and wildlife, water resources, jurisdictional issues such as wetlands, and protected species. Unless otherwise cited, information regarding these topics was obtained from the *Natural Resources Technical Report* (NRTR) prepared for this project (Atkins Engineering 2015) and the Natural Resources Technical Report Update (AECOM 2018e). *Two areas were identified outside of the original NRTR study area due to slope stakes plus 25-foot buffer of the preliminary designs. A preliminary review of these areas indicates no jurisdictional resources are likely, but a field-verified survey will be conducted by the USACE.*

The study area is situated in the Blue Ridge physiographic province of North Carolina. Topography in the project vicinity is characterized by gradual to steep slopes with narrow floodplains along drainageways. Elevations range from a low of 1,980 feet above sea level near the confluence of Hominy Creek and the French Broad River to a high of 2,150 feet along I-240 in the central portion of the project study area. Land use within the project vicinity is characterized by residential and urban development, forest land (including a portion of Pisgah National Forest), and agriculture.

3.5.1 SOILS

Natural Resources Conservation Service (NRCS) soil survey data for Buncombe County identify 21 soil types within the study area (Table 3-14) (NRCS 1993).

Table 3-14: Soils in the Project Study Area

Soil Series	Mapping Unit	Drainage Class	Hydric Status
Biltmore loamy sand	BeA	Well Drained	Hydric ^a
Braddock clay loam	BkD2	Well Drained	Nonhydric
Braddock-Urban land complex	BnC	Well Drained	Nonhydric
Clifton clay loam	CkB2, CkC2	Well Drained	Nonhydric
Clifton sandy loam	CsC, CsD	Well Drained	Nonhydric
Clifton-Urban land complex	CuB, CuC, CuD	Well Drained	Nonhydric
Dillard loam	DrB	Moderately Well Drained	Hydric ^a
Evard-Cowee complex	EvD2, EvE2, EwC, EwD, EwE	Well Drained	Nonhydric
Evard-Cowee-Urban land complex	ExC, ExD, ExE	Well Drained	Nonhydric
Fannin-Lauada complex	FaD2, FaE2	Well Drained	Nonhydric
French loam	FrA	Moderately Well to Somewhat Poorly Drained	Hydric ^a
Hemphill loam	HpA	Very Poorly Drained	Hydric ^a
Iotla loam	IoA	Somewhat Poorly Drained	Hydric ^a
Rosman fine sandy loam	RsA	Well Drained to Moderately Well Drained	Hydric ^a
Statler loam	StB	Well Drained	Hydric ^a
Tate loam	TaB, TaC, TaD	Well Drained	Nonhydric

Soil Series	Mapping Unit	Drainage Class	Hydric Status
Tate-Urban land complex	TmB, TmC, TmD	Well Drained	Nonhydric
Toxaway loam	TsA	Poorly and Very Poorly Drained	Hydric ^a
Udorthents, loamy	Ud	Well Drained	Nonhydric
Udorthents-Urban land complex	UfB, UfE	Well Drained	Nonhydric
Urban land	Ux	Well Drained	Nonhydric

^a Soils that are primarily nonhydric, but that may contain hydric inclusions.

3.5.2 BIOTIC RESOURCES

3.5.2.1 Terrestrial Communities

Three terrestrial communities were identified in the project study area: maintained/disturbed, mesic mixed forest, and alluvial hardwood forest. Figures 3-13a and 3-13b show the location and extent of these terrestrial communities in the project study area. A brief description of each community type follows. Additional descriptions of the communities are included in the DEIS.

Maintained/Disturbed

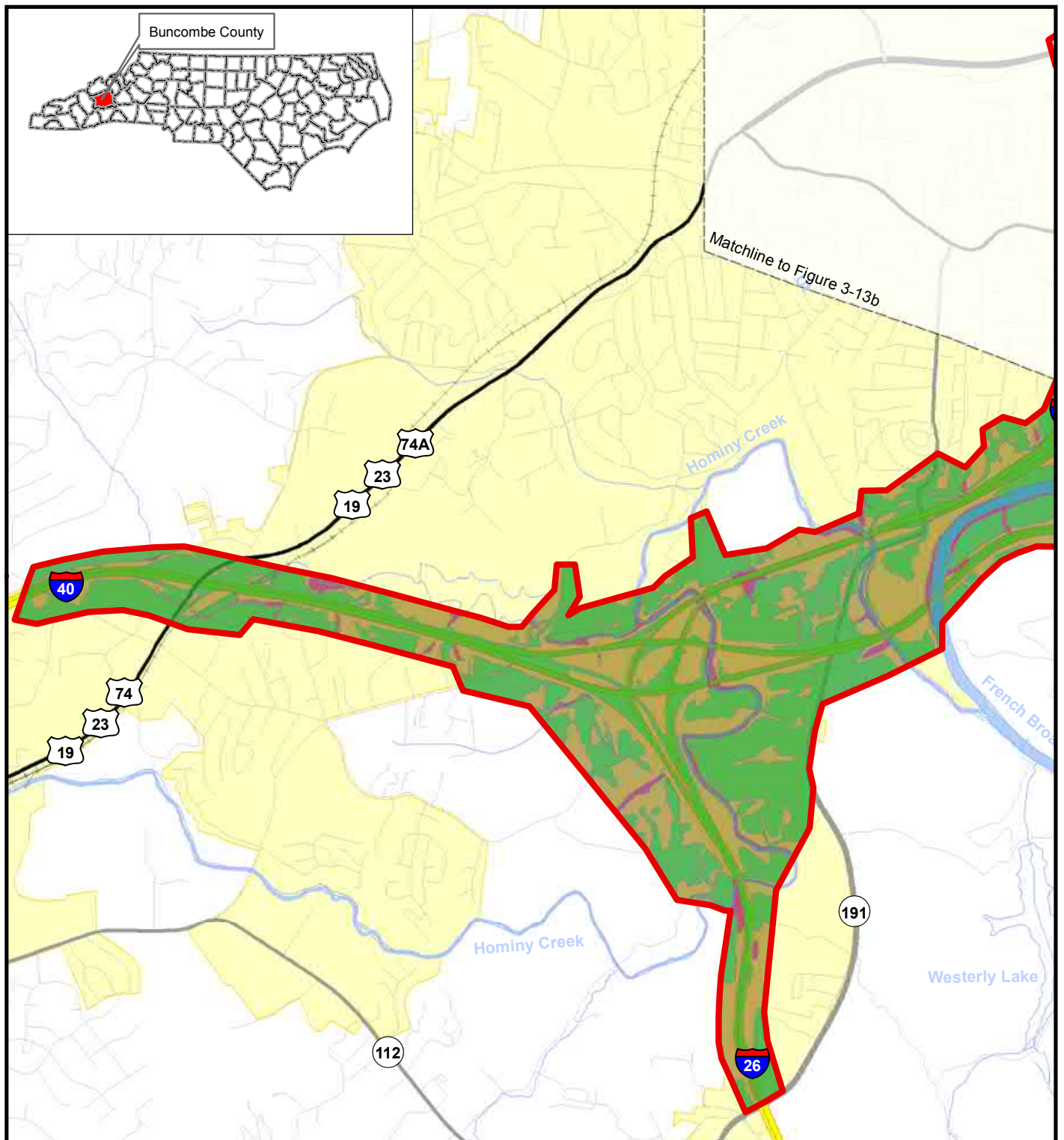
This community incorporates several land cover types, including residential, commercial, industrial, and cleared/maintained pasture areas. The majority of the study corridor is designated maintained/disturbed land, which includes the central portion that bisects western Asheville.

Asheville Mesic Mixed Forest

This community, if undisturbed, would most resemble Schafale and Weakley's Mesic Mixed Hardwood Forest. Mature, stable forests in this region are usually characterized by a hardwood canopy. However, this community is characterized by a mixture of pine and hardwood species, with pines occasionally comprising greater than 30 percent of canopy stems. The community in the project study area occurs on steeper sites and is primarily found as a buffer around roads, residential, and other developed areas, and as secondary growth forest on previously timbered or otherwise disturbed land.

Alluvial Hardwood Forest

This plant community supports many species in common with Piedmont/Low Mountain Alluvial Forest (Schafale and Weakley 1990), but the extent of disturbance by diverted storm water flow and by invasive species along roadside edges causes this community to deviate noticeably from the natural community described. Alluvial hardwood forest occurs throughout the project study area along streams. This community has a significant component of wetland species, particularly in the herb layer. These areas are intermittently flooded and may contain standing water for extended periods in the winter and spring.



North Carolina
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I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Interstate
- US Highway
- State Highway
- State Route
- Local Roads
- + + Railroad
- Streams (non-delineated)
- Natural Resources Study Area
- Water
- Municipal Boundary
- Alluvial Hardwood Forest
- Maintained/Disturbed
- Mesic Mixed Forest
- Open Water

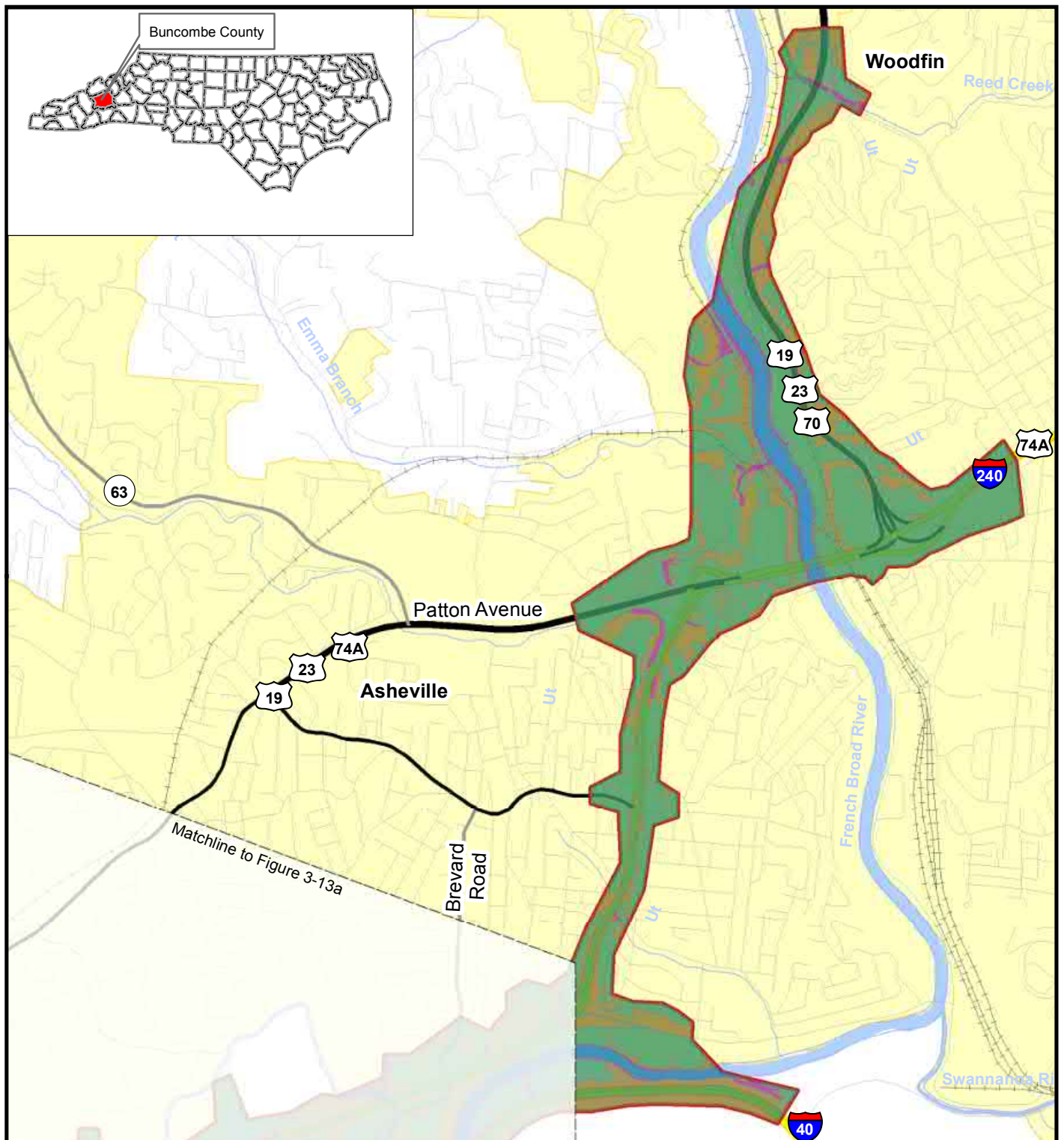
Date: May 2018



0 0.25 0.5
Miles

Figure 3-13a

Biotic Resources



**North Carolina
Department of Transportation**



**I-26 Asheville Connector
Buncombe County**

STIP Project No. I-2513

Figure 3-13b

Biotic Resources

3.5.2.2 Terrestrial Wildlife

Terrestrial communities in the project study area are comprised of both natural and disturbed habitats that may support a diversity of wildlife species. A list of species expected to occur and actually observed within the project study area are listed in the DEIS.

3.5.2.3 Aquatic Communities

Streams of various sizes occur within the project study area and provide adequate habitat for a variety of aquatic wildlife. A list of species expected to occur and actually observed within the project study area are listed in the DEIS.

3.5.2.4 Invasive Species

The NCDOT Invasive Exotic Plant List for North Carolina (2008) lists 17 species occurring in the project study area. The species identified within maintained/disturbed communities are identified in the DEIS. NCDOT will manage invasive plant species on the Department's right-of-way, as appropriate.

3.5.3 WATER RESOURCES

Water resources in the project study area are part of the French Broad River Basin (US Geological Survey [USGS] Hydrologic Unit 06010105). Forty-five streams were identified in the project study area (Table 3-15). The physical characteristics of these streams are provided in Table 3-16.

Table 3-15: Water Resources in the Project Study Area

Stream Name	Map ID	NCDWR Index Number	Best Usage Classification ^a
French Broad River	SA	6-(54.5)	B
UT1A to French Broad River	SD	6-(54.5)	B
UT2A to French Broad River	SF	6-(54.5)	B
UT1B to French Broad River	SN	6-(54.5)	B
UT1B to French Broad River (Pond 1B)	Pond 1B	6-(54.5)	B
UT1B to French Broad River (Pond 2B)	Pond 2B	6-(54.5)	B
UT1B to French Broad River (Pond 3B)	Pond 3B	6-(54.5)	B
UT2B to French Broad River	SI	6-(54.5)	B
UT3B to French Broad River	SO	6-(54.5)	B
UT4B to French Broad River	SK	6-(54.5)	B
UT5B to French Broad River	SL	6-(54.5)	B
UT6B to French Broad River	SM	6-(54.5)	B
UT7B to French Broad River	ST	6-(54.5)	B
UT1C to French Broad River	SAB	6-(54.5)	B
UT2 to UT1C to French Broad River	SAG	6-(54.5)	B
UT2C to French Broad River	SE	6-(54.5)	B
UT3C to French Broad River	SAM	6-(54.5)	B
UT4C to French Broad River	SAP	6-(54.5)	B

Stream Name	Map ID	NCDWR Index Number	Best Usage Classification ^a
UT5C to French Broad River	SAQ	6-(54.5)	B
UT1 to UT5C to French Broad River	SAA	6-(54.5)	B
Lower Hominy Creek	SB	6-76	C
UT1C to Lower Hominy Creek	SAC	6-76	C
UT2C to Lower Hominy Creek	SAJ	6-76	C
UT3C to Lower Hominy Creek	SH	6-76	C
Upper Hominy Creek	SX	6-76	C
UT1C to Upper Hominy Creek	SAF	6-76	C
UT2C to Upper Hominy Creek	SAL	6-76	C
UT1 to UT2C to Upper Hominy Creek	SZ	6-76	C
UT2 to UT2C to Upper Hominy Creek	SAI	6-76	C
UT3C to Upper Hominy Creek	SAO	6-76	C
Moore Branch	SC	6-77	C
Ragsdale Creek	SV	6-76-11	C
UT1C to Ragsdale Creek	SAD	6-76-11	C
UT2C to Ragsdale Creek	SAK	6-76-11	C
UT3C to Ragsdale Creek	SAN	6-76-11	C
UT5C to Ragsdale Creek	SAR	6-76-11	C
UT6C to Ragsdale Creek	SAS	6-76-11	C
Reed Creek	SJ	6-80	C
Smith Mill Creek	SR	6-79	C
UT1B to Smith Mill Creek	SG	6-79	C
UT2B to Smith Mill Creek	SU	6-79	C
UT3B to Smith Mill Creek	SS	6-79	C
UT4B to Smith Mill Creek [Emma Branch]	SP	6-79-2	C
UT1 to UT4B to Smith Mill Creek [Emma Branch]	SQ	6-79-2	C
Trent Branch	SW	6-76-10	C
UT1C to Trent Branch	SAE	6-76-10	C
UT1 to UT1C to Trent Branch	SY	6-76-10	C
UT2 to UT1C to Trent Branch	SAH	6-76-10	C
Pond 1B	1B	--	--
Pond 2B	2B	--	--
Pond 3B	3B	--	--

^a Best Usage Classifications: B: Primary Recreation, Fresh Water; C: Aquatic Life, Secondary Recreation, Fresh Water

Table 3-16: Physical Characteristics of Water Resources in the Project Study Area

Map ID	Bank Height (feet)	Bankful Width (feet)	Water Depth (inches)	Channel Substrate	Velocity	Clarity
SA	4-12	200	200	Cobble, Sand	Moderate	Slightly turbid
SB	6	75	12-18	Cobble, Sand	Moderate	Clear
SC	3	12	6	Cobble, Gravel	Moderate	Clear
SD	2	10	4	Cobble, Gravel	Moderate	Clear
SE	1-6	4-8	6	Cobble, Gravel, Silt	Moderate	Clear
SF	2-3	3	6	Gravel, Sand	Moderate	Clear
SG	3	10	4	Gravel, Sand	Slow	Clear
SH	3	8	12	Bedrock, Cobble, Sand	Moderate	Clear
SI	2	2-4	2-6	Cobble, Sand, Silt	Moderate	Clear
SJ	4	15	36	Bedrock, Sand	Moderate	Clear
SK	1	5	4	Cobble, Sand	Moderate	Clear
SL	2	4	3	Cobble, Sand	Moderate	Clear
SM	3	5	5	Cobble, Sand	Moderate	Clear
SN	1	2	2	Gravel, Sand	Moderate	Clear
SO	2-3	3	2	Sand	Slow	Clear
SP	2-3	8	4	Cobble	Moderate	Clear
SQ	2-3	4	3	Silt, Sand	Slow	Clear
SR	6-8	20	18	Cobble, Sand	Moderate	Clear
SS	1-3	5	6	Gravel, Sand	Slow	Clear
ST	1	3	0-2	Sand, Silt	Slow	Clear
SU	1-2	3	3	Gravel, Sand	Slow	Clear
SV	3-4	8-13	1-12	Gravel, Sand	Moderate	Clear
SW	4	6	6-12	Sand, Silt	Moderate	Clear
SX	1-5	30-50	4-10	Cobble, Sand, Silt	Moderate	Clear
SY	1-2	3-4	0-3	Sand, Silt	Slow	Clear
SZ	2	5	0-3	Cobble, Gravel, Sand	Moderate	Clear
SAA	0.5	2	0-2	Sand, Silt	Slow	Slightly turbid
SAB	2-6	4-8	5-6	Gravel, Sand, Silt	Moderate	Clear
SAC	1-2	2	2-4	Gravel, Sand	Moderate	Clear
SAD	2	4	0-8	Gravel, Sand	Slow	Clear
SAE	2-3	2-4	2-6	Sand, Silt	Slow	Clear
SAF	3-4	5	4-6	Sand, Silt	Moderate	Clear
SAG	2	4	2-4	Sand, Silt	Slow	Clear
SAH	1	1.5	0-3	Sand, Silt	Slow	Clear
SAI	1	2-3	0-3	Cobble, Gravel, Sand	Slow	Clear
SAJ	1-3	3	2-4	Cobble, Gravel, Sand	Slow	Clear
SAK	2	3	1-4	Sand, Silt	Slow	Clear

Map ID	Bank Height (feet)	Bankful Width (feet)	Water Depth (inches)	Channel Substrate	Velocity	Clarity
SAL	1-3	2-8	2-4	Cobble, Gravel	Slow	Clear
SAM	3-5	6	12-18	Sand, Silt	Slow	Slightly turbid
SAN	2	4	1-8	Sand, Silt	Slow	Clear
SAO	0.5-1	4-8	0-3	Sand, Silt	Slow	Slightly turbid
SAP	5-8	8	12-14	Sand, Silt	Slow	Slightly turbid
SAQ	0.5	3	0-3	Cobble, Sand	Moderate	Clear
SAR	2	4	0-1	Clay, Silt	Slow	Slightly turbid
SAS	1-2	2.5	1-4	Sand, Silt	Slow	Clear

Source: Atkins Engineering 2015

Three ponds are located in Section B. These ponds are connected hydrologically to UT1B to French Broad River (SN). Ponds 1B (0.3 acre) and 3B (0.3 acre) appear to be impounded for water supplies, while Pond 2B (0.8 acre) is partially impounded by the railroad bed parallel to the French Broad River.

There are no NCWRC-designated trout waters, water supply watersheds (WS-I or WS-II), High Quality Waters (HQP), or Outstanding Resource Waters (ORW) within 1.0 mile downstream of the project study area. On February 26, 2010, Marla Chambers of the NCWRC stated that, “We do not expect significant trout reproduction to occur in the project area for I-2513 in Asheville and are not requesting a work moratorium to protect trout.”

The North Carolina 2016 Section 303(d) list of impaired waters identifies no waters within the study area as impaired due to sedimentation or turbidity (NCDEQ 2018).

Benthic samples were taken at the French Broad River at SR 1348 and given a rating of “Good-Fair” in 2007. Benthic samples were taken at Hominy Creek at SR 3412 and given a rating of “Fair” in 2007 (Atkins Engineering 2015).

3.5.4 JURISDICTIONAL ISSUES

3.5.4.1 Wetlands

Jurisdictional waters of the United States, including wetlands, are protected under Section 404 of the CWA. USACE and EPA jointly define wetlands as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (33 CFR 328.3, “Definitions of Waters of the United States,” Revised 2004; 40 CFR 230.3, “Wetlands Definitions,” Revised 2004). Section 404 jurisdictional wetlands are those areas

satisfying the technical criteria contained in the USACE's *Wetlands Delineation Manual* (Environmental Laboratory 1987). The USACE's *Wetlands Delineation Manual* requires evidence of hydric soils, positive hydrological indicators, and a prevalence of hydrophytic vegetation for a determination that an area is a wetland. Section 404 jurisdictional waters other than wetlands include streams, rivers, and lakes.

Both federal and state programs regulate activities conducted in wetlands in order to minimize the continued reduction and degradation of these resources and strive to achieve a "no net loss" policy. The federal program is based on Section 404 of the CWA and the USACE's implementing regulations (33 CFR 320-330).

Information on jurisdictional areas was gathered from the NRTR prepared for this project and investigations have occurred several times between 1998 and 2014. Subsequent field efforts were conducted between December 8 and December 19, 2014. The new delineated areas were submitted for approval to the USACE in February 2015. *Additional coordination will occur with USACE to verify jurisdictional resources before right-of-way acquisition.*

Jurisdictional Wetlands

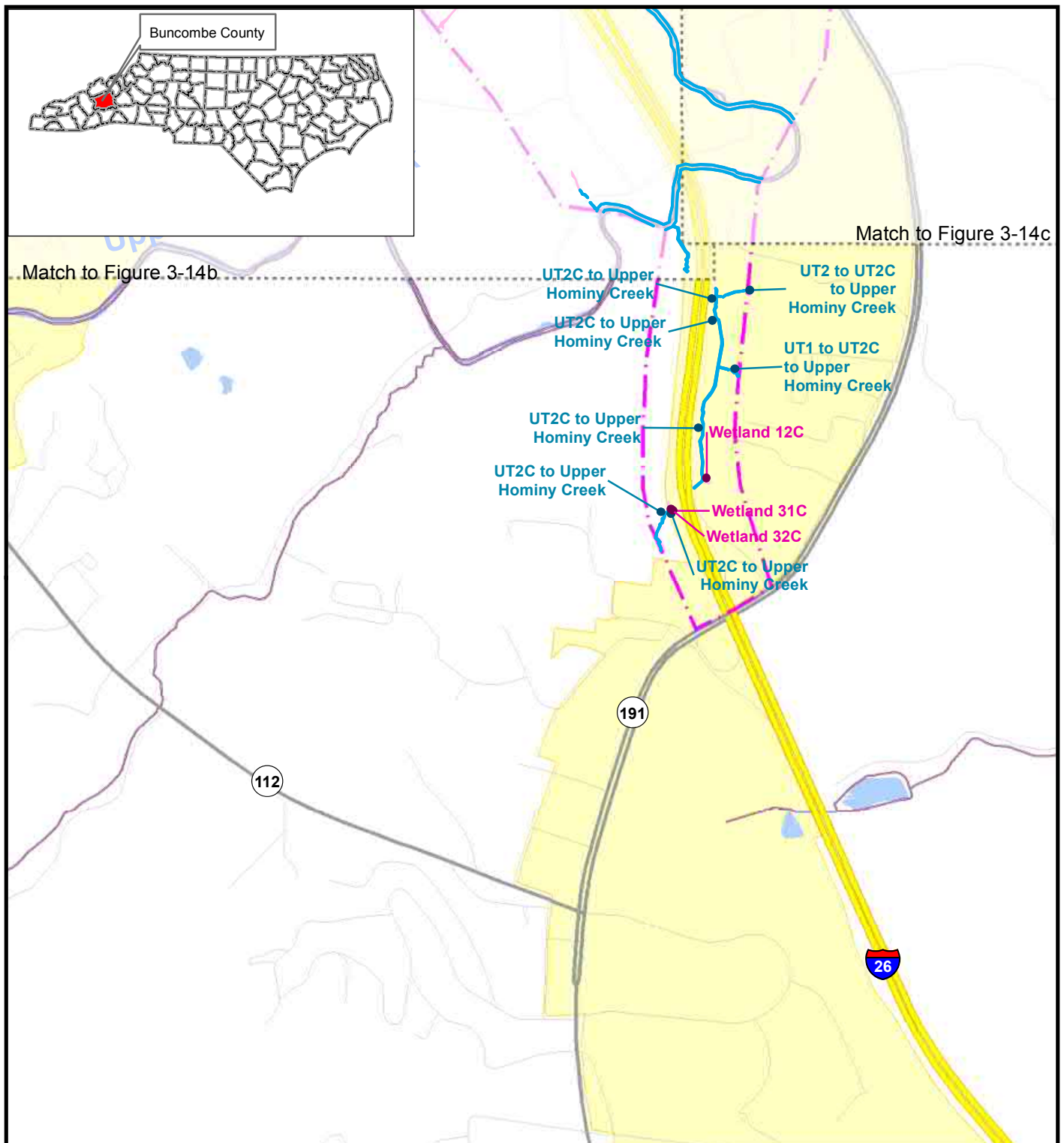
Forty-five jurisdictional streams were identified in the project study area (Table 3-17). The locations of these streams are shown on Figures 3-14a through 3-14e. USACE and NCDWR stream delineation forms are included in the NRTR (Atkins Engineering 2015). All jurisdictional streams in the project study area have been designated as cool water streams for the purposes of stream mitigation.

Table 3-17: Jurisdictional Characteristics of Water Resources in the Project Study Area

Map ID	Length (feet)			Classification	Compensatory Mitigation Required	River Basin Buffer
Section	A	B	C			
SA	5,720.1	1,879.5	6,717.7	Perennial	Undetermined	Not Subject
SB	1,157.9	--	1,506.2	Perennial	Undetermined	Not Subject
SC	519.1	--	--	Perennial	Undetermined	Not Subject
SD	664.2	--	--	Perennial	Undetermined	Not Subject
SE	574.7	--	892.1	Perennial	Undetermined	Not Subject
SF	639.7	--	--	Intermittent	Undetermined	Not Subject
SG	125.9	1,354.6	--	Perennial	Undetermined	Not Subject
SH	384.2	--	--	Perennial	Undetermined	Not Subject
SI	--	709.9	--	Intermittent	Undetermined	Not Subject
SJ	--	693.7	--	Perennial	Undetermined	Not Subject
SK	--	256.7	--	Perennial	Undetermined	Not Subject
SL	--	317.1	--	Intermittent	Undetermined	Not Subject
SM	--	227.5	--	Intermittent	Undetermined	Not Subject
SN	--	775.8	--	Intermittent	Undetermined	Not Subject
SO	--	427.7	--	Perennial	Undetermined	Not Subject
SP	--	893.8	--	Perennial	Undetermined	Not Subject

Map ID	Length (feet)			Classification	Compensatory Mitigation Required	River Basin Buffer
Section	A	B	C			
SQ	--	178.7	--	Intermittent	Undetermined	Not Subject
SR	--	3,270.1	--	Perennial	Undetermined	Not Subject
SS	--	243.8	--	Intermittent	Undetermined	Not Subject
ST	--	25.8	--	Intermittent	Undetermined	Not Subject
SU	--	300.1	--	Intermittent	Undetermined	Not Subject
SV	--	--	4,662.8	Perennial	Undetermined	Not Subject
SW	--	--	1,589.3	Perennial	Undetermined	Not Subject
SX	--	--	11,037.5	Perennial	Undetermined	Not Subject
SY	--	--	82.0	Intermittent	Undetermined	Not Subject
SZ	--	--	201.7	Perennial	Undetermined	Not Subject
SAA	--	--	142.2	Intermittent	Undetermined	Not Subject
SAB	--	--	445.0	Perennial	Undetermined	Not Subject
SAC	--	--	78.9	Intermittent	Undetermined	Not Subject
SAD	--	--	837.5	Perennial	Undetermined	Not Subject
SAE	--	--	242.3	Perennial	Undetermined	Not Subject
SAF	--	--	334.2	Perennial	Undetermined	Not Subject
SAG	--	--	374.9	Intermittent	Undetermined	Not Subject
SAH	--	--	22.3	Intermittent	Undetermined	Not Subject
SAI	--	--	234.5	Perennial	Undetermined	Not Subject
SAJ	--	--	526.7	Perennial	Undetermined	Not Subject
SAK	--	--	245.8	Intermittent	Undetermined	Not Subject
SAL	--	--	1,974.5	Perennial	Undetermined	Not Subject
SAM	--	--	850.0	Perennial	Undetermined	Not Subject
SAN	--	--	501.3	Perennial	Undetermined	Not Subject
SAO	--	--	196.8	Perennial	Undetermined	Not Subject
SAP	--	--	620.8	Intermittent	Undetermined	Not Subject
SAQ	--	--	144.2	Perennial	Undetermined	Not Subject
SAR	--	--	113.9	Intermittent	Undetermined	Not Subject
SAS	--	--	107.3	Perennial	Undetermined	Not Subject

Source: Atkins Engineering 2015



North Carolina
Department of Transportation



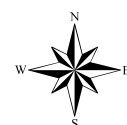
I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Jurisdictional Streams
- Natural Resources Study Area
- Jurisdictional Wetlands
- Interstate
- US Highway
- State Highway
- State Route
- Local Roads
- Railroad
- Streams (non-delineated)
- Water
- Municipal Boundary

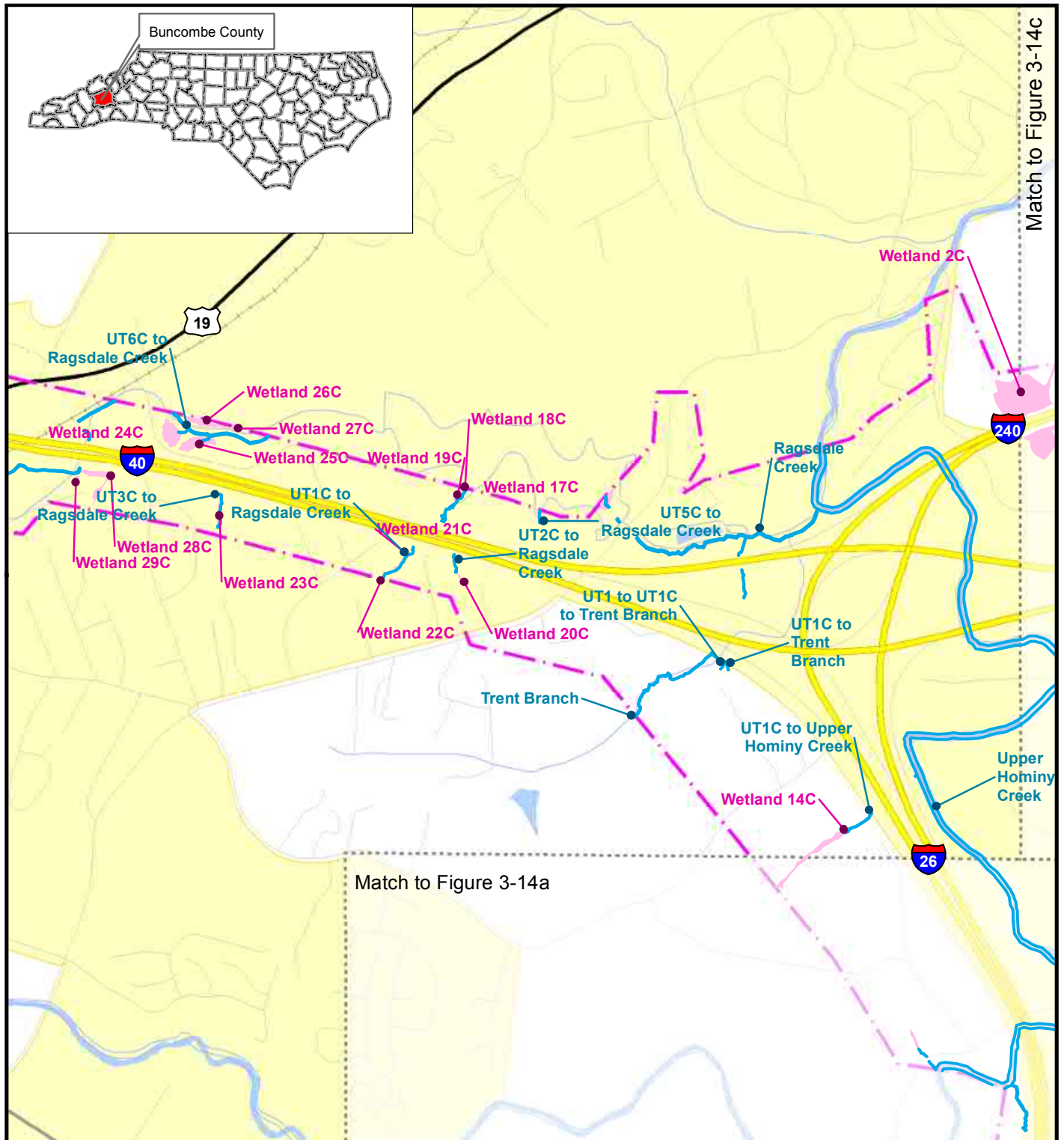
Date: May 2018



0 1,000 2,000
Feet

Figure 3-14a

Jurisdictional
Streams and Wetlands



North Carolina
Department of Transportation



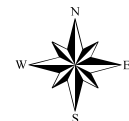
I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Jurisdictional Streams
- Natural Resources Study Area
- Jurisdictional Wetlands
- Interstate
- US Highway
- State Highway
- State Route
- Local Roads
- + + Railroad
- Streams (non-delineated)
- Water
- Municipal Boundary

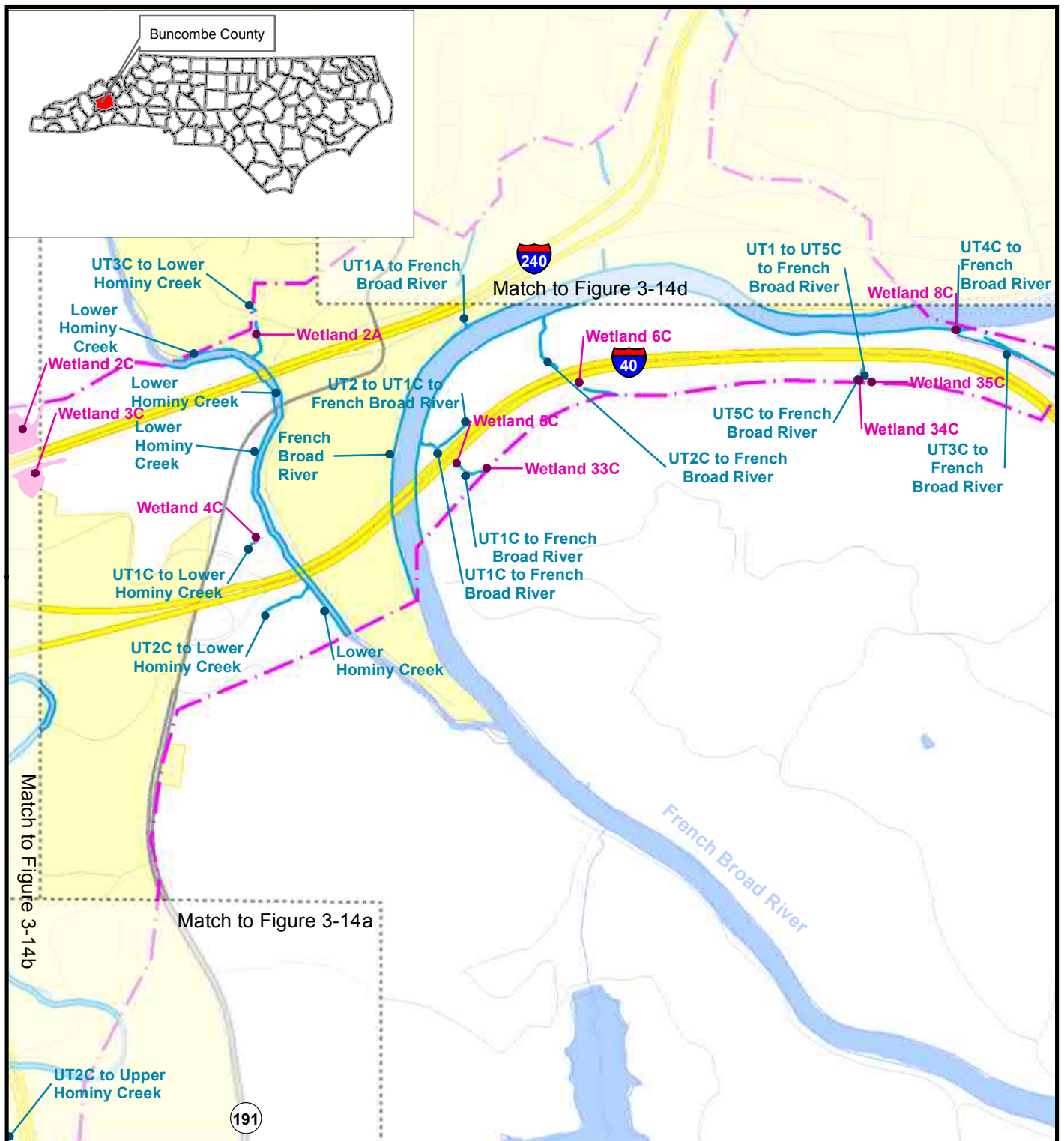
Date: May 2018



0 1,000 2,000
Feet

Figure 3-14b

Jurisdictional
Streams and Wetlands



North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Jurisdictional Streams
- Natural Resources Study Area
- Jurisdictional Wetlands
- Interstate
- US Highway
- State Highway
- State Route
- Local Roads
- Railroad
- Streams (non-delineated)
- Water
- Municipal Boundary

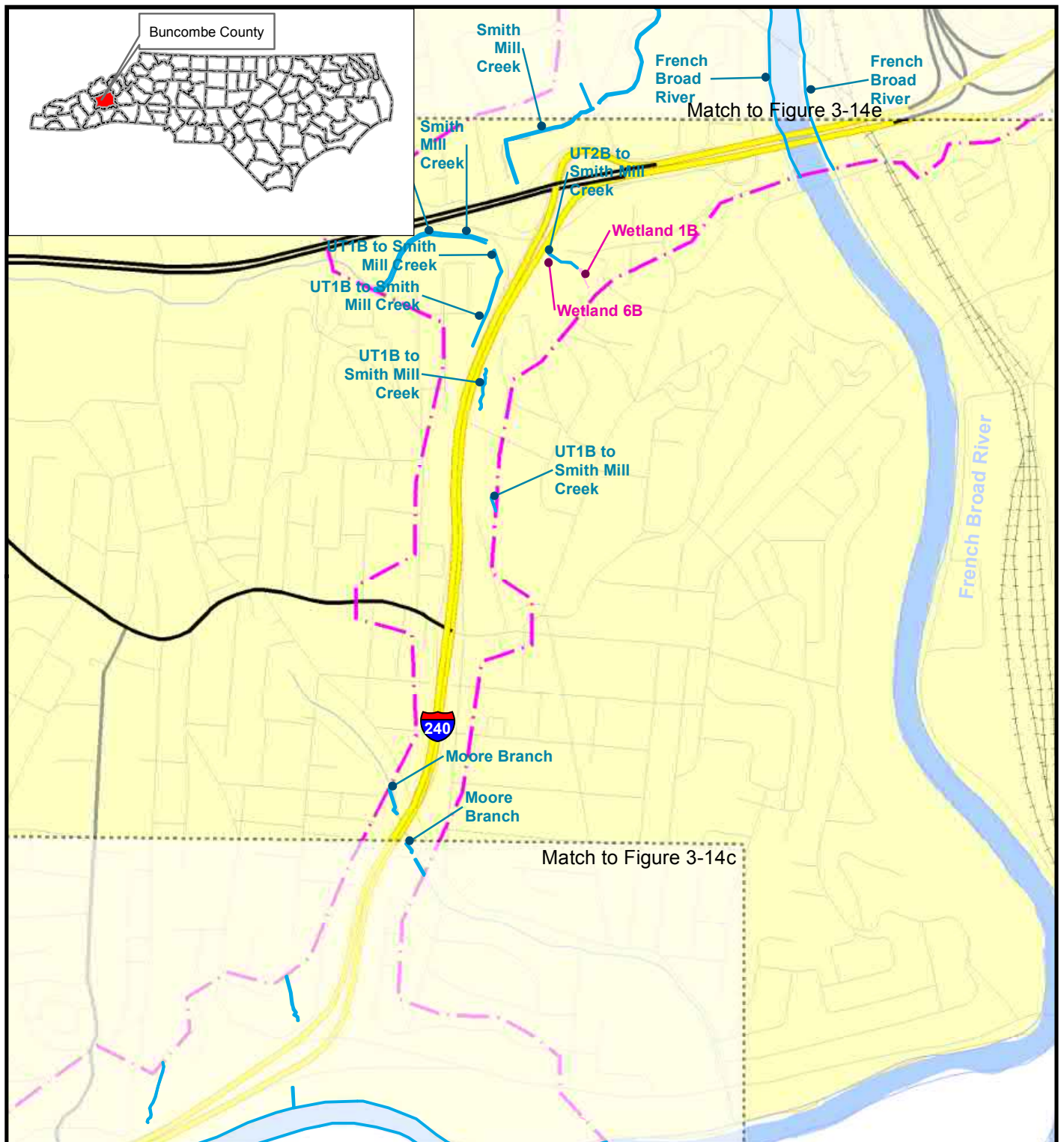
Date: May 2018



0 1,000 2,000
Feet

Figure 3-14c

**Jurisdictional
Streams and Wetlands**



**North Carolina
Department of Transportation**



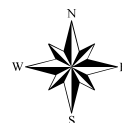
**I-26 Asheville Connector
Buncombe County**

STIP Project No. I-2513

Legend

- Jurisdictional Streams
- - - Natural Resources Study Area
- Jurisdictional Wetlands
- Interstate
- US Highway
- State Highway
- State Route
- Local Roads
- + + + Railroad
- Streams (non-delineated)
- Water
- Municipal Boundary

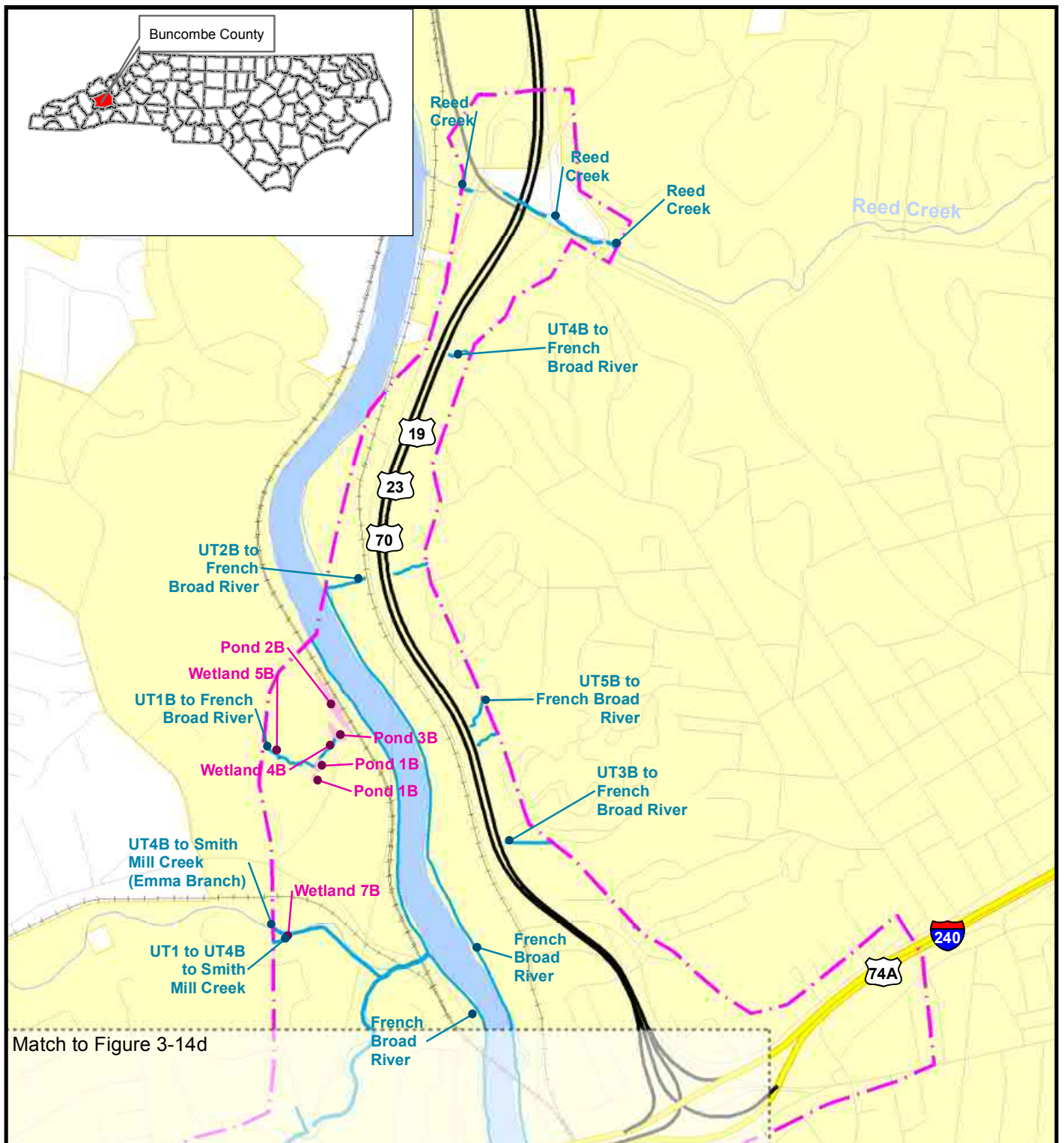
Date: May 2018



0 1,000 2,000
Feet

Figure 3-14d

**Jurisdictional
Streams and Wetlands**



North Carolina
Department of Transportation



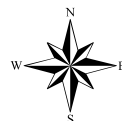
I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Jurisdictional Streams
- Natural Resources Study Area
- Jurisdictional Wetlands
- Interstate
- US Highway
- State Highway
- State Route
- Local Roads
- + + Railroad
- Streams (non-delineated)
- Water
- Municipal Boundary

Date: May 2018



0 1,000 2,000
Feet

Figure 3-14e

**Jurisdictional
Streams and Wetlands**

Ponds 1B (0.33 acre), 2B (0.33 acre), and 3B (0.21 acre) are located in Section B.

Thirty-six jurisdictional wetlands were identified within the project study area. Wetland classification and quality rating data are presented in Table 3-18. All wetlands in the project study area are within the French Broad River basin (USGS Hydrologic Unit 06010105). USACE wetland delineation forms and NCDWR wetland rating forms for each site are included in the NRTR. Descriptions of the natural communities at each wetland site are presented in Table 3-18.

Table 3-18: Jurisdictional Characteristics of Wetlands in the Project Study Area

Map ID	North Carolina Wetland Assessment Method (NCWAM) Classification	Hydrologic Classification	NCDWR Wetland Rating	Area (acres)
Section A				
WA	Bottomland Hardwood Forest	Riparian	40	0.01
WB	Floodplain Pool	Riparian	46	0.67
Section B				
WC	Bottomland Hardwood Forest	Riparian	43	0.11
WD	Bottomland Hardwood Forest	Riparian	33	0.11
WE	Floodplain Pool	Riparian	21	0.04
WF	Headwater Forest	Riparian	29	0.04
WG	Headwater Forest	Riparian	20	0.02
Section C				
WH	Headwater Forest	Riparian	71	3.63
WI	Headwater Forest	Riparian	71	1.51
WJ	Riverine Swamp Forest	Riparian	43	0.04
WK	Headwater Forest	Riparian	35	0.03
WL	Headwater Forest	Riparian	35	0.03
WM	Floodplain Pool	Riparian	21	0.02
WN	Bottomland Hardwood Forest	Riparian	37	0.62
WO	Headwater Forest	Riparian	50	0.04
WP	Headwater Forest	Riparian	Unknown	0.10
WQ	Headwater Forest	Riparian	Unknown	0.65
WR	Bottomland Hardwood Forest	Riparian	67	0.27
WS	Bottomland Hardwood Forest	Riparian	41	0.01
WT	Bottomland Hardwood Forest	Riparian	41	0.03
WU	Headwater Forest	Riparian	47	0.05
WV	Riverine Swamp Forest	Riparian	54	0.08
WW	Riverine Swamp Forest	Riparian	54	0.02
WX	Riverine Swamp Forest	Riparian	46	0.19
WY	Headwater Forest	Riparian	40	0.68
WZ	Bottomland Hardwood Forest	Riparian	40	0.61
WAA	Bottomland Hardwood Forest	Riparian	40	0.39
WAB	Bottomland Hardwood Forest	Riparian	40	0.03
WAC	Bottomland Hardwood Forest	Riparian	59	0.51

Map ID	North Carolina Wetland Assessment Method (NCWAM) Classification	Hydrologic Classification	NCDWR Wetland Rating	Area (acres)
WAD	Bottomland Hardwood Forest	Riparian	59	0.04
WAE	Bottomland Hardwood Forest	Riparian	31	0.04
WAF	Headwater Forest	Riparian	39	0.01
WAG	Headwater Forest	Riparian	34	0.04
WAH	Headwater Forest	Riparian	48	0.02
WAI	Bottomland Hardwood Forest	Riparian	38	0.03
WAJ	Bottomland Hardwood Forest	Riparian	39	0.04
Total				10.8

Source: Atkins Engineering 2015

3.5.4.2 Protected Species

Federally listed endangered and threatened species are legally protected under the provisions of Section 7 of the Endangered Species Act (ESA) of 1973, as amended. Any action likely to adversely affect a species afforded federal protection is subject to review by the United States Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS). Species classified as Federal Species of Concern (FSC) are not protected under the provisions of Section 7 of the ESA but are defined as species under consideration for listing as threatened or endangered. North Carolina provides limited protection to "at risk" species under the North Carolina Endangered Species Act and the North Carolina Plant Protection and Conservation Act of 1979. The NCWRC and the North Carolina Department of Agriculture are responsible for enforcing and administering species protection. The USFWS and the North Carolina Natural Heritage Program (NCNHP) maintain lists and location data of known occurrences of endangered, threatened, and rare species for North Carolina.

*The federally protected species listed for Buncombe County as of March 22, 2018, are depicted in Table 3-19. Species with habitat present in the project study area are described in the DEIS. Since publication of the DEIS, the rusty patched bumble bee (*Bombus affinis*), a species that occurs in the eastern and midwestern United States and Ontario, Canada, was listed as an endangered species under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.). No Section 7 survey or conclusion is required at this time.*

Table 3-19: Federally Protected Species Listed for Buncombe County

Scientific Name	Common Name	Federal Status ^a	Habitat Present
<i>Clemmys muhlenbergii</i>	Bog turtle	T(S/A)	Yes
<i>Glaucomys sabrinus coloratus</i>	Carolina northern flying squirrel	E	No
<i>Myotis grisescens</i>	Gray bat	E	Yes
<i>Myotis septentrionalis</i>	Northern Long-eared Bat	T	Yes
<i>Hybopsis monacha</i>	Spotfin chub ^b	T	Yes
<i>Alasmidonta raveneliana</i>	Appalachian elktoe	E	Yes
<i>Bombus affinis</i>	<i>Rusty-patched bumble bee</i> ^b	E	Unknown ^c
<i>Microhexura montivaga</i>	Spruce-fir moss spider	E	No
<i>Epioblasma florentina walker</i>	Tan riffleshell ^{b, d}	E	Yes
<i>Solidago spithamea</i>	Blue Ridge goldenrod ^b	T	No
<i>Sagittaria fasciculata</i>	Bunched arrowhead ^b	E	Yes
<i>Sarracenia jonesii</i>	Mountain sweet pitcher plant	E	No
<i>Geum radiatum</i>	Spreading avens	E	No
<i>Spiraea virginiana</i>	Virginia spiraea ^b	T	Yes
<i>Gymnoderma lineare</i>	Rock gnome lichen	E	No

^a E = Endangered, T = Threatened, T(S/A) = Threatened due to similarity of appearance

^b Historic record (the species was last observed in the county more than 50 years ago).

^c No Section 7 survey or conclusion is required at this time.

^d Obscure record (the date and/or location of observation is uncertain).

Bald Eagle and Golden Eagle Protection Act

Habitat for the bald eagle primarily consists of mature forest in proximity to large bodies of open water for foraging. Large, dominant trees are utilized for nesting sites, typically within 1.0 mile of open water. Within and near the project study area, the French Broad River constitutes foraging habitat for the bald eagle. Therefore, a detailed survey of the project study area and the area within 660 feet of the project limits was conducted from December 8 to December 18, 2014. No eagles or nests were found. In most cases, there were few large, emergent trees available near the surveyed water bodies that might provide nesting habitat if not for the urban setting. A review of the NCNHP database revealed no known occurrences of this species within 1.0 mile of the project study area. Due to the survey results, lack of known occurrences, and lack of suitable habitat, it has been determined that this project would not affect this species.

Endangered Species Act Candidate Species

As of March 22, 2018, the USFWS lists no Candidate species for Buncombe County.

Essential Fish Habitat

The NMFS has identified no Essential Fish Habitat within Buncombe County.

In accordance with NEPA, NCDOT published a DEIS for the I-26 Connector Project in October 2015. The DEIS described the purpose of and need for the project, identified project alternatives, and evaluated them for potential environmental effects. Since the DEIS was published, a preferred alternative has been chosen based on feedback from the public and environmental regulatory and resource agencies. This FEIS is presented in the same order as the DEIS, with clarification and updates such as changes in the existing environment, updated impacts anticipated from the preferred alternative, and responses to comments received on the DEIS. Some information from the DEIS is summarized, and substantive new information is noted in italics.

CHAPTER 4. ENVIRONMENTAL CONSEQUENCES

The probable effects of implementing the proposed project on the human, physical, cultural, and natural environments within the project study area are described in this chapter. The existing conditions for the human, physical, cultural, and natural environments are presented in Chapter 3.

4.1 DIRECT IMPACTS

4.1.1 HUMAN ENVIRONMENT

Community impact assessment is a process to evaluate the effects of a transportation project on a community and its quality of life. The assessment process is an integral part of project planning and development and describes how the proposed project would affect the people within the DCIA. The following sections provide details on direct impacts that would result from the preferred alternative.

4.1.1.1 Community Facilities and Services

Parks and Recreational Facilities

As discussed in Chapter 2, the DEIS reported that the preferred alternative was expected to require the reconstruction of approximately 316 linear feet of the French Broad River Greenway at the western end of the Carrier Park property to allow the reconnection of Old Amboy Road and provide access to several properties west of Carrier Park along the banks of the French Broad River. Since publication of the DEIS and design refinement of the preferred alternative, the configuration at Amboy Road was realigned and avoided any required reconstruction of the greenway.

The preferred alternative would impact approximately 0.82 acre of the existing Amboy Road frontage of Carrier Park for additional right-of-way and construction easements. The Carrier Park property contains a wide paved shoulder along the existing Amboy Road frontage. This unchannelized, wide paved shoulder has provided perpendicular parking for the site since it belonged to the Asheville Motor Speedway. It remains even though the city has created additional parking areas within the park. Almost all the acreage of additional right-of-way required from Carrier Park would be from this paved shoulder area. According to the City of Asheville Parks and

Recreation officials, future plans for the park call for the removal of this parking. More information on the impacts to this facility is included in the Section 4(f) evaluation in Chapter 5.

The preferred alternative in Section B would require placement of bents in the French Broad River, which is designated by the state as a paddle trail, during construction of bridges over the French Broad River. More information on the impacts to this facility is included in the Section 4(f) evaluation in Chapter 5.

Schools

While no schools would be displaced by the preferred alternative, it is anticipated that temporary impacts and changes in access would result for the Isaac Dickson Elementary School located on Hill Street and the Asheville City Schools Preschool located on Haywood Road. The historic Asheville School property would also incur right of way and construction easement impacts in Section C. However, these impacts would not displace the school. Additional discussion regarding the Asheville City Schools Preschool (also referred to as West Asheville/Aycock School) and Asheville School is included in Section 4.1.4.1.

Daycare Facilities, Cemeteries, Public Housing Units, Post Offices, and Hospitals

No daycare facilities, cemeteries, public housing units, post offices, or hospitals would be directly affected by the proposed project.

Churches

While no churches would be displaced by the preferred alternative, it is anticipated that right-of-way and temporary construction impacts would result at the Hill Street Baptist Church, Community Baptist Church in the Burton Street Community, Crossroads Assembly Church on Bear Creek Road, and the Haywood Street Congregation on Haywood Street.

The EIS Relocation Reports indicate that Community Baptist Church in the Burton Street Community would be displaced as a result of Section A (NCDOT 2018). *Design refinements to the preferred alternative have reduced impacts to the Community Baptist Church, which would impact parking behind the church but would not require relocation of the structure.*

Commercial Corridors and Nodes

Impacts from the preferred alternative in Section A would include economic effects associated with the loss of on-street parking, short-term access impacts associated with construction activities, and potential impacts to public transportation in the Haywood Road Commercial Corridor.

Impacts to the Patton Avenue Commercial Corridor from the preferred alternative in Section B would result in economic effects associated with short-term access and mobility impacts during construction activities. Although high negative short-term effects are anticipated during construction of the proposed project, it is anticipated that some of the effects would be tempered by the fact that a few of the businesses are regional destinations and do not rely on

drive-by traffic for patronage. The preferred alternative is expected to enhance the corridor as an urban boulevard due to the removal of interstate traffic from I-240. The separation of local and interstate traffic would provide opportunities for enhanced community connections that are identified in several local plans.

Impacts to the Riverside Drive Commercial Corridor from the preferred alternative in Section B would result in visual impacts related to construction of a bridge structure over the roadway. Impacts to the corridor may result in economic effects associated with short-term access and mobility impacts during construction activities. The exit ramp from US 19-23-70 northbound to Hill Street and from Riverside Drive to US 19-23-70 southbound would be removed, reducing accessibility to the Montford and Houston/Courtland neighborhoods. Hill Street between Riverside Drive and Montford Avenue would become a local roadway without connection to the proposed freeway.

Police, Fire, and Emergency Services

Buncombe County Rescue Squad Station Number 2 and Asheville Fire Station No. 3 are the only emergency services facilities within the DCIA. Approximately 90 percent to 94 percent of the responses from these facilities utilize Patton Avenue, including the Captain Jeff Bowen Bridges and/or existing I-240 south of Patton Avenue.

According to local officials, the proposed project could affect emergency response times. Response times may temporarily increase during construction of the project due to increased congestion resulting from construction activities, potential access restrictions in construction zones, lane closures, and detours. Local officials indicated that alternative access to the Buncombe County Rescue Squad was available but requested that construction phasing details be coordinated with local emergency service providers. This coordination would include Buncombe County Rescue Squad, Department of Emergency Services of Buncombe County, and the City of Asheville Fire Department. Upon completion of the project, it is anticipated that emergency response times along the corridor may decrease, especially during peak hour traffic, due to improved system linkages, interchange modifications, reduced congestion, and greater capacity along the corridor.

4.1.1.2 Relocations

It is NCDOT policy to aid those affected by transportation improvements as required under the Federal Uniform Relocation Assistance and Real Properties Acquisition Act of 1970 and its revisions. This Act is intended to ensure that displaced individuals, families, and businesses receive fair, consistent, and equitable treatment, and are not affected disproportionately by projects that benefit the general public. The NCDOT Relocation Unit provides relocation assistance and benefits to those who are displaced during acquisition for highway projects.

A relocation report was prepared by the NCDOT in August 2018 (included in Appendix D) and the estimated residential, business, and non-profit relocations associated with the preferred alternative of each section, as described in the report, are summarized in Table 4-1.

Table 4-1: Relocations Associated with the Preferred Alternative

Section	<i>Estimated Total Residential Relocations</i>	<i>Estimated Total Business Relocations</i>	<i>Estimated Total Non-Profit Relocations</i>
<i>Section C</i>	<i>14</i>	<i>2</i>	<i>0</i>
<i>Section A</i>	<i>71</i>	<i>14</i>	<i>1</i>
<i>Section B</i>	<i>29</i>	<i>19</i>	<i>1</i>

Source: EIS Relocation Reports for STIP Project I-2513 (NCDOT 2019b).

According to North Carolina General Statute 133-10.1, Authorization for Replacement Housing, as a last resort, if a project cannot proceed to actual construction because of the lack of availability of comparable sale or rental housing, or because federal-aid payments are in excess of those otherwise authorized by this Article, the state or its agencies may provide for the construction and renovation of housing through private contractors, purchase sites and improvements, or sell or lease the premises to the displaced person. Local governments and agencies may also provide assistance authorized under the Federal Uniform Relocation and Real Property Acquisition Policy Act of 1970, as amended, for last resort housing.

4.1.1.3 Community Effects

Effects for the individual communities within the study area were summarized in the DEIS by using FHWA's *Community Impact Assessment: A Quick Reference for Transportation* (USDOT/FHWA 1996) and considered both the positive and negative effects on the community from the proposed project.

Residential and business displacements are anticipated in the Fairfax/Virginia, the Kentucky/Hanover/Pisgah View, Emma Road/Bingham Road, Burton Street, and Westwood Place communities. In general, however, the project is expected to enhance the ability of residents to access neighborhoods and community facilities. The project also includes various greenway and multi-use path connections and includes the construction of these features in various locations as part of the project designs, which will in general increase mobility and pedestrian connectivity.

The following sections include a discussion of the direct and indirect impacts to communities and neighborhoods as a result of the preferred alternative.

Clairmont Crest and Willow Lake Mobile Home Park Communities (Section C)

These communities are not directly affected by the project, as no property needs to be acquired to construct the project and there are no residential or business relocations within these two communities. Overall, the effect of the preferred alternative on the Clairmont Crest Mobile Home Park and Willow Lake Mobile Home Park Communities would be low, as the preferred alternative is the farthest away from these communities of the alternatives studied. The project would aid regional travel for the residents of both communities. Notification letters were sent to residents of the two communities in September 2016 noting that no direct impacts are anticipated to the community as a result of the proposed project designs, but that NCDOT will continue to include

them on the project mailing list and provide updates and notifications of project milestones as they became available.

Morningside Park Community (Section A)

This community is not directly affected by the project, as no property needs to be acquired to construct the project and there are no residential or business relocations within this community. Overall, the effect of the preferred alternative on the Morningside Park Community would be relatively minor due to the proximity of the community to the project. The proposed modifications between Brevard Road and Amboy Road would result in some benefits to the residents through improved vehicular and pedestrian/bicycle access to some areas east of I-26/I-240, such as Carrier Park. The proposed project would not result in any displacements or physical intrusions in Morningside Park.

Due to its proximity to the Fairfax/Virginia Community, residents of Morningside Park were included in all correspondence and meeting notifications as described below.

Kentucky/Hanover/Pisgah View Area Community (Section A)

This community would incur direct impacts in the form of residential displacements along Kentucky Drive. The preferred alternative would increase mobility and access and provide modest improvements in safety in the Kentucky/Hanover/Pisgah View Area Community. However, the project would include recurring impacts to a residential neighborhood, noise impacts, visual impacts, and potential difficulties finding replacement housing within financial means. In addition, the proposed project is anticipated to displace housing units in the Kentucky/Hanover/Pisgah View Area Community.

This community is part of a larger neighborhood named EWANA (East-West Asheville Neighborhood Association), which is defined as the area between I-240 and the French Broad River. NCDOT held a small group meeting with EWANA on June 5, 2017, to provide an opportunity for residents to ask questions regarding the project, review design concepts at Amboy Road, Brevard Road, and Haywood Road, and get feedback from the community on the impacts and benefits to their community from the project.

Additional information regarding coordination with the Kentucky/Hanover/Pisgah View Area Community can be found in Chapter 8.

Fairfax/Virginia Avenue Community (Section A)

This community would incur direct impacts as a result of the project due to residential relocations and right of way acquisition along the periphery of the neighborhood. Overall, the effect of the preferred alternative on the Fairfax/Virginia Avenue Community is anticipated to provide better local connectivity to and circulation within the Fairfax/Virginia Avenue area, including a direct vehicular and pedestrian connection to Carrier Park. Since publication of the DEIS, NCDOT held meetings with residents of the Fairfax/Virginia Community in March 2017 and September 2017 to discuss the designs of the preferred alternative in this area. As discussed in Chapter 2, this coordination led to design refinements at Amboy Road and Brevard Road. The design of the

preferred alternative replaces the Amboy Road Extension shown in the DEIS with a ramp to reduce the width and minimize impacts, eliminates right-in/right-out access to Fairfax Avenue and Virginia Avenue, and replaces traffic signals at Amboy Road with roundabouts.

A notification letter was sent to residents of the Fairfax/Virginia Community in September 2017 to confirm the refined design would replace the Amboy Extension, as originally shown in the DEIS.

Westwood Place Community (Sections A and B)

This community would incur direct impacts due to proposed right of way acquisition along the northern and western periphery of the community. New pedestrian and bicycle facilities on Patton Avenue may increase the quality of life within the community due to the direct bicycle and pedestrian connection to Patton Avenue and across the French Broad River to downtown Asheville. The community is also anticipated to benefit from improved pedestrian and bicycle safety on Patton Avenue and a decrease in emergency response times following construction of the project. In addition, the project would not change the traffic patterns on the surface streets within the Westwood Place Community.

Like the Kentucky/Hanover/Pisgah View Area Community, this community is part of the EWANA neighborhood and was included in the notification to meet with NCDOT in June 2017.

Burton Street Community (Sections A and B)

This community would incur direct impacts as a result of the project due to residential relocations and right of way acquisition to construct the project. This community was previously impacted by the original construction of I-240 in the 1960s and US 19-23-70 in the 1970s, which severed access and socio-economic connections across these corridors, and would therefore experience unmitigated recurring impacts due to the proposed project. Overall, the effect of the preferred alternative on the Burton Street Community would include recurring impacts to community cohesion, reduction in neighborhood land, loss of community resources, changes in access and connectivity, and relocations. As a low wealth, historically African-American neighborhood experiencing notable property value increases and replacement of small, older houses with larger new structures, minority residents facing relocation will likely be displaced from their neighborhood. Initial designs indicated that a church would be relocated but design refinements will leave it in place. There would also be impacts from the physical aspects of the project, potential difficulties associated with finding replacement housing within financial means in much of Asheville, and anticipated effects to the visual environment within the community. In addition, the preferred alternative is anticipated to displace affordable housing units in the Burton Street Community.

Additional community coordination efforts have taken place to mitigate impacts from the proposed project on the community. Additional discussion regarding this coordination is in Section 4.1.2.1.

West End/Clingman Area Neighborhood (WECAN) (Section B)

This community is not directly affected by the project, as no property needs to be acquired to construct the project and there are no residential or business relocations within this community. Overall, the effect of the preferred alternative on the WECAN community would include enhanced pedestrian connections. The separation of local and interstate traffic would also provide opportunities for enhanced community connections that are identified in several local plans. The WECAN community may also benefit through decreases in emergency response times.

Hillcrest Apartments Community (Section B)

This community is not directly affected by the project, as no property needs to be acquired to construct the project and there are no residential or business relocations within this community. This community is expected to receive project benefits in the form of improved mobility and system linkage, enhanced accessibility, and congestion reduction. Separating local traffic from I-240, particularly in the Patton Avenue area, will result in notable community benefits.

In addition to enhanced access and mobility through transportation options, the additional connectivity would provide social and psychological benefits by reducing the isolation of the community. Some benefit may be experienced by the Hillcrest Apartments Community through decreases in emergency response times along the I-26 Corridor.

In March 2017, NCDOT held a meeting with residents of the Hillcrest Apartments Community to discuss the changes in access as a result of the preferred alternative designs. NCDOT also gave an overview of the potential noise impacts to the community and the process of receiving a noise wall. Overall, the community feels the project would help to bring the Hillcrest community back into the fabric of the City through improved vehicular and pedestrian access.

Houston/Courtland Community (Section B)

This community is not directly affected by the project, as no property needs to be acquired to construct the project and there are no residential or business relocations within this community. This community was previously impacted by the original construction of I-240 in the 1960s and US 19-23-70 in the 1970s and would therefore experience recurring impacts due to the proposed project. It is anticipated that the proposed project may somewhat alter the visual environment for some residents in proximity to the project corridor.

In September 2016, NCDOT was invited to attend the Montford Neighborhood Association to discuss visual and noise impacts to the neighborhood as a result of the project. The Houston/Courtland Community is considered a part of the Montford Neighborhood and was invited to participate in the meeting.

Emma Road/Bingham Road Community (Section B)

The southeastern portion of this community would incur direct impacts as a result of the project due to residential relocations and right of way acquisition to construct the project. Indirect impacts to the community would include noise and visual impacts associated with clearing of

vegetation and alteration of the visual environment. The preferred alternative is anticipated to benefit the community in the form of improved emergency response times.

Murphy Hill Community (Section B)

This community is not directly affected by the project, as no property needs to be acquired to construct the project and there are no residential or business relocations within this community. Although some benefit may be experienced by the community through decreases in emergency response times along the I-26 Corridor, there would be an altered visual environment and an increase in noise for residents in proximity to the project corridor and a potential decrease in property values. In addition, residents may experience inconvenience due to access limitation during construction of the project.

River Arts District (RAD) Community (Section B)

This community is not directly affected by the project, as no property needs to be acquired to construct the project and there are no residential or business relocations *within this community*. The RAD Community would benefit from the proposed project due to the enhanced pedestrian and bicycle connections and decreases in emergency response times. The separation of local and interstate traffic would also provide opportunities for enhanced community connections that are identified in several local plans.

Montford Community (Section B)

This community would incur direct impacts in the form of residential impacts along the western side of Westover Drive. Although some benefit may be experienced by the community through decreases in emergency response times along the I-26 Corridor, there will be an altered visual environment for Riverside Cemetery and residents in proximity to the project corridor. As discussed in Section 4.1.4, the project would have an “adverse impact” on a local landmark, Riverside Cemetery, within the Montford Area Historic District and a “no adverse effect” on the Montford Hills Historic District. While no construction work or temporary construction easements will impact right-of-way within the district, there are two elevated bridges and a retaining wall that will create visual impacts to this resource.

In September 2016, NCDOT was invited to attend the Montford Neighborhood Association to discuss visual and noise impacts to the neighborhood as a result of the project. NCDOT is working with the newly-formed Asheville Aesthetics Advisory Committee to design appropriate landscaping measures to mitigate for the visual effects of the elevated roadway adjacent to Riverside Cemetery.

UNC-Asheville Community (Section B)

This community is not directly affected by the project, as no property needs to be acquired to construct the project and there are no residential or business relocations within this community. The proposed project is anticipated to benefit the community in the form of more efficient emergency response times. The UNC-Asheville Community would not experience physical impacts such as physical intrusions, increased noise, or displacements.

4.1.1.4 Economic Effects

The economic effects of the proposed project were evaluated in the *Direct Land Use and Economic Effects Assessment* (URS 2014). The summary of economic impacts is based on considering the overall economic impact as a result of constructing the proposed project.

Effect on Tax Base

The effect of the proposed project on property tax receipts for the preferred alternative would not likely be substantial as the combination of alternatives that would result in the greatest right-of-way cost would reduce the property tax base by approximately 0.6 percent. The overall potential range, set by taking the proportional impact as the low end of the range and completely acquiring all affected parcels as the upper end of the range, shows that the effect on property value would be within the range of 0.4 to 0.7 percent of both the tax value and the assessed value. Therefore, even under the worst-case scenario, the effect on the property tax base would be less than 1.0 percent of the tax value. It is also likely that, due to the relocation of residences and businesses, the money paid to the relocatees would be used for new development and the effect on the tax base may be offset to some degree (URS 2014).

In summary, it is not likely that construction of the preferred alternative would result in a substantial adverse effect on the regional or local economy due to a loss in tax revenues.

Effect on Public Expenditures

The proposed project is not likely to notably increase public expenditures within the study area. The proposed project would not likely result in a substantial economic effect on taxing authorities as the construction of the project would not require excessive additional expenditures, such as maintenance operations or extension of public utilities to new land that would be opened for increased development. However, the proposed project may result in local taxing authorities incurring some cost, through joint development of project amenities such as sidewalks and bicycle facilities. NCDOT has established a Bicycle Policy (NCDOT 2009) and a Pedestrian Policy (NCDOT 1993a) that allow for the inclusion of such facilities on projects; however, construction of these facilities would require that the local government share in the cost of including facilities that do not currently exist and assume the cost for maintaining the facilities. Additionally, the proposed project would include additional lighting that may require public expenditures in the form of electrical costs.

Effect on Employment Opportunities

The proposed project would result in the relocation of up to 35 businesses. The Relocation Reports evaluate several criteria to determine the potential effect on businesses as a result of the proposed project, including the following (NCDOT 2019b):

- *Will business services still be available after the project?*
- *Are suitable business sites available?*

It was determined in the Relocation Report that business services would still be available after the project and that suitable sites for businesses to relocate are available. Because the project would

not divert traffic away from the existing highway corridor, it is likely that there would not be any negative long-term effects on businesses or employment opportunities as a result of the proposed project. During the construction phase of the project, some local businesses may be negatively affected by the construction activities; however, employment opportunities for construction services would likely increase based on the magnitude of the proposed project.

Effect on Accessibility

In general, the proposed project would result in maintaining or improving the existing accessibility to businesses. Several businesses within the study area may incur a loss of some parking areas due to the proposed project; however, it is not anticipated that this loss would result in a substantial effect to the businesses. Impacts to commercial corridors may result in economic effects associated with short-term access and mobility impacts during construction activities.

Effect on Retail Sales

Because the project is not diverting traffic away from the existing highway corridor, it is likely that there would not be any negative long-term effects on retail sales as a result of the proposed project. It is likely that some negative effects on retail sales may occur during the construction of the proposed project; however, it is not likely that the project would result in a substantial long-term stagnation or decline on retail sales in the area of the proposed project.

Impacts on the Economic Vitality of Highway-Related Businesses

The impacts on the economic vitality of highway-related businesses are related to the availability of access and the change in traffic volumes that are diverted or attracted by the proposed project. The proposed project would not substantially change access to and from the freeway, nor would it divert traffic away from highway-related businesses; therefore, it is not likely to have a substantial adverse effect on highway-related businesses.

Impacts on Established Business Districts

The proposed project would not substantially alter existing access to and from the freeway and is not likely to lead to any large commercial developments outside of the central business district; therefore, it is not likely to have a substantial adverse effect on established business districts.

4.1.2 TITLE VI OF THE 1964 CIVIL RIGHTS ACT

4.1.2.1 Environmental Justice

The USDOT Order on Environmental Justice states that the USDOT shall determine whether programs, policies, and activities for which they are responsible will have an adverse impact on protected minority and low-income populations, and whether that adverse impact will be disproportionately high.

As summarized in Table 4-2, of the 15 communities identified in the study area, 12 include populations that meet or exceed the threshold for low-income and/or minority populations as

described in Section 3.1.5.2. LEP populations are identified and addressed further in Section 4.1.2.2.

Table 4-2: Environmental Justice and LEP Communities

Community	Meets or Exceeds Minority Threshold	Meets or Exceeds Low-Income Threshold	LEP Population Present¹	Direct Impacts
<i>Clairmont Crest Mobile Home Park (Census Tract 12, Block Group 5)</i>	X	X	X	-
<i>Willow Lake Mobile Home Park (Census Tract 12, Block Group 5)</i>	X	X	X	-
<i>Morningside Park (Census Tract 11, Block Group 2)</i>	-	-	X	-
Kentucky/Hanover/Pisgah View Area (Census Tract 10, Block Group 2)	X	X	-	X
<i>Fairfax/Virginia (Census Tract 11, Block Groups 2 and 3)</i>	-	-	X	X
Westwood Place (Census Tract 10, Block Group 1)	-	X	-	X
Burton Street (Census Tract 11, Block Group 1)	-	X	-	X
<i>West End/Clingman (Census Tract 9, Block Groups 2 and 3)</i>	X	X	-	-
<i>Hillcrest Apartments (Census Tract 2, Block Group 1)</i>	X	X	-	-
<i>Houston/Courtland (Census Tract 2, Block Group 1)</i>	X	X	-	-
Emma Road/Bingham Road (Census Tract 14, Block Groups 1 and 2)	X	X	X	X
<i>Murphy Hill (Census Tract 14, Block Group 1)</i>	X	X	X	-
<i>River Arts District (Census Tract 9, Block Groups 2 & 3)</i>	X	X	-	-
Montford (Census Tracts 2 and 3, Block Groups 1 and 2)	X	X	-	X
<i>UNC-Asheville (Census Tract 4, Block Group 1)</i>	-	-	-	-

Note: Communities shown in **bold** meet or exceed the threshold for low-income and/or minority populations and are directly impacted by the project.

Of those communities that include populations that meet or exceed the threshold for low-income and/or minority populations, five are directly impacted and listed below. The following section describes the benefits and burdens to these communities due to the project, as well as additional outreach activities that have taken place with these communities.

- *Kentucky/Hanover/Pisgah View Area*
- *Westwood Place*
- *Burton Street*
- *Emma Road/Bingham Road*
- *Montford*

Kentucky/Hanover/Pisgah View Area and Westwood Place Communities

The effects analysis for the individual communities, as discussed in the DEIS and in Section 4.1.1.3, noted that residential displacements occur due to the proposed project in the Kentucky/Hanover/Pisgah View Area and Westwood Place communities. It is NCDOT policy to provide relocation assistance to those affected by transportation projects as required by the Federal Uniform Relocation Assistance and Real Properties Acquisition Act of 1970 and its revisions.

It is expected the overall burden of the proposed project to both communities would be low. The project would increase mobility and access, as well as provide modest improvements in safety for both communities.

Both communities are part of a larger neighborhood named EWANA (East-West Asheville Neighborhood Association), with which NCDOT held small group meetings. Since publication of the DEIS, the project team met with EWANA on June 5, 2017, to provide an opportunity for residents to ask questions regarding the project and design. The project team also distributed flyers and doorhangers to these communities before the November 2015 Corridor Public Hearing and before the 2018 Design Public Hearing, to ensure these areas were notified of the meetings.

Emma Road/Bingham Road Community

The effects analysis for this community determined the overall burden of the proposed project would be low. Impacts to this community are in the southeastern portion of the project, where 2010 census data do not indicate any minorities at the block level. Block level census data was not available to determine low-income status at the granular level; however, the preferred alternative avoids impacts to the income-restricted Maple Terrace manufactured homes and Woodridge Apartments, which is operated by the City of Asheville Housing Authority. It is NCDOT policy to provide relocation assistance to those affected by transportation projects as required by the Federal Uniform Relocation Assistance and Real Properties Acquisition Act of 1970 and its revisions.

As with the other environmental justice communities identified, additional outreach to this community occurred prior to both public hearings in the form of flyers and doorhangers to ensure these areas were notified of the meetings.

Burton Street Community

The Burton Street Community will experience recurring impacts to community cohesion, reduction in neighborhood land, loss of community resources, changes in access and connectivity, and relocations due to the project. Based on the evaluation of burdens to communities as presented in the DEIS, and additional public outreach and coordination with local officials, NCDOT committed to addressing disproportionately high and adverse effects on the Burton Street community that cannot be avoided or minimized. Therefore, unavoidable impacts on the Burton Street community are being mitigated through additional public outreach with this community throughout the project development process, including development of a neighborhood

mitigation plan. It is NCDOT policy to provide relocation assistance to those affected by transportation projects as required by the Federal Uniform Relocation Assistance and Real Properties Acquisition Act of 1970 and its revisions.

As discussed in Chapter 1, since publication of the 2015 DEIS and selection of the preferred alternative, a series of I-26 Working Group meetings were held with various stakeholders beginning in March 2016. After the first meeting to determine the scope and purpose of the group, a participant from the Burton Street Community Association was added to the working group to ensure perspectives from this community were represented.

NCDOT met with the Burton Street Community Association in October 2016 and February 2017 to provide the Burton Street Community with an update on the project, review the designs under development, and review corresponding potential impacts to the community. NCDOT noted that, in addition to input provided by the community as to how the project team might further refine the designs to lessen the impacts to the community, NCDOT was also interested in receiving input from the community as to what additional transportation improvements might be made in the community to offset or lessen the burden of the overall project impacts.

In October 2017, NCDOT hired Public Participation Partners, LLC (P3), a subconsultant with expertise in Environmental Justice issues and mitigation, to work with the Burton Street Community Association and the City of Asheville Planning and Neighborhood Services Department to develop a community-driven Burton Street Neighborhood Plan for adoption the City of Asheville. To develop the plan, stakeholder group meetings were conducted to obtain input from businesses, community organizations, and religious institutions within the community outreach area. Community meetings were also conducted to obtain input from Burton Street residents.

The plan includes a list of strategies that will be implemented by NCDOT to mitigate impacts from the proposed project. As noted in the plan, included in Appendix E, the following mitigation strategies will be implemented by NCDOT:

- Improve existing sidewalks to meet ADA design standards*
- Improve pedestrian connections between community resources by installing a sidewalk on Downing Street per agreement of property owners*
- Improve sidewalk connections between commercial corridors, and include a pedestrian path from Buffalo Street to Patton Avenue that will connect to future greenway*
- Evaluate opportunities for new transit stops, such as near Burton Street and Haywood Road*
- Install a sidewalk along Patton Avenue to connect pedestrian path and transit stop*
- Install bus shelters and other improvements at transit stops located near Burton Street. Consider neighborhood specific designs if feasible*
- Incorporate a Burton Street history mural on proposed I-26 Connector sound wall if built*
- Improve Community Center infrastructure by including additional parking*
- Construct a new park and community gathering space at Smith Mill Creek that will include an access point to the future greenway*

- *Improve the Florida Avenue and Patton Avenue intersection by adding pavement markings and left turn signals*
- *Increase the tree canopy within the interstate buffer along the Burton Street neighborhood where possible*

The FHWA has made the determination that NCDOT has implemented and/or committed to implementing avoidance, minimization, mitigation, and beneficial measures for the Burton Street Community, thereby reducing adverse impacts to this community. Additional information regarding coordination with the Burton Street Community, including meeting dates and materials can be found in Chapter 8 and in Appendix F.

Montford Community

The effects analysis for the individual communities, as discussed in the DEIS and in Section 4.1.1.3, noted that residential displacements occur due to the proposed project in the Montford community. It is NCDOT policy to provide relocation assistance to those affected by transportation projects as required by the Federal Uniform Relocation Assistance and Real Properties Acquisition Act of 1970 and its revisions.

It is expected the overall burden of the proposed project to the community would be low. The project would increase mobility and access, as well as provide modest improvements in safety for the community.

Since publication of the DEIS, the project team met with the Montford community on September 20, 2016, to provide an opportunity for residents to ask questions regarding the project and design. The project team also distributed flyers and doorhangers to the Klondyke Apartments (identified as low-income housing) before the November 2015 Corridor Public Hearing and before the 2018 Design Public Hearing, to ensure these areas were notified of the meetings. During field visits, the area was visually surveyed for readily identifiable low-income neighborhoods, LEP communities, and minority populations. No readily identifiable communities were noted.

4.1.2.2 Limited English Proficiency Populations

As discussed in Chapter 3, census data indicate four block groups with the presence of a population that may require language assistance. As shown in Table 4-2, these block groups correspond to the following communities that are directly impacted by the proposed project:

- *Emma Road/Bingham Road*
- *Fairfax/Virginia Avenue Community*

As discussed previously, the effects analysis for the Emma Road/Bingham Road community determined the overall burden of the proposed project would be low. According to the Community Impact Assessment (NCDOT 2015), as well as discussions with local planners, the Hispanic population within the Emma Road/Bingham Road community reside in the Woodridge Apartments or the Maple Terrace manufactured homes neighborhood. This area of the block group is not directly impacted by the preferred alternative. Additional outreach to this community

occurred prior to both public hearings in the form of flyers and doorhangers to ensure these areas were notified of the meetings and to determine if any residents needed language assistance.

While direct impacts to the Fairfax/Virginia Avenue Community do occur, they are along the periphery of the neighborhood and are not anticipated to reduce community cohesion or stability. Overall, the effect of the preferred alternative on the Fairfax/Virginia Avenue Community is anticipated to provide better local connectivity to and circulation within the Fairfax/Virginia Avenue area, including a direct vehicular and pedestrian connection to Carrier Park. Several small group meetings have been held with the community, resulting in revised designs to the preferred alternative that significantly reduced the number of relocations in this neighborhood. Additional outreach to this community occurred prior to both public hearings in the form of flyers and doorhangers to ensure these areas were notified of the meetings.

4.1.3 LAND USE AND TRANSPORTATION PLANNING

The compatibility of the project with local land use and transportation planning is assessed in this section. The purpose of and need for the proposed project does not require that the preferred alternative meet the recommendations for any of the plans evaluated. Consistency with local land use plans may not be required, but it is desirable. Lack of consistency with land use plans is a factor when considering the scope and intensity of the preferred alternative's impacts.

4.1.3.1 Land Use Plans

Existing Land Use and Zoning

Since much of the land along the corridor and surrounding interchanges is currently developed, the project would not be likely to result in any major land use conflicts. The general concept for the project is supported by the City of Asheville, Buncombe County, the Town of Woodfin, and FBRMPO, among others.

Compatibility with Future Land Use Plans

Generally, land use plans call for maintaining the concentration of development within previously urbanized areas while redeveloping certain underutilized areas, such as the riverfront and the Haywood Road Commercial Corridor. Land use changes as a result of the proposed project are expected to be minimal within the FLUSA. The pace of infill and redevelopment may be accelerated somewhat as a result of the proposed project; however, commercial, residential, and industrial growth and redevelopment are already occurring in many of the areas within the FLUSA and are expected to continue with or without the proposed project. The likely effects of the project are generally consistent with existing and future land use plans developed for the local agencies within the FLUSA.

Direct Impacts to Land Use

A quantification of land use impacts was developed to determine the area of properties that would be acquired for the preferred alternative beyond the property that is currently utilized as transportation right-of-way.

A summary of the land use impacts for the preferred alternative is included in Table 4-3.

Table 4-3: Land Use Impacts by Zoning Category (in acres)

Zoning Type	Section C	Section A	Section B
<i>Residential Single-Family Districts</i>	4.1	3.5	2.7
<i>Residential Multi-Family Districts</i>	5.4	15.5	12.4
<i>Neighborhood Business District</i>	0.0	0.1	0.0
<i>Industrial</i>	0.0	0.0	0.4
<i>Institutional District</i>	6.1	4.1	1.5
<i>Office</i>	0.0	0.0	0.0
<i>Highway Business District</i>	0.1	2.0	2.5
<i>Regional Business District</i>	4.1	0.0	5.8
<i>Central Business District</i>	0.0	0.0	0.1
<i>Commercial</i>	5.6	1.7	0.1
<i>Resort District</i>	0.0	0.0	24.5
<i>River Arts District</i>	0.0	3.2	15.3
TOTALS	25.4	30.1	65.4

4.1.3.2 Transportation Plans

Compatibility with Highway Plans

French Broad River MPO 2040 Metropolitan Transportation Plan (2015)

As discussed in Chapter 3.2.2.1, the 2040 MTP supersedes the FBRMPO's 2035 Long Range Transportation Plan (2010). The proposed project is consistent with the long-range transportation goals and objectives of the FBRMPO and with project land use and area growth (FBRMPO 2015).

The 2040 MTP identified several other projects within the study area of the proposed project, which include:

- *Bent Creek Greenway-Phase I -- I-26 Interchange at NC 191 (Brevard Road) to I-26 Interchange at NC 146 (Long Shoals Road)*
- *Bent Creek Greenway Phase II -- Hominy Creek River Park to I-26 Interchange at NC 191*
- *I-240 to SR 3214 (Biltmore Avenue) -- Lyman St/Meadow to I-240/reconnection from I-2513C (U-4739)*
- *Clingman Forest and Town Branch Greenways (U-5019A)*
- *Broadway Street Road Diet-- NC 251 Riverside Drive to I-240*
- *Riverside Drive SR 1477 (Wilma Dykeman Riverway PH 4)- NC 251 to Hill Street (U-5868)*
- *NC 251 Multi-use Path -- Broadway to Elk Mountain Road*

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

The *Comprehensive Transportation Plan for French Broad River MPO and Rural Areas of Buncombe and Haywood Counties* (NCDOT 2008) includes a recommendation for I-240/Future I-26 from I-40 to Broadway and notes that recurring congestion is already a problem along the length of the corridor.

The preferred alternative in Section C would be consistent with the plan, which recommends at least six lanes on I-26 and includes interchanges at I-26/I-40/I-240 and I-40/NC 191.

Section A would be consistent with the plan, which recommends at least six lanes on I-26 and includes interchanges at I-26/I-240 with NC 191, I-26/I-240 with SR 3556 (Amboy Road), and I-26/I-240 with US 19-23 Business (Haywood Road). Through design changes, as discussed in Chapter 2, the revised designs for Section A now include a six-lane freeway throughout the length of the section, as opposed to an eight-lane freeway as shown in the designs for alternatives in the DEIS. The Comprehensive Transportation Plan states that portions of the corridor will be eight lanes. While this section will not have eight through lanes, the typical section would have auxiliary lanes between interchanges due to the close proximity of the interchanges.

Section A would also be mostly consistent with the recommendation for a new roadway from existing Amboy Road to NC 191 (Brevard Road), with the exception that the proposed design includes one lane in each direction and would not provide vehicle access to Fairfax Avenue. This was a design change from the DEIS, which, as discussed in Chapter 2, included an extension of Amboy Road with two lanes in each direction.

Section B would be consistent with the recommendations in the plan for the I-26/I-240 corridor with a six-lane new location extension of I-26 across the French Broad River.

The preferred alternative in Section B would not be completely consistent with the recommendation for an off-road bicycle/pedestrian connector across I-240 in tandem with widening from Hazel Mill Road/Regent Park Boulevard to West Haywood Street. The design for the preferred alternative would allow for the ability to construct bicycle and pedestrian facilities along the existing Captain Jeff Bowen Bridges, which would fulfill the goal of bicycle and pedestrian connectivity across the river.

Compatibility with Transit Plans**Coordinated Public Transportation and Human Services Transportation Plan (2008)**

The FBRMPO *Coordinated Public Transportation and Human Services Master Plan* stipulates the need for high frequency local service along major corridors (FBRMPO 2008). The proposed project should help alleviate congestion on local roadways, thereby improving the efficiency of public transportation on arterial roads within the project study area; therefore, all sections of the proposed project would be consistent with the recommendations included in this plan.

City of Asheville Final Transit Master Plan (2009)

The *City of Asheville Final Transit Master Plan* outlines the planned improvements for the transit system (HDR Engineering, Inc. of the Carolinas 2009). The plan highlights opportunities to improve frequency of buses, efficiency of bus routes, and improved pedestrian mobility that would help improve ridership. The proposed project is not specifically addressed by the plan, but it would help improve overall transportation efficiency and reduce congestion; therefore, the preferred alternative would be consistent with the recommendations included in this plan.

Compatibility with Local Bicycle, Pedestrian, and Greenway Plans

The evaluation of multi-modal transportation for the project is based on NCDOT policies for integration of multi-modal elements into transportation projects and includes determining consistency with the following multi-modal plans that were discussed in the DEIS and two additional plans:

- *City of Asheville Pedestrian Plan* (City of Asheville 2005b)
- *City of Asheville Comprehensive Bicycle Plan* (City of Asheville 2008)
- *City of Asheville, North Carolina Parks, Recreation, Cultural Arts, & Greenways Master Plan* (City of Asheville 2013)
- *Blue Ridge Bike Plan* (NCDOT 2013)
- *Asheville in Motion Mobility Plan* (City of Asheville 2016)

After selection of the preferred alternative, the City of Asheville identified potential bicycle and pedestrian accommodations (referred to as betterments) throughout the project study area. The preferred alternative preliminary designs include some of these betterments and/or do not preclude the facilities from being constructed during the construction of the proposed project or in the future. NCDOT is currently coordinating cost-sharing with the City of Asheville for the bicycle and pedestrian facilities. The proposed betterments include the following:

- *Amboy Road*
 - *Five-foot sidewalk on north side of road*
 - *Bicycle lane*
 - *Cycle track and/or multi-use path*
- *Shelburne Road*
 - *Five-foot sidewalk on north side of road*
 - *Widened berms on both sides of road*
 - *Multi-use path along south side of road*
- *Brevard Road*
 - *Multi-use path along west side of road*
- *Haywood Road*
 - *New bridge over I-26 – include sidewalks along both sides of bridge*
- *Patton Avenue*
 - *Five-foot sidewalk along north side of Patton Avenue and multi-use transportation path along the south side of road to Clingman Avenue*

- *Hillcrest Connector*
 - *11-foot berms and sidewalks*
- *Atkinson Street*
 - *11-foot berms and sidewalks*
- *Bear Creek Road*
 - *Sidewalk improvements*
- *Sandhill Road*
 - *Sidewalk improvements*

City of Asheville Pedestrian Plan

The *City of Asheville Pedestrian Plan* includes a section on pedestrian connectivity and the I-26 Corridor, describing opportunities for providing pedestrian access through both the proposed project and NCDOT TIP Project A-10. The Pedestrian Plan denotes Patton Avenue across the French Broad River as a corridor in need of pedestrian linkage.

As a part of the betterments coordination between NCDOT and the City of Asheville, the preferred alternative is proposed to include a 5-foot sidewalk along the north side of Patton Avenue and a multi-use transportation path along the south side of Patton Avenue.

City of Asheville Comprehensive Bicycle Plan (2008)

The City of Asheville completed the *City of Asheville Comprehensive Bicycle Plan* (Bicycle Plan), which was adopted by the Asheville City Council on February 26, 2008. This plan complements the *City of Asheville Pedestrian Plan* (Pedestrian Plan). The Bicycle Plan includes recommendations for bicycle facilities on Pond Road, Sand Hill Road, Brevard Road, Amboy Road, Fairfax Avenue, State Street, Haywood Road, Patton Avenue, Emma Road, Riverside Drive, Hill Street, Pearson Bridge Road, and Broadway. *As a part of the betterments coordination between NCDOT and the City of Asheville, the preferred alternative is proposed to include bicycle and pedestrian accommodations on Haywood Road, Patton Avenue, and Brevard Road.*

City of Asheville, North Carolina Parks, Recreation, Cultural Arts, & Greenways Master Plan (2009, Updated 2013)

This plan is intended to help meet the needs of current and future residents by positioning Asheville to build on the community's unique parks and recreation assets and identify new opportunities. The citizen-driven plan establishes a clear direction to guide city staff, advisory committees, and elected officials in their efforts to enhance the community's parks, recreation, and cultural arts programs, services, and facilities.

The plan identifies two future park sites within the DCIA: Jean Webb Park and Progress Energy Park. *Jean Webb Park has since been constructed.* The 2013 update to the plan specifically mentions the I-26 Connector and that the eventual selected alternative "can impact the proposed greenway network."

Blue Ridge Bike Plan for Buncombe, Haywood, Henderson, Jackson, Madison, Swain, Transylvania Counties – North Carolina (2013)

The purpose of this plan is to identify and define improvements needed to foster a regional bicycle route system in western North Carolina. One Buncombe County Priority Corridor and two Asheville Priority Corridors are identified within the project study area.

- **Buncombe County Priority Corridor 3: Sand Hill Road to US 19-23.** *This route crosses I-40 west of the I-26/I-40 interchange. The preferred alternative is not anticipated to preclude this bicycle route from being constructed in the future. As a part of the betterments discussions, NCDOT and the City agreed upon a minimum 4-foot sidewalk on the bridge structure over I-40.*
- **Asheville Priority Corridor 3: Patton Avenue to Hazel Mill Road.** *This route travels along Patton Avenue within the study area and crosses the Captain Jeff Bowen Bridges. The preferred alternative would include a multi-use transportation path along the southern bridge crossing the French Broad River. As previously noted, NCDOT and the City of Asheville agreed to a multi-use transportation path along the south side of Patton Avenue and a 5-foot sidewalk along the north side. Both of these agreements align with the goals of the corridor.*
- **Asheville Priority Corridor 4: Haywood Road to Patton Avenue.** *This route travels along Haywood Road within the project study area, crossing I-26. As a part of the betterments discussions, NCDOT and the City agreed upon 6-foot back of curb sidewalks along both sides of the Haywood Road bridge over I-240.*

Asheville in Motion: City of Asheville Mobility Plan (2016)

The Asheville in Motion initiative is designed to provide a cohesive strategy and method to prioritize transportation projects, with an aim toward improving multi-modal connections. Within the study area, the Haywood Road Commercial Corridor is identified as a priority corridor to increase bicycle facilities. As noted above, NCDOT and the City of Asheville agreed upon 6-foot sidewalks along both sides of the Haywood Road Bridge over I-240.

Living Asheville, A Comprehensive Plan for Our Future

In 2016, the City of Asheville began updating the Asheville City Development Plan 2025 with Living Asheville, A Comprehensive Plan for Our Future (City of Asheville 2017b). The plan reiterates the themes of the 2025 plan and notes the city should continue to monitor the potential impacts of the I-26 Connector and the potential need to think strategically about development and redevelopment in the nearby vicinity. It cites the I-26 Connector Working Group as an important way to incorporate community visions and goals into the plans for the project.

4.1.3.3 Other Local Plans**Compatibility with Other Local Plans**

The DEIS discussed the level of compatibility the proposed project has with other land use plans. The design changes to the preferred alternative have not drastically changed the project's compatibility with local plans, including:

- *Haywood Road Form District (City of Asheville 2017c)*
- *Asheville City Council Resolution 00-168 – Resolution Supporting the Report and Recommendations of the Community Coordinating Committee Regarding the I-26 Connector Project (2000)*
- *A Strategic Plan for the Sustainable Economic Development of the City of Asheville, North Carolina (City of Asheville 2004)*
- *Broadway Corridor Action Plan (City of Asheville 2002b)*
- *Asheville City Development Plan 2025 (City of Asheville 2002a)*
- *Land of Sky Regional Council “Regional Vision 2010”*
- *Wilma Dykeman RiverWay Master Plan (RiverLink 2004)*
- *Brevard Road Corridor Study (City of Asheville 2005a)*
- *City of Asheville River Redevelopment Plan (City of Asheville 2005c)*
- *Consolidated Strategic Housing and Community Development Plan (City of Asheville 2005c)*
- *West End/Clingman Small Area Plan (City of Asheville 1996)*
- *Asheville Downtown Master Plan (City of Asheville 2009a)*
- *Sustainability Management Plan (City of Asheville 2009d)*

Plans that have been adopted since publication of the DEIS include:

- *Asheville Unified Development Ordinance (updated 2017)*
- *Buncombe County Zoning Ordinance (amended 2017)*
- *GroWNC Regional Plan (2017)*
- *Burton Street Neighborhood Plan (2018)*

The Asheville Unified Development Ordinance (UDO) was discussed in the 2015 DEIS; however, updates to the UDO were added in June 2015 and November 2017. These updates include revisions to Chapter 7 of the UDO to revise the allowances for Accessory Dwelling Units (City of Asheville 2015) and the Haywood Road Form-Based Code (City of Asheville 2017a). The revisions to Chapter 7 of the UDO include updates to the definition of accessory dwelling unit and additional design standards. The purpose of the Haywood Road Form-Based Code is to aid in the implementation of the Haywood Road Corridor Charrette Report and the Haywood Road Vision Plan (ADC 2016). All sections of the preferred alternative would be consistent with the UDO and its updates.

Buncombe County has a zoning ordinance in place as a basis for land development (Buncombe County 2017). The zoning ordinance has several categories of land uses, including four classes of residential districts, a commercial service district, an employment district, a public service district, a neighborhood service district, and an open use district. Each of these districts is found within the FLUSA. The objectives of the zoning ordinance are to guide the appropriate use and development of parcels in a manner in which land uses would be compatible with neighboring parcels, topographic features, natural habitat, and infrastructure. The Buncombe County Zoning Ordinance was last amended October 17, 2017, amendments of which mainly pertained to dimensional requirements and hillside development standards for certain subdivisions. All sections of the preferred alternative would be consistent with the zoning ordinance.

The GroWNC Regional Plan covers a five-county region: Buncombe, Haywood, Henderson, Madison, and Transylvania counties. The planning processes began in 2011 after the region received a \$1.6 million grant from the Department of Housing and Urban Development through the Partnership for Sustainable Communities. The purpose of the plan is to offer recommendations for planning efforts along the lines of land use, economic development, workforce development, transportation, and other infrastructure investments through the Southern Appalachian region. The land use policies put forth in the plan promote growth strictly within consensus growth areas, which are defined as places within towns and cities that already have infrastructure and services. The FLUSA is located within one of these consensus growth areas. Improving the I-26 Connector complies with the goal of connecting the region as well as promoting growth in areas with critical infrastructure and services. The GroWNC Regional Plan was adopted in 2017.

The Burton Street Neighborhood Plan was developed by NCDOT and the Burton Street Community Association to address, among other topics, anticipated impacts resulting from the I-26 Connector project. The Plan notes potential impacts associated with the project, including residential, business, and religious institution relocations as well as increased noise levels, temporary construction impacts, and potential recurring impacts. The Plan lists the mitigation strategies that will be implemented by NCDOT to remedy the anticipated impacts. These include (as stated in the Plan):

- Improve existing sidewalks to meet ADA design standards*
- Improve pedestrian connections between community resources by installing a sidewalk on Downing Street per agreement of property owners*
- Improve sidewalk connections between commercial corridors, and include a pedestrian path from Buffalo Street to Patton Avenue that will connect to future greenway*
- Evaluate opportunities for new transit stops, such as near Burton Street and Haywood Road*
- Install a sidewalk along Patton Avenue to connect pedestrian path and transit stop*
- Install bus shelters and other improvements at transit stops located near Burton Street. Consider neighborhood specific designs if feasible*
- Incorporate a Burton Street history mural on proposed I-26 Connector sound wall if built*
- Construct a new park and community gathering space at Smith Mill Creek that will include an access point to the future greenway*
- Improve the Florida Avenue and Patton Avenue intersection by adding pavement markings and left turn signals*
- Increase the tree canopy within the interstate buffer along the Burton Street neighborhood where possible*

4.1.4 PHYSICAL ENVIRONMENT

4.1.4.1 Noise

In accordance with Title 23 Code of Federal Regulations Part 772, Procedures for Abatement of Highway Traffic Noise and Construction Noise (Title 23 CFR 772) and the North Carolina Department of Transportation Traffic Noise Policy, each Type I highway project must be analyzed for predicted traffic noise impacts. In general, Type I projects are proposed State or Federal highway projects for construction of a highway or interchange on new location, improvements of an existing highway which substantially change the horizontal or vertical alignment or add new through lanes, or projects that involve new construction or substantial alteration of transportation facilities such as weigh stations, rest stops, ride-share lots or toll plazas.

Traffic noise impacts are determined through implementing the current Traffic Noise Model (TNM[®]) approved by the Federal Highway Administration (FHWA) and following procedures detailed in Title 23 CFR 772, the NCDOT Traffic Noise Policy and the NCDOT Traffic Noise Manual. When traffic noise impacts are predicted, examination and evaluation of alternative noise abatement measures must be considered for reducing or eliminating these impacts. Construction noise impacts may occur if noise-sensitive receptors are in close proximity to project construction activities. All reasonable efforts should be made to minimize exposure of noise sensitive areas to construction noise impacts.

The source of this traffic noise information is the STIP Project I-2513 *Traffic Noise Report, I-26 Connector from I-40 to US 19-23-70 North of Asheville* prepared by AECOM in August 2019 (NCDOT 2019a).

Traffic Noise Impacts and Noise Contours

The maximum number of receptors in each project alternative predicted to become impacted by future traffic noise is shown in Table 4-4. The table includes those receptors expected to experience traffic noise impacts by either approaching or exceeding the FHWA Noise Abatement Criteria or by a substantial increase in exterior noise levels as defined in the NCDOT Traffic Noise Policy.

Table 4-4: Predicted Traffic Noise Impacts by Section*

Section	Traffic Noise Impacts			
	Residential (NAC B)	Places of Worship/Schools, Parks, etc. (NAC C & D)	Businesses (NAC E)	Total
Section C	160	11	0	171
Section A	110	2	0	112
Section B	99	6	28	134

*Per TNM 2.5 and in accordance with 23 CFR Part 772

Predicted build-condition traffic noise level contours are not a definitive means by which to assess traffic noise level impacts. Although FHWA regulation prohibits the use of noise level

contours for traffic noise impact prediction, noise level contours can aid in future land use planning efforts in presently undeveloped areas (NAC G).

Table 4-5 presents the approximate distance from the edge of the nearest travel lane reached by noise level contours correlating to the traffic noise impact thresholds for land uses for undeveloped areas. A 71 dB(A) hourly-equivalent noise level correlates to the NCDOT impact threshold for a NAC E land use. An hourly-equivalent noise level of 66 dB(A) correlates to the NCDOT impact threshold for NAC B and C land uses. The distances at which 71 dB(A) and 66 dB(A) hourly-equivalent traffic noise levels are predicted to occur vary depending on traffic conditions throughout the project area and were derived via modeling results.

According to 23 CFR 772.9(c) and the NCDOT Traffic Noise Policy, noise contour lines shall not be used for determining highway traffic noise impacts. However, the 71 dB(A) and 66 dB(A) noise level contour information should assist local authorities in exercising land use control over the remaining undeveloped lands, to avoid development of incompatible activities in the vicinity of the I-26 Connector project.

Table 4-5: Predicted Build-Condition Noise Contours by Section

Section	Location	71 dB(A) (FT from EOT ¹)	66 dB(A) (FT from EOT ¹)
Section C	Along ramp from I-40 eastbound to I-26 eastbound between W Oakview Rd and McIntosh Rd	Within Proposed ROW	Within Proposed ROW
Section A	Along I-240/I-26 eastbound between Virginia Avenue and Fairfax Avenue	Within Proposed ROW	205
Section B	Along ramp from I-240/I-26 westbound to Patton Avenue	Within Proposed ROW	Within Proposed ROW

¹Feet from the edge of the traveled way.

Traffic Noise Abatement Measures

Measures for reducing or eliminating the traffic noise impacts were considered for all impacted receptors in each alternative. The primary noise abatement measures evaluated for highway projects include highway alignment changes, traffic system management measures, establishment of buffer zones, noise barriers and noise insulation (NAC D only). For each of these measures, benefits versus allowable abatement quantity (reasonableness), engineering feasibility, effectiveness and practicability and other factors were included in the noise abatement considerations.

Substantially changing the highway alignment to minimize noise impacts is not considered to be a viable option for this project due to engineering and/or environmental factors. Traffic system management measures are not considered viable for noise abatement due to the negative impact they would have on the capacity and level of service of the proposed roadway. Costs to acquire buffer zones for impacted receptors will exceed the NCDOT base dollar value of \$22,500 per benefited receptor plus an incremental increase as defined in the NCDOT Traffic Noise Manual, causing this abatement measure to be unreasonable.

Noise Barriers

Noise barriers include two basic types: earthen berms and noise walls. These structures act to diffract, absorb and reflect highway traffic noise. For this project, earthen berms are not found to be a viable abatement measure because the additional right of way, materials and construction costs are estimated to exceed the NCDOT maximum allowable base quantity of 4,200 cubic yards per benefited receptor plus an incremental increase as defined in the NCDOT Traffic Noise Policy.

A noise barrier evaluation was conducted for this project utilizing the Traffic Noise Model (TNM 2.5) software developed by the FHWA. Table 4-6 summarizes the results of the evaluation.

Table 4-6: Preliminary Noise Barrier Evaluation Results

<u>Section</u> NSA	Noise Barrier Name & Location	<u>Approx. Length Height</u> ⁴ (feet)	<u>Approx. Area</u> (sq ft)	Number of Impacted Receptors Benefited	Total Number of Benefits	Square Feet per Benefited <u>Receptor</u> Allowable Square Feet per Benefited Receptor	Preliminarily Feasible and Reasonable ("Likely") for Construction ¹
Section A NSA A-1.2	NWA-1.2.1 Along I-40 WB east of Brevard Road	<u>1,000</u> 12	12,000	0.29	0.38	<u>31,579</u> 1,500	No ²
Section A NSA A-1.2	NWA-1.2.2 Along Amboy Road between I-26 and Short Michigan Ave	<u>800</u> 14	11,200	0.33	0.33	<u>33,939</u> 1,500	No ²
Section A NSA A-1, A-2, A-4	NWA-124 Along I-26 EB between Haywood Road and Brevard Road	<u>6,300</u> 23	144,000	48	109	<u>1,321</u> 1,500	Yes
Section A NSA A-3, A-5	NWA-35 Along I-26 WB between Haywood Road and Wilmington Street	<u>3,150</u> 20	63,000	38	78	<u>808</u> 1,500	Yes

Section NSA	Noise Barrier Name & Location	Approx. Length Height⁴ (feet)	Approx. Area (sq ft)	Number of Impacted Receptors Benefited	Total Number of Benefits	Square Feet per Benefited Receptor Allowable Square Feet per Benefited Receptor	Preliminarily Feasible and Reasonable ("Likely") for Construction¹
Section A NSA A-7	NWA-7 Along I-26 WB between Haywood Road and Wilmington Street	<u>850</u> 16	13,600	9	14	<u>983</u> 1,500	Yes
Section B NSA B-1	NWB-1 Along I-26 EB between Haywood Road and Edgar Street	<u>2,800</u> 22	61,400	24	43	<u>1,428</u> 1,500	Yes
Section B NSA B-2	NWB-2 Along I-26 WB between Wilmington Street and Hazel Mill Road	<u>2,450</u> 22	54,400	12	31	<u>1,755</u> 1,500	No ³
Section B NSA B-3	NWB-3.1 Along I-240 WB to I-26/I- 240/Patton Avenue interchanges	<u>1,000</u> 24	24,000	6.14	6.86	<u>3,499</u> 2,500	No ³
	NWB-3.2 Along I-240 WB to I-26 EB	<u>2,000</u> 24	48,000	12	12	<u>4,000</u> 2,500	No ³
Section B NSA B-4	NWB-4 Along the Patton Avenue to I-240 EB ramp	<u>1,100</u> 20	22,000	5	5	<u>4,400</u> 2,500	No ³
Section B NSA B-5	NWB-5 Along Atkinson Street near Hillcrest Apartments	<u>350</u> 16	5,600	7	13	<u>431</u> 1,500	Yes

Section NSA	Noise Barrier Name & Location	Approx. Length Height⁴ (feet)	Approx. Area (sq ft)	Number of Impacted Receptors Benefited	Total Number of Benefits	Square Feet per Benefited Receptor Allowable Square Feet per Benefited Receptor	Preliminarily Feasible and Reasonable ("Likely") for Construction¹
Section B NSA B-5.1	NWB-5.1 Along the I-26 SB ramp to Patton Ave between Hill Street and Atkinson Street	<u>650</u> 24	15,600	3	3	<u>5,200</u> 1,500	No ³
Section B NSA B-6	NWB-6 Along Hill Street and the I-240 WB to I- 26 WB ramp between Courtland Avenue and Westover Drive	<u>2,350</u> 24	56,400	0	3	<u>18,800</u> 2,000	No ²
Section B NSA B-6.1	NWB-6.1 Between I-26 WB and Courtland Place, north of the I-26/I- 240/US 19-23- 74 Alt interchange	<u>519</u> 10	5,190	4	4	<u>1,298</u> 2,000	Yes
Section B NSA B-8	NWB-8 Along I-26 WB between Courtland Place and Pearson Drive	<u>2,450</u> 22	53900	6	14	<u>3,828</u> 2,000	No ³
Section B NSA B-9	NWB-9 Along I-26 WB between Hibriten Drive and Broadway Street	<u>1,850</u> 24	44,400	7	18	<u>2,467</u> 1,500	No ³

<u>Section</u> NSA	Noise Barrier Name & Location	<u>Approx. Length Height</u> ⁴ (feet)	<u>Approx. Area</u> (sq ft)	Number of Impacted Receptors Benefited	Total Number of Benefits	<u>Square Feet per Benefited Receptor Allowable Square Feet per Benefited Receptor</u>	Preliminarily Feasible and Reasonable ("Likely") for Construction ¹
<u>Section B</u> NSA B-10	NWB-10 Along I-240 WB south of Hill Street	<u>650</u> 24	15,600	0	0	<u>N/A</u> 1,500	No ²
<u>Section C</u> NSA C-1	NWC-1 Along I-240 EB between Grandview Road and Sand Hill Road	<u>4,050</u> 24	97,200	40	51	<u>1,906</u> 2,000	Yes
<u>Section C</u> NSA C-2	NWC-2 Along I-40 WB south of Montgomery Street	<u>1150</u> 20	23,000	5	5	<u>4,600</u> 1,500	No ³
<u>Section C</u> NSA C-3	NWC-3 Along the I-26 EB to I-40 WB ramp between South Bear Creek Road and Sand Hill Road	<u>4,250</u> 24	102,000	59	71	<u>1,437</u> 1,500	Yes
<u>Section C</u> NSA C-4	NWC-4 Along the I-40 EB to I-26 EB ramp between Sand Hill Road and Pond Road	<u>5,200</u> 24	124,800	21	22	<u>5,673</u> 1,500	No ³
	NWC-4.1 Along the I-40 EB to I-26 EB ramp between Sand Hill Road and West Oakview Road	<u>1,800</u> 24	43,200	10	10	<u>4,320</u> 1,500	No ³

<u>Section</u> NSA	Noise Barrier Name & Location	<u>Approx. Length Height</u> ⁴ (feet)	<u>Approx. Area</u> (sq ft)	Number of Impacted Receptors Benefited	Total Number of Benefits	<u>Square Feet per Benefited Receptor Allowable Square Feet per Benefited Receptor</u>	Preliminarily Feasible and Reasonable ("Likely") for Construction ¹
	NWC-4.2 Along the I-40 EB to I-26 EB ramp between Sand Hill Road and Pond Road	<u>650</u> 20	13,000	5	5	<u>2,600</u> 1,500	No ³
	NWC-4.3 Along the I-40 EB to I-26 EB ramp between West Oakview Road and Pond Road	<u>1,350</u> 24	32,400	6	7	<u>4,629</u> 1,500	No ³
<u>Section C</u> NSA C-5	NWC-5 Along the I-40 WB to I-26 WB ramp between Brevard Road and South Bear Creek Road	<u>800</u> 24	19,200	10	10	<u>1,920</u> 1,500	No ³
<u>Section C</u> NSA C-6	NWC-6 Along the I-26 WB to I-40 EB ramp from near Oakview Road	<u>1,300</u> 24	31,200	4	6	<u>5,200</u> 1,500	No ³

¹ The likelihood for barrier construction is preliminary and subject to change, pending completion of final design and the public involvement process.

² Barrier is not feasible due to an inability to achieve at least 5 dB(A) of noise reduction for at least two impacted receptors.

³ Barrier is not reasonable due to the quantity per benefited receptor exceeding the allowable quantity per benefited receptor OR Barrier is not reasonable due to an inability to achieve at least 7-dBA noise reduction for at least one benefited receptor.

⁴ Average wall height. Actual wall height at any given location may be higher or lower.

Summary

A traffic noise evaluation was performed that identified 8 noise barriers that preliminarily meet feasibility and reasonableness criteria found in the NCDOT Traffic Noise Policy. A more detailed analysis will be completed during project final design. Noise barriers preliminarily found to be feasible and reasonable during the preliminary noise analysis may not be found to be feasible and

reasonable during the final design noise analysis due to changes in proposed project alignment and other design considerations, surrounding land use development, or utility conflicts, among other factors. Conversely, noise barriers that preliminarily were not considered feasible and reasonable may meet the established criteria and be recommended for construction.

In accordance with NCDOT Traffic Noise Policy, the Federal/State governments are not responsible for providing noise abatement measures for new development for which building permits are issued after the Date of Public Knowledge. The Date of Public Knowledge of the proposed highway project will be the approval date of the Record of Decision (ROD). NCDOT strongly advocates the planning, design and construction of noise-compatible development and encourages its practice among planners, building officials, developers and others.

4.1.4.2 Air Quality

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The EPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System (IRIS), which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects". Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). A number of HEI studies are summarized in Appendix D of FHWA's Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents. Among the adverse health effects linked to MSAT compounds at high exposures are: cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations or in the future as vehicle emissions substantially decrease.

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts – each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for

lifetime (i.e., 70 year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways; to determine the portion of time that people are actually exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI. As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA states that with respect to diesel engine exhaust, “[t]he absence of adequate data to develop a sufficiently confident dose-response relationship from the epidemiologic studies has prevented the estimation of inhalation carcinogenic risk (<https://www.epa.gov/iris>).”

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the Clean Air Act to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires EPA to determine an “acceptable” level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld EPA’s approach to addressing risk in its two-step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than deemed acceptable.

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

The Traffic Forecast Report (July 2016) indicates No-Build VMT of 401,768 and a Build VMT of 444,362, an increase of 10.6 percent. For the build alternative there may be localized areas where VMT would increase, and other areas where VMT would decrease. Therefore, it is possible that

localized increases and decreases in MSAT emissions may occur. The localized increases in MSAT emissions would likely be most pronounced along the expanded roadway sections involving construction on new location with Section B. However, even if these increases do occur, they too will be substantially reduced in the future due to implementation of EPA's vehicle and fuel regulations.

In sum, under the build alternative in the design year it is expected there would be reduced MSAT emissions in the immediate area of the project, relative to the No-Build Alternative, due to EPA's MSAT reduction programs.

Vehicles are a major contributor to decreased air quality because they emit a variety of pollutants into the air. Changing traffic patterns are a primary concern when determining the impact of a new highway facility or the improvement of an existing highway facility. New highways or the widening of existing highways increase localized levels of vehicle emissions, but these increases could be offset due to increases in speeds from reductions in congestion and because vehicle emissions will decrease in areas where traffic shifts to the new roadway. Significant progress has been made in reducing criteria pollutant emissions from motor vehicles and improving air quality, even as vehicle travel has increased rapidly.

The proposed project is located in Buncombe County, which complies with the NAAQS. The proposed project is located within an attainment area; therefore, 40 CFR Parts 51 and 93 are not applicable. Therefore, the project is not anticipated to create any adverse effects on the air quality of this attainment area. This evaluation completes the assessment requirements for air quality of the 1990 Clean Air Act Amendments and the NEPA process. No additional reports are necessary.

4.1.4.3 Farmlands

In accordance with the FPPA and state EO 96, the impact of the project on prime, unique, and statewide important farmlands was assessed. Due to the urban setting of the project, this project is in compliance with the FPPA and the Farmland Conversion Impact Rating Form (United States Department of Agriculture [USDA] Form AD-1006) for federally funded projects was not required.

4.1.4.4 Utilities

Electric

The preferred alternative would cross electric distribution and transmission lines owned by Duke Energy. It is anticipated distribution poles and transmission towers would need to be either adjusted or relocated due to the construction of the project. NCDOT would work with Duke Energy in efforts to minimize impacts to the electric lines and to coordinate the adjustments or relocations required while trying to minimize disruption in service.

Sewer Facilities

Most development within the study area uses sanitary sewer facilities. Thus, the preferred alternative would require relocation of municipal sewer lines. The preferred alternative would

not impact City of Asheville or Buncombe County water or wastewater treatment plants or private treatment facilities within the project study area; however, the Metropolitan Sewer District of Buncombe County has identified multiple sewer lines that would need to be relocated or adjusted. NCDOT would also work with sewer authorities in the area to minimize any impacts to sewer lines and to coordinate their relocation, as necessary.

Water Service

Project construction would require relocation of water lines owned by the City of Asheville. Wells within the right-of-way of the preferred alternative will be surveyed prior to project construction. NCDOT will purchase these wells and cap and abandon them in accordance with North Carolina well construction standards. Any subsurface contamination will be reported to the Asheville Regional Office of NCDEQ. During the final design phase of the project, NCDOT will also identify wells adjacent to the project right-of-way that could be impacted by roadway construction. Mitigation for these wells will be provided through land purchase, compensation for damages, or the provision of new wells. NCDOT will also work with water and sewer authorities in the area to minimize any impacts to water lines and to coordinate their relocation, as necessary.

Gas

Multiple gas lines owned by the Public Service Company exist within the study area. Gas lines ranging from 2 inch to 12 inch in diameter have been identified that would require adjustment or relocation. NCDOT will work with Public Service Company to minimize any impacts to gas lines and to coordinate their relocation, as necessary.

Phone/Fiber Optics

AT&T owns phone lines and fiber optic routes within the study area. NCDOT will work with AT&T to minimize any impacts to phone lines/fiber optic routes and to coordinate their relocation, as necessary. The Section B preferred alternative would impact the fiber optic routes, which would require relocation.

4.1.4.5 Visual Quality

This section describes the potential effects of the project on visual quality within the project study area. As indicated in Section 3.3.5, visual and aesthetic effects are a concern for both users of the transportation facility and those that view the facility from afar. Construction of the proposed project would have a visual impact on adjacent areas. One of the problems inherent in designing a controlled access freeway involves providing sufficient right-of-way to comply with design criteria while minimizing disruption to the surrounding area.

In Section C, the preferred alternative would maintain the existing configuration and would not change the viewshed substantially from the existing condition. Section C would be consistent with the existing viewshed, which includes the existing I-40/I-26 interchange.

Construction of Section A would have a visual impact on adjacent areas. The project would be designed and constructed as a multi-lane, divided, controlled access freeway, which would be

consistent with the context of the existing viewshed of which I-240 is a prominent feature. Widening of the highway would, however, increase its visual prominence for people traveling the freeway, and those viewing the freeway from afar. Visual impacts would occur in this section of the project but are not anticipated to be adverse.

Visual impacts of Section B would generally be enhanced or improved for those using the facility and degraded for those viewing the freeway from off the road. The preferred alternative would include two additional flyover bridges across the French Broad River; one approximately 285 feet south and one approximately 550 feet to the north of the I-26 crossing. The three new bridges across the French Broad River would introduce new prominent features that would be out of context with the existing viewshed. Conversely, opportunities for views and new vistas of Asheville, the French Broad River, and surrounding mountains and hills would exist for motorists using the new roadway. The proposed design that would reconfigure the I-240 interchange with US 19-23-70/Patton Avenue would generally be consistent with the existing visual environment.

Mitigation

Future highway-oriented development that may be constructed adjacent to the proposed roadway could be designed to reduce the visual impacts of the freeway. The inclusion of treatments such as coloring of structural elements, buffer areas, and landscape screening into a new development's design can lessen the visual impacts of the freeway. In addition, it is NCDOT policy to include aesthetic features in its roadway designs. NCDOT will consider incorporating the following principals in the roadway design in order to create an aesthetically acceptable and functional roadway and to minimize visual impacts:

- Integrate landscaping into the project design to promote visual continuity of the highway and to blend it into the natural landscape as much as possible
- Minimize the loss of vegetation, especially during construction when equipment and material access, storage, and staging are required
- Design noise attenuation features, if reasonable and feasible, to be compatible with surrounding natural features and development

In response to a comment by the City of Asheville on the DEIS, an Aesthetics Advisory Committee (AAC) will be re-established by the City of Asheville to work with NCDOT and the city to address aesthetic issues throughout the planning and design of the project. Activities of the AAC to date are presented in Section 8.2.2.

4.1.4.6 Hazardous Material

One site is anticipated to have a high severity of impact and is located within the alternative corridor as summarized in Table 4-7. Additional sites are located within the proposed right-of-way limits of the preferred alternative; however, the anticipated severity of the sites have been identified as low or low to moderate and therefore are not included in the table below (NCDOT 2014c).

Table 4-7: Impacts to USTs, Landfills, and Other Potentially Contaminated Sites

Site#	Type	Location	UST Facility ID	Anticipated Impacts	Anticipated Severity
45	Landfill	Along the Bank of the French Broad River	N/A	Landfill materials of unknown composition	High

Source: *Revised Geotechnical Pre-Scoping Report* (NCDOT 2014c).

Although the *Geotechnical Pre-Scoping Report* prepared in 2006 notes that no obvious contamination or hazardous materials were observed during previous site analysis, sampling was not conducted and avoidance of the landfill (site #45) is also recommended (NCDOT 2006a). A work plan will be developed based on the final design to address any contaminated material that may be encountered during construction.

4.1.4.7 Mineral Resources

As discussed in Chapter 3.3.7, there are no mines or quarries located within or near the project study area. As such, the preferred alternative would not directly impact the production of mineral resources. Construction of the project may temporarily increase the demand for locally crushed stone and sand. However, such an increase in demand would not adversely impact mineral resources.

4.1.4.8 Floodplains/Floodways

An amendment to the hydraulic technical report (TGS Engineers 2010) was prepared for the DEIS in 2015 (URS 2015b), which re-evaluated crossings that changed or were added since the original TGS report. An addendum was then prepared for the preferred alternative (AECOM 2018b). The proposed project was mapped showing the established limits of the 100-year floodways and floodplains and the major stream crossing sites for the project.

It has been determined that, due to the linear nature of the project and existing roadway configuration, no practicable alternative exists to completely avoid impacts to floodplains. Efforts will be made to minimize the impacts to floodplains and to diminish the risk to human safety associated with the encroachments.

The construction of the project would encroach in several areas on the designated floodplain associated with several local stream systems. Table 4-8 includes a summary of the impacts to floodplains and floodways within the project study area from the preferred alternative.

Table 4-8: FEMA Floodplain and Floodway Impacts (in acres)

Section	Impacts to 100-year Floodplain		Impacts to Floodway		Total Impact	
	DEIS	FEIS	DEIS	FEIS	DEIS	FEIS
Section C	16.63	14.00	2.00	1.74	18.63	15.74
Section A	8.36	8.57	1.94	1.04	10.3	9.61
Section B	3.91	2.78	0.38	0.57	4.29	3.35

Sources: *Hydraulic Technical Report for I-2513 the I-26 Asheville Connector* (TGS Engineers 2010); *Final Hydraulic Aspects Report Addendum to the I-2513 Hydraulic Technical Report* (URS 2015b); *Hydraulic Aspects Report Addendum to I-2513 Hydraulic Technical Report* (April 2010 and August 2015) (AECOM 2018b)

A description of streams and the proposed hydraulic crossings is provided in the following sections.

Section C

Section C includes 15 existing and proposed hydraulic crossing sites. These crossings would impact 14.00 acres in the 100-year floodplain and 1.74 acres in the floodway.

The hydraulic crossing sites in Section C are shown on Figure 4-1 and summarized in Table 4-9.

Table 4-9: Proposed Hydraulic Crossings – Section C

Site	Location	Facilities on Structure	Feature Under Structure	Comments
1	I-40 and WBCD Over French Broad River	I-40 EB and WB; WBCD; Ramp E; Ramp H	French Broad River	Bridge
2A	I-40 and WBCD Over Hominy Creek	I-40 EB and WB; WBCD	Hominy Creek	Bridge
2B	Ramp E Over Hominy Creek	Ramp E	Hominy Creek	New Bridge
3B	Ramp BD Over Hominy Creek	Ramp D	Hominy Creek	Bridge
3D	Ramp AC Over Hominy Creek	Ramp AC	Hominy Creek	Bridge
4A	I-26 Over Hominy Creek	I-26 NB and SB	Hominy Creek	Bridge
4C	WBCD Over Hominy Creek	WBCD	Hominy Creek	New Bridge
5	SR 3412 (Sand Hill Road) Over Ragsdale Creek	SR 3412	Ragsdale Creek	Raise Headwall on Existing 2 @ 8'wX8'h RC Box Culvert
6	I-26 Over UT	I-26 NB and SB; Ramp BD	UT to Hominy Creek	Extend 48" CMP
21	Ramp DB Over UT	Ramp DB	UT to Ragsdale Creek	Extend Existing 1 @ 6'wX9'h RC Box Culvert
28	WBCD, EBCD Over Ragsdale Creek	WBCD, EBCD	Ragsdale Creek	Extend Existing Triple 7'x9' RC Box Culvert
29	WBCD, EBCD Over Ragsdale Creek	WBCD, EBCD	Ragsdale Creek	Extend Existing Triple 8'x8' RC Box Culvert
30	WBCD, EBCD Over UT	WBCD, EBCD	UT to Ragsdale Creek	Extend Existing Triple 48" RCP

Site	Location	Facilities on Structure	Feature Under Structure	Comments
31	US 19/23 (Smokey Park Hwy) over Ragsdale Creek	Y1; Y1B; RP1D	Ragsdale Creek	Maintain existing structure
32	I-26 Over UT to Hominy Creek	LC_NB; LC_SB; RP2C; RP2D; RP2DB	UT to Hominy Creek	Maintain existing structure

Sources: *Hydraulic Technical Report for I-2513 the I-26 Asheville Connector* (TGS Engineers 2010); *Final Hydraulic Aspects Report Addendum to the I-2513 Hydraulic Technical Report* (URS 2015b); *Hydraulic Aspects Report Addendum to I-2513 Hydraulic Technical Report* (April 2010 and August 2015) (AECOM 2018b).

Section A

Section A would include four hydraulic crossing sites. These crossings would impact 8.57 acres in the 100-year floodplain and 1.04 acres in the floodway.

The hydraulic crossing sites in Section A are shown on Figure 4-2 and summarized in Table 4-10.

Table 4-10: Proposed Hydraulic Crossings – Section A

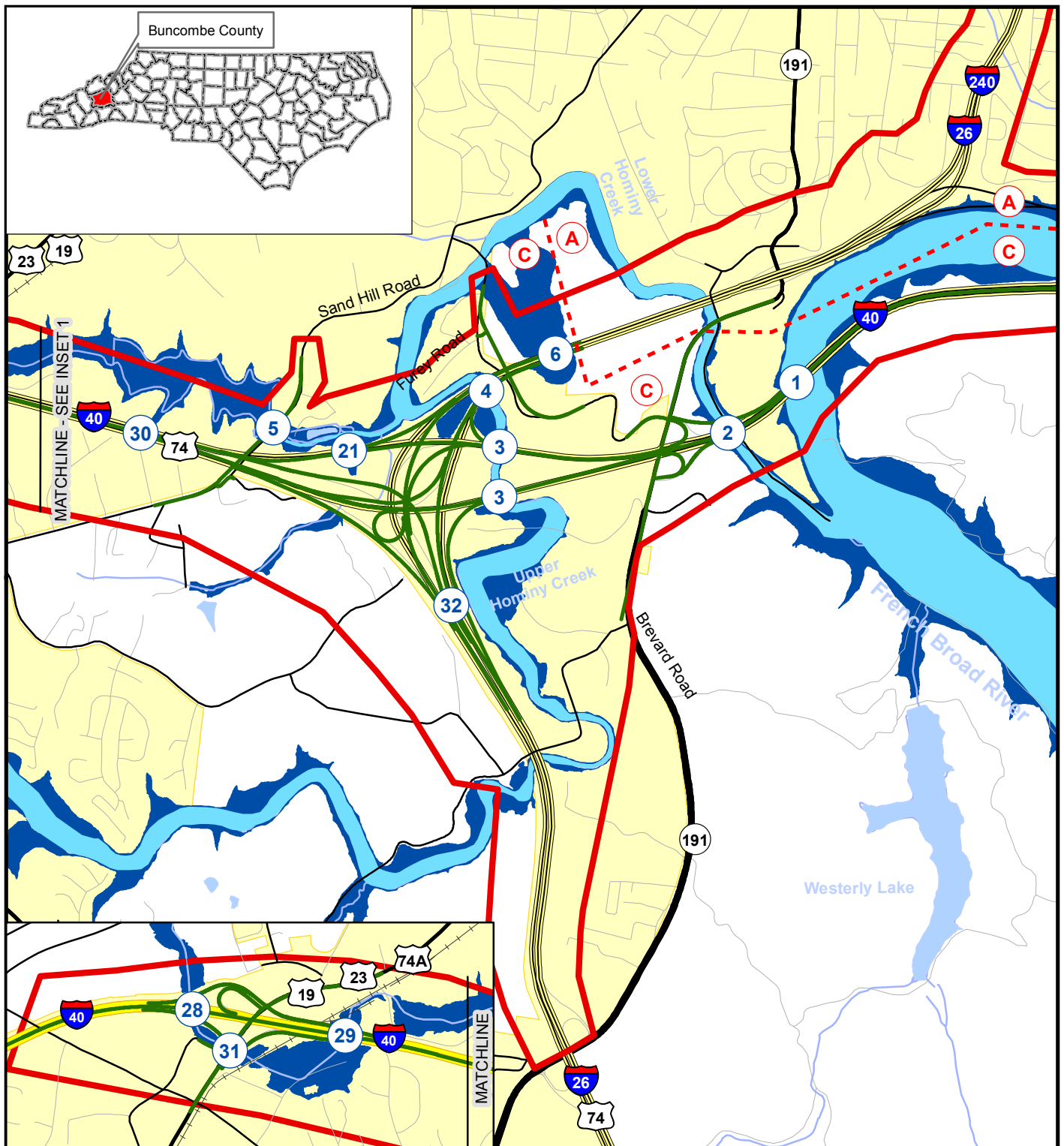
Site	Location	Facilities on Structure	Feature Under Structure	Comments
8	I-26/I-240 and Ramps Over Hominy Creek	I-26/I-240: Ramp 3B; Ramp 3C	Hominy Creek; SR 3620; Greenway Bridge	Bridge
18	I-26/I-240 and Amboy Road Over UT	I-26/I-240; Ramp 3D; Amboy Road	UT to French Broad River	Replace Existing CM Pipe with 2 @ 66" CM Pipe.
19	I-26/I-240 over Moore Branch	I-26/I-240	Moore Branch	Replace Existing 66" CM Pipe with 2 @ 60" CM Pipe.
26	I-26 over the French Broad River	I-26	French Broad River	Fill into floodplain adjacent to I-26

Sources: *Hydraulic Technical Report for I-2513 the I-26 Asheville Connector* (TGS Engineers 2010); *Final Hydraulic Aspects Report Addendum to the I-2513 Hydraulic Technical Report* (URS 2015b). *Hydraulic Aspects Report Addendum to I-2513 Hydraulic Technical Report* (April 2010 and August 2015) (AECOM 2018b).

Section B

Section B would include 12 hydraulic crossing sites. These crossings would have a total floodway impact of 2.78 acres in the 100-year floodplain, and 0.57 acres in the floodway.

The hydraulic crossings are shown on Figure 4-2 and summarized in Table 4-11.



**North Carolina
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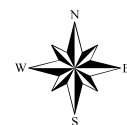
**I-26 Asheville Connector
Buncombe County**

STIP Project No. I-2513

Legend

- Proposed Roadway Alignment
- Section Boundaries
- Interstate
- US Highway
- State Highway
- State Route
- Local Roads
- Railroad
- Streams (non-delineat...)
- Water
- Floodway
- 100 Year Floodplain
- Project Study Area
- Municipal Boundary
- Crossing Site Number

Date: April 2018



0 1,000 2,000 3,000 Feet

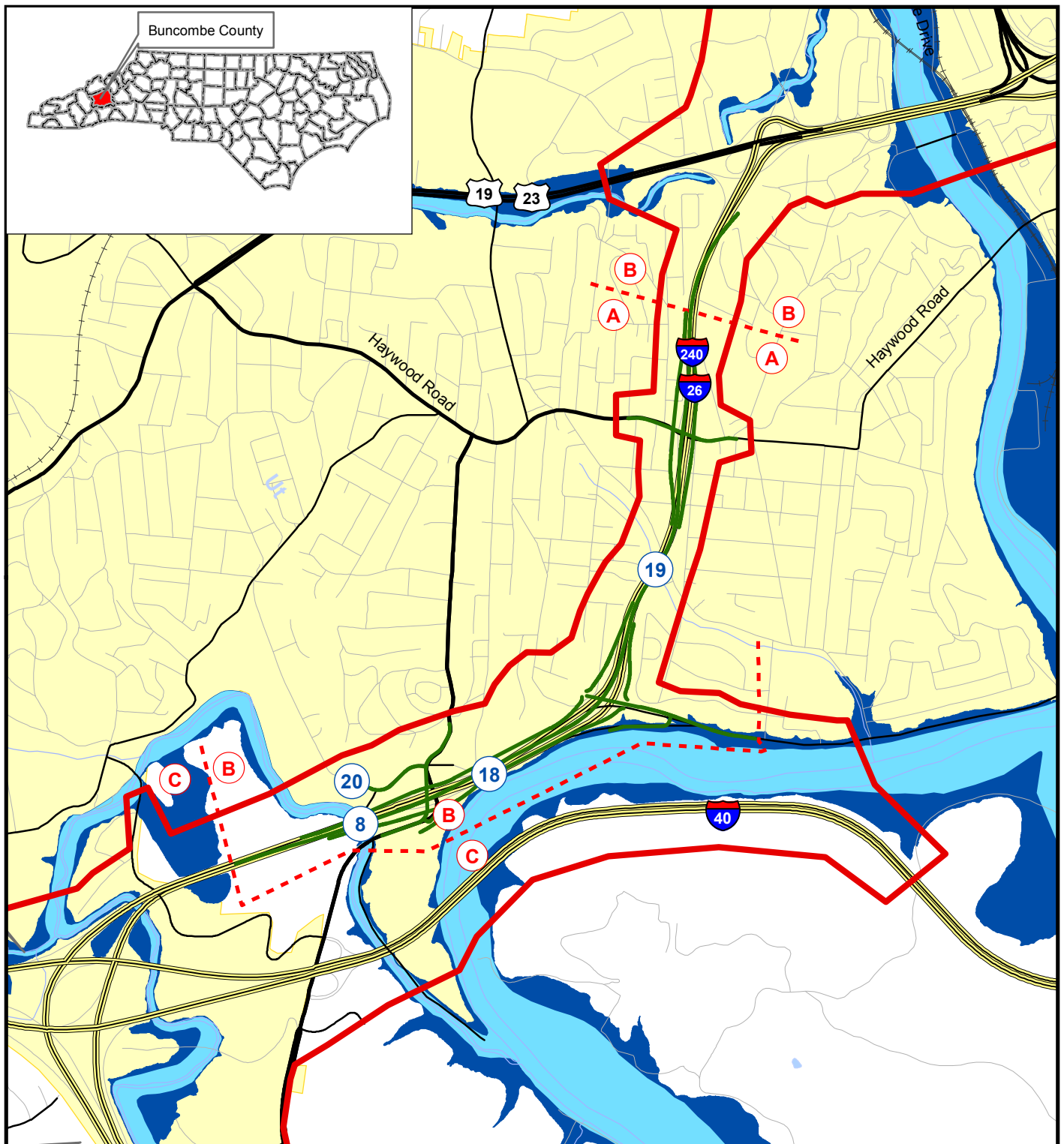
Figure 4-1

**Section C
Proposed Hydraulic Crossings**

Table 4-11: Proposed Hydraulic Crossings –Section B

Site	Location	Facilities on Structure	Feature Under Structure	Comments
10	I-26 and Ramps Over Smith Mill Creek	I-26 NB; I-26 SB; Ramp A; Ramp D	Smith Mill Creek	New Bridge
11	I-240 EB Over French Broad River	I-240 EB	Smith Mill Creek; Emma Road; Southern RR (4 Tracks); French Broad River; Riverside Drive; US 19-23 SB	New Bridge
12	I-240 WB Over French Broad River	I-240 WB	Southern RR (3 Tracks); French Broad River; Riverside Drive; US 19-23 SB	New Bridge
13	Patton Avenue Over French Broad River	Patton Avenue Dual Bridges	Westgate Access Road; Emma Road; French Broad River; 3 RR Tracks; Riverside Drive	No Impacts
14	I-26 over Smith Mill Creek	I-26	Smith Mill Creek	New Bridge
16	Ramp AC over Reed Creek	Ramp D2	Reed Creek	No Impacts
17	Patton Avenue Over Smith Mill Creek	Patton Avenue EB; Patton Avenue WB; Y7I	Smith Mill Creek	Extend Existing 3 @ 8'wX11'h RC Box Culvert approx. 300'
23	I-240 WB Over Tributary to Smith Mill Creek	I-240 WB	Tributary to Smith Mill Creek; I-26 EB; I-26 WB	New Bridge
24	US 19-23 and Riverside Drive Over Tributary to French Broad River	US 19-23NB; US 19-23 SB; Riverside Drive	Tributary to French Broad River	No Impacts
25	Y31 Over Tributary to French Broad River	I-240EB; I-240WB; US 19-23 SB; Riverside Drive	Tributary to French Broad River	No Impacts
33	US 19-23 Over UT to French Broad River	US 19-23NB; US 19-23SB; Riverside Drive	UT to French Broad River	Retain existing
99	Y32 (Hill Street) Over UT to French Broad River	Y32	UT to French Broad River	Retain existing

Sources: *Hydraulic Technical Report for I-2513 the I-26 Asheville Connector* (TGS Engineers 2010); *Final Hydraulic Aspects Report Addendum to the I-2513 Hydraulic Technical Report* (URS 2015b); *Hydraulic Aspects Report Addendum to I-2513 Hydraulic Technical Report* (April 2010 and August 2015) (AECOM 2018b).



North Carolina
Department of Transportation



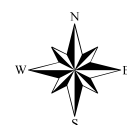
I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Proposed Roadway Alignment
- Section Boundaries
- Interstate
- US Highway
- State Highway
- State Route
- Local Roads
- Railroad
- Streams (non-delineat...
- Water
- Floodway
- 100 Year Floodplain
- Project Study Area
- Municipal Boundary
- Crossing Site Number

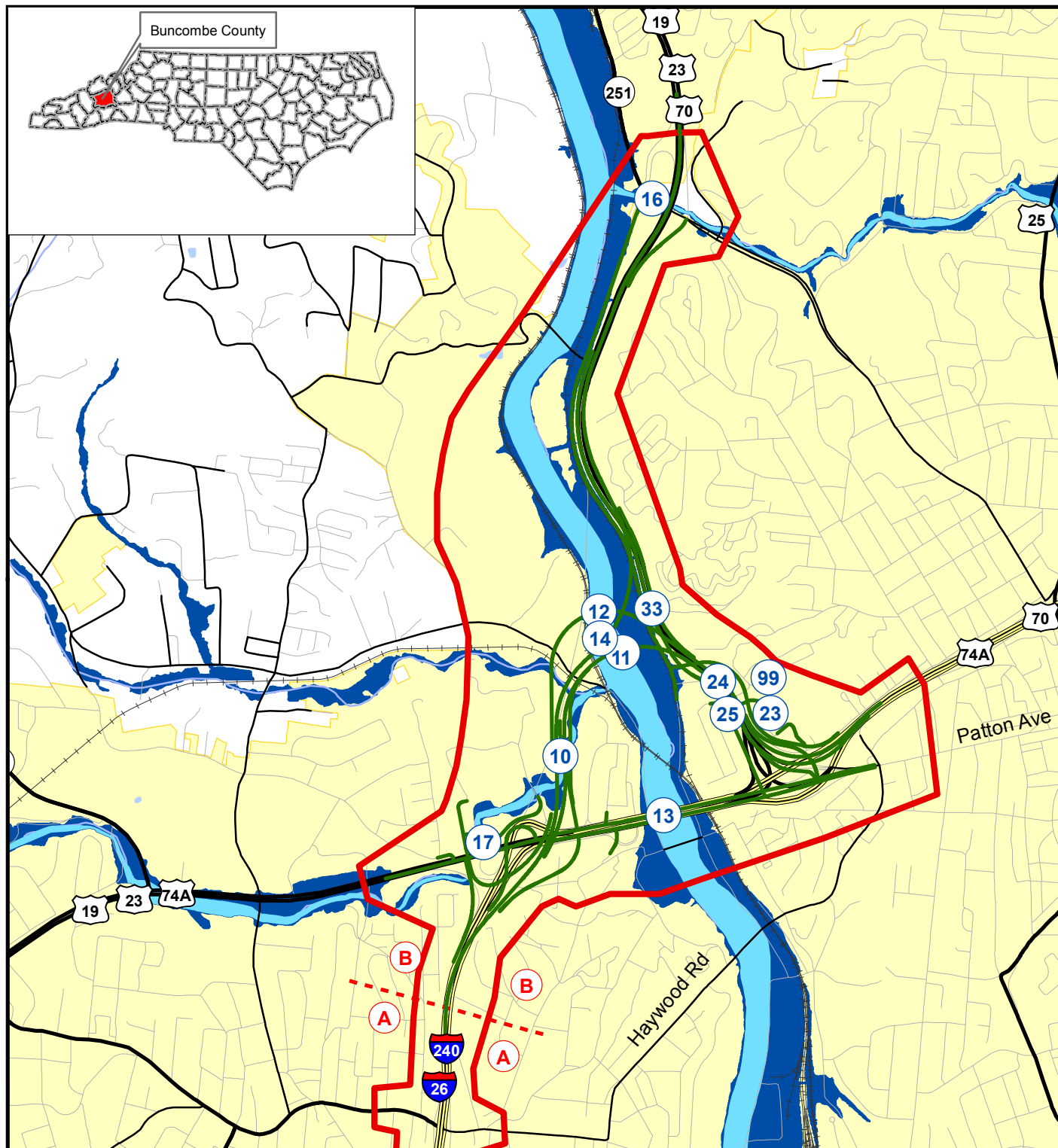
Date: May 2018



0 0.25 0.5
Miles

Figure 4-2

Section A
Proposed Hydraulic Crossings



North Carolina
Department of Transportation



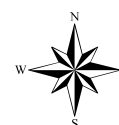
I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Proposed Roadway Alignment
- Section Boundaries
- Interstate
- US Highway
- State Highway
- State Route
- Local Roads
- Railroad
- Streams (non-delineat...)
- Water
- Floodway
- 100 Year Floodplain
- Project Study Area
- Municipal Boundary
- Crossing Site Number

Date: May 2018



0 0.25 0.5
Miles

Figure 4-3

Section B
Proposed Hydraulic Crossings

Buncombe County and the City of Asheville are participants in the National Flood Insurance Program. Coordination with local authorities and FEMA will occur during the final design if floodway modifications are required to ensure compliance with applicable floodplain management ordinances.

The 100-year flood would be accommodated by new bridge crossings without a significant increase in flood elevation. The project parallels the French Broad River in the vicinity of river milepost 150.5 near Amboy Road and crosses the river along new location between river mileposts 146 and 147. As such, filling in the floodway for roadway construction may occur near Amboy Road. With improvements to existing I-240 over Hominy Creek, the French Broad River could be impacted up to river milepost 151.5, at the mouth of Hominy Creek. However, as previously noted, any floodway modifications will be conducted in accordance with FEMA and City of Asheville regulations.

Due to the proposed placement of structures (including the bridge piers) within the floodplain, the potential exists for the floodplain elevation to rise above the existing level. If the floodplain level rises and affects an insurable structure within the floodplain, the structure would have to be relocated. The detailed evaluation of floodplain impacts will not be completed until the final design plans are developed.

The overall effect of the project due to the encroachment on floodplains is anticipated to be minor and is not likely to be significant, as the project would increase the bridge lengths for most crossings allowing for increased passage of water. The encroachments on the floodplain would also not present an increased danger to human safety as a result of the construction, nor would it promote development within the floodplain for the preferred alternative.

4.1.4.9 Protected Lands

The project would not impact federal-designated wild and scenic rivers, state or national forests, gamelands, or preservation areas.

4.1.5 CULTURAL RESOURCES

4.1.5.1 Historic Architectural Resources

Prior to completion of the 2015 DEIS, the potential effect of the preferred alternative on historic architectural resources was evaluated in accordance with Section 106 of the NHPA. The SHPO concurred with the effects determinations at a meeting held on May 24, 2015, and these determinations were summarized in Table 4-22 of the 2015 DEIS.

Since publication of the 2015 DEIS, the project team has coordinated with the owners of the West Asheville/Aycock Historic School District, William Worley House, Freeman House, and Montford Area Historic District.

The effect for each historic architectural resource is described in the following sections and summarized in Table 4-12. The expected property takings from historic architectural resources for the preferred alternative are listed in Table 4-13.

Table 4-12: Determination of Effect to Historic Resources According to Section 106

Property	Section C	Section A	Section B
Biltmore Estate	No adverse effect	N/A	N/A
Asheville School	No adverse effect	N/A	N/A
Buncombe County Bridge 216	N/A	No adverse effect	N/A
Calvary Baptist Church	N/A	No effect	N/A
Baker Building	N/A	No adverse effect	N/A
West Asheville/Aycock School Historic District	N/A	No adverse effect	N/A
William Worley House	N/A	N/A	No adverse effect
Freeman House	N/A	N/A	No adverse effect
Buncombe County Bridge 323	N/A	N/A	No effect
Southern Railroad Bridge	N/A	N/A	No effect
Montford Area Historic District	N/A	N/A	Adverse effect
Montford Hills Historic District	N/A	N/A	No adverse effect
Montford Hills/Hibriten Drive Boundary	N/A	N/A	No effect
Mrs. Minnie Alexander Cottage	N/A	N/A	No effect
Whiteford G. Smith House	N/A	N/A	No effect
Haywood Street United Methodist Church	N/A	N/A	No adverse effect

Table 4-13: Property Takings (in acres) of Historic Architectural Resources by the Preferred Alternative (Right-of-way/Easement)

Property	Section C		Section A		Section B	
	DEIS	FEIS	DEIS	FEIS	DEIS	FEIS
Asheville School	2.79/0.58	0.51/1.48	N/A	N/A	N/A	N/A
Biltmore Estate	0/0	0/0	N/A	N/A	N/A	N/A
Buncombe County Bridge 216	N/A	N/A	0/0	0/0	N/A	N/A
Calvary Baptist Church	N/A	N/A	0/0	0/0	N/A	N/A
Baker Building	N/A	N/A	0/0	0/0	N/A	N/A
West Asheville/Aycock School Historic District and Boundary Increase	N/A	N/A	0.35/0.25	0.15/0.10	N/A	N/A
William Worley House	N/A	N/A	N/A	N/A	0.1/0.22	0.05/0.26
Freeman House	N/A	N/A	N/A	N/A	0/0	0/0
Buncombe County Bridge 323	N/A	N/A	N/A	N/A	0/0	0/0

Property	Section C		Section A		Section B	
	DEIS	FEIS	DEIS	FEIS	DEIS	FEIS
Southern Railroad Bridge	N/A	N/A	N/A	N/A	0/0	0/0
Montford Area Historic District	N/A	N/A	N/A	N/A	0/0	0/0
Montford Hills Historic District	N/A	N/A	N/A	N/A	0/0.03	0/0
Montford Hills and Hibriten Drive Expansion	N/A	N/A	N/A	N/A	0/0	0/0
Mrs. Minnie Alexander Cottage	N/A	N/A	N/A	N/A	0/0	0/0
Whiteford G. Smith House	N/A	N/A	N/A	N/A	0/0	0/0
Haywood Street United Methodist Church	N/A	N/A	N/A	N/A	0/0	>0.01/>0.01

Biltmore Estate

Pursuant to Section 106 of the NHPA, the SHPO concurred with the determination that the Section C preferred alternative would have “no adverse effect” on the Biltmore Estate property and would avoid taking additional right-of-way from the property without the use of retaining walls.

Asheville School

The preferred alternative would require taking approximately 0.51 acre of right-of-way from this resource. Pursuant to Section 106, the SHPO concurred with a determination of “no adverse effect” because there are minimal right-of-way acquisitions and, taken as a whole, they would not substantially diminish the integrity or significance of the property. However, to the greatest extent possible, NCDOT has implemented efforts to avoid and minimize impacts to this resource during preliminary design of the project alternatives. Avoidance and minimization efforts will continue through subsequent phases of the project development and construction process.

The DEIS reported 2.79 acres of right-of-way impacts and 0.58 acre of construction easement impacts to the Asheville School. Revised designs for the preferred alternative reduced the amount of right-of-way impacts to 0.51 acre. The amount of construction easement required for this property increased from 0.58 acre to 1.48 acres for the reconstruction of a path/driveway near the corner of I-40 and Sand Hill Road.

Further coordination regarding mitigation opportunities for this resource will occur during development of the Section 106 Memorandum of Agreement (MOA), according to 36 CFR 800.6(b)(1)(i-iv) of the NHPA, which will detail measures to be implemented to resolve adverse effects through avoidance, minimization, or mitigation.

Buncombe County Bridge 216

Pursuant to Section 106, the SHPO concurred with the determination that the project would have “no adverse effect” on this historic resource from Section A because the bridge would remain in place and protective measures would be utilized during construction.

Calvary Baptist Church

Section A designs will not require right-of-way from this property. Pursuant to Section 106, the SHPO concurred with the determination that the project would have “no effect” on this historic resource because no construction activities would directly impact the property.

Baker Building

Section A designs show a small easement to modify the sidewalks in front of the Baker Building to accommodate the revised grade of Haywood Road. Pursuant to Section 106, the SHPO concurred with the determination that the project would have “no adverse effect” on this historic resource. This resource was previously referred to as the Friendly Grocery Store.

West Asheville/Aycock School Historic District

Pursuant to Section 106, the SHPO concurred with the determination that there would be an “no adverse effect” on this resource associated with Section A due to the mitigation measures associated with the environmental commitments made by NCDOT. Approximately 0.15 acre of right-of-way would need to be acquired within the historic district’s boundaries; however, with regard to the existing stone wall, arrowhead monument, and several trees at the school, protective measures will be utilized during construction.

The DEIS reported 0.35 acre of right-of-way impacts and 0.25 acre of construction easement impacts to the Aycock Primary School. Revised designs for the preferred alternative reduced the amount of right of way impacts to 0.15 acre and increased the need for temporary construction easement to 0.10 acre. After speaking with school administration, redesign of the school’s traffic pattern and purchase of a vacant lot on Argyle Lane could recoup the 25 parking spaces impacted and alleviate the access issues. Construction easements would increase with this scenario but NCDOT is investigating the constructability and design details for the new parking lot in consultation with the school and HPO. In addition to recouping the 25 parking spaces, NCDOT commitments include the:

- *Preservation of screening trees along the west side of classrooms*
- *Installation of fencing (six feet in height at a minimum and the school’s chosen material) between the greenway and the school yard*
- *Protection of the trees and Arrowhead monument on school grounds during construction*

Further coordination regarding mitigation opportunities for this resource will occur during development of the Section 106 MOA.

William Worley House

The Section B preferred alternative would permanently incorporate less than 0.05 acre from the 3-acre property and require an underground easement for anchoring the proposed retaining wall. Pursuant to Section 106, the SHPO concurred with the determination that there would be “no adverse effect” because the proposed effects would not degrade the historic character of the house and the house would be screened by existing wooded area that lies between the house and the proposed right-of-way. This resource was previously referred to as the C.G. Worley House.

After publication of the DEIS and selection of the preferred alternative, NCDOT met with the property owner of the William Worley House, at the residence located at 1 Worley Place on September 19, 2016. The purpose of the meeting was to explain proposed impacts resulting from the project and potential noise abatement measures such as installation by NCDOT of insulation and central air and any other actions that would reduce noise. NCDOT will continue to coordinate with the property owner to determine the appropriate mitigation measures.

Additional coordination occurred with IRA LLC via letter (attempts to set up a meeting were unsuccessful), the property owner of the parcel of land adjoined to the property containing the home that would be physically impacted by the project due to the underground easement.

The DEIS reported 0.10 acre of right-of-way impacts and 0.22 acre of construction easement impacts to the William Worley House property. Revised designs for the preferred alternative reduced the amount of right-of-way impacts to 0.05 acre and increased the amount of permanent underground easement slightly to 0.26 acre to construct the retaining wall. NCDOT committed to provide funding for the property owner to install central heat and air conditioning, storm windows, and insulation.

Freeman House

No right-of-way would be required from this resource. Pursuant to Section 106, the SHPO concurred with the determination that the project would have “no adverse effect” on this historic resource.

After publication of the DEIS, NCDOT contacted the property owner to explain proposed audible and visual impacts resulting from the project and potential abatement measures. The property owner indicated that they would like NCDOT to provide funding for appropriate mitigation measures. NCDOT committed to provide funding for the installation of central heat and air conditioning, storm windows, and insulation as well as landscaping along the edges of their property facing the new facility.

Further coordination regarding mitigation opportunities for this resource will occur during development of the Section 106 MOA.

Buncombe County Bridge 323 (Formerly Great Smoky Mountains Park Bridge)

Pursuant to Section 106, the SHPO concurred with NCDOT's determination that the project would have “no effect” on this historic resource because there would be no construction activities that directly impact this bridge. This resource is the northern span of the Captain Jeff Bowen Bridges.

Southern Railroad Bridge

Pursuant to Section 106, the SHPO concurred with NCDOT's determination that the project would have “no effect” on this historic resource because there would be no construction activities that directly impact this bridge.

Montford Area Historic District

Pursuant to Section 106, the SHPO concurred with NCDOT's determination that the preferred alternative would have an “adverse impact” on a local landmark, Riverside Cemetery, within the Montford Area Historic District. While no construction work or temporary construction easements will impact right-of-way within the district, there are two elevated bridges and a retaining wall that will create visual impacts to this resource.

NCDOT is working with the newly-formed Asheville Aesthetics Advisory Committee to design appropriate landscaping measures mitigate for the visual effects of the elevated roadway adjacent to Riverside Cemetery.

Further coordination regarding mitigation opportunities for this resource will occur during development of the Section 106 MOA.

Montford Hills Historic District

Pursuant to Section 106, the SHPO concurred with NCDOT's determination that the preferred alternative in Section B would have “no adverse effect.”

The DEIS reported the project would not degrade the character of the historic resource but would require an underground easement to anchor a proposed retaining wall at this location; however, the revised designs of the preferred alternative do not require the underground easement to accommodate the retaining wall, which allows all easement impacts to be eliminated.

Montford Hills/Hibriten Drive Boundary Expansion

Pursuant to Section 106, the SHPO concurred with NCDOT's determination that the preferred alternative would have “no effect” on this historic resource because there would be no physical impacts to the site.

Mrs. Minnie Alexander Cottage

Pursuant to Section 106, the SHPO concurred with the determination that the project would have “no effect” on this historic resource because no construction activities would directly impact the property.

Whiteford G. Smith House

Pursuant to Section 106, the SHPO concurred with the determination that the project would have “no effect” on this historic resource because no construction activities would directly impact the property.

Haywood Street United Methodist Church

Pursuant to Section 106, the SHPO concurred with the determination that the project would have “no adverse effect.”

Originally, no construction work or temporary construction easements would impact the church or its parking. However, the construction of a sidewalk in front of the church is currently proposed and supported by the congregation.

4.1.5.2 Archaeological Resources

In order to comply with Section 106 of the NHPA (1966, as amended), FHWA and NCDOT must evaluate the project’s impact on archaeological resources and determine whether additional measures would be necessary to mitigate any adverse effects of the project on any archaeological sites.

Archaeological site 31BN826 is NRHP-eligible under Criterion D and would be adversely affected by the preferred alternative. Impacts to this site will be mitigated through the development and execution of an archaeological data recovery plan. Site 31BN828 and 31BN825, which are recommended NRHP-eligible under Criterion D, will not be affected by the project. These sites will be avoided during the construction phase of the project and preserved in place. Five unassessed sites (31BN823, 31BN868, 31BN870, 31BN871, and 31BN873) are located within the existing right-of-way and will be evaluated during deep testing. Deep testing is also required in five locations covering approximately 22 acres to search for previously-unidentified sites. If any of these sites are determined eligible, FHWA and NCDOT will coordinate with SHPO and other consulting parties on appropriate mitigation measures to compensate for archaeological site impacts caused by construction. Deep testing and data recovery will occur once right-of-way has been acquired. While site 31BN623 will be impacted with the placement of fill, it was determined that this action would be a no adverse effect with the commitment that iron markers are placed at either end of the wall to mark its extent prior to the placement of fill.

Further documentation of the mitigation for archaeological resources will occur during development of the Section 106 MOA.

4.1.6 NATURAL ENVIRONMENT

Impacts to the existing natural environment in the project study area are presented in this section. Unless otherwise cited, impact information regarding these topics was obtained from the NRTR prepared for the proposed project and its associated addendum on the preferred alternative (Atkins Engineering 2015, AECOM 2018e).

4.1.6.1 Soils/Topographical/Geological

Properties of the soils within the corridor of the preferred alternative can affect the final engineering design of the new roadway alignment. Soil limitations include erosion hazard, shrink/swell potential, differential settlement, low strength, corrosivity, and flood hazard.

A detailed geotechnical investigation is currently being conducted for the preferred alternative; however, preliminary analysis from the Geotechnical Pre-Scoping Report (NCDOT 2006a) does not anticipate rock cuts, nor was it determined acidic rock formations are likely to be encountered along the corridor.

Mitigation

The soil limitations will be overcome through proper engineering design, incorporating techniques such as soil modification, appropriate choice of fill material, use of non-corrosive subgrade materials, and design of drainage structures capable of conveying estimated peak flows. If there is indication of the presence of acidic rock formations, the actual amount of treatment required will determine the various levels of mitigation. These may include (1) treatment in place, (2) treatment of rock that has been excavated and used in fill or backfill areas, and (3) treatment of very acidic material that would require fully separate and contained areas.

4.1.6.2 Biotic Resources

Terrestrial Communities

Potential impacts to plant communities resulting from highway construction reflect the relative abundance of communities within the project study area. Much of the project study area is within residential and commercial/industrial regions of Asheville, and as such, urban/disturbed land is the dominant mapped community. Areas mapped as alluvial hardwood forest and mesic mixed forests are considered to be the only natural areas present within the project study area. Since this project would involve some construction on new location, fragmentation of these forested natural plant communities would be expected. Impacts to plant communities are expected to be limited to cut or fill sections and additional 10-foot clearing limits required for construction purposes. Anticipated impacts to vegetative communities by the preferred alternative are shown in Table 4-14.

Table 4-14: Anticipated Vegetative Community Impacts of the Preferred Alternative

Vegetative Community	Coverage (acres)					
	Section C		Section A		Section B	
	DEIS	FEIS	DEIS	FEIS	DEIS	FEIS
Maintained/Disturbed	171.93	156.05	91.08	83.61	124.82	120.58
Mesic Mixed Forest	111.26	105.11	47.41	44.64	40.67	32.81
Alluvial Hardwood Forest	6.55	3.68	1.50	1.54	3.88	2.14
Total	289.74	264.84	139.99	129.79	169.37	155.53

Terrestrial Wildlife

The proposed project is not expected to result in adverse impacts to wildlife due to the existing urbanized nature of the project study area. Short-term displacement of local wildlife populations would occur during initial construction. Most local species are habituated to human-related disturbances and are expected to return to the vicinity after construction. Movement through the area would become more dangerous for many transient species due to the increase in width of the new facility.

No economically important game species are expected to be adversely affected by the project due to the primarily urban and suburban setting.

Some wildlife species that occur within the project study area may be displaced through a permanent change in location of community boundaries. Local large mammal populations, such as deer, fox, and bobcat, may experience disruptions in mating, feeding, or migratory patterns as a result of construction. Increased urbanization has already resulted in diminished habitat opportunities as woodlands and adjacent agricultural lands are committed to development. Migratory and resident bird species that require forest interiors for nesting may be displaced by a reduction in community tract size.

NCDOT has evaluated the proposed project study area for potential crossings of large and small wildlife. Along the corridor, potential crossings include replacing existing bridge structures with new structures that include under passage of sufficient height and width to allow to movement of large mammals, including black bears. Additionally, NCDOT will continue to coordinate with the NCWRC and the USFWS on wildlife issues, including potential “hotspot” crossing areas. Existing natural corridors of the preferred alternative appear to be in the following locations in each section:

Section C

Existing natural corridors appear to be located along I-40 east of Exit #44 and south of the Asheville School. However, the existing interstate infrastructure currently serves as a barrier.

Within the interchange of I-26/I-40/I-240, there are four existing bridges proposed to be replaced. The areas along Upper Hominy Creek may serve as a natural corridor. Alternative F-1 proposes to replace these four structures with new bridges at the same location. The designs associated with the 2015 DEIS proposed 1 additional crossing and approximately 1100’ of structure running

parallel to the bank of Upper Hominy Creek that have been eliminated as a result of design refinements undertaken following the 2015 DEIS.

East of Exit #47, there appears to be a natural corridor at Lower Hominy Creek. There are two existing bridges carrying I-40 (eastbound and westbound) across the stream. Alternative F-1 proposes three bridge crossings at this location. Two of these crossings will replace the existing bridges carrying I-40 over Lower Hominy Creek; the third crossing is a new structure that carries the I-40 WB exit ramp over Lower Hominy Creek.

Further east of Exit #47, the I-40 bridge crossings over the French Broad River will be removed and replaced with new structures.

Section A

An existing natural corridor appears to exist along I-26/I-240 under the bridges over Lower Hominy Creek. These two bridge crossings are proposed to be removed and replaced. The remainder of the study area in Section A is relatively urban.

Section B

Section B includes mostly urban development; therefore, natural corridors are not as prevalent. There are five existing bridge crossings of the French Broad River; these crossings consist of one bridge for Craven Street, two bridges for Patton Avenue, one railroad bridge, and one bridge located on Pearson Bridge Road. None of these existing crossings will be impacted or altered due to the proposed improvements associated with this project. Alternative 4-B proposes three new bridge crossings over the French Broad River. Each of the proposed structures are expected to have substantially long span lengths so as not to impede existing wildlife movement, thus allowing for wildlife to continue to cross under the proposed alignments.

Aquatic Communities and Wildlife

Impacts to water resources in the project study area may result from activities associated with the construction of the project. Activities that would result in impacts include clearing and grubbing on streambanks, riparian canopy removal, in-stream construction, fertilizers and pesticides used in revegetation, and pavement/culvert installation. The following impacts to surface water resources could result from the construction activities mentioned above:

- Increased sedimentation and siltation downstream of the crossing and increased erosion in the project study area
- Alteration of stream discharge due to silt loading and changes in surface and groundwater drainage patterns
- Changes in light incidence and water clarity due to increased sedimentation and vegetation removal
- Changes in and destabilization of water temperature due to vegetation removal
- Alteration of water levels and flows due to interruptions and/or additions to surface and groundwater flow from construction

- Increased nutrient loading during construction via runoff from exposed areas
- Increased concentrations of toxic compounds in roadway runoff
- Increased potential for release of toxic compounds such as fuel and oil from construction equipment and other vehicles

Temporary construction impacts due to erosion and sedimentation will be minimized through implementation of a stringent erosion control schedule and the use of best management practices (BMPs).

Long-term impacts to streams along the project corridor would be limited to stream reaches within the road facility footprint only. Impacts to stream reaches adjacent to the facility footprint would be temporary and localized during construction. Long-term impacts to adjacent reaches resulting from construction are expected to be negligible.

Invasive Species

Invasive species are species that are non-native to the ecosystem under consideration whose introduction causes or is likely to cause economic or environmental harm or harm to human health. EO 13112 was signed in 1999 and requires that federal agencies shall use relevant programs and authorities to:

- Prevent the introduction of invasive species
- Detect and respond rapidly to and control populations of such species in a cost effective and environmentally sound manner
- Monitor invasive species populations accurately and reliably
- Provide for restoration of native species and habitat conditions in ecosystems that have been invaded
- Conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species
- Promote public education on invasive species and the means to address them

FHWA has developed guidance on addressing the potential problems associated with roadside invasive plants. Additionally, the proposed project will comply with the requirements set forth in EO 13112 and the *Federal Highway Administration Guidance on Invasive Species* (FHWA 1999).

4.1.6.3 Natural Heritage Program Identified Priority Areas

No Identified Priority Areas were identified in the project study area; therefore, impacts are not anticipated.

4.1.6.4 Water Resources

Groundwater

Any wells within the project's right-of-way will be surveyed prior to project construction. NCDOT will purchase these wells and cap and abandon them in accordance with North Carolina Well Construction Standards. Any subsurface contamination will be reported to the Asheville Regional

Office of the NCDEQ. During the final design phase of the project, NCDOT will also identify wells adjacent to the project right-of-way that could be impacted by roadway construction. Mitigation for these wells will be provided through land purchase, compensation for damages, or the provision of new wells.

A roadway alignment is in a cut section if the elevation of the roadway is below the original ground elevation. Well drawdown (reduced yield) may occur around areas of cut sections. Construction of the project would contribute to a cumulative decrease in available recharge area for the Piedmont and Blue Ridge crystalline-rock aquifers. However, due to the already urban/disturbed land areas in the vicinity, the proposed project is not expected to substantially impact aquifer recharge volumes.

Pollutants associated with highway construction and use could potentially affect aquifer groundwater quality in localized areas. Possible pollutants include pesticides, herbicides, fertilizers, petrochemicals, oil, grease, heavy metals, and hazardous materials. Note that no sole or principal drinking water aquifers are present in the project study area (EPA 2007). The majority of the drinking water in the project study area is supplied by reservoirs. Impacts to these reservoirs are not anticipated.

Surface Water

Significant impacts on drainage patterns and groundwater are not anticipated for the preferred alternative; however, the amount of impervious surface would be increased by the project. The effects on surface water would likely be proportional to the increase in impervious surface and are included in Table 4-15.

Table 4-15: Impervious Surface Area

Alternative	Existing Impervious Area (acres)		Increase in Impervious Area (acres)		Percent increase in Impervious Area	
	DEIS	FEIS	DEIS	FEIS	DEIS	FEIS
Section C Alternative F-1	77.45	66.59	134.57	98.15	74%	47%
Section A I-240 Widening Alternative	36.36	40.03	63.81	61.91	75%	55%
Section B Alternative 4-B	59.28	80.45	99.73	101.62	68%	26%

Source: *Updated Impervious Surface Calculations Memorandum* (AECOM 2018h).

Due to the proximity to the French Broad River and Smith Mill Creek, mitigation measures to minimize any impacts to water quality are needed. The increase in impervious surface area would have minimal impact on the French Broad River basin as a whole but would increase both the peak and total volume of runoff to the tributaries and smaller drainage basins within the project study area. These impacts would be reviewed and addressed during the final design stage of the project. The smaller receiving streams feed directly into the larger streams (Hominy Creek, Smith Mill Creek, and the French Broad River), so the impacts on downstream properties would be minimal. There are no high-quality receiving waters in the watershed that would be degraded by runoff from the project.

The following pollutants may be contained in the stormwater runoff:

- Sediment eroded during construction activity
- Pesticides, herbicides, and fertilizers used to plant and maintain highway landscaping
- Petrochemicals, oil, grease, and heavy metals associated with operation of vehicles
- Trash and debris discarded by highway users
- Chemicals and hazardous materials accidentally spilled during transport

The project has the potential to temporarily degrade the quality of water in the surrounding streams by means of soil erosion during construction. Construction impacts are presented in Section 4.1.6.

Mitigation

As part of the Highway Stormwater Program, NCDOT will develop and implement numerous programs on a statewide basis to protect and promote stormwater quality impacted by NCDOT discharges. Programs will be developed to ensure compliance with the National Pollutant Discharge Elimination System (NPDES) permit. NCDOT will incorporate measures to control nonpoint source water quality impacts as described in *Best Management Practices for Protection of Surface Waters* (NCDOT 1997) and in *NCDOT Stormwater Best Management Practices* (NCDOT 2014d). The goal of these BMPs is to prevent degradation of the state's waters through the location, construction, or operation of the highway system. The *NCDOT Stormwater Best Management Practices* presents information about BMPs, basic hydrologic and hydraulic design principles, and design considerations that impact BMPs construction and maintenance. These measures will be incorporated into the final engineering design of the project and will be detailed in an erosion and sedimentation control plan. This plan will be prepared in accordance with the guidelines and requirements of the North Carolina Sedimentation Pollution Control Act (15A NCAC 4B.0101 0130).

During construction, BMPs for in-water and over-water construction will be implemented, which will incorporate monitoring and enforcement of operational standards. A list of BMPs and NCDOT standards is included in Section 4.1.7.6.

BMPs to control stormwater runoff include directing sheet flow over grassed shoulder slopes and shallow flat slope ditches, using stone-lined ditches in lieu of rigid concrete pavement, and using storage where necessary and practicable to reduce discharge of roadway runoff into sensitive receiving waters (NCDOT 1991). In flat areas, such as the project site, long-term stormwater drainage is typically provided through grass swales parallel to the roadway. Vegetated swales will reduce water quality impacts to surface water by catching oil, grease, and other pollutants and preventing them from draining to the area streams and rivers.

Stormwater runoff from the project will be contained as part of the project. NCDOT has no jurisdiction to impose land use and development controls. However, local government has the ability to control development through zoning, issuance of permits, and water quality objectives. State stormwater certification (15A NCAC-2H.1000) will be required. Requirements for this certification vary by the classifications of waters to which the project would drain.

Specific stormwater management devices for treating the runoff from the project will be determined during the final design phases of the project. Both quality and quantity management will be addressed, with particular attention paid to the increased impervious area and to the runoff collected from the extensive bridge structures. Possible devices include vegetated swales, wet and/or dry detention basins, infiltration basins, filtration basins, and stormwater wetlands. Numerous opportunities for these devices exist within the footprint of the proposed project. Potential locations include the following:

Section C

Section C, with its characteristically spread footprint due to the nature of a directional interchange, would create large areas in the ramp infields that may be readily used for stormwater management devices.

Emergency oil and chemical spill response plans are in effect for Buncombe County. The state of North Carolina has organized a system of Hazardous Materials Regional Response Teams strategically located in the state to provide hazardous materials response services. The City of Asheville Fire and Rescue serves Buncombe County and 19 other counties in western North Carolina and provides hazardous materials emergency response.

The project would impact stream systems for which permitting will be required. Permits required for impacts to streams are discussed in Section 4.4.1.

Section A

Section A is the most urban and the most site constrained section of the project and thus contains the fewest opportunities for stormwater management devices. Still, the infield areas of the Brevard Road interchange and the Amboy Road interchange offer opportunities for stormwater management devices. Locating opportunities for stormwater treatment will be challenging in the Haywood Road interchange area and at the northern terminus of the section.

Section B

The area beneath the structures west of the French Broad River in the vicinity of the existing Crowne Plaza Resort golf course offers numerous opportunities for stormwater management devices in Section B. In addition, the areas east of the French Broad River and west of the existing railroad under the proposed bridges offer ample opportunities for stormwater treatment. Finally, there would be areas created around the interchange ramp infield that may also be utilized if needed.

Navigable Waterways

Navigable waterways associated with existing bridges within the project study area would not be affected by the proposed project. New bridges are proposed for the preferred alternative in Section B, and include a proposed bridge carrying I-26 over the French Broad River and two new flyover bridges north of the existing Patton Avenue carrying I-240 traffic over the river. These bridges would not affect navigation of the French Broad River and would meet or exceed existing

upstream and downstream navigational clearances. Coordination with the United States Army Corps of Engineers (USACE) and the United States Coast Guard (USCG) is ongoing and will continue throughout the project.

4.1.6.5 Jurisdictional Issues

Wetlands and Streams

The crossing of jurisdictional features, including streams and wetlands, is unavoidable for the proposed project; however, all practicable efforts have been taken during the preliminary design to minimize these impacts. The area impacted for jurisdictional features is comprised of the cut and fill limits plus a 25-foot buffer.

The impacts to jurisdictional features from the preferred alternative are shown on Figure 4-4 through Figure 4-6, with impacts to wetlands included in Table 4-16 and stream impacts included in Table 4-17.

Mitigation

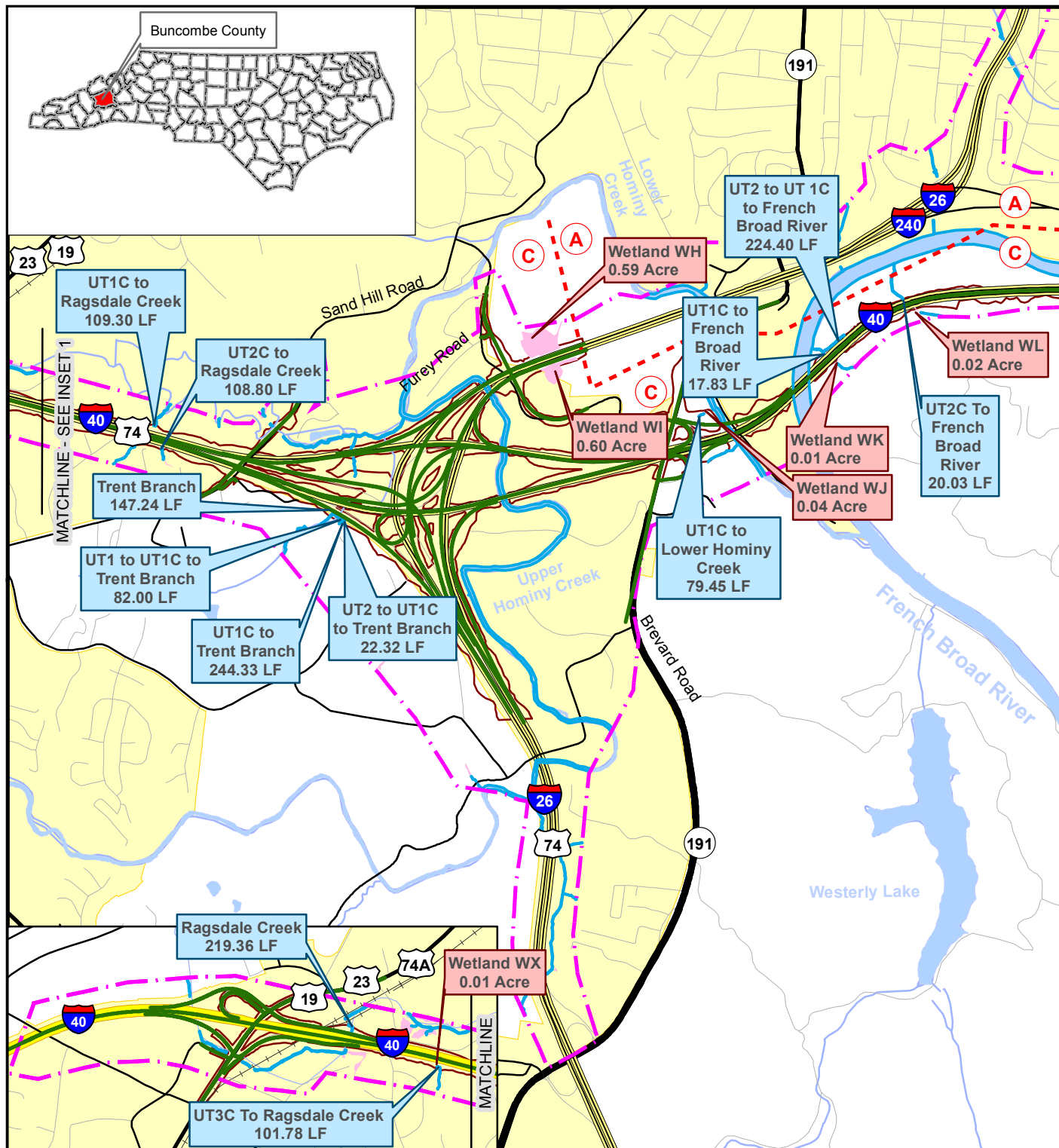
USACE has adopted, through CEQ, a wetland mitigation policy that embraces the concept of “no net loss of wetlands” and sequencing. The purpose of this policy is to restore and maintain the chemical, biological, and physical integrity of waters of the United States, and specifically wetlands. Mitigation of wetland impacts has been defined by the CEQ to include avoiding impacts (to wetlands), minimizing impacts, rectifying impacts, reducing impacts over time, and compensating for impacts (40 CFR 1508.20). Each of these three aspects (avoidance, minimization, and compensatory mitigation) must be considered sequentially.

Avoidance

Avoidance mitigation examines appropriate and practicable possibilities of averting impacts to waters of the United States. According to a 1990 MOA between EPA and USACE (EPA 1990), in determining “appropriate and practicable” measures to offset unavoidable impacts, such measures should be appropriate to the scope and degree of those impacts and practicable in terms of cost, existing technology, and logistics in light of overall project purposes. Impacts to streams are expected due to the nature of the project. Not all sediment can be prevented from entering waters of the United States.

Minimization

Minimization includes the examination of appropriate and practicable steps to reduce adverse impacts to waters of the United States. Implementation of these steps will be required through project modifications and permit conditions. Minimization typically focuses on decreasing the footprint of the proposed project through the reduction of median widths, right-of-way widths, fill slopes, and/or road shoulder widths. As work on I-40 and I-240 will involve widening the existing roadway, multiple opportunities will occur to minimize the lengths of culvert extensions and fill slopes. Efforts will be made to decrease impacts to surface waters.



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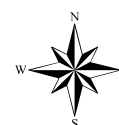
I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Proposed Roadway Alignment
- Section C Slope Stakes
- Section Boundaries
- Interstate
- US Highway
- State Highway
- State Route
- Local Roads
- Railroad
- Natural Resources Study Area
- Streams (non-delineated)
- Jurisdictional Stream Impacts
- Water
- Jurisdictional Wetlands
- Municipal Boundary

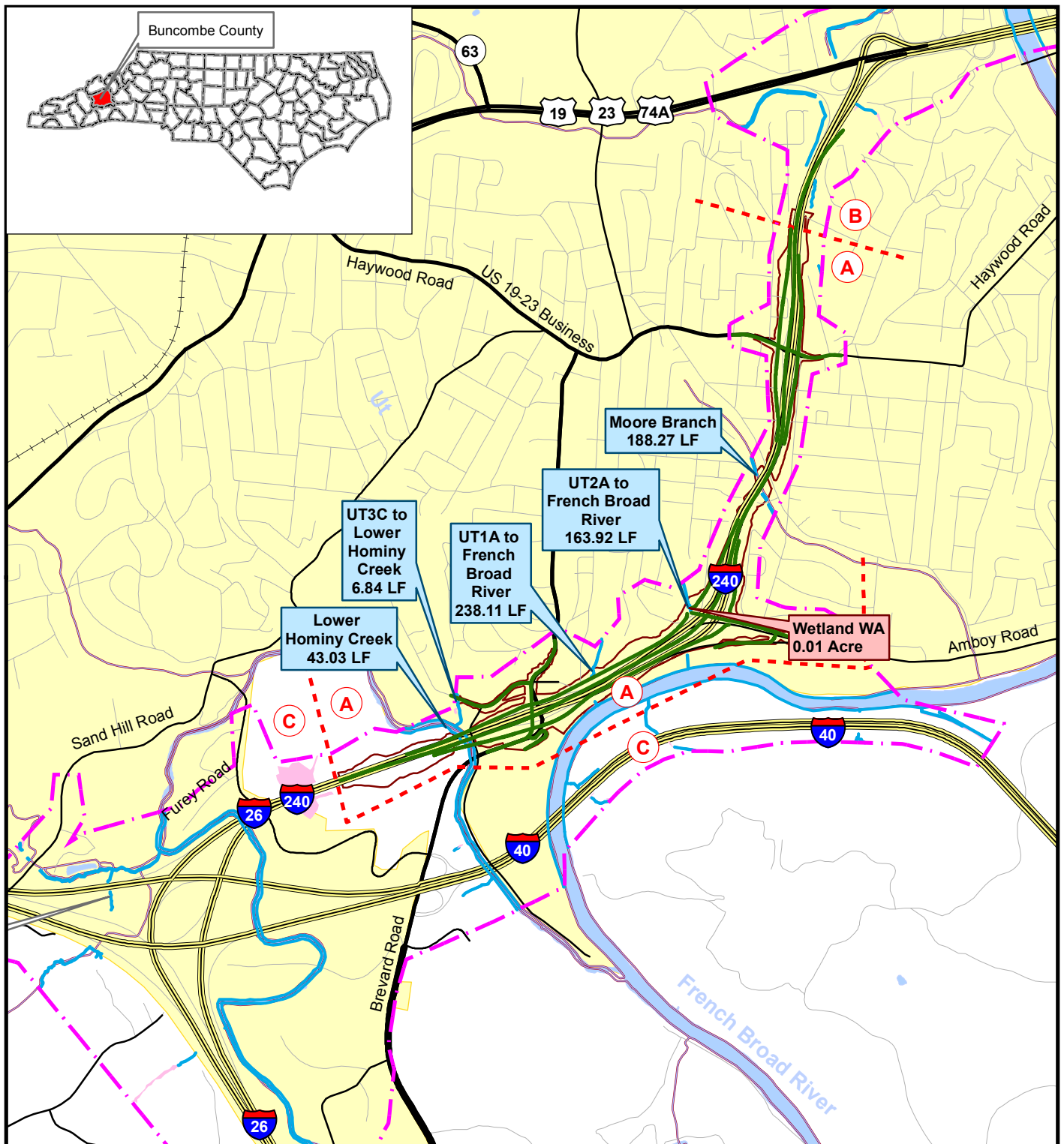
Date: May 2018



0 0.25 0.5 Miles

Figure 4-4

Section C
Jurisdictional Impacts



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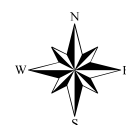
I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- | | |
|----------------------------|------------------------------|
| Proposed Roadway Alignment | Natural Resources Study Area |
| Section A Slope Stakes | Streams (non-delineated) |
| Section Boundaries | Jurisdictional Streams |
| Interstate | Water |
| US Highway | Jurisdictional Wetlands |
| State Highway | Municipal Boundary |
| State Route | |
| Local Roads | |
| Railroad | |

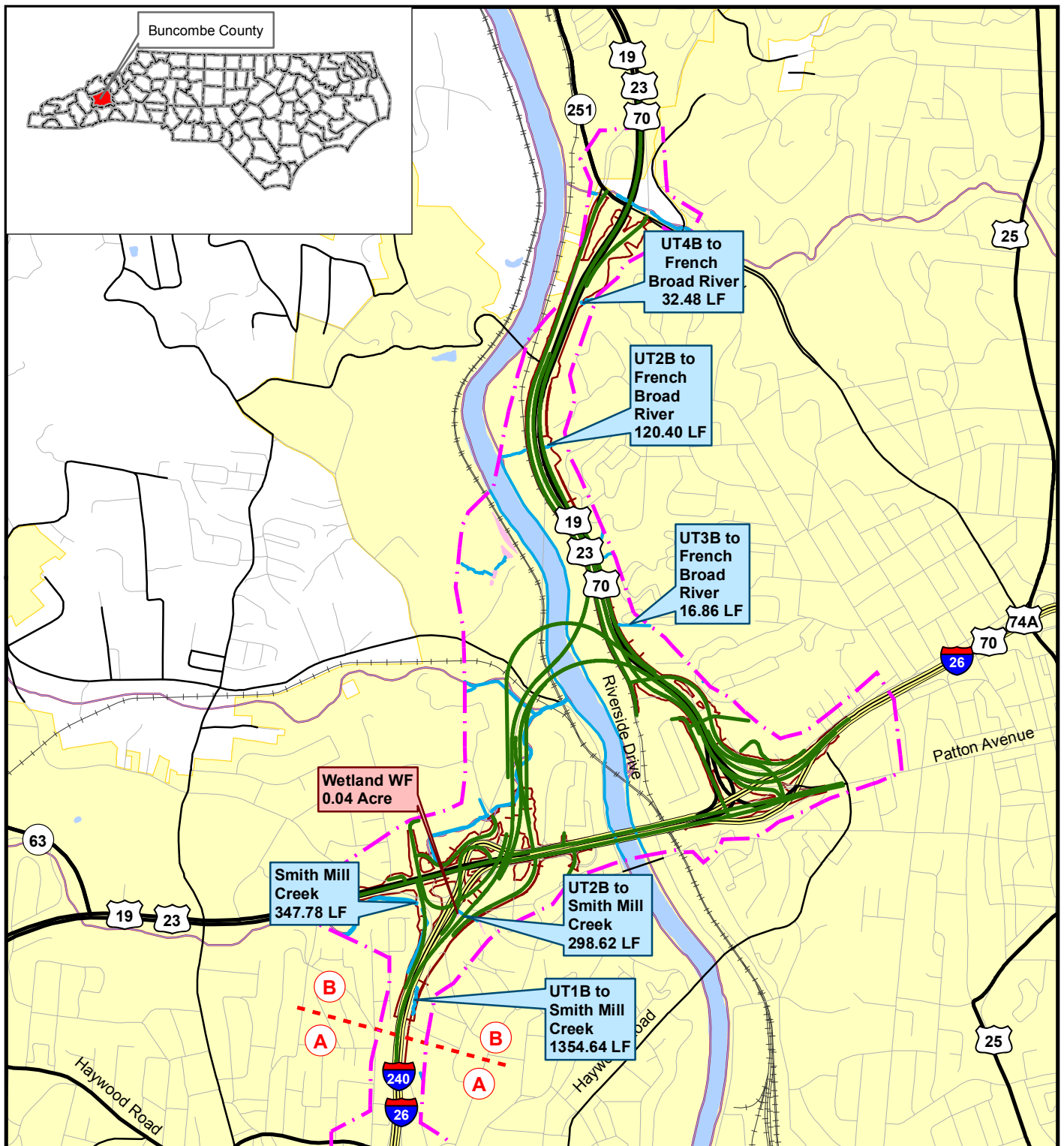
Date: May 2018



0 0.25 0.5
Miles

Figure 4-5

Section A
Jurisdictional Impacts



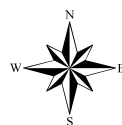
North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Date: May 2018



0 0.25 0.5
Miles

Figure 4-6

**Section B
Jurisdictional Impacts**

Table 4-16: Wetlands Impacts of the Preferred Alternative

Wetland ID	NCDWR Rating ^a	Wetland Impacts (acres)					
		Section C		Section A		Section B	
		DEIS	FEIS	DEIS	FEIS	DEIS	FEIS
WL	35	0.01	0.02	N/A	N/A	N/A	N/A
WK	35	0.03	0.01	N/A	N/A	N/A	N/A
WH	71	0.74	0.59	N/A	N/A	N/A	N/A
WI	71	0.60	0.60	N/A	N/A	N/A	N/A
WAC	59	0.33	0.00	N/A	N/A	N/A	N/A
WX	46	0.06	0.01	N/A	N/A	N/A	N/A
WZ	40	0.05	0.00	N/A	N/A	N/A	N/A
WJ	43	0.04	0.04	N/A	N/A	N/A	N/A
WAF	39	<0.01	0.00	N/A	N/A	N/A	N/A
WAG	39	0.01	0.00	N/A	N/A	N/A	N/A
WV	54	<0.01	0.00	N/A	N/A	N/A	N/A
WQ	Unknown	0.00	0.00	N/A	N/A	N/A	N/A
WY	40	<0.01	0.00	N/A	N/A	N/A	N/A
WA	40	N/A	N/A	0.01	0.01	N/A	N/A
WC	43	N/A	N/A	N/A	N/A	0.06	0.00
WF	29	N/A	N/A	N/A	N/A	0.04	0.04
WD	33	N/A	N/A	N/A	N/A	0.00	0.00
WG	20	N/A	N/A	N/A	N/A	0.00	0.00
Total	N/A	1.86	1.28	0.01	0.01	0.10	0.04

^a Wetland rating procedure from *A Field Guide to North Carolina Wetlands* (NCDNR 1996). Wetlands are rated on a scale of 1 to 100, with 100 indicating the highest quality.

Table 4-17: Stream Impacts of the Preferred Alternative

Description	Map ID	Classification ^a	Stream Impacts (linear feet)					
			Section C		Section A		Section B	
			DEIS	FEIS	DEIS	FEIS	DEIS	FEIS
French Broad River	SA	P	0	0	N/A	N/A	N/A	N/A
Ragsdale Creek	SV	P	253	200	N/A	N/A	N/A	N/A
Trent Branch	SW	P	191	146	N/A	N/A	N/A	N/A
Upper Hominy Creek	SX	P	0	0	N/A	N/A	N/A	N/A
UT1C to French Broad River	SAB	I	14	18	N/A	N/A	N/A	N/A
UT1C to Lower Hominy Creek	SAC	I	79	79	N/A	N/A	N/A	N/A
UT1C to Ragsdale Creek	SAD	P	236	109	N/A	N/A	N/A	N/A

Description	Map ID	Classification ^a	Stream Impacts (linear feet)					
			Section C		Section A		Section B	
			DEIS	FEIS	DEIS	FEIS	DEIS	FEIS
UT1C to Upper Hominy Creek	SAF	P	43	34	N/A	N/A	N/A	N/A
UT2 to UT 1C to French Broad River	SAG	I	278	224	N/A	N/A	N/A	N/A
UT2 to UT2C to Upper Hominy Creek	SAI	P	6	0	N/A	N/A	N/A	N/A
UT2C To French Broad River	SE	P	22	20	N/A	N/A	N/A	N/A
UT2C to Lower Hominy Creek	SAJ	P	0	0	N/A	N/A	N/A	N/A
UT2C to Ragsdale Creek	SAK	I	165	109	N/A	N/A	N/A	N/A
UT2C to Upper Hominy Creek	SAL	P	543	0	N/A	N/A	N/A	N/A
UT3C To Ragsdale Creek	SAN	P	154	102	N/A	N/A	N/A	N/A
UT1 to UT1C to Trent Branch	SY	P	-	82	N/A	N/A	N/A	N/A
UT1C to Trent Branch	SAE	P	-	242	N/A	N/A	N/A	N/A
UT2 to UT1C to Trent Branch	SAH	P	-	22	N/A	N/A	N/A	N/A
UT1A to French Broad River	SD	P	N/A	N/A	290	263	N/A	N/A
UT2A to French Broad River	SF	P	N/A	N/A	282	227	N/A	N/A
UT3C to Lower Hominy Creek	SH	P	N/A	N/A	6	43	N/A	N/A
Moore Branch	SC	P	N/A	N/A	220	188	N/A	N/A
Lower Hominy Creek	SB	P	N/A	N/A	-	41	N/A	N/A
Smith Mill Creek	SR	P	N/A	N/A	N/A	N/A	254	372
UT1B to Smith Mill Creek	SG	I	N/A	N/A	N/A	N/A	1,348	668
UT2B to Smith Mill Creek	SU	P	N/A	N/A	N/A	N/A	300	299
UT3B to Smith Mill Creek	SS	P	N/A	N/A	N/A	N/A	0	172
UT1B to French Broad River	SN	I	N/A	N/A	N/A	N/A	0	0
UT2B to French Broad River	SI	I	N/A	N/A	N/A	N/A	130	120

Description	Map ID	Classification ^a	Stream Impacts (linear feet)					
			Section C		Section A		Section B	
			DEIS	FEIS	DEIS	FEIS	DEIS	FEIS
UT3B to French Broad River	SO	P	N/A	N/A	N/A	N/A	31	17
UT4B to French Broad River	SK	P	N/A	N/A	N/A	N/A	65	32
UT6B to French Broad River	SM	I	N/A	N/A	N/A	N/A	0	0
Total		N/A	1,984	1,389	798	762	2,128	1,680

^a P=Perennial stream (typically contains permanent, flowing water), I=Intermittent stream (characterized by temporal flow interruptions).

Compensatory

Compensatory mitigation is not normally considered until anticipated impacts to waters of the United States have been avoided and minimized to the maximum extent possible. It is recognized that “no net loss of wetlands” functions and values may not be achieved in each and every permit action. In accordance with 67 FR 2020, 2092; January 15, 2002, USACE requires compensatory mitigation when necessary to ensure that adverse effects to the aquatic environment are minimal. The size and type of the proposed project impact and the function and value of the impacted aquatic resource are factors considered in determining acceptability of appropriate and practicable compensatory mitigation. Appropriate and practicable compensatory mitigation is required for unavoidable adverse impacts that remain after all appropriate and practicable minimization has been required. Compensatory actions often include restoration, preservation and enhancement, and creation of waters of the United States. Such actions should be undertaken first in areas adjacent to or contiguous to the discharge site.

In July 2010, a new legal document (or instrument) for the operation and use of the Ecosystem Enhancement Program's (EEP) In-Lieu Fee programs for stream and wetland mitigation was signed by USACE and NCDEQ.

The instrument complies with federal rules governing compensatory mitigation that became effective in June 2008, and supersedes the 2003 MOA among USACE, NCDEQ, and NCDOT (EPA 2003) governing EEP operations, as well as a 1998 Memorandum of Understanding between NCDEQ and USACE (NCDNR and USACE 1998).

EEP worked with USACE, EPA, and other state and federal regulatory and resource agencies to develop the new instrument.

Opportunities for compensatory mitigation are limited within the project study area. Existing downcutting, eroded drainages can be improved with streambank grading and planting or more comprehensive restoration strategies. Almost all stream and wetland areas in the project study area are invaded by exotic, invasive plant species including Chinese privet, Japanese honeysuckle, multiflora rose, and Oriental bittersweet (*Celastrus orbiculatus*). Removal of these invaders, along with riparian buffer enhancements, may constitute further mitigation opportunities.

Protected Species

Federally listed endangered and threatened species are legally protected under the provisions of Section 7 of the ESA of 1973, as amended, and any action likely to adversely affect a species afforded federal protection is subject to review by USFWS and/or NMFS. Species classified as FSC are not protected under the provisions of Section 7 of the ESA but are defined as species under consideration for listing as threatened or endangered. North Carolina provides limited protection to "at risk" species under the North Carolina Endangered Species Act and the North Carolina Plant Protection and Conservation Act of 1979. NCWRC and the North Carolina Department of Agriculture are responsible for enforcing and administering species protection. The federally protected species found in Buncombe County (USFWS 2018) and the biological conclusions regarding the potential effects of the project are summarized in Table 4-18.

Table 4-18: Federally Protected Species listed for Buncombe County

Scientific Name	Common Name	Federal Status ^a	Habitat Present	Biological Conclusion ^a
<i>Clemmys muhlenbergii</i>	Bog turtle	T(S/A)	Yes	Not required
<i>Glaucomys sabrinus coloratus</i>	Carolina northern flying squirrel	E	No	No effect
<i>Myotis grisescens</i>	Gray bat	E	Yes	MA-LAA
<i>Myotis septentrionalis</i>	Northern Long-eared Bat	T	Yes	MA-NLAA
<i>Hybopsis monacha</i>	Spotfin chub ^b	T	Yes	No effect
<i>Alasmidonta raveneliana</i>	Appalachian elktoe	E	Yes	MA-LAA
<i>Bombus affinis</i>	Rusty-patched bumble bee ^c	E	Unknown ^c	Not required
<i>Microhexura montivaga</i>	Spruce-fir moss spider	E	No	No effect
<i>Epioblasma florentina walker</i>	Tan riffleshell ^{b, d}	E	Yes	No effect
<i>Solidago spithamea</i>	Blue Ridge goldenrod ^b	E	No	No effect
<i>Sagittaria fasciculata</i>	Bunched arrowhead ^b	E	Yes	No effect
<i>Sarracenia jonesii</i>	Mountain sweet pitcher plant	E	No	No effect
<i>Geum radiatum</i>	Spreading avens	E	No	No effect
<i>Spiraea virginiana</i>	Virginia spiraea ^b	T	Yes	No effect
<i>Gymnoderma lineare</i>	Rock gnome lichen	E	No	No effect

Source: Atkins Engineering 2015, AECOM 2018e

^a E = Endangered, T = Threatened, T(S/A) = Threatened due to similarity of appearance, MA-LAA – May Affect-Likely to Adversely Affect, MA-NLAA – May Affect-Not Likely to Adversely Affect

^b Historic record (the species was last observed in the county more than 50 years ago).

^c No Section 7 survey or conclusion is required at this time.

^d Obscure record (the date and/or location of observation is uncertain).

The DEIS stated a biological conclusion of “no effect” for the Carolina northern flying squirrel, spotfin chub, spruce-fir moss spider, Blue Ridge goldenrod, bunched arrowhead, mountain sweet pitcher plant, spreading avens, Virginia spiraea, and the rock gnome lichen. Additional surveys for these species are not required. A biological conclusion is not required for the bog turtle as noted in the DEIS.

Gray bat

The 2015 NRTR presented the biological conclusion of “unresolved” for the federally-endangered gray bat (Myotis grisescens). However, gray bats have been detected in multiple locations in Buncombe County since 2015.

All bridges/overpasses and culverts that met minimum size requirements (5 feet by 200 feet) within the project study area were checked for evidence of bat use. This included checks of bridges that span the French Broad River including the I-40 dual bridges, and bridges on Amboy Road, Haywood Road, and Pearson Bridge Road, among others. Two culverts showed evidence of bat use. In September 2017, NCWRC and USFWS identified a gray bat inside of a culvert in the vicinity of Hill Street. In December 2017, CALYX Engineers and Consultants, Inc. determined that no gray bats were present, but staining was found on the vertical surfaces of the culvert. Based on the staining patterns, it was determined that the bats are likely roosting at scattered locations along the entire length of the culvert. An acoustic detector has been deployed at the culvert entrance since fall of 2017 to monitor bat activity. Emergence counts and trapping were conducted multiple times in 2018 to determine the number, age, and reproductive status of bats using the culvert. This information will aid in determining whether the culvert is being used as a maternity roost. In September 2019, gray bats were found roosting in the culvert under US 19/23 within the interchange for Patton Avenue/I-240 in Asheville.

The culverts are within the proposed roadway construction limits of the I-26 project. The culvert at Hill Street was inspected for structural integrity in February 2018. The culvert was deemed sufficient for hydraulic capacity and in structurally “fair-good” condition. The culvert under US 19/23 was inspected in November 2018. Repairs to this culvert are not anticipated at this time.

NCDOT will continue to coordinate with NCWRC and USFWS regarding avoidance and minimization for the gray bat per Section 7 of the ESA of 1973, as amended (16 U.S.C. 1531 et seq.). Section 7 compliance will be sought and secured prior to signing the ROD.

Northern Long-eared Bat

The 2015 DEIS presented the biological conclusion of “unresolved” for the federally-threatened Northern long-eared bat (Myotis septentrionalis); however, the biological conclusion has been updated to “May Affect – Not Likely to Adversely Affect” due to the presence of suitable habitat within the study area. Therefore, NCDOT is coordinating with the USFWS to determine whether formal consultation will be required per Section 7 of the ESA of 1973, as amended (16 U.S.C. 1531 et seq.). Section 7 compliance will be sought and secured prior to signing the ROD.

Appalachian elktoe

The 2015 DEIS presented the biological conclusion of “may affect-not likely to adversely affect” for the Appalachian elktoe (Alasmidonta raveneliana). The Freshwater Mussel Survey Report evaluated the presence of freshwater mussels within the project study area and noted the Appalachian elktoe was not found at any sites within the project study area (Three Oaks Engineering 2018). The study did indicate, however, that Appalachian elktoe are present in the

mainstream French Broad River upstream of surveyed sites, approximately 1.5 river miles from the project study area boundary. Based on this information, NCDOT is assuming presence and will comply with Section 7 of the ESA of 1973, as amended (16 U.S.C. 1531 et seq.) and information will be sought and secured prior to signing the ROD. Therefore, the biological conclusion will be “may affect- likely to adversely affect”.

Rusty-patched bumble bee

*Since publication of the DEIS, the rusty patched bumble bee (*Bombus affinis*), a species that occurs in the eastern and Midwestern United States and Ontario, Canada, was listed as an endangered species for Buncombe County under the ESA of 1973, as amended (16 U.S.C. 1531 et seq.). No Section 7 survey or conclusion is required due to the species "historic" record status.*

Tan riffleshell

*The 2015 DEIS presented the biological conclusion of “may affect-not likely to adversely affect” for the Tan riffleshell (*Epioblasma florentina walkeri*). The Freshwater Mussel Survey report completed in January 2018 noted the species was not found at any sites within the project study area, and records of this species in this portion of the French Broad River Basin are historic. Based on these survey results, the updated biological conclusion of the tan riffleshell is “no effect.”*

4.1.7 CONSTRUCTION

The construction activities associated with development of the project would create environmental impacts. These impacts are generally short-term in nature and can be controlled, minimized, or mitigated through conformance with BMPs and standard NCDOT procedures. For detailed information concerning BMPs, refer to the NCDOT guide, *Best Management Practices for Construction and Maintenance Activities* (NCDOT 2003a). The potential construction impacts of the project are presented in this section.

4.1.7.1 Energy

Construction of the project is expected to result in less total energy utilization than the No-Build Alternative. Although construction of the project would initially require the consumption of energy and resources that would not be used if the project were not built, operation of the facility would compensate for the energy lost during construction by increasing the efficiency of the region's roadway system.

Increased energy efficiency from roadway improvements would be attributed to its controlled access features and would result in (1) decreased vehicle delays, (2) more efficient vehicle operating speeds, and (3) diversion of traffic away from less convenient and less efficient roadways. Furthermore, the project is consistent with the Federal Energy Policy Act of 2005.

4.1.7.2 Visual

Short-term visual impacts are expected to occur due to construction activities and equipment. To reduce the potential for visual impacts, construction activities would be contained within as minimal an area as practical. Construction easements on parcels outside the alignment, where

required, would be managed to minimize potential visual impact. Following construction, ground cover, landscaping, or related materials may be utilized to restore or enhance areas to preconstruction conditions or better.

4.1.7.3 Noise

Construction of the project would result in temporary increases in noise levels within the vicinity of the project. Noise would be generated primarily from heavy equipment used to transport materials and construction. Sensitive receivers located close to the construction activities may temporarily experience increased noise levels.

Construction noise can be controlled by regulating the hours of construction and equipping machinery with noise reduction devices. Certain construction activities could also be limited during the evening, weekends, and holidays. Storage and staging areas would be located as far from noise sensitive areas as practicable. NCDOT specifications require the contractor to limit noise levels to 80 dBA Leq in noise sensitive areas adjacent to the project. NCDOT also reserves the right to monitor construction noise and to require noise abatement where limits are exceeded. NCDOT can also limit work that produces objectionable noise during normal sleeping hours.

4.1.7.4 Air

Construction activities could have a short-term impact on air quality, primarily during site preparation. Dust is the pollutant of primary concern during the construction period. Dust would be generated during earth moving activities; handling of cement, asphalt, or aggregate; and equipment travel over unpaved haul roads. Wind erosion of exposed areas and material stockpiles would also generate dust.

The amount of dust generated would vary, depending on the construction activity and local weather conditions. Where excess dust is anticipated to be a problem, effective dust control measures would be implemented in accordance with standard NCDOT procedures. Dust control would be the responsibility of the contractor and could include the following:

- Minimizing exposed earth surface
- Temporary and permanent seeding and mulching
- Watering working and haul areas during dry periods
- Covering, shielding, or stabilizing material stockpiles
- Using covered haul trucks

Emissions from construction equipment are regulated by federal standards. Any burning of cleared materials would be conducted in accordance with applicable state and local laws, regulations, and ordinances. Specifically, a Burning Permit from the North Carolina Division of Forest Resources must be obtained for burning within woodlands or 500 feet of woodlands under the protection of the Division of Forest Resources.

4.1.7.5 Utilities

Construction of the project would require some adjustment, relocation, or modification to existing public utilities such as natural gas pipelines, power transmission/distribution lines, water and sewer lines, and telephone and cable television lines. The impacts to these utilities are described in Section 4.1.3.4. Any disruptions to utility service during construction would be minimized by phased adjustments to the utility lines.

It is anticipated that the construction techniques to be used in the relocation of buried utilities would include a combination of trenching and boring. Utility relocation impacts would be more succinctly defined and minimized at Concurrence Points 4B and 4C of the Section 404/NEPA Merger Process as a result of utility relocation design in the final design phase of the project. All modifications, adjustments, or relocations would be coordinated with the affected utility.

4.1.7.6 Water Quality

Runoff from the project construction site could impact water quality by the transport of sediment, nutrients, or hazardous materials. In accordance with the North Carolina Sedimentation and Pollution Control Act (15A NCAC 4B.0001.0027), an erosion and sedimentation control plan must be prepared for land disturbing activities that cover one or more acres to protect against runoff from a 10-year storm. Thus, prior to the start of project construction activities, an erosion and sedimentation control plan will be prepared in accordance with the NCDOT guidelines in *Best Management Practices for Protection of Surface Waters* (NCDOT 1997) and *NCDOT Stormwater Best Management Practices Toolbox* (NCDOT 2014d). BMPs to minimize sedimentation and erosion impacts during construction include, but are not limited to, the following:

- Scheduling construction activities to minimize exposed area and duration of exposure
- Clearing only minimal distances ahead of grading
- Temporary seeding, sodding, and/or mulching of disturbed areas
- Using gravel or straw on exposed surfaces prior to revegetation
- Revegetating as soon as possible after construction
- Using energy dissipators at outfalls
- Constructing temporary sediment traps
- Using silt fences
- Covering stockpiled materials
- Wetting exposed areas during windy conditions

In addition, NCDOT's standard practices will be adhered to during construction of the project. The standard practices require the proper use and handling of construction materials. Every precaution should be taken by the contractor to avoid erosion and discharge of wastewater, bitumen, or hazardous materials, including fuel, lubricants, solvents, or other chemicals, to ground or surface waters.

4.1.7.7 Erosion Control

In accordance with the North Carolina Sedimentation and Pollution Control Act (15A NCAC 4B.0001.0027), an erosion and sedimentation control plan must be prepared for land disturbing activities that cover one or more acres to protect against runoff from a 10-year storm. Thus, prior to the start of project construction activities, an erosion and sedimentation control plan will be prepared in accordance with the NCDNR publication *Erosion and Sediment Control Planning and Design Manual* (NCDNR 1993) and the NCDOT sediment and erosion control program. The plan will identify BMPs to be used to reduce erosion and sedimentation. BMPs would include, but are not limited to, the following:

- Minimizing exposed earth surface
- Installing silt fencing
- Temporary and permanent seeding and mulching
- Watering working and haul areas during dry periods
- Covering, shielding, or stabilizing material stockpiles

4.1.7.8 Borrow and Disposal Sites

Construction waste material generated during clearing, grubbing, and other construction phases would be removed from the project site and burned or disposed of by the contractor in accordance with state and local regulations. Litter and other general trash would be collected and disposed of at local landfill locations. Construction waste and barrow with regard to wetlands would not be allowed unless properly permitted by USACE. Specific locations of barrow and disposal sites will be determined during the final design phase of the project.

4.1.7.9 Construction Waste

Construction waste material generated during clearing, grubbing, and other construction phases will be removed from the project site and burned or disposed of by the contractor in accordance with state and local regulations. Disposal of construction waste in wetlands will not be allowed unless properly permitted by USACE. Litter and other general trash will be collected and disposed of at local landfill locations.

NCDOT will require contractors to conduct historic, archaeological, wetland, and threatened and endangered species surveys prior to approval, and use of construction waste disposal and/or barrow sites identified for the proposed project.

4.1.8 IRRETRIEVABLE AND IRREVERSIBLE COMMITMENT OF RESOURCES

As with any new roadway project, construction of the project would require certain irreversible and irretrievable commitments of natural resources, manpower, materials, and fiscal resources. Lands within the right-of-way would be converted from their present use to transportation use. Use of these lands is considered an irreversible commitment during the time period that the land is used for a highway facility. However, if a greater need arises for use of the land, or if the highway facility is no longer needed, the land can be converted to another use. At present, there is no reason to believe such a conversion would ever be necessary or desirable.

Considerable amounts of fossil fuels, labor, and highway construction materials such as cement, aggregate, and bituminous material would be expended to complete the project. In addition, large amounts of labor and natural resources would be used in the fabrication and preparation of construction materials. These materials are generally not retrievable. However, while demand has increased, they are not in short supply and their use would not have an adverse effect on the availability of these resources. Any construction would also require a substantial one-time expenditure of state and federal funds that are not retrievable.

Construction of the project would, however, improve a critical link in the long-range transportation system for the region. The project is consistent with the long-range transportation goals and objectives of the NCDOT STIP and the FBRMPO. It is anticipated that the proposed project would provide a freeway-to-freeway connection between I-26 south of Asheville and US 19-23 north of Asheville, improve the capacity of existing I-240 west of Asheville, and reduce traffic delays and congestion. It is also anticipated that the improved roadway would enhance long-term access opportunities around and through the Asheville area, and would support local and regional commitments to transportation improvement and economic viability. Benefits of the project would include improved mobility and system linkage.

In summary, the anticipated beneficial effects would balance the irretrievable commitment of resources caused by the project. The project is consistent with state and local goals of improving transportation service in the region and strengthening the area's economic base.

4.1.9 RELATIONSHIP BETWEEN LONG-TERM AND SHORT-TERM USES/BENEFITS

The most disruptive local short-term impacts associated with the project would occur during project construction. Existing homes and businesses would be displaced. However, adequate replacement housing, land, and space are available for homeowners, tenants, and business owners within the project area. Improved mobility and access to and from the study area could stimulate economic and business growth and viability as well as long-term residential interest.

Construction activities could create short-term air quality, noise, and visual impacts for nearby residents and businesses. Normal traffic patterns would also be disrupted. Implementation of BMPs and NCDOT standard construction procedures would help minimize these impacts.

Specifically, increased turbidity levels in creeks and streams adjacent to construction activities could temporarily affect localized water quality. BMPs, as described in Section 4.1.7.6, would minimize potential water quality impacts. In addition, NCDOT will consult with USACE in order to determine measures that will minimize impact to waterways and wetlands.

The local short-term impacts and use of resources by the proposed action would be consistent with the maintenance and enhancement of long-term productivity. Completion of the project would, over the long term, be consistent with local, county, regional, and state transportation plans.

4.2 INDIRECT AND CUMULATIVE EFFECTS

Indirect and cumulative effects of the project were studied for both the proposed project and for a larger regional area that encompasses the reasonable and foreseeable projects along the I-26 Corridor. The indirect and cumulative effects for the project study area are included primarily in the ILUS/LUSA (URS 2015d) and the 2018 LUSA Addendum (AECOM 2018a). Supporting information is also provided in the *Community Impact Assessment Update* (URS 2015a) and the *Community Impact Assessment Addendum* (AECOM 2018c) conducted for the project.

The FLUSA was established as the area within which the proposed project has the potential to induce land use change. This study area encompasses areas examined for potential increases in development pressure as a result of project construction.

The time horizon for the 2010 report was 2030, which was consistent with the FBRMPO *Transportation 2030: A Multi Modal, Long Range Transportation Plan for Buncombe, Haywood and Henderson Counties* (FBRMPO 2005). While the FBRMPO report still maintains the 2030 date, the design year for I-2513 is currently 2035, and therefore the horizon year for this validation will be 2035.

Based on available information, notable features within the FLUSA include numerous NRHP sites and districts, including the Biltmore Estate. Also within the FLUSA are several conservation properties, several hazardous disposal sites, a portion of the Pisgah National Forest, UNC-Asheville, and the North Carolina Western Farmers Market.

As part of this assessment, an Indirect Land Use Effects Screening Matrix was developed, which qualitatively assesses factors that influence land development decisions. Each factor receives a rating from high concern for indirect effects to less concern for indirect effects. Based on the information gathered, the factors in the screening tool indicate a lower concern for indirect and cumulative effects as a result of the project. The result of the Indirect and Cumulative Land Use Effects Screening Matrix suggests "Possible Indirect Effects." Given the scope of the proposed project and concerns about cumulative effects associated with all of the I-26 improvement projects (including A-0010A and I-4400/I-4700), an *Indirect Screening and Land Use Scenario Assessment* (URS 2015g) was also completed to identify possible areas potentially subject to change in land use and whether indirect (secondary) and cumulative effects are anticipated, both with and without the project.

Seven subareas within the FLUSA are identified as "probable development areas." Probable development areas are those identified in Indirect and Cumulative Effects Land Use Scenario Assessment studies where the screening indirect and cumulative effects indicate likely or probable changes in land use as a result of the project. The probable development areas include the following:

- US 19-23/I-40 interchange area
- Sand Hill Road/Oakview Road/Sardis Road area
- Brevard Road corridor

- Haywood Road/I-240 interchange area
- I-240/Patton Avenue/Westgate Shopping Plaza area
- I-240/Patton Avenue/Clingman Avenue/RAD area
- US 19-23 /Broadway interchange area

Based on a close examination of these seven probable development areas, land use changes as a result of the proposed project are expected to be minimal within the FLUSA. The pace of infill and redevelopment may be accelerated somewhat as a result of the project; however, commercial, residential, and industrial growth and redevelopment is already occurring in many of these areas and is expected to continue with or without the proposed project. *Since the 2015 ISLUSA, developable land within the FLUSA has decreased 13 percent.*

The construction of the proposed project is not expected to substantially influence regional population growth. Most of the project is a widening project, with no new access being provided to properties. However, though West Asheville is experiencing somewhat of a renaissance, the restoration of Patton Avenue to a local street, along with associated streetscape improvements, could modestly increase interest in this area that does not already exist. Nonetheless, any potential effects to water quality as a result of this planned development would be tempered by existing land use controls and development regulations covering watershed protection, stream buffers, erosion and sedimentation control, and post-construction runoff.

Given the minimal indirect effects of the project, any contribution of the project to cumulative effects resulting from current and planned development patterns should be minimal. For these reasons, potential indirect and cumulative effects to downstream water quality should be minimal.

Much of the future growth within the overall FLUSA could likely be attributed to the proximity of I-26, I-40, and the City of Asheville. Growth is restricted within the project FLUSA by the presence of the Biltmore Estate, lack of existing or planned public sewer, steep topography, and the predominantly built up nature of much of the FLUSA. Because of these development constraints, new development, redevelopment, or infill related to the proposed project would likely be limited to specific areas of the FLUSA. Commercial development or redevelopment would likely occur along the French Broad River (RiverLink areas), surrounding or near existing interchanges (including the US 19-23/I-40, I-240/Patton Avenue, and I-26/Broadway interchanges), and along the built-up Haywood Road, Patton Avenue, Brevard Road, and Broadway corridors.

In Section B, I-240 access to US 19-23-70 would be shifted slightly north from its current location, but a new interchange would not be created. The two proposed I-240 bridges across the French Broad River would connect to the new section of I-26 west of the river, but access would be fully controlled. Some infill development may take place, despite the presence of steep topography and an existing urban environment. The preferred alternative would include the construction of new interstate access points close to underutilized areas along the French Broad River associated with RiverLink. Since plans are already in place for these areas (i.e., *Wilma Dykeman RiverWay Master Plan*), the preferred alternatives is not expected to induce development in these areas; however, the project may accelerate these already planned developments.

Generally, the widening of existing I-240 (Section A) and the creation of a new location I-26 Connector should provide better connectivity in the interstate network throughout this portion of Asheville and Buncombe County, as well as address forecasted traffic deficiencies, reduce congestion and traffic delays along the existing I-240 French Broad River crossing, and increase the remaining useful service of the existing I-240/Patton Avenue bridge by diverting traffic to a new crossing.

Overall, the preferred alternative has a low to moderate potential to indirectly cause land use changes or accelerate previously planned development throughout the identified probable development areas in the FLUSA.

4.3 SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Estimated environmental impacts associated with the preferred alternative are provided in Table 4-19.

Table 4-19: Summary of Project Impacts by Section

Resource	Section C (I-26/I-40/I-240 Interchange)		Section A		Section B (New Location across French Broad)	
	Alternative F-1		I-240 Widening		Alternative 4-B	
	Draft EIS	Final EIS	Draft EIS	Final EIS	Draft EIS	Final EIS
Project Features						
Length (miles)						
I-26	2.2	2.2	2.0	2.0	2.5	2.5
I-40/I-240	2.8	2.8	0.0	0.0	1.5	1.5
Total Length	5.0	5.0	2.0	2.0	4.0	4.0
Interchanges	3	3	3	3	3	3
Railroad Crossings	2	2	0	0	5	5
Navigable Waterway Crossings	1	1	0	0	4	4
Construction Cost	\$203,300,000	\$200,570,000	\$105,700,000	\$152,903,000	\$291,300,000	\$448,193,000
Right-of-Way Cost	\$17,100,000	\$12,423,000	\$29,400,000	\$44,502,000	\$36,800,000	\$95,374,000
Utilities Cost	\$2,100,000	\$4,464,000	\$3,400,000	\$2,036,000	\$3,900,000	\$13,576,000
Total Cost	\$222,500,000	\$217,457,000	\$138,500,000	\$199,441,000	\$332,000,000	\$564,943,000
Socioeconomic Features						
Relocations						
Residential	31	14	81	71	33	29
Business	5	2	17	14	34	19
Nonprofit	0	0	1	1	1	1
Total	36	16	99	86	68	50
Schools Relocated	0	0	1	0	0	0
Churches Relocated	1	0	1	0	1	0
Parks and Recreational Areas Impacted	1	0	2	1	0	0
Cemeteries Impacted	0	0	0	0	0	0

Resource	Section C (I-26/I-40/I-240 Interchange)		Section A		Section B (New Location across French Broad)	
	Alternative F-1		I-240 Widening		Alternative 4-B	
	Draft EIS	Final EIS	Draft EIS	Final EIS	Draft EIS	Final EIS
Physical Environment						
Noise Impacts (No-Build)	193	140	181	131	243	123
Noise Impacts (before abatement)	304	171	198	112	224	134
Noise Impacts (after abatement)	274	72	94	17	89	99
Hazardous Material Sites (moderate or high) Impacted	1	0	0	0	1	1
Floodplain Impacts (acres)	16.63	14.23	8.36	6.75	3.91	2.57
Floodway Impacts (acres)	2.00	1.72	1.94	1.02	0.38	0.36
Land Use Impacts by Zoning Category (acres)						
Residential Single-Family Districts	12.5	5.4	8.4	3.5	7.5	3.9
Residential Multifamily Districts	16.0	5.4	26.5	16.8	17.0	8.9
Neighborhood Business District	0	0.0	0	0.1	0.1	0.1
Community Business Districts	0.0	0.0	4.9	0.0	0.0	0.0
Industrial	0	0.0	0	0.0	0.4	0.4
Institutional District	34.5	9.5	13.6	4.1	0.4	0.1
Office	0.0	0.0	0.0	0.0	0.0	0.0
Highway Business District	7.8	0.1	1.9	2.0	14.3	2.0
Regional Business District	27.1	0.3	0.0	0.0	10.5	6.9
Central Business District	0.0	0.0	0.4	0.0	0.3	0.1
Commercial	24.8	4.9	2.7	1.8	0.0	0.0
Resort District	0.0	0.0	0.0	0.0	19.6	16.9
River District	0.0	0.0	6.3	3.2	22.3	15.3
Haywood Road	--	0.0	--	4.8	--	0.0
Total	122.6	25.7	64.7	36.1	92.5	54.5
Cultural Resources						
Historic Properties – Section 106 Effects	0	0	1 Adverse Effect	0	1 Adverse Effect	1 Adverse Effect
Historic Properties Impacted	1	1	2	1	2	1
Archeological Sites Impacted	6	4	2	2	0	0
Natural Environment						
Biotic Resources (acres)						

Resource	Section C (I-26/I-40/I-240 Interchange)		Section A		Section B (New Location across French Broad)	
	Alternative F-1		I-240 Widening		Alternative 4-B	
	Draft EIS	Final EIS	Draft EIS	Final EIS	Draft EIS	Final EIS
Maintained/ disturbed	171.93	157.1	91.08	81.3	124.82	121.8
Mesic Mixed Forest	111.26	105.4	47.41	42.7	40.67	32.7
Alluvial Hardwood Forest	6.55	3.7	1.50	1.4	3.88	3.8
Open Water	0.17	0.20	0	0	0.00	0
Total	289.90	266.40	139.99	125.40	169.37	158.30
Increase in Impervious Area (acres)	134.6	98.2	63.8	61.9	99.7	101.6
Stream Crossing Impacts (#)	12	12	4	5	7	7
Stream Impacts (linear feet)	1,984	1,376	798	640	2,128	2,171
Wetland Impacts (#)	12	6	1	1	2	1
Wetland Impacts (acres)	1.86	1.27	0.01	0.01	0.10	0.04
Pond Impacts (#)	0	0	0	0	0	0
Pond Impacts(acres)	0	0	0	0	0	0
Protected Species Adversely Affected	0	2	0	2	0	2

^a Stream, wetland, and pond impacts calculated using design slope stakes plus 25-foot buffer. All other impacts calculated using right-of-way.

4.4 REQUIRED PERMITS AND ACTIONS

4.4.1 NORTH CAROLINA DIVISION OF WATER RESOURCES

Section 401 Certification. Any activity that may result in discharge to navigable waters and that requires a federal permit must obtain a certification that such discharge will be in compliance with applicable state water quality standards.

Authority. North Carolina General Statute 143, Article 21, Part 1. Regulations promulgated in 15A NCAC-2H and 2B.

Stormwater Certification. The NPDES stormwater permit addresses stormwater discharges that impair water quality. NCDOT construction activities are covered under NCDOT's Phase I stormwater permit, which is administered through the Department's sediment and erosion control program. Specific requirements vary and are affected by the classifications of the water to which the project would drain. NCDOT was granted its current permit on March 18, 2005.

Authority. North Carolina General Statute 143, Article 215, Part 1. Regulations promulgated in 15A NCAC-2H.1000 and 2B.0200.

4.4.2 NORTH CAROLINA DIVISION OF FOREST RESOURCES

Burning Permit. A permit is required to start a fire in woodlands or within 500 feet of woodlands under the protection of the Division of Forest Resources. Thirty-day permits can be issued for highway construction.

Authority. North Carolina General Statute 113, Article 4C, Subsection 60.21 60.31. Regulations promulgated in 14 NCAC 9C.0200 .0203.

4.4.3 UNITED STATES ARMY CORPS OF ENGINEERS

Section 404 Permit. A permit from USACE is required for any activity in water or wetlands that would discharge dredged or fill materials into waters of the United States and adjacent wetlands. To obtain permit approval, impacts to wetlands must be mitigated through avoidance, minimization, and compensation measures in accordance with the "Memorandum of Agreement (MOA) between the Department of the Army and the Environmental Protection Agency: Determination of Mitigation Under the Clean Water Act Section 404(b)(1) Guidelines" (EPA 1990).

Authority. Federal Water Pollution Control Act Amendments of 1972 and Section 404 of the CWA of 1977. Regulations promulgated in 33 CFR 323.

Section 10 Permit. A permit is required for construction of structures such as piers and jetties and excavation and placement of fill material in or affecting navigable waterways, including the French Broad River.

Authority. Rivers and Harbor Act of 1899, Section 10.

4.4.4 UNITED STATES COAST GUARD

The USCG concurred in a letter dated January 4, 2017 (Appendix C) that the project will not require a bridge permit under 23 U.S.C. 144(h) for the I-240 bridges across the French Broad River. The requirement to display navigational lighting is waived per 33 CFR 118.40(b).

4.4.5 UNITED STATES FISH AND WILDLIFE SERVICE

Section 404 and Section 10 Permit Review. The USFWS' responsibilities include review of Section 404 and Section 10 permits to determine a project's impact on public fish and wildlife resources. USFWS provides recommendations to USACE on how the proposed project could avoid or minimize impacts to existing fish and wildlife resources and their habitats, including wetlands.

Authority. Fish and Wildlife Coordination Act, as amended.

Section 7 Consultation. Consultation with USFWS is required for any project that may impact endangered or threatened plants and animals and their Designated Critical Habitat. The proposed project is expected to potentially affect Appalachian elktoe habitat due to the placement of bridge supports in the French Broad River bed. Habitat for the tan riffleshell is found in the river;

however, recent surveys did not find the presence of the species in the area. The biological conclusion for both species is may affect, but not likely to affect.

Authority. ESA of 1973, Section 7.

4.4.6 NC FLOODPLAIN MAPPING PROGRAM (FMP)

In accordance with Executive Order 11988, the Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP), the delegated state agency for administering FEMA's National Flood Insurance Program, to determine the status of the project with regard to applicability of NCDOT's Memorandum of Agreement with FMP, or approval of a Conditional Letter of Map Revisions (CLOMR) and subsequent final Letter of Map Revision (LOMR).

In accordance with NEPA, NCDOT published a DEIS for the I-26 Connector project in October 2015. The DEIS described the purpose of and need for the project, identified project alternatives, and evaluated them for potential environmental effects. Since the DEIS was published, a preferred alternative has been chosen based on feedback from the public and environmental regulatory and resource agencies. This FEIS is presented in the same order as the DEIS, with clarification and updates such as changes in the existing environment, updated impacts anticipated from the preferred alternative, and responses to comments received on the DEIS. Some information from the DEIS is summarized, and substantive new information is noted in italics.

CHAPTER 5. SECTION 4(F)

According to 23 U.S.C. Section 138 (Section 4(f)), USDOT:

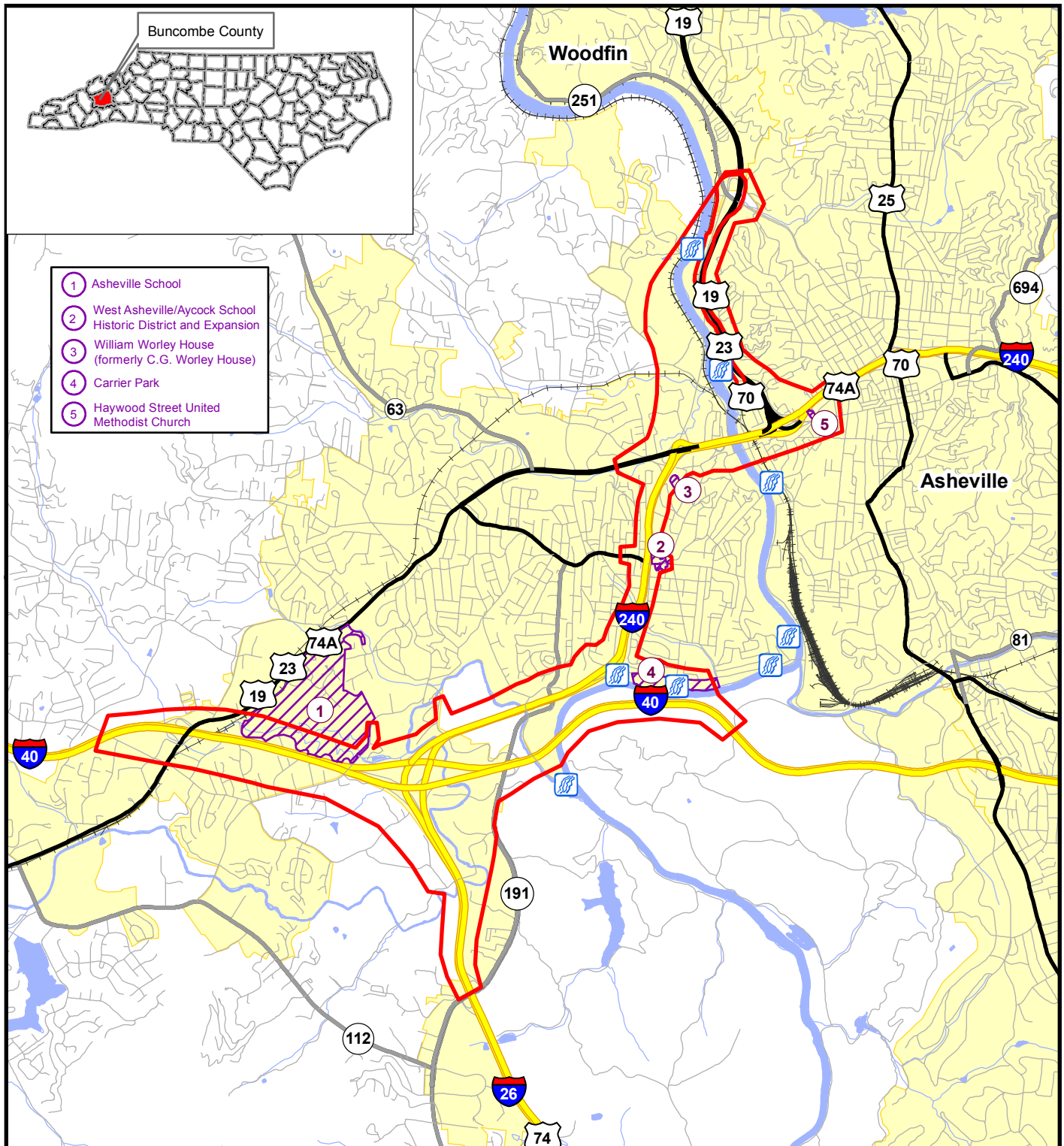
... shall not approve any program or project...which requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, State or local significance as determined by the Federal, State, or local officials having jurisdiction thereof, or any land from an historic site of national, State or local significance as so determined by such officials unless (1) there is no feasible and prudent alternative to the use of such land, and (2) such program includes all possible planning to minimize harm to such park, recreational area, wildlife and waterfowl refuge, or historic site resulting from such use.

In this section, resources subject to Section 4(f) are identified, potential uses of those resources are discussed, avoidance alternatives and other measures to minimize harm to the resources are assessed, and coordination with the public official having jurisdiction over each resource is documented.

5.1 DESCRIPTION OF SECTION 4(F) RESOURCES

Three types of Section 4(f) resources would be affected by this project: historic sites, archaeological sites, and public parks/recreation areas. The DEIS evaluated the Section 4(f) applicability of resources within the project study area to determine whether the proposed project may result in the use of a Section 4(f) resource.

The Section 4(f) resources that would be affected by the preferred alternative are described in this section and shown on Figure 5-1.



The DEIS reported that Section A – I-240 Widening Alternative was expected to require the reconstruction of approximately 316 linear feet of the French Broad River Greenway at the western end of the Carrier Park property to allow the reconnection of Old Amboy Road and provide access to several properties west of Carrier Park along the banks of the French Broad River. Since publication of the DEIS and design refinement of the preferred alternative, the configuration at Amboy Road was realigned and avoided any required reconstruction of the greenway. The DEIS reported that Section B – Alternative 4-B would require a permanent construction easement to the Montford Hills Historic District due to the retaining wall adjacent to Westover Drive. This impact has been avoided due to the refinement of the preferred alternative design. Therefore, there are no Section 4(f) impacts anticipated to either the French Broad River Greenway or the Montford Hills Historic District.

Since publication of the DEIS, the French Broad River has been designated a State Paddle Trail and is therefore subject to Section 4(f).

5.1.1 HISTORIC SITES

The following includes descriptions of the historic resources impacted by the preferred alternative. In addition to the Montford Hills Historic District, which is no longer impacted by the preferred alternative as was reported in the DEIS, the Biltmore Estate and Montford Hills/Hibriten Drive Boundary Expansion are no longer included, as they would not be impacted by the preferred alternative.

5.1.1.1 Asheville School

Size	280 acres
Location	360 Asheville School Road. East of US 19-23-74A and northwest of the SR 3412 Sand Hill Road grade separation over I-40
Ownership	Private
Type	Listed in the NRHP, 1996
Function	Education, school
Facilities	Academic buildings and surrounding grounds of athletic fields, woods, and a lake bed
Access	Private
Clauses	Fee simple right-of-way agreements were obtained for both SR 3412 (Sand Hill Road) and I-40

5.1.1.2 West Asheville/Aycock School Historic District and Expansion

Size	11.6 acres
Location	Haywood Road between Westwood Place and Michigan Avenue
Ownership	Public and private

Type	Listed in the NRHP, 2006 with an expansion in 2013
Function	Education and commercial
Facilities	Academic buildings and a commercial district
Access	Public and private
Clauses	None identified

5.1.1.3 William Worley House

Size	4.1 acres
Location	1 Worley Place in the Westwood neighborhood
Ownership	Private
Type	Determined eligible for the NRHP, 1999
Function	Private residence
Facilities	Single family home and grounds
Access	Private
Clauses	None identified

5.1.1.4 Haywood Street United Methodist Church

Size	1.26 acres
Location	297 Haywood Street bordered to the north and west by the I-240/Patton Avenue interchange
Ownership	Private
Type	Determined eligible for the NRHP, 2001
Function	Church
Facilities	Church building and grounds
Access	Public
Clauses	None identified

5.1.2 ARCHAEOLOGICAL RESOURCES

Site 31BN623, the Lower Hominy Hydroelectric Power Plant site, is recommended NRHP-eligible under Criterion A due to its association with the early hydroelectric and streetcar industries. This site has the potential to be impacted by the construction activities associated with the preferred alternative. Where impacted, the site boundaries would be identified with iron markers, covered, and buried in the proposed fill for the project.

5.1.3 PUBLIC PARKS AND RECREATION AREAS

The following public parks and recreation areas would be impacted by the preferred alternative.

5.1.3.1 Carrier Park

Size	31.2 acres
Location	219 Amboy Road in West Asheville (site of the former Asheville Motor Speedway)
Ownership	City of Asheville
Type	Public park
Function	Outdoor recreation
Facilities	Volleyball courts, playground, roller hockey rink, bicycle racing track, basketball court, multi-use track, lawn bowling court, paved trail, unpaved trail, multi-use sports field for baseball and soccer, restroom/refreshment facility, lawn bowling, pavilion, wetland interpretive site, fishing pier, and parking lots (City of Asheville 2010b)
Access	Vehicles enter the park via three driveway entrances off of Amboy Road. Pedestrian access is via the French Broad River Greenway from the east.
Use	Average of 200 visitors per day, year-round
Clauses	There is a restriction that will not allow motor vehicle racing and a conservation easement along the riverfront, as well as various utility easements across the property.
Features	This is a relatively level piece of land between Amboy Road and the French Broad River. The banks of the river are mostly steep. The site is mostly open lawn area with mature trees along the riverbank and new plantings in the open level area that has been disturbed over the years. The property is mostly in the floodway. Some of the property by the road is in the flood fringe.

5.1.3.2 French Broad River Paddle Trail

The French Broad River Paddle Trail is a recreational watercraft trail created and operated by RiverLink and MountainTrue. The paddle trail facilitates public access to and camping on over 140 miles of the French Broad River, from the headwaters in Rosman, North Carolina, to Douglas Lake in Tennessee. The French Broad River Paddle Trail is designated as a paddle trail by the North Carolina Department of Natural and Cultural Resources – Division of Parks and Recreation; therefore, it is considered a publicly owned park/trail.

5.2 USE OF SECTION 4(F) PROPERTY

According to Section 4(f), a use of land occurs when, “(1) Land from a 4(f) site is permanently incorporated into a transportation facility, (2) there is a temporary occupancy of land that is adverse in terms of the Section 4(f) statute’s preservational purposes (23 CFR 771.135(p)(2)), or (3) When there is a constructive use of land (23 CFR 771.125(p)(2))” (USDOT/FHWA 2005b, 2005c). These three types of uses of Section 4(f) properties are addressed in this section.

5.2.1 PERMANENT INCORPORATION OF PROPERTY

A summary of the property that would be permanently incorporated by the project is provided in Table 5-1 and in the following subsections.

Table 5-1: Use of Section 4(f) Properties in Acres (Right-of-way/Easement)

Property	Section C Alternative F-1	Section A I-240- Widening Alternative	Section B Alternative 4-B
Historic Sites			
Asheville School	0.51/1.48	—	—
West Asheville/Aycock School Historic District and Boundary Expansion	—	0.15/0.10	—
William Worley House	—	—	0.05/0.26
Haywood Street United Methodist Church	—	—	0.0021/ 0.0057
Archaeological Sites			
Archaeological Site 31BN623	—	0.05/0	—
Parks and Recreation Areas			
Carrier Park	—	0.22/0.60	—
<i>French Broad River Paddle Trail</i>	—	—	<i>Bridge Bents</i>

5.2.1.1 Asheville School

Section C – Alternative F-1 would include the widening of existing I-40 and the replacement of the SR 3412 (Sand Hill Road) Bridge over I-40 to accommodate the widening. Right-of-way would be required from the Asheville School property, which is adjacent to existing I-40 and SR 3412. Approximately 0.51 acre would be permanently incorporated.

5.2.1.2 West Asheville/Aycock School Historic District

The Section A – I-240 Widening Alternative would require approximately 0.15 acre of permanent incorporation of land within the boundaries of the West Asheville/Aycock School Historic District for right-of-way and construction easements.

5.2.1.3 William Worley House

Section B – Alternative 4-B would require the permanent incorporation of land within the boundaries of the William Worley House property for right-of-way. Impacts to this property

would be minimized by the construction of a retaining wall that would limit the amount of property to be disturbed. Less than 0.05 acre would be permanently incorporated from the 4.1-acre property. The alternative would also require an underground easement for anchoring the proposed retaining wall.

5.2.1.4 Haywood Street United Methodist Church

Section B – Alternative 4-B would require the permanent incorporation of land within the boundaries of the Haywood Street United Methodist Church for right of way (0.0021 acre) and construction easement (0.0057 acre) due to the construction of a sidewalk in front of the church.

5.2.1.5 Archaeological Site 31BN623

The Section A – I-240 Widening Alternative would require the permanent incorporation of less than 0.05 acre of archaeological site 31BN623.

5.2.1.6 Carrier Park

The Section A – I-240 Widening Alternative would permanently incorporate approximately 0.22 acre of the existing Amboy Road frontage of this 31-acre public park for additional right-of-way and construction easements. The Carrier Park property contains a wide paved shoulder along the existing Amboy Road frontage. This unchannelized, wide paved shoulder has provided perpendicular parking for the site since it belonged to the Asheville Motor Speedway. It remains even though the city has created additional parking areas within the park. Almost all of the 0.22 acre of additional right-of-way required from Carrier Park would be from this paved shoulder area. According to the City of Asheville Parks and Recreation officials, future plans for the park call for the removal of this parking. The required property contains no park amenities. However, since the proposed project would require the acquisition of right-of-way and construction easements within the boundaries of this public recreational facility, this resource is included in the Section 4(f) evaluation.

5.2.1.7 French Broad River Paddle Trail

Bents will be required in the French Broad River for the I-26 and I-240 new location bridges constructed as part of this project.

5.2.2 TEMPORARY OCCUPANCY OF PROPERTY

According to FHWA guidance, a temporary occupancy will not constitute a use of a Section 4(f) resource if all of the conditions set forth in 23 CFR 771.135(p)(7) are met. Those conditions are that

- (1) Duration (of the occupancy) must be temporary, i.e., less than the time needed for construction of the project, and there should be no change in ownership of the land;
- (2) Scope of the work must be minor, i.e., both the nature and the magnitude of the changes to the 4(f) resources are minimal;
- (3) There are no anticipated permanent adverse physical impacts, nor will there be interference with the activities or purpose of the resource, on either a temporary or permanent basis;

(4) The land being used must be fully restored, i.e., the resource must be returned to a condition which is at least as good as that which existed prior to the project; and, (5) There must be documented agreement of the appropriate Federal, State, or local officials having jurisdiction over the resource regarding the above conditions. (USDOT/FHWA 2005b, 2005c)

5.2.3 CONSTRUCTIVE USE OF PROPERTY

According to FHWA guidance, “Constructive use only occurs in those situations where, including mitigation, the proximity impacts of a project on the 4(f) property are so severe that the activities, features, or attributes that qualify the property or resource for protection under Section 4(f) are substantially impaired” (USDOT/FHWA 2005c). It is not anticipated that there will be a constructive use of any Section 4(f) resource(s) as a result of this project.

5.2.4 SUMMARY OF USE OF SECTION 4(f) PROPERTIES

All uses of Section 4(f) properties related to the project can be categorized as permanent incorporation of property for the project’s right-of-way or easement. A summary of the Section 4(f) resources that would be affected by the permanent incorporation of property for each alternative is provided in Table 5-2.

Table 5-2: Summary of Uses of Section 4(f) Properties

Property	Alternative(s)	Type of Use
Historic Sites		
Asheville School	Section C – Alternative F-1	Permanent Incorporation
West Asheville/Aycock School Historic District	Section A – I-240 Widening	Permanent Incorporation
William Worley House	Section B – Alternative 4-B	Permanent Incorporation
Haywood Street United Methodist Church	Section B – Alternative 4-B	Permanent Incorporation
Archaeological Resources		
Archaeological Site 31BN623	Section A – I-240 Widening	Permanent Incorporation
Parks and Recreation Areas		
Carrier Park	Section A – I-240 Widening	Permanent Incorporation
<i>French Broad River Paddle Trail</i>	<i>Section B – Alternative 4-B</i>	<i>Permanent Incorporation</i>

5.3 DE MINIMIS IMPACTS

In Section 6009(a) of the Safe, Accountable, Flexible Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU), Pub. L. 109-59, the existing Section 4(f) legislation, was amended to simplify the processing and approval of projects that have only *de minimis* impacts on lands protected by Section 4(f). According to USDOT, “This revision provides that once the U.S. Department of Transportation (DOT) determines that a transportation use of Section 4(f) property, after consideration of any impact avoidance, minimization, and mitigation or enhancement measures, results in a *de minimis* impact on that property, an analysis of avoidance

alternatives is not required and the Section 4(f) evaluation process is complete” (USDOT/FHWA 2005c).

5.3.1 HISTORIC SITES

According to FHWA’s question and answer document on the implementation of the *de minimis* provision, “De minimis impacts related to historic sites are defined as the determination of either “no adverse effect” or “no historic properties affected” in compliance with Section 106 of the NHPA (USDOT/FHWA 2013). In concurrence forms signed on May 21, 2015, the SHPO concurred that certain alternatives of each section would have “no effect” or “no adverse effect” on the historic resources according to Section 106 of the NHPA. The SHPO was notified in writing on October 3, 2006, of FHWA’s intention to utilize the SHPO concurrence with “no adverse effect” determinations as the basis of *de minimis* findings. Of the three historic properties listed in Table 5-2, two qualified for *de minimis* findings (the Asheville School and the William Worley House). Their *de minimis* applicability is described in the following sections.

5.3.1.1 Asheville School

The proposed right-of-way takings would not be in proximity to the complex of academic buildings and surrounding grounds of this historic property. The SHPO concurred with a Section 106 determination of “no adverse effect” for all alternatives of Section C for this historic property because there would be minimal right-of-way acquisitions and, taken as a whole, they would not significantly diminish the integrity or historic significance of this property. Therefore, the *de minimis* provision under Section 4(f) is applicable to Section C – Alternative F-1.

5.3.1.2 West Asheville/Aycock School Historic District

The SHPO concurred with a Section 106 determination of “no adverse effect” to this historic property in Section A, as NCDOT has committed to mitigate adverse effect by recouping parking spaces, preserving screening trees, and providing fencing between the greenway and school yard. Revised designs decrease the amount of right of way and easement needed compared to previous designs and would not significantly diminish the integrity or historic significance of this property. Therefore, the *de minimis* provision under Section 4(f) is applicable to Section A – I-240 widening alternative for this resource.

5.3.1.3 William Worley House

The SHPO concurred with a Section 106 determination of “no adverse effect” to this historic property for Section B because there would be minimal right-of-way acquisitions and, taken as a whole, they would not significantly diminish the integrity or historic significance of this property. Therefore, the *de minimis* provision under Section 4(f) is applicable to Section B – Alternative 4-B for this resource.

5.3.1.4 Haywood Street United Methodist Church

The SHPO concurred with a Section 106 determination of “no adverse effect” to this historic property for Section B because there would be minimal right-of-way acquisitions and, taken as a

whole, they would not significantly diminish the integrity or historic significance of this property. Therefore, the *de minimis* provision under Section 4(f) is applicable to Section B – Alternative 4-B for this resource.

5.3.2 ARCHAEOLOGICAL RESOURCES

The SHPO concurred with a Section 106 determination of “no adverse effect” to Site 31BN623, given that the site boundaries would be identified with iron markers, covered, and buried in the proposed fill for the project. The *de minimis* provision under Section 4(f) is applicable to the Section A – I-240 Widening Alternative for this resource.

5.3.3 PARKS AND RECREATION AREAS

De minimis impacts on publicly owned parks, recreation areas, and wildlife and waterfowl refuges are defined as those that do not “adversely affect the activities, features, and attributes” of the Section 4(f) resource” (USDOT/FHWA 2013).

5.3.3.1 Carrier Park

Through coordination with the City of Asheville Parks and Recreation Department, revisions were made to the project to minimize impacts to the French Broad River Greenway and Carrier Park. With these revisions, the City of Asheville agreed by letter that the project would not adversely affect the activities, features, and attributes of the French Broad River Greenway and Carrier Park. NCDOT notified the City of Asheville Parks and Recreation Department that FHWA intended to utilize their agreement that the project would not adversely affect the activities, features, and attributes of the French Broad River Greenway and Carrier Park as the basis of a *de minimis* finding.

It was noted coordination would continue with the City to minimize project impacts to these facilities throughout the design process; therefore, once the preferred alternative designs were refined, the City of Asheville agreed by letter (signed June 24, 2019) that the project would not adversely affect the activities, features, or attributes that qualify Carrier Park for Section 4(f) protection. The letter also notified the City that FHWA confirms the de minimis finding regarding the impacts to the Carrier Park. Documentation of this communication is provided in Appendix G.

5.3.3.2 French Broad River Paddle Trail

Section B – Alternative 4-B would require placing bents in the French Broad River. Paddle accesses, campgrounds, and businesses along the French Broad River will be signed and/or notified by NCDOT prior to and during construction activity. The North Carolina Department of Natural and Cultural Resources – Division of Parks and Recreation agreed by letter (dated August 14, 2018) that the project would not adversely affect the activities, features, or attributes that qualify the French Broad River for Section 4(f) protection, and notified the City that based on this concurrence the FHWA will make a de minimis finding regarding the impacts to the French Broad River. Documentation of this communication is provided in Appendix G.

CHAPTER 6. LIST OF PREPARERS

This environmental document was prepared by AECOM (formerly URS Corporation), consulting engineers, in cooperation with NCDOT and FHWA. The key personnel involved in the preparation of this document are presented in Table 6-1.

Table 6-1: FEIS List of Preparers

Name	Position	Credentials
Federal Highway Administration		
Clarence Coleman, PE	Preconstruction & Environment Director	BS in Civil Engineering responsible for federal aid projects in North Carolina. 26 years of experience.
Felix Davila	Transportation Planning & Environment Specialist	BS in Civil Engineer with 30 years of experience at FHWA including 25 years in NEPA studies.
North Carolina Department of Transportation		
Derrick Weaver, PE	Project Development Group Leader	BS in Civil Engineering responsible for highway planning and environmental impact analysis for NCDOT. 22 years of transportation experience with NCDOT.
Jeff Lackey	Aesthetic Engineering Section Supervisor	BS Environmental Architecture responsible for Statewide Aesthetics for the NCDOT. 25 years of experience with NCDOT in the design and development of aesthetics and landscape architecture.
Kevin Moore, PE	Project Engineer	BS in Civil Engineering. 20 years of experience with NCDOT. Responsible for review of roadway design.
Mary Pope Furr	Historic Architecture Team Lead	MA in Architectural History. 23 years of experience with NCDOT. Responsible for overseeing review of historic architecture resource impacts.
Elise Groundwater	Congestion Management Project Design Engineer, Western Region	28 years of engineering experience including 10 years of experience at NCDOT. Responsible for review of traffic capacity analysis.
James Dunlop, PE	Congestion Management Regional Engineer, Western Region	30 years of experience including 25 years with NCDOT. Responsible for review of traffic capacity analysis.
AECOM/URS Corporation		
Joanna Rocco, AICP	Project Manager and Senior Environmental Planner	BS in Biology, MS in Environmental Studies specializing in NEPA and environmental documentation with 15 years of experience in transportation planning projects and preparation of environmental documents.

Name	Position	Credentials
Celia Miars, AICP	Deputy Project Manager and Environmental Planner	BS in Design and MS in Environmental Studies with 6 years of experience in transportation planning projects and preparation of environmental documents.
Drew Joyner, PE	Transportation Planner Department Manager; Technical Review	BS in Civil Engineering with 23 years of experience in NEPA studies.
Neil Dean, PE	Transportation Engineer	BS in Civil Engineering with over 20 years of experience in planning projects and roadway design.
Eric Spalding, PE	Transportation Engineer; roadway designer	BS in Civil Engineering, PE; 5 years of experience in Roadway Design
Cindy Camacho, AICP	Senior Community Planner	MA in Planning with 29 years of land use and environmental planning experience.
Kory Wilmot, AICP	Senior Urban Planner	Masters of Public Administration, BA in Urban and Regional Planning with 16 years of experience in NEPA documentation and community studies.
Todd McAulliffe, AICP	Planner/ GIS; lead GIS reviewer	MA in Geography with 15 years of experience in GIS analysis, transportation and urban planning.
Robin Marshall	Senior Technical Editor/Writer	B.S. English with 28 years of experience in technical document review.
Chris Lucia, PE	Transportation Engineer	BS in Civil Engineering with more than 6 years of experience in traffic engineering.
Dennis Hoyle, PE	Hydraulic Engineer	BS in Civil Engineering with over 34 years of experience in planning, design, and hydraulic analysis.
Meme Buscemi, PE	Hydraulic Project Engineer	BS in Civil Engineering with over 13 years of experience in planning, bridge inspection, hydraulics, and roadway design.
Patriot Transportation Engineering, PLLC		
Peter Trencansky, PE, PTOE, AICP	Transportation Engineer	MCE in Civil Engineering with 20 years of experience in transportation planning and design.
Heath Gore, PE, JD	Traffic Engineer	BS in Civil Engineering and JD in Law with over 12 years of experience in traffic engineering.
Public Participation Partners, LLC		
Simone Robinson	Senior Planner	BS in AT Merchandising and MUP in Urban Planning with 7 years of experience in land use planning providing community impacts assessment, public engagement, Environmental Justice and LEP outreach for NEPA documentation.

Name	Position	Credentials
Atkins		
Matthew T. Cusack	Group Manager	BS in Marine Biology with 16 years of experience in natural systems studies, federal/state permitting, functional assessment, and jurisdictional delineations.
Rebecca Berzinis	Senior Scientist	MS in Environmental Engineering Sciences and BS in Biological Sciences with 16 years of experience in environmental science, providing environmental services such as NEPA documentation, ecological studies, and federal/state permitting support.
Jeremy Schmidt	Scientist	BS in Environmental Technology with 6 years of experience in ecological studies and jurisdictional delineations.
Rainor Gresham, GISP	Scientist	BS in Natural Resources with 6 years of environmental science and GIS experience providing support for stream and wetland delineation, permitting, and remote sensing.
Ben Cogdell	Scientist	BS in Natural Resources Ecosystem Assessment with 6 years of experience that includes natural resource assessments, plant and wildlife identification, and wetland ecology. Environmental services include jurisdictional area delineations, GIS mapping, aerial photographic interpretation, protected species surveys, and environmental document preparation.
Kirsten Hunt	Scientist	MA in Geography with 5 years of experience in environmental assessments and geospatial analysis.

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CHAPTER 7. LIST OF AGENCIES, ORGANIZATIONS, AND PERSONS TO WHOM COPIES OF THE STATEMENT ARE SENT

In order to facilitate review and comment, the following agencies, local officials, and public libraries were provided copies of this document.

7.1 FEDERAL AGENCIES

- United States Environmental Protection Agency (Region IV, Environmental Review Branch)
- United States Department of Transportation
- United States Department of the Interior
- United States Department of Agriculture
- United States Department of Health and Human Services, Office of Environmental Affairs
- Federal Railroad Administration
- Federal Emergency Management Agency
- Federal Aviation Administration
- Advisory Council on Historic Preservation
- United States Geological Survey
- Tennessee Valley Authority
- Eastern Band of Cherokee Indians

7.2 REGIONAL OFFICES

- United States Environmental Protection Agency
- Department of Housing and Urban Development
- United States Army Corps of Engineers
 - Asheville Regulatory Field Office
 - Wilmington District
- United States Fish and Wildlife Service
- United States Department of Agriculture, Forest Service
- Federal Energy Regulatory Commission
- General Services Administration

7.3 STATE AGENCIES

- North Carolina Office of State Human Resources
- North Carolina Department of Environmental Quality
- North Carolina Wildlife Resources Commission
- North Carolina Department of Natural and Cultural Resources
- North Carolina Department of Public Instruction
- North Carolina Department of Commerce – Travel and Tourism Board
- North Carolina Department of Economic and Community Development
- North Carolina Department of Administration – State Environmental Review Clearinghouse
- North Carolina Department of Transportation – Board of Transportation Division 13
- North Carolina Department of Transportation – Division 13 Engineer
- North Carolina Department of Environmental Quality – Division of Water Resources
- North Carolina State Historic Preservation Office

7.4 LOCAL GOVERNMENTS AND AGENCIES

- Chairman, Buncombe County Commissions
- Manager, Buncombe County
- Mayor, City of Asheville
- City Manager, City of Asheville
- City of Asheville Transportation Department
- City of Asheville Parks and Recreation Department
- City of Asheville Public Works Department
- City of Asheville Planning Department
- Buncombe County Planning and Development
- French Broad River Metropolitan Planning Organization
- Land of Sky Regional Council (local rural planning organization)
- Western North Carolina Regional Air Quality Agency
- Town of Woodfin

7.5 INTEREST GROUPS

- Amboy Road businesses
- Asheville Area Chamber of Commerce
- Asheville School
- Biltmore Estate
- Bingham Road/Emma Road Area Neighborhood
- Burton Street Neighborhood
- Coalition of Asheville Neighborhoods
- Council of Independent Business Owners
- Rotary Club of Downtown Asheville
- East-West Asheville Neighborhood Association
- Fairfax/Virginia Avenue Neighborhoods

- Haywood Road businesses
- Hillcrest Apartment Community
- I-26 Champions
- I-26 Connector Awareness Group
- Leadership Asheville Seniors
- Montford Neighborhood Association
- Mountain True
- Norfolk Southern Railway
- RiverLink, Inc.
- Riverside Drive businesses
- West Asheville Business Association
- West End/Clingman Avenue Neighborhood
- Western North Carolina Corridor Association
- Westgate/Patton Avenue businesses
- Westwood Place Neighborhood

7.6 PUBLIC LIBRARIES

State Library of North Carolina
109 East Jones Street
Raleigh, North Carolina 27601

Pack Memorial Library
67 Haywood Street
Asheville, North Carolina 28801

West Asheville Library
942 Haywood Road
Asheville, North Carolina 28806

Buncombe County Law Library
60 Court Plaza
Asheville, North Carolina 28801

7.7 WEBSITE

<https://www.ncdot.gov/projects/asheville-i-26-connector>

In accordance with NEPA, NCDOT published a DEIS for the I-26 Connector project in October 2015. The DEIS described the purpose of and need for the project, identified project alternatives, and evaluated them for potential environmental effects. Since the DEIS was published, a preferred alternative has been chosen based on feedback from the public and environmental regulatory and resource agencies. This FEIS is presented in the same order as the DEIS, with clarification and updates such as changes in the existing environment, updated impacts anticipated from the preferred alternative, and responses to comments received on the DEIS. Some information from the DEIS is summarized, and substantive new information is noted in italics.

CHAPTER 8. AGENCY COORDINATION AND PUBLIC INVOLVEMENT

8.1 AGENCY COORDINATION

During the study, agency coordination took place through communication with a Steering Committee and subsequently, a Merger Team, as well as through communication with federal, state, and local agencies in general. General coordination with agencies took place during the initial stages of the project when the scoping letter was issued. The Steering Committee was formed at the outset of the project. Coordination with the Merger Team took place after 2002 when the original Steering Committee became the Merger Team. Coordination with the Merger Team followed the Section 404/NEPA Merger Process and took place at specific points in the study, called Concurrence Points (CP). The timing and context of agency coordination meetings are summarized in this section.

8.1.1 HISTORY OF AGENCY COORDINATION

8.1.1.1 Issuance of Scoping Letter

At the outset of the environmental studies for the I-26 Connector, the proposed roadway was identified as TIP number I-2513. A scoping letter soliciting comments on the proposed project was sent on January 16, 1996, to the following local, state, and federal agencies:

- Federal Emergency Management Agency (FEMA)
- Tennessee Valley Authority
- United States Army Corps of Engineers (USACE)
- United States Environmental Protection Agency (EPA), Region IV
- United States Fish and Wildlife Service (USFWS)
- United States Geological Survey (USGS)
- Land of Sky Regional Council
- City of Asheville, Mayor
- Buncombe County, County Commissioner
- North Carolina Department of Administration State Environmental Review Clearinghouse
- North Carolina Office of Archives and History
- North Carolina Department of Public Instruction

- North Carolina Department of Transportation (NCDOT)
 - Hydraulics Unit
 - Roadside Environmental Unit
 - Geotechnical Engineering Unit
 - Location and Surveys Unit
 - Right-of-way Unit
 - Traffic Engineering Branch
 - Bicycle Coordinator
 - Director of Aeronautics
 - Operations, Chief Engineer
 - Rail Planner, Rail Division
 - Division 13, Division Engineer
- North Carolina Department of Environment and Natural Resources (NCDENR) (now North Carolina Department of Environmental Quality [NCDEQ]), Water Quality Lab
- North Carolina Wildlife Resources Commission (NCWRC)

The scoping letter and agency comments received in response to the scoping letter are provided in the 2015 DEIS Appendix C (Sub-Appendix C1 and C2). The agency comments in response to the scoping letter are also summarized in the 2015 DEIS Appendix C (Sub-Appendix C1 and C2).

8.1.1.2 Section 404/NEPA Merger Process

In 1997, USACE, FHWA, and NCDOT signed an Interagency Agreement integrating Section 404 and NEPA. The agreement requires the establishment of a project team at the beginning of each transportation project and outlines the coordination process with a series of CPs, which are as follows:

- CP 1: Purpose and Need
- CP 2: Detailed Study Alternatives
- CP 2A: Bridge Locations and Lengths
- CP 3: LEDPA
- CP 4A: Avoidance and Minimization of Impacts
- CP 4B: 30 percent Hydraulic Design
- CP 4C: 100 percent Hydraulic Design and Permit Drawings

The Merger Team was formed from the original Steering Committee. The first official Merger Team meeting was held on October 23, 2002. The following agencies are part of the Merger Team:

- USACE
- USFWS
- EPA, Region IV
- NCDENR (now NCDEQ), Division of Water Resources
- NCWRC

- Tennessee Valley Authority
- North Carolina Department of Natural and Cultural Resources, State Historic Preservation Office
- FBRMPO
- FHWA
- NCDOT

The Merger Team reviews and provides written concurrence at each CP before initiating the next step. The signed concurrence forms for merger meetings occurring since publication of the DEIS (CP 3 and CP 4A) are located in Appendix F.

8.1.1.3 Issuance of Notice of Intent under NEPA

In accordance with NEPA, a Notice of Intent (NOI) to prepare a NEPA EIS was published in the Federal Register, Volume 72, No. 142, Wednesday, July 25, 2007. The NOI is included in the 2015 DEIS Appendix D.

8.1.2 AGENCY CORRESPONDENCE

Appendix C presents a chronological listing of agency correspondence since publication of the 2015 DEIS for the project.

8.1.3 AGENCY COORDINATION MEETINGS

A timeline and summary of agency coordination activities since publication of the 2015 DEIS is provided in Appendix F.

8.2 PUBLIC INVOLVEMENT

The DEIS describes methods used for public outreach; which includes the mailing list, newsletters, post cards, the telephone hotline, the project website, and project visualizations. Copies of the newsletters and post cards are included in the 2015 DEIS Appendix C4. The project website can be found at <https://www.ncdot.gov/projects/asheville-i-26-connector>. NCDOT developed visualizations to supplement the information and maps presented at the 2015 Corridor Public Hearing in both video and map formats. The visualizations can be found on the project website.

Public meetings were conducted in several formats: citizens' information workshops, small group meetings, a public hearing, a project design forum, a project educational forum, a project informational forum, through meetings of a CCC, and small group meetings with neighborhoods.

8.2.1 COMMUNITY OUTREACH

NCDOT has held numerous meetings with community stakeholders since the project's inception. Beyond the traditional public meetings, informational workshops, public hearings, and small group meetings, NCDOT has incorporated feedback from several community

committees and/or organizations. Further coordination with the affected communities, the City of Asheville, and various stakeholders, has provided an opportunity to sufficiently avoid, minimize, or mitigate impacts from and offset impacts by increased benefits to some neighborhoods. A timeline of when meetings were held, descriptions of the meeting formats, and brief summaries of meeting proceedings are summarized in this section. More detailed records of the meetings held since publication of the 2015 DEIS are provided in Appendix F.

8.2.1.1 Public Involvement Activities

A timeline and summary of public involvement activities that have occurred since publication of the DEIS is provided in Appendix F.

8.2.1.2 Neighborhood Outreach Meetings

The following is a list of neighborhood outreach meetings since publication of the DEIS including dates, locations, and approximate number of attendees:

- *09/20/2016 – Small Group Meeting – West Asheville Business Association (WABA) at Isis Restaurant and Music Hall (743 Haywood Rd, Asheville, NC 28806); attended by approximately 40 residents.*
- *09/20/2016 – Small Group Meeting – Montford Neighborhood/Murphy Hill Community/Houston/Courtland Community at Isaac Dickenson Elementary School (90 Montford Avenue, Asheville, NC 28801); attended by over 100 residents.*
- *10/17/2016 – Small Group Meeting – Burton Street Neighborhood at Burton Street Community Center (134 Burton Street, Asheville, NC 28806); attended by approximately 18 residents.*
- *02/20/2017 – Small Group Meeting – Burton Street Neighborhood at Burton Street Community Center (134 Burton Street, Asheville, NC 28806); attended by approximately 40 residents.*
- *03/21/2017 – Small Group Meeting – Fairfax Avenue and Virginia Avenue Community at Mothlight (701 Haywood Road, Asheville, NC 28806); attended by approximately 39 residents.*
- *03/21/2017 – Small Group Meeting – Hillcrest Apartments Community at Carl E. Johnson Community Center (100 Atkinson Street, Asheville, NC 28801); attended by approximately 12 residents.*
- *06/05/2017 – Small Group Meeting – EWANA at the East West Vintage Rentals (278 Haywood Road, Asheville, NC 28806); attended by approximately 39 residents.*
- *06/06/2017 – Small Group Meeting – WABA at Isis Restaurant and Music Hall (743 Haywood Road, Asheville, NC 28806); attended by approximately 40 residents.*
- *09/07/2017 – Small Group Meeting – Fairfax Avenue and Virginia Avenue Community at Earth Fare (66 Westgate Parkway, Asheville, NC 28806); attended by approximately 15 residents.*

Based on written comments and issues and concerns discussed in the neighborhood meetings, general concerns and comments are summarized as follows:

- In general, there is mixed support for the project within these neighborhoods.
- Residents support the separation of interstate traffic from local traffic.
- There is general opposition to an eight-lane cross section.
- Residents felt that the local design plans were not adequately considered.
- Residents would like to see components of the project improve pedestrian and bicycle connectivity within the project study area, especially in the area of the Westgate Shopping Center.
- Residents are anxious for the lengthy planning process to conclude and are apprehensive about how their issues and concerns will be incorporated into the planning document.
- Residents would like aesthetically pleasing sound walls, landscaped medians, and buffers as part of the project.
- There is a perception that the preferred alternative selection is biased toward costs. Residents feel that alternatives impacting working class African American neighborhoods are more affordable for the state than alternatives in other Asheville neighborhoods, therefore, skewing the selection of the preferred alternative.
- Burton Street residents remember the division of their neighborhood by the construction of I-240, and feel that Alternate 3 would have negative effects to the remaining Burton Street Community.
- *WABA members noted that closing or moving the Haywood Road interchange would likely result in loss of business to several owners surrounding the interchange and this should not be considered.*
- *There were concerns that the City of Asheville does not have an adequate amount of affordable housing for those who may be relocated by the I-26 Connector Project.*
- *Fairfax Avenue and Virginia Avenue residents expressed interest in removing the Amboy Road Extension all together in order to reduce the overall project impacts. Concepts suggested included a configuration similar to a spread diamond interchange between Brevard Road and Amboy Road. It was noted by residents, with this type of configuration, the bike lanes and sidewalk as currently proposed, could be completely eliminated by providing a greenway. They proposed the greenway connection could begin on the north side of the spread diamond interchange, and run from Shelburne Road east to Carrier Park. It was perceived by some that a greenway serving pedestrians and bicyclists would be more desirable than bike lanes/cycle tracks and a sidewalk.*
- *Residents expressed general concern over potential noise impacts.*
- *General recommendations suggested designs be prepared to provide accommodations for pedestrians and bicyclists throughout the project and with a focus on safety in areas where they interact with motor vehicles.*
- *Hillcrest Apartment Community residents agree that the proposed access changes to and from the community were generally a benefit to residents.*
- *Hillcrest Apartment Community residents agreed sidewalks to the signalized intersection at Patton Avenue would be desirable, but that attention must be paid to safety at that intersection due to the amount of traffic anticipated. The residents also agreed it would be beneficial to keep the pedestrian bridge, but that there could potentially be ramps instead of stairs to accommodate wheelchairs and any other special needs of pedestrians.*

- *WABA and EWANA residents expressed safety concerns for bicyclists and pedestrians if Haywood Road was designed as a roundabout or “ovalabout.” Many residents explained that they value being able to commute from East West Asheville to areas for recreation and work, and didn’t feel comfortable with traversing a roundabout. The perception heard from most residents was that drivers will be paying more attention to other vehicles than they would bicyclists and pedestrians.*
- *Fairfax Avenue and Virginia Avenue residents expressed positive feedback for the concepts recommended between Amboy and Brevard Roads. Community residents expressed safety concerns regarding the slip ramp from I-26 to Amboy Road south, noting cars could speed through the ramp without paying attention to bicyclists or pedestrians.*

Burton Street Community Outreach

As a result of the proposed widening in Segment A, additional right-of-way will be required in the Burton Street neighborhood. As described in Chapter 4, the Burton Street neighborhood has been classified as an Environmental Justice population that has incurred recurring impacts. NCDOT, with the assistance of a subconsultant that specializes in environmental justice issues, is investigating ways to provide additional mitigation opportunities to lessen the burden of the project on the Burton Street neighborhood. This is being addressed by the development of a community-driven Burton Street Neighborhood Plan, adopted by the City of Asheville on September 25, 2018, which includes a list of mitigation strategies to be implemented by NCDOT as part of the project. The Burton Street Neighborhood Plan is included in Appendix E.

The plan includes a list of strategies that will be implemented by NCDOT to mitigate impacts from the proposed project. As noted in the plan, included in Appendix E, the following mitigation strategies will be implemented by NCDOT:

- *Improve existing sidewalks to meet ADA design standards*
- *Improve pedestrian connections between community resources by installing a sidewalk on Downing Street per agreement of property owners*
- *Improve sidewalk connections between commercial corridors, and include a pedestrian path from Buffalo Street to Patton Avenue that will connect to future greenway*
- *Evaluate opportunities for new transit stops, such as near Burton Street and Haywood Road*
- *Install a sidewalk along Patton Avenue to connect pedestrian path and transit stop*
- *Install bus shelters and other improvements at transit stops located near Burton Street. Consider neighborhood specific designs if feasible*
- *Incorporate a Burton Street history mural on proposed I-26 Connector sound wall if built*
- *Improve Community Center infrastructure by including additional parking*
- *Construct a new park and community gathering space at Smith Mill Creek that will include an access point to the future greenway*
- *Improve the Florida Avenue and Patton Avenue intersection by adding pavement markings and left turn signals*

Increase the tree canopy within the interstate buffer along the Burton Street neighborhood where possible

A list of the outreach that has occurred with the Burton Street neighborhood during development of the Burton Street Neighborhood Plan is below. Notification materials and handouts are included in Appendix F.

- *01/15/2018 – Community Open House #1 – St Paul's Missionary Baptist Church (170 Fayetteville St, Asheville, NC 28806); attended by approximately 41 residents.*
- *01/15/2018 – Stakeholder Group Meeting – St Paul's Missionary Baptist Church (170 Fayetteville St, Asheville, NC 28806); attended by approximately 3 community business owners.*
- *03/20/2018 – Community Open House #2 – St Paul's Missionary Baptist Church (170 Fayetteville St, Asheville, NC 28806); attended by approximately 28 residents.*
- *04/30/2018 – Community Open House #3 – Burton Street Community Center (132 Burton Street, Asheville, NC 28806); attended by approximately 34 residents.*

Since publication of the Burton Street Neighborhood Plan, NCDOT initiated a working group to coordinate with the Burton Street Community on implementing the mitigation measures NCDOT has committed to. The result of this working group will be a mitigation implementation plan that can be used during the project's final design.

8.2.1.3 Corridor Public Hearing

A Pre-Hearing Open House and Corridor Public Hearing were held on November 16, 2015, in the Grand Ballroom, Renaissance Asheville Hotel. The Open House began at 4:00 PM and ended at 6:30 PM. The Corridor Public Hearing began at 7:00 PM; approximately 500 people were in attendance.

The Open House was held to give interested parties an opportunity to review displays, including design maps; ask questions directly from project staff; and leave comments, both verbal and written. The Corridor Public Hearing consisted of a formal presentation, which included an explanation of project schedule, alternatives included in the 2015 DEIS, right-of-way, relocation requirements/procedures, and the state-federal relationship.

NCDOT received approximately 1,483 comment sheets, e-mails, letters, form letters, hotline calls, verbal comments, and/or Engage NCDOT posts regarding the project. Copies of the post-hearing meeting minutes summarizing the comments received and the NCDOT responses are located in Appendix F.

The following is an overview of the public hearing and the main issues of concern regarding the project according to the comments received:

- *Agency Comments Received*
 - *Federal Agencies:*
 - *United States Environmental Protection Agency*
 - *National Marine Fisheries Service*
 - *United States Department of the Interior*

- *United States Army Corps of Engineers*
- *State Agencies*
 - *North Carolina State Historic Preservation Office*
 - *North Carolina Department of Administration State Environmental Review Clearinghouse*
 - *NCDEQ, NCWRC, NCNHP, NCDEQ Waste Management Solid Waste Section and Inactive Hazardous Sites Branch*
- *Local Agencies*
 - *City of Asheville*
 - *Asheville Area Chamber of Commerce*
 - *Town of Woodfin*
 - *Several members of the Asheville City Council and Madison County government*
- *Special Interest Group Comments*
 - *The Biltmore Company*
 - *Asheville Bear Creek RV Park and Campground*
 - *EWANA*
 - *Woodland Hills of Asheville Homeowners Association*
 - *Asheville on Bikes*
 - *MountainTrue*
 - *Asheville Design Center*
 - *Council of Independent Business Owners*
 - *Asheville Sierra Club*
 - *WECAN*
 - *Southern Environmental Law Center*
 - *Montford Neighborhood Association*
 - *I-26 ConnectUs*
- *Project Opinion*
 - *22.4 percent (332) generally in favor of the project*
 - *71.6 percent (1,062) generally opposed to the project*
 - *9.2 percent (89) unanswered project opinion*
- *Excluding the form letters*
 - *36.8 percent (257) generally in favor of the project*
 - *54 percent (377) generally opposed to the project*
 - *9.2 percent (64) unanswered project opinion*
- *Alternative Preferred*
 - *In Section C*
 - *15 comments in favor of Alternative A-2*
 - *10 comments in favor of Alternative C-2*
 - *12 comments in favor of Alternative D-1*
 - *55 comments in favor of Alternative F-1*
 - *40 comments in favor of the No-Build Alternative*
 - *In Section A*
 - *97 comments in favor of the No-Build Alternative*
 - *52 comments in favor of the Widen Existing Alternative*

— *In Section B*

- o 35 comments in favor of Alternative 3
- o 15 comments in favor of Alternative 3-C
- o 668 comments in favor of Alternative 4
- o 748 comments in favor of Alternative 4-B
- o 26 comments in favor of the No-Build Alternative

Note that not all comments received included a preference of alternatives.

8.2.1.4 Design Public Hearing

A Pre-Hearing Open House and Design Public Hearing were held on December 4, 2018, in the Grand Ballroom, Renaissance Asheville Hotel. The Open House began at 4:00 PM and ended at 6:30 PM. The Corridor Public Hearing began at 7:00 PM; approximately 480 people were in attendance.

The Open House was held to give interested parties an opportunity to review displays, including design maps; ask questions directly from project staff; and leave comments, both verbal and written. The Design Public Hearing consisted of a formal presentation, which included an explanation of project schedule, design features and impacts of the preferred alternative, right-of-way, relocation requirements/procedures, and the state-federal relationship.

8.2.2 SPECIAL COMMITTEES

8.2.2.1 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 CCC was formed from this group of community leaders. The CCC was formed to facilitate public involvement and acquire public input on the project. In addition to citizen representatives, the CCC was composed of representatives from the following agencies, businesses, and organizations:

- Montford Neighborhood Association
- Fairfax Avenue/Virginia Avenue Neighborhood
- Burton Street Community Association
- Southeastern Freight Lines
- ICAG
- RiverLink Inc.
- Council of Independent Business Owners
- Land of Sky Regional Council
- The Biltmore Company
- Western North Carolina Alliance (WNCA)
- Quality Forward

- McGuire, Wood & Bissette
- Biltmore Farms, LLC
- Westgate Corporation
- Out There Press
- Smart Growth Partners
- Buncombe County Planning & Development Zoning Administrator
- Asheville Area Chamber of Commerce
- City of Asheville
 - Mayor
 - Transportation Department
 - Public and Community Information Coordinator
 - Housing Authority
- FHWA
- NCDOT
 - Division 13
 - Citizens Participation Unit (*now Public Involvement Team*)
 - Project Development Environmental Assessment Branch (*now Environmental Analysis Unit*)
- TGS Engineers
- Parsons Brinckerhoff

Many meetings of the CCC have been held throughout the project development process. Records of these meetings are listed in the 2015 DEIS Appendix C and are available upon request.

8.2.2.2 Aesthetics Advisory Committee

In response to a recommendation by the CCC, the City of Asheville established an AAC to work with NCDOT and the city to address aesthetic issues throughout the planning and design of the project.

The AAC acts in an advisory capacity. Members are charged with being familiar with NCDOT policies and city ordinances. Their work must be completed in a timely manner in accordance with the project's overall schedule. They have assisted with community outreach via neighborhood group meetings, workshops, and surveys.

Members understand that any of their recommendations that are outside of NCDOT policy can be considered, but should include suggestions for funding. To assist them, NCDOT and the City jointly provide technical and functional support. NCDOT has provided technical assistance for some visualization. The city has provided meeting locations and notifications. Several meetings have used video conferencing to involve NCDOT personnel.

The committee has provided guidance on the location of the proposed planted median and the planned design of noise walls.

The AAC was composed of the following citizen, agency, and business representatives:

- Leslie Fay
- Hedy Fisher
- Peter Gentling
- Robert Camille, Camille Alberice Architects
- Alice Oglesby, I.O. Design and Illustration
- Matt Sprouse, Site Works Studios
- Scott Shuford, City of Asheville, Planning and Development
- Alan Glines, City of Asheville, Planning and Development
- Dan Baechtold, City of Asheville, Transportation and Engineering
- Rick Tipton, NCDOT
- Greg Shuler, NCDOT

Many meetings of the AAC were held in the early stages of the project development process. Records of these meetings are listed in the 2015 DEIS Appendix C and are available upon request. At the request of the City of Asheville after the 2015 Corridor Public Hearing, an AAC was reinitiated on July 24, 2018 and includes the following representatives:

- Woodard (Woody) Farmer
- Michael Adams
- David Nutter
- Michael Zukoski
- Tal Dgani
- Ted Figura
- Susan Loftis

8.2.2.3 I-26 Connector Working Group

In March 2016, NCDOT and the City of Asheville established the I-26 Connector Working Group, which initiated a series of meetings between members of the City of Asheville City Council, the Asheville Design Center, Buncombe County, FHWA, FBRMPO, NCDOT, and other stakeholders. The purpose of these working group meetings was to discuss methodologies for various technical aspects of the project, discuss FHWA and NCDOT policies that factor into designs of the various project alternatives, receive feedback from local officials and public citizens on various aspects of the project, discuss bicycle/pedestrian accommodations and betterment requests from the City of Asheville, among other topics. The I-26 Connector Working Group will continue to coordinate with NCDOT throughout development of the project and into final design.

A list of the working group meetings held to date is listed below and included in Appendix F.

- 03/24/2016 – Working Group Meeting #1 – City of Asheville City Hall, Asheville, NC.
- 06/03/2016 – Working Group Meeting #2 NCDOT Division 13 Buncombe County Maintenance Office, Asheville, NC.

- 08/06/2016 – Working Group Meeting #3 – NCDOT Division 13 Buncombe County Maintenance Office, Asheville, NC.
- 09/20/2016 – Working Group Meeting #4 – NCDOT Division 13 Buncombe County Maintenance Office, Asheville, NC.
- 10/17/2016 – Working Group Meeting #5 – City of Asheville Fire and Police Training Room, Asheville, NC.
- 11/18/2016 – Working Group Meeting #6 – Land of Sky Regional Council, Asheville, NC.
- 02/20/2017 – Working Group Meeting #7 – Land of Sky Regional Council, Asheville, NC.
- 05/26/2017 – Working Group Meeting #8 – Land of Sky Regional Council, Asheville, NC.
- 07/27/2017 – Working Group Meeting #9 – Land of Sky Regional Council, Asheville, NC.
- 07/31/2018 – Working Group Meeting #10 – Land of Sky Regional Council, Asheville, NC.
- 02/21/2019 – Working Group Meeting #11 – City of Asheville Fire and Police Training Room, Asheville, NC.

In April 2018, NCDOT began coordinating with the City of Asheville’s consultant Sam Schwartz on various design recommendations from the City of Asheville. One of these recommendations included revising this interchange to an urban diamond type configuration. Alternative 4-B was revised to include a diamond interchange at the I-26/I-240/Patton Avenue, which required the addition of approximately 8.5 acres of right of way; however, no additional residential relocations were necessary, and one business relocation was eliminated. The full analysis of Alternative 4-B by the City of Asheville and their design recommendations for Section B was finalized in September 2018 and is included in Appendix B.

8.3 PUBLIC COMMENTS ON THE 2015 DEIS

Comments received on the 2015 DEIS and at the Corridor Public Hearing were considered jointly by NCDOT at the post hearing meeting held on January 26, 2016. A summary of the comments and responses to the public comments received is included in Appendix H.

8.4 CONTROVERSIAL ISSUES

During the course of the project, controversial issues have been identified through the public involvement process. The primary issues were the need for eight lanes versus six lanes to adequately increase capacity on I-240 (Section A of the project), and the separation of local and interstate traffic. These issues have been resolved with the selection and refined designs of the preferred alternative.

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CHAPTER 10. LIST OF ACRONYMS

AAC	Aesthetics Advisory Committee
AAMPO	Asheville Area Metropolitan Planning Organization
AASHTO	American Association of State Highway and Transportation Officials
ACAC	Asheville Connector Advisory Committee
ACS	American Community Survey
ADC	Asheville Design Center
ADT	Average Daily Traffic
APE	Area of Potential Effects
ART	Asheville Redefines Transit
ATS	Asheville Transit System
BG	Block Group
BMP	Best Management Practice
BOSS	Bus on Shoulder System
BRT	Bus Rapid Transit
C/D	Collector/Distributor
CAAA	Clean Air Act Amendments
CCC	Community Coordinating Committee
CEDS	Comprehensive Economic Development Strategy
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CES	Cumulative Effects Study
CFR	Code of Federal Regulations
CIA	Community Impact Assessment
CP	Concurrence Point
CT	Census Tract
CWA	Clean Water Act
dB	Decibel
dBA	Decibels of A-weighted noise
DCIA	Direct Community Impact Area
DEIS	Draft Environmental Impact Statement
DOJ	Department of Justice
DSA	Demographic Study Area
EB	Eastbound
EEP	Ecosystem Enhancement Program

EO	Executive Order
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
EWANA	East-West Asheville Neighborhood Association
FAA	Federal Aviation Administration
FBRMPO	French Broad River Metropolitan Planning Organization
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FLUSA	Future Land Use Study Area
FPPA	Farmland Protection Policy Act
FSC	Federal Species of Concern
GIS	Geographic Information System
HOV	High Occupancy Vehicle
HQW	High Quality Waters
HUD	Housing and Urban Development
ILUS/LUSA	Indirect Screening and Land Use Scenario Assessment
LEDPA	Least Environmentally Damaging Practicable Alternative
LEP	Limited English Proficient
Leq	Equivalent sound level
LOS	Level of Service
L RTP	Long Range Transportation Plan
MOA	Memorandum of Agreement
MPO	Metropolitan Planning Organization
MSAT	Mobile Source Air Toxics
MSD	Metropolitan Sewer District of Buncombe County
MTP	Metropolitan Transportation Plan
N/A	Not Applicable
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NB	Northbound
NCAC	North Carolina Administrative Code
NC DENR	North Carolina Department of Environment and Natural Resources
NC DEQ	North Carolina Department of Environmental Quality
NC DOT	North Carolina Department of Transportation
NCNHP	North Carolina Natural Heritage Program

NCTN	North Carolina Transportation Network
NCWRC	North Carolina Wildlife Resource Commission
NEPA	National Environmental Policy Act
NHL	National Historic Landmarks
NHPA	National Historic Preservation Act
NLEB	Northern long-eared bat
NMFS	National Marine Fisheries Service
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NPIAS	National Plan of Integrated Airport Systems
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NRTR	Natural Resources Technical Report
NS	Norfolk Southern Railway
ORW	Outstanding Resource Waters
RAD	River Arts District
RCRA	Resource Conservation and Recovery Act
SAFETEA-LU	Safe, Accountable, Flexible Efficient Transportation Equity Act – A Legacy for Users
SB	Southbound
SHPO	State Historic Preservation Officer
SPL	Sound Pressure Level
STC	Strategic Transportation Corridor
STIP	State Transportation Improvement Program
TAC	Joint Transportation Advisory Committee
TCC	Technical Coordinating Committee
TDM	Transportation Demand Management
TIP	Transportation Improvement Program
TRB	Transportation Research Board
TSM	Transportation System Management
TUDI	Tight Urban Diamond Interchange
UDO	Unified Development Ordinance
UNC	University of North Carolina
USACE	United States Army Corps of Engineers
U.S.C.	United States Code
USCG	United States Coast Guard

USDA	United States Department of Agriculture
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
V/C	Volume to Capacity Ratio
VMT	Vehicle Miles Traveled
WABA	West Asheville Business Association
WB	Westbound
WECAN	West End/Clingman Area Neighborhood
WNCA	Western North Carolina Alliance