

Watauga County CTP: Detailed Project Descriptions

Implementation

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

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

Prior to implementing projects from the CTP, additional analysis will be necessary to meet the National Environmental Policy Act¹ (NEPA) or the North Carolina State Environmental Policy Act² (SEPA). This CTP may be used to provide information in the NEPA/SEPA process.

Problem Statements

The following pages contain problem statements for each recommendation, organized by CTP modal element. The information provided in the problem statement is intended to help support decisions made in the NEPA/SEPA process. A full, minimum or reference problem statement is presented for each recommendation, with full problem statements occurring first in each section. Full problem statements are denoted by a gray shaded box containing project information. Minimum problem statements are more concise and less detailed than full problem statements, but include all known or readily available information. Reference problem statements are developed for TIP projects where the purpose and need for the project has already been established.

¹ For more information on NEPA, visit: <http://ceq.hss.doe.gov/>

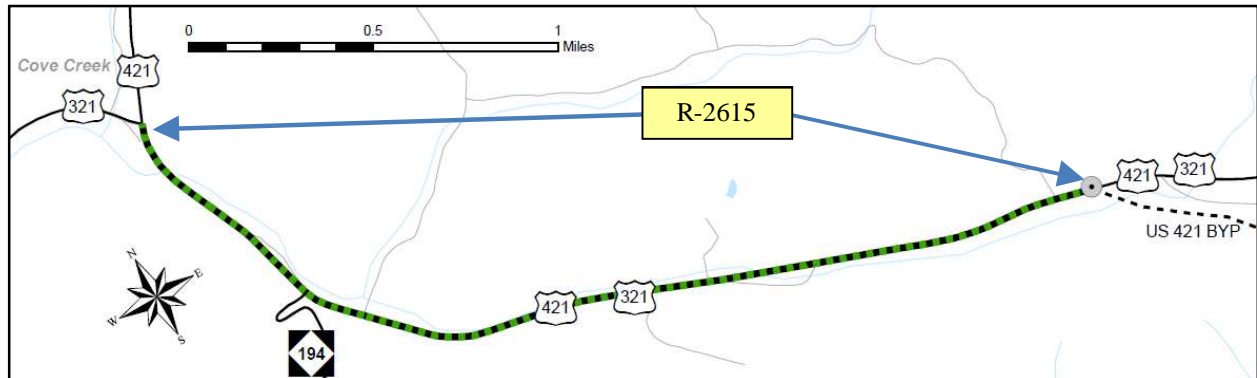
² For more information on SEPA, visit: <http://www.doa.nc.gov/clearing/faq.aspx>

HIGHWAY

**US 421
Proposed Improvements from US 321 at Vilas to the
proposed US 421 BYP**

Local ID: R-2615

Last updated: 9/7/2012



Identified Problem

US 321-421 is currently over capacity and is projected to remain over capacity in 2040 from the proposed US 421 BYP to US 321 in Vilas. The purpose of this project is to relieve congestion on the existing facility and to accommodate projected traffic volumes in order to maintain a Level of Service (LOS) D on the facility.

Justification of Need

US 321-421 is the primary route between Boone and the western portions of the county. It is currently a two lane facility with a speed limit of 55 miles per hour (mph). Lane widths vary from 11 to 12 feet. The facility is currently over capacity with an Average Annual Daily Traffic (AADT) volume of 15,200 vehicles per day (vpd), compared to a LOS D capacity of 12,100 vpd. Approximately 19,500 vpd are projected in 2040.

Community Vision and Problem History

US 321-421 is designated an economic “Gateway” in the 2010 Citizens Plan for Watauga³. The plan links the aesthetic quality of such facilities as “vitally important to the economic future of the community.” US 321-421 was identified as being over capacity in the 2002 Watauga County Thoroughfare Plan.

CTP Project Proposal

Project Description and Overview

The CTP proposes improving this section of US 321-421 to a boulevard. This would be accomplished by widening to four lanes, adding a median, and 4 foot paved shoulders to accommodate bicycles. These improvements can serve as a stepping stone to achieving the Strategic Highway Corridor (SHC) vision for US 321-421 to be an expressway.

³ The 2010 Citizens Plan for Watauga can be viewed at:

http://www.wataugacounty.org/main/App_Pages/Dept/Planning/citizensplan.aspx

Additionally, from 2006 through 2008 the intersection of US 321 and US 421 experienced 21 crashes with an average severity of 4.29, compared to the state's average of 4.73 for the same period.

Natural & Human Environmental Context

Based on a planning level environmental assessment using available GIS data, the proposed project is in the vicinity (300ft from centerline) of the following environmental features: trout streams and a land trust priority area.

Relationship to Land Use

Current land use is low density rural. There are some roadside shops along the route. Residential developments are not directly off US 321-421 but are instead accessed from cross streets. The 2010 Citizens Plan for Watauga proposes mixed use development along US 321-421. The plan also identifies Cove Creek as a historic community.

Linkages to Other Plans and Proposed Project History

US 321-421 is classified as a principal arterial on the Federal Functional Classification System, and this stretch of US 321-421 is on the statewide tier of the North Carolina Multimodal Investment Network⁴ (NCMIN). Statewide tier facilities serve long-distance trips, connect regional centers, have the highest usage, and mostly serve a mobility need. Additionally, US 321-421 is designated as an expressway on NCDOT's SHC Vision Plan.

The 2002 Thoroughfare Plan for Watauga County identified US 321-421 as over capacity and recommended widening US 321-421 to four lanes. This improvement (R-2615) has been in the TIP as an unfunded intrastate project since the 1990-1996 TIP.

The 2010 Citizens Plan for Watauga identified the widening of US 321-421 as one of five priority projects.

Multi-modal Considerations

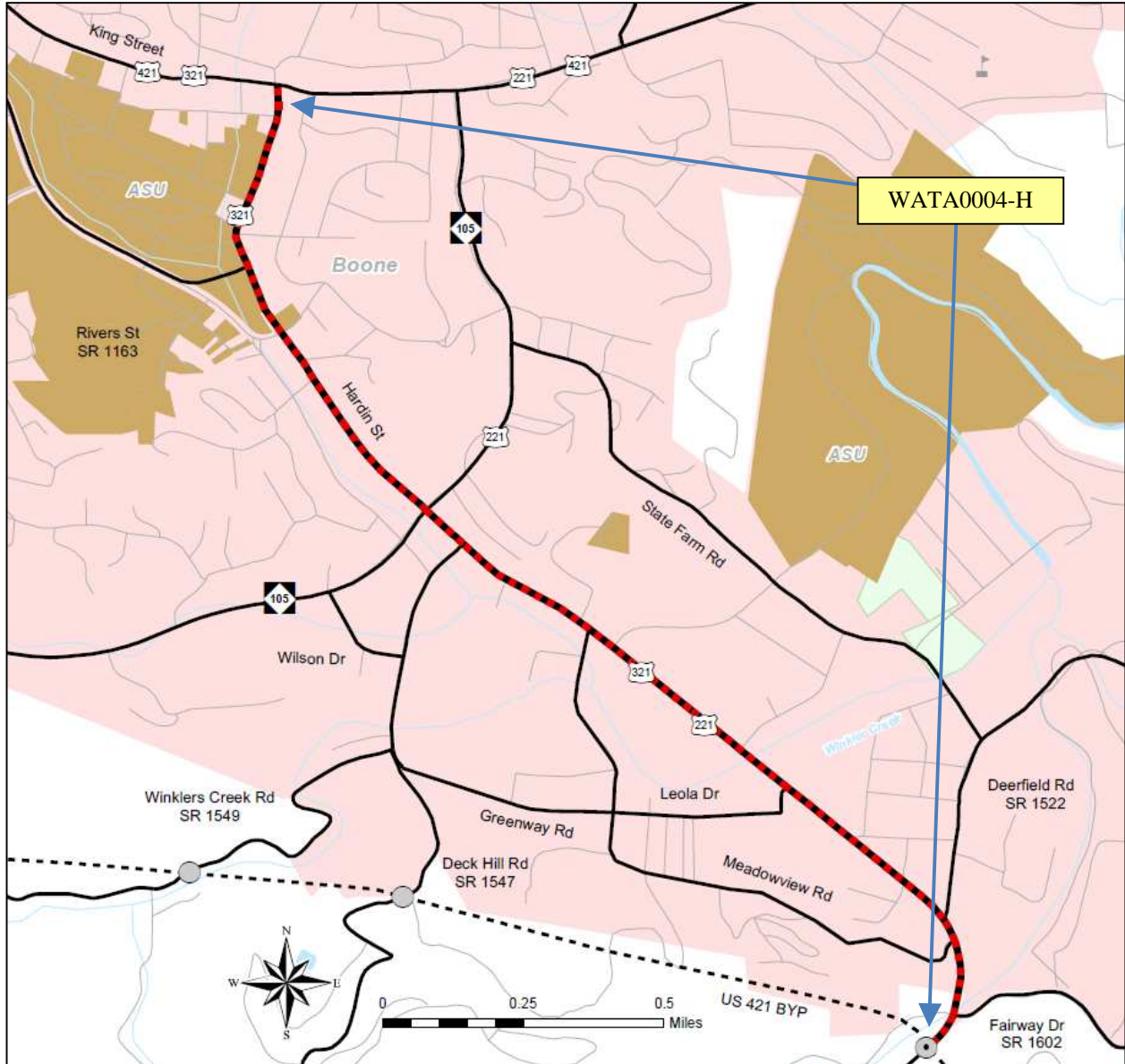
Bicycle accommodations are recommended along the entire facility and will improve access to Cove Creek Elementary School.

⁴ For more information on NCMIN, visit: <http://www.ncdot.gov/performance/reform/NCMINmaps/>

**US 321 (Hardin Street / Blowing Rock Road)
Proposed Improvements from US 421 (King Street) to
the proposed US 421 BYP**

Local ID: WATA0004-H

Last updated: 9/7/2012



Identified Problem

US 321 is projected to be near or over capacity in 2040 from US 421 (King Street) to the proposed US 421 BYP. The purpose of this project is to accommodate projected traffic volumes in order to maintain a Level of Service (LOS) D on the facility.

Justification of Need

Existing US 321 from US 421 (King Street) in Boone to Fairway Drive (SR 1602) has four 12 foot wide thru lanes, a speed limit of 35 mph, and a center turn lane. From Fairway Drive (SR 1602) to the proposed US 421 BYP, US 321 changes to a 4 lane

undivided cross section. The 2010 Average Annual Daily Traffic (AADT) volume ranges from 18,000 vehicles per day (vpd) north of NC 105 to 41,800 vpd south of NC 105, compared to a LOS D capacity of 25,400 vpd and 26,600 vpd respectively. Approximately 24,000 to 61,700 vpd are projected in 2040.

Community Vision and Problem History

The Boone 2030 Land Use Plan (2009)⁵ identified US 321, and especially the intersection with NC 105, as the “worst” traffic congestion in Boone. The plan proposed a multi-prong approach to addressing the issues. The 1991 Boone Thoroughfare Plan identified the US 321 from Fairway Drive (SR 1602) to NC 105 as having a “serious capacity problem”, defined as a volume to capacity ratio over 1.25 and from NC 105 to near Rivers Street (SR 1163) as over capacity.

CTP Project Proposal

Project Description and Overview

The CTP proposes converting US 321 to a boulevard by removing the center turn lane, providing a median, and bicycle accommodations.

Additionally, from 2006 through 2008, thirteen intersections along this corridor were identified as having 10 or more crashes, none of which had a severity index above the state’s average of 8.4 for an injury crash. There are an additional four high crash locations along cross streets in the vicinity.

Natural & Human Environmental Context

Based on a planning level environmental assessment using available GIS data, the proposed project is in the vicinity (300ft from centerline) of trout streams, water distribution pipes, sewer system pipes, and water supply watershed. The proposed project also crosses within a land trust priority area.

Relationship to Land Use

Current land use along US 321 is primarily business. Being within the Boone city limits, land along US 321 has high density and continues to develop. Five of the top twenty employers in the county have direct access to US 321 with an additional two within half a mile. These five employers are Appalachian State University (ASU), Belk Inc., A F Bank, Lowe’s Home Centers Inc., and Wal-Mart Stores Inc. The other two nearby are the International Resistance Company on Greenway Road and Watauga Medical Center on Deerfield Road (SR 1522). After the development of Socio-economic data, the International Resistance Company began the process of closing this facility. This change could be reflected in future CTP updates.

The Boone 2030 Land Use Plan (2009) categorizes future land use along US 321 as either “Mixed Use: Medium to High Density” development or as belonging to ASU, and identifies four “Regional Mixed Use Centers” along this section of US 321.

⁵ The 2009 Boone 2030 Land Use Plan can be viewed at:
<http://www.thelawrencegroup.com/boone2030/finalDocs/CoverTOC.pdf>

Linkages to Other Plans and Proposed Project History

While the Boone 2030 Land Use Plan (2009) recommended a non-typical cross section to address the capacity deficiency, many of the characteristics of the cross section align with NCDOT's criteria of a boulevard. Some of the overlapping characteristics include dividing the facility with a raised median and limiting or consolidating driveway access. The primary difference is that the Boone 2030 Plan (2009) proposes utilizing 4 thru lanes and additional low speed parallel lanes (effectively service roads) while the CTP proposes utilizing U-turn bulbs. The 1991 Boone Thoroughfare Plan identified US 321 as over capacity, but thought a solution of a proposed "US 421 bypass and a widening [of] State Farm Road should be adequate to the design year" of 2020.

Future congestion on US 321 will be highly dependent on the impacts of the proposed US 421 BYP, whether using new location or utilizing parts of existing facilities. See U-2703 for more information.

US 321 is classified as a principal arterial on the Federal Functional Classification System from the proposed US 421 BYP to NC 105 and as a minor arterial from NC 105 to US 421 (King Street). This stretch of US 321 is on the statewide tier of the North Carolina Multimodal Investment Network⁶ (NCMIN). Statewide tier facilities serve long-distance trips, connect regional centers, have the highest usage, and mostly serve a mobility need.

Multi-modal Considerations

AppalCART operates a fixed route bus service along US 321. Pedestrian facilities currently exist along US 321, and no improvements are recommended. Bicycle accommodations are also recommended along the entire project.

Public/ Stakeholder Involvement

Results from the Goals & Objectives (G&O) survey conducted for this CTP revealed that US 321, known as "Blowing Rock Road," was the most identified "often used facility for the county". It was also the second most identified area described as "difficult to access" after King Street.

⁶ For more information on NCMIN, visit: <http://www.ncdot.gov/performance/reform/NCMINmaps/>

**NC 105 BYP (SR 1107)
Proposed Improvements from NC 105 to US 321-421**

Local ID: WATA0002-H

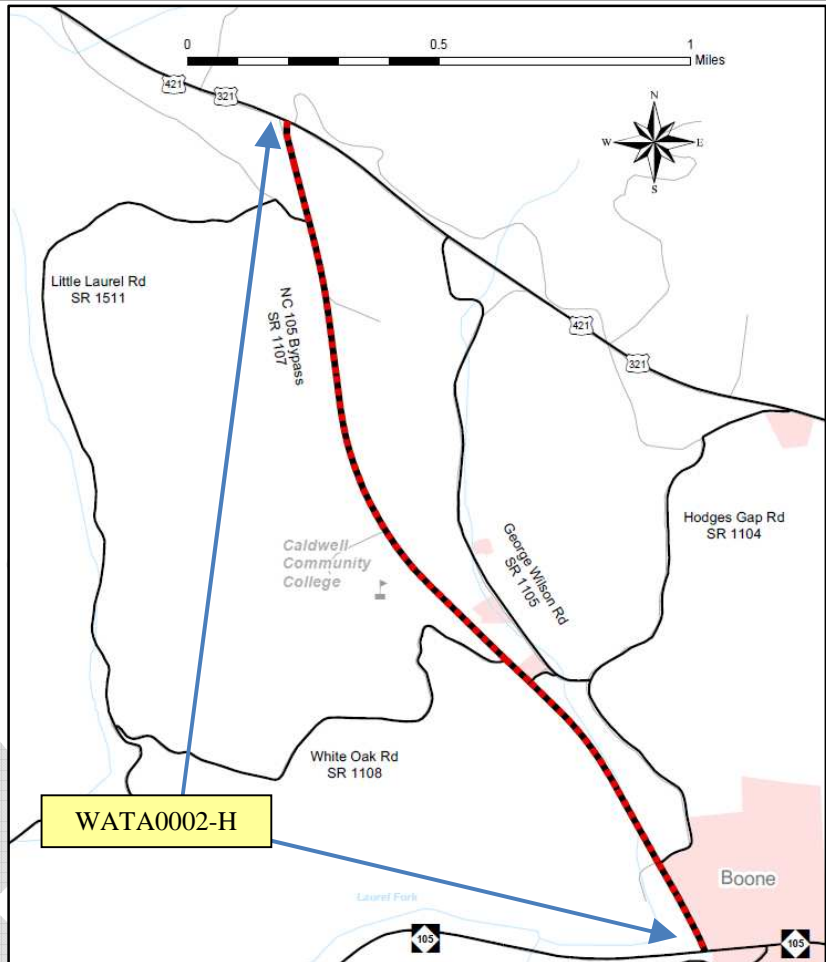
Last updated: 9/7/2012

Identified Problem

NC 105 BYP (SR 1107) is projected to be near or over capacity in 2040 from NC 105 to Caldwell Community College. The purpose of this project is to accommodate projected traffic volumes in order to maintain a Level of Service (LOS) D on the facility.

Justification of Need

NC 105 BYP (SR 1107) from NC 105 to US 321-421 has two 12 foot lanes and a speed limit of 55 miles per hour (mph). The 2010 Annual Average Daily Traffic (AADT) volume ranges from 10,600 to 13,500 vpd, and has a capacity of 13,500 vpd (LOS D). The estimated 2040 traffic volume ranges from 10,200 to 16,000 vpd.



Community Vision and Problem History

The 1991 Boone Thoroughfare Plan identified the NC 105 BYP (SR 1107) as having a “serious capacity problem” defined as a volume to capacity ration over 1.25 in the forecasted year of 2020.

CTP Project Proposal

Project Description and Overview

The CTP proposes improving NC 105 BYP (SR 1107) to a boulevard. This would be accomplished by widening to four lanes, adding a median, and 4 foot paved shoulders to accommodate bicycles. While the Boone 2030 Land Use Plan (2009)⁷ recommended a three lane cross section, analysis during this CTP study showed that a four lane cross section was needed.

⁷ The 2009 Boone 2030 Land Use Plan can be viewed at:
<http://www.thelawrencegroup.com/boone2030/finalDocs/CoverTOC.pdf>

Additionally, from 2006 through 2008, three intersections along this corridor were identified as having 10 or more crashes or had a severity index above the state's average of 8.4 for an injury crash. Those intersections included: US 321-421, Hodges Gap Road (SR 1104) and NC 105.

Natural & Human Environmental Context

Based on a planning level environmental assessment using available GIS data, the proposed project is in the vicinity (300ft from centerline) of trout streams and Caldwell Community College. It is also within a land trust priority area.

Relationship to Land Use

Current land use along NC 105 BYP (SR 1107) is a mixture of business and residential. Being at the edge of the Boone Extraterritorial Jurisdiction (ETJ), NC 105 BYP (SR 1107) is low density but is experiencing development. The southern intersection of NC 105 BYP (SR 1107) and NC 105 is dominated by University Highlands Apartments which provides housing for students attending Appalachian State University. Caldwell Community College is just north of White Oak Road (SR 1106). And Mary's Montessori School is located at the northern intersection of NC 105 BYP (SR 1107) and US 321-421. There are also three churches in the vicinity, Westview Baptist Church, Alliance Bible Fellowship, and Bibleway Baptist Church.

The 2010 Citizens Plan for Watauga⁸ identified "Key Community Services" along NC 105 BYP (SR 1107) including Caldwell Community College. The plan also proposes mixed use development along NC 105 BYP (SR 1107), from the Boone ETJ to US 321-421. The Boone 2030 Land Use Plan (2009) categorizes future land use along NC 105 BYP (SR 1107) as "Primary Residential" and "Low Density" development.

Linkages to Other Plans and Proposed Project History

The Boone 2030 Land Use Plan (2009) recommended widening NC 105 BYP (SR 1107) to a "three-lane alignment with spot medians." The 1991 Boone Thoroughfare Plan identified NC 105 BYP (SR 1107) as part of the then planned alignment for the US 421 BYP; as such, it was recommended to be widened to a 5 lane cross section. The CTP's project proposal is based on a planning horizon year of 2040, further than previous plans. Future congestion on NC 105 BYP (SR 1107) will be highly dependent on the impacts of the proposed US 421 BYP, whether using new location or utilizing parts of existing facilities. See U-2703 for more information.

This stretch of NC 105 BYP (SR 1107) is on the subregional tier of the North Carolina Multimodal Investment Network⁹ (NCMIN). Subregional tier facilities serve localized movements. They provide more of an access function than mobility, and are of a higher interest to cities and counties than the state.

⁸ The 2010 Citizens Plan for Watauga can be viewed at:

http://www.wataugacounty.org/main/App_Pages/Dept/Planning/citizensplan.aspx

⁹ For more information on NCMIN, visit: <http://www.ncdot.gov/performance/reform/NCMINmaps/>

Multi-modal Considerations

AppalCART operates a fixed route bus service along NC 105 BYP (SR 1107). Pedestrian facilities are recommended from NC 105 to US 321-421. Bicycle accommodations are also recommended from NC 105 to US 321-421 to improve access to Caldwell Community College.

Public/ Stakeholder Involvement

NC 105 BYP (SR 1107) serves Caldwell Community College which was identified in the 2010 Citizens Plan for Watauga as a “Key Community Service” and subsequently included in the CTP’s Goals and Objectives as a key “Activity Center.” One of the objectives established for CTP stated the preference for road designs that promote multimodal services, interconnectivity, and accessibility to “Activity Centers.” NC 105 BYP (SR 1107) from NC 105 to US 321-421 is recommended to have highway, transit, pedestrian, and bicycle improvements.

DRAFT

NC 194

Proposed Improvements from US 421 to Howards Creek Road (SR 1306)

Local ID: WATA0003-H

Last updated: 9/7/2012

Identified Problem

NC 194 is currently near or over capacity and is projected to be over capacity in 2040 from US 421 to Howards Creek Road (SR 1306). The purpose of this project is to accommodate projected traffic volumes in order to maintain a Level of Service (LOS) D on the facility.

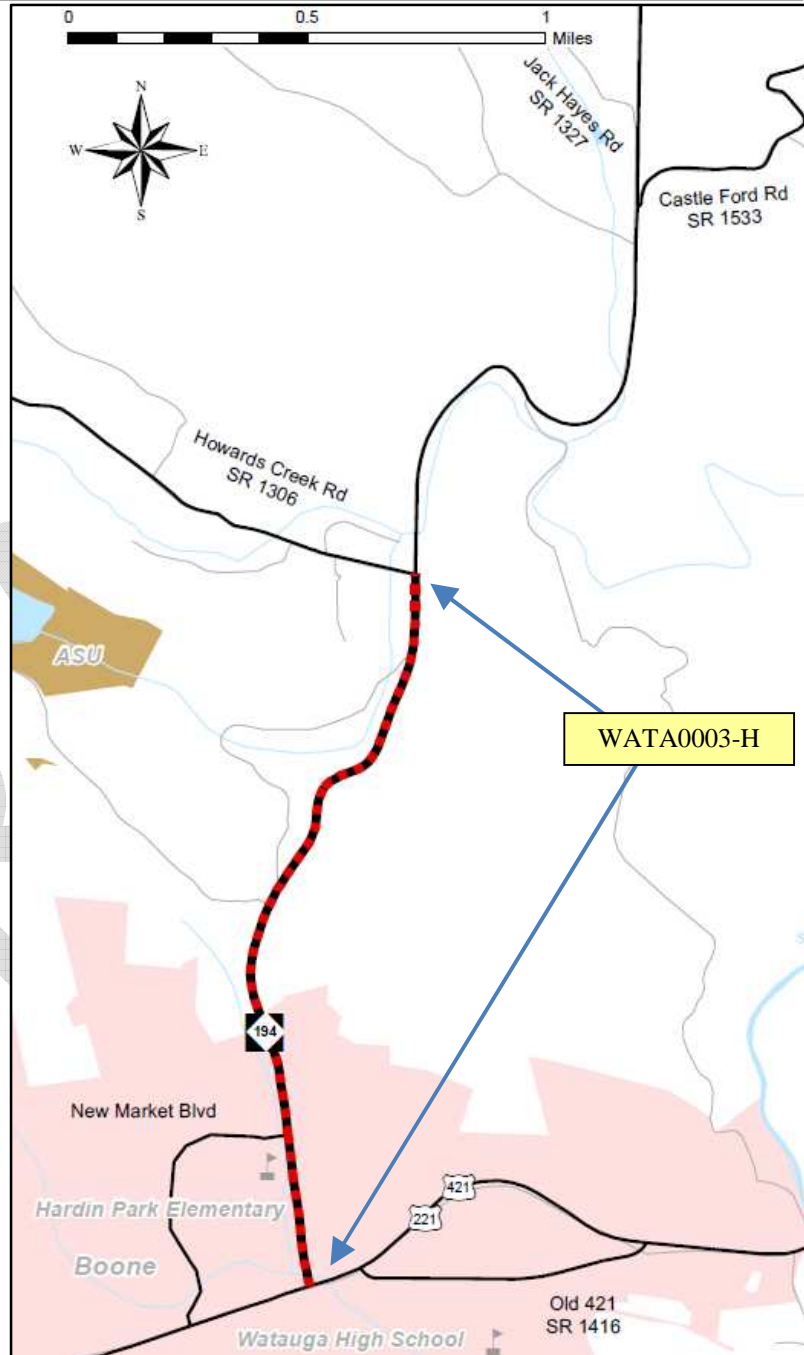
Justification of Need

Within the Boone municipal limits, NC 194 is a two lane facility with a speed limit of 35 miles per hour (mph), lane widths of 10 feet, an Average Annual Daily Traffic (AADT) volume of 10,500 vehicles per day (vpd) and a capacity (LOS D) of 9,400 vpd.

Outside the Boone municipal limits, NC 194 is a two lane facility with a speed limit of 55 mph, lane widths of 9 feet, an AADT volume of 8,600 vpd and a capacity (LOS D) of 12,200 vpd. NC 194 is the primary route between Boone and the northern portions of the county. Approximately 12,800 vpd are projected in 2040.

Community Vision and Problem History

The 2010 Citizens Plan for Watauga identified the widening of NC 194 as one of five priority projects. The 2002 Thoroughfare Plan for Watauga County projected NC 194 from the Boone Planning Area Boundary (PAB) to Jack Hayes Road (SR 1327) to be over capacity by 2030. The 1991 Boone Thoroughfare Plan identified NC 194 as being "slightly over capacity" in



1990 and having a “serious capacity problem,” defined as a volume to capacity ratio over 1.25, in the forecasted year of 2020.

CTP Project Proposal

Project Description and Overview

The CTP proposes improving this section of NC 194 to a boulevard. This would be accomplished by widening to four lanes and adding a median. Bicycle and pedestrian accommodations are also recommended along the proposed project.

Additionally, from 2006 through 2008 the intersection of NC 194 and US 421 experienced 38 crashes with an average severity of 2.9, compared to the state’s average of 4.73 for the same period.

Natural & Human Environmental Context

Based on a planning level environmental assessment using available GIS data, the proposed project is in the vicinity (300ft from centerline) of the following natural heritage sites: natural heritage element occurrences, trout streams, Hardin Park Elementary School, water distribution pipes and sewer systems pipes.

Relationship to Land Use

Current land use varies from medium density development at the NC 194 and US 421 intersection to low density rural development north of the Boone town limits. The development at the corner of NC 194 and US 421 is anchored by a Big Lots and includes restaurants, a cinema, a bank, and other strip development. Further north at the intersection of NC 194 and New Market Boulevard is Hardin Park Elementary School which has driveway access to both roads. At the northern end of the project, the intersection of NC 194 and Howards Creek Road (SR 1306), is an NCDOT depot and district office. Just off NC 194 on Howards Creek Road (SR 1306), is Mountain Pathways School. The outstanding balance of land with access to NC 194 is primarily residential in nature.

The 2010 Citizens Plan for Watauga¹⁰ identified the “Key Community Services” along NC 194 as Hardin Park Elementary School and Mountain Pathways School. The plan proposes mixed use development along NC 194 from the Boone Extraterritorial Jurisdiction (ETJ) to Howards Creek Road (SR 1306). According to the Boone 2030 Land Use Plan (2009)¹¹, future land use on the south end of NC 194 is categorized as “Urban Residential” and “Mixed-Use” development.

¹⁰ The 2010 Citizens Plan for Watauga can be viewed at:
http://www.wataugacounty.org/main/App_Pages/Dept/Planning/citizensplan.aspx

¹¹ The 2009 Boone 2030 Land Use Plan can be viewed at:
<http://www.thelawrencegroup.com/boone2030/finalDocs/CoverTOC.pdf>

Linkages to Other Plans and Proposed Project History

NC 194 is a major collector on the Federal Functional Classification System, and is on the regional tier of the North Carolina Multimodal Investment Network¹² (NCMIN). Regional tier facilities can serve statewide transportation, but they usually connect major population centers and provide a more localized function including land access.

The 2010 Citizens Plan for Watauga identified the widening of NC 194 as one of five priority projects. The 2002 Watauga County Thoroughfare Plan recommended widening NC 194 to a four lane divided cross section from US 421 to Howards Creek Road (SR 1306) and widening to a three lane cross section north of Howards Creek Road (SR 1306) to Jack Hayes Road (SR 1327). For this CTP, the section of the project from Howards Creek Road (SR 1306) to Jack Hayes Road (SR 1327) has been replaced with a new project (WATA0012-H) to widen to 12 foot lanes and 4 foot paved shoulders from Howards Creek Road (SR 1306) to Castle Ford Road (SR 1333).

Multi-modal Considerations

AppalCART operates a fixed route bus service along NC 194 from US 421 to New Market Boulevard. Pedestrian facilities are recommended from US 421 to New Market Boulevard to improve access to Hardin Park Elementary School. NC 194 does not currently accommodate bicycles. Bicycle accommodations are recommended from US 421 to Ashe County to improve access to Hardin Park Elementary School and Green Valley Elementary School.

Public/ Stakeholder Involvement

Results from the Goals & Objectives (G&O) survey conducted for this CTP revealed that NC 194 was the fifth most identified “often used facility for the county.”

¹² For more information on NCMIN, visit: <http://www.ncdot.gov/performance/reform/NCMINmaps/>

US 221, TIP No. R-2915

US 221 from US 421 in Deep Gap to NC 88 in Ashe County is projected to be over or near capacity in the Ashe County section. Please see the 2010 Ashe County CTP for more details. The 2012 – 2018 Transportation Improvement Program (TIP) includes project R-2915 that is intended to address this deficiency.

The TIP project includes widening US 221 to a four lane boulevard with bicycle accommodations. This project is currently scheduled for construction in 2015 according to the 2012-2018 TIP. For additional information about this project, including the Purpose and Need, contact NCDOT's Project Development and Environmental Analysis Branch (PDEA) or visit the project website¹³.

US 321, TIP No. R-5016

US 321 from Avery County to US 421 in Vilas does not meet the future mobility needs in western North Carolina and into Tennessee. This facility is intended to provide mobility in Watauga County and, ultimately, connectivity between Johnson City, TN and Gastonia, NC. Additionally, US 321 from US 421 in Vilas to Rominger Road (SR 1121) is projected to be near capacity by 2040.

R-5016 is currently unfunded in the 2012 – 2018 Transportation Improvement Program (TIP) and is scheduled for reprioritization by the Strategic Prioritization Office of Transportation (SPOT).

US 321 is designated as an expressway on NCDOT's the Strategic Highway Corridor (SHC) Vision Plan adopted on September 2, 2004. US 321 is a two lane facility with a speed limit of 55 miles per hour (mph), and lane widths of 11 feet, except for the Cove Creek community where it has a 35 mph speed limit. The 2010 Annual Average Daily Traffic (AADT) volume ranges from 2,900 to 6,700 vpd, and has a capacity of 9,100 vpd (LOS D). The estimated 2040 traffic volume ranges from 4,200 to 7,700 vpd. Additionally, from 2006 through 2008 the intersection of US 321 and US 421 experienced 21 crashes with an average severity of 4.29, compared to the state's average of 4.73 for the same period.

US 321 from Avery County to US 421 in Vilas is recommended to be upgraded to an expressway with bicycle accommodations. As development occurs along this corridor every effort should be made to limit access in order to maintain mobility.

Based on a planning level environmental assessment using available GIS data, the proposed project is in the vicinity (300ft from centerline) of trout streams, wetlands, and natural heritage areas. Additionally, NCDOT's Structures Management Unit has identified bridge #29 over Cove Creek as functionally obsolete.

The 2002 Watauga County Thoroughfare Plan recommended widening US 321 from Vilas to Avery County to two 12 foot lanes.

¹³ The U-4020 project website can be viewed at: <http://www.ncdot.gov/projects/search/details.html#id=1916>

US 321, Local ID: WATA0005-H

US 321 from the proposed US 421 BYB south of Boone to US 221 north of Blowing Rock does not meet the future mobility needs in western North Carolina and into Tennessee. This facility is intended to provide mobility in Watauga County and, ultimately, connectivity between Johnson City, TN and Gastonia, NC. Additionally, a portion of this facility between the proposed US 421 BYB and Niley Cook Road (SR 1532) will be near capacity by 2040.

US 321 is designated as an expressway on the Strategic Highway Corridor (SHC) Vision Plan adopted by NCDOT on September 2, 2004 and last updated on July 10, 2008. US 321 between the proposed US 421 BYB south of Boone to US 221 north of Blowing Rock is currently a four lane undivided facility with 11 foot lanes. The 2010 Annual Average Daily Traffic (AADT) volume is 18,100 vpd, and capacity is 26,200 vpd (LOS D). The estimated 2040 volume is 22,800 vpd. Additionally, from 2006 through 2008 the intersection of US 321 and US 321 BUS (Main Street) experienced 10 crashes with an average severity of 1.00, compared to the state's average of 4.73 for the same period. The intersection of US 321 and Payne Branch Road (SR 1541) experienced 5 crashes and had a severity index of 19.12, above the state's average of 8.4 for an injury crash.

This section of US 321 is recommended to be upgraded to an expressway. As development occurs along this corridor every effort should be made to limit access in order to maintain mobility and connectivity.

Based on a planning level environmental assessment using available GIS data, the proposed project is in the vicinity (300ft from centerline) of water supply watershed, water treatment plants, sewer system discharge points, sewer treatment plants, sewer systems water distribution pipes, trout streams, lakes, wetlands, land trust priority areas, land trust conservation properties, lands managed for conservation, and conservation tax credit properties. The 2002 Watauga County Thoroughfare Plan did not previously identify US 321 between Boone city limits and Blowing Rock as needing improvement.

US 321, TIP No. R-2237

US 321 from US 221 north of Blowing Rock to Caldwell County does not meet the future mobility needs in western North Carolina and into Tennessee. This facility is intended to provide mobility in Watauga County and, ultimately, connectivity between Johnson City, TN and Gastonia, NC. The 2012 – 2018 TIP includes project R-2237 that is intended to address this problem.

US 321 is designated as an expressway on NCDOT's Strategic Highway Corridor (SHC) Vision Plan adopted by NCDOT on September 2, 2004 and last updated on July 10, 2008. TIP project R-2237 includes widening US 321 to multi-lanes. This project is currently under construction and is scheduled to be complete in 2015. For additional information about this project, including the Purpose and Need, contact NCDOT's Project Development and Environmental Analysis Branch (PDEA).

US 421 Bypass, TIP No. U-2703

Currently, US 421, US 321, and NC 105 in Boone experience congestion. This is a result of the mix of through traffic trying to connect between NC 105 to the southwest and US 421 to the east and heavy traffic to destinations downtown (King Street) and along US 321. TIP project U-2703, the proposed US 421 Bypass, is intended to address this deficiency.

The proposed project includes constructing a bypass south of Boone. The proposed bypass is recommended as a multi-lane, divided facility. The Strategic Highway Corridor (SHC) Vision Plan adopted by NCDOT on September 2, 2004 and last updated on July 10, 2008 identifies the proposed bypass as a freeway.

NCDOT issued a report in August 2008 documenting a study which followed the National Environmental Policy Act (NEPA)/ Section 404 of the Clean Water Act Interagency Merger Process. This study, "Pre-TIP Study Report US 421 Improvements TIP Project U-2703¹⁴," reached concurrence on the first two points (Purpose and Need, and Alternatives to be Carried Forward for Detailed Study). The report identifies these four primary purposes for the project:

- "Reduce the mixed use of US 421 (King Street) through downtown Boone by local and through traffic
- Improve system linkage for US 421 and other major facilities
- Improve traffic flow along US 421 and other major facilities
- Improve safety along US 421"

For additional information about this project, including the Purpose and Need, contact NCDOT's Project Development and Environmental Analysis Branch (PDEA) or visit NCDOT's project website for the study.

During the development of this CTP, several additional alternatives were evaluated at the request of the locals. The location selected for recommendation in the CTP combines alternatives 3 and 4 from the Pre-TIP study, and then modifies them slightly based on currently available GIS data.

US 421, TIP No. U-4020

US 421 (King Street) from NC 194 to US 321 (Hardin Street) is currently over capacity. The 2012 – 2018 Transportation Improvement Program (TIP) included project U-4020 that is intended to address this deficiency. The TIP project includes widening this section of US 421 (King Street) to a four to six lane boulevard with bicycle and pedestrian accommodations. This project is currently under construction. For additional information about this project, including the Purpose and Need, contact NCDOT's Project Development and Environmental Analysis Branch (PDEA) or visit the project website¹⁵.

¹⁴ The study report can be viewed at: <http://www.ncdot.gov/doh/preconstruct/tpb/planning/DanielBooneStudy.html>.

¹⁵ The U-4020 project website can be viewed at: <http://www.ncdot.gov/projects/US421Widening/>.

US 421, Local ID: WATA0022-H

US 421 from US 321 in Vilas to Tater Hill Road (SR 1306) is projected to be near or over capacity by 2040. Improvements are needed to accommodate projected traffic volumes in order to maintain a LOS D on the facility. The CTP Committee also recommended and intends to pursue the inclusion of US 421 from US 321 in Vilas to Tennessee as a boulevard on NCDOT's SHC Vision Plan.

The CTP proposes widening US 421 to a four lane boulevard with bicycle accommodations from US 321 in Vilas to Tennessee.

US 421 has two 12 foot lanes and a speed limit of 55 mph from US 321 in Vilas to Howards Creek Road (SR 1306). Portions of the facility also have a climbing lane. The 2010 AADT ranges from 7,400 to 10,500 vpd, compared to a LOS D capacity of 12,100 to 18,200 vpd. The estimated 2040 traffic volume is 12,900 to 15,300 vpd. Additionally, from 2006 through 2008 the intersection of US 321 and US 421 experienced 21 crashes with an average severity of 4.29, compared to the state's average of 4.73 for the same period. The intersection of US 421 and Tater Hill Road (SR 1306) experienced 1 crash and had a severity index above the state's average 8.4 for an injury crash.

Based on a planning level environmental assessment using available GIS data, the proposed project is in the vicinity (300ft from centerline) of trout streams and wetlands.

The 2002 Thoroughfare Plan for Watauga County identified US 421 as over capacity and recommended widening US 421 to four lanes from the Boone Planning Area Boundary (PAB) to Tennessee. This improvement (R-2615) has been in the TIP as an unfunded intrastate project since the 1990-1996 TIP. In the 2007-2013 TIP, R-2615 had its limits changed to no longer include this portion of US 421.

US 421, Local ID: WATA0006-H

US 421 from the end of the existing divided section east of Old US 421 (SR 1416) to NC 194 is projected to be over capacity by 2040. Improvements are needed to accommodate projected traffic volumes in order to maintain a LOS D on the facility.

US 421 from the end of the existing divided section east of Old US 421 (SR 1416) to NC 194 is a five lane undivided facility with four 12 foot thru lanes, a speed limit of 45 mph, and a center turn lane. The 2010 AADT volume ranges from 24,700 to 25,700 vpd, compared to a LOS D capacity of 27,600 vpd. The estimated range of 2040 traffic volume is 44,400 to 51,300 vpd. Additionally, from 2006 through 2008 the intersection of NC 194 and US 421 experienced 38 crashes with an average severity of 2.9, compared to the state's average of 4.73 for the same period.

The CTP proposes improving US 421 to a boulevard from NC 194 to Old 421 (SR 1416) and to an expressway from Old 421 (SR 1416) to the end of the existing divided section by removing the center turn lane and providing a median.

Based on a planning level environmental assessment using available GIS data, the proposed project is in the vicinity (300 ft from centerline) of sewer system pipes, sewer system pumps, water distribution pipes, trout streams, wetlands, and land trust priority areas.

The 1991 Boone Thoroughfare Plan recommended improving US 421 from NC 194 to the proposed US 421 BYP from 2 to 5 lanes. In that plan the proposed US 421 BYP tied in at approximately Bamboo Road (SR 1514). From the proposed US 421 BYP to the Planning Area Boundary (PAB), the 1991 Boone Thoroughfare Plan proposed widening to a 4 lane divided cross section.

NC 105, Local ID: WATA0007-H

NC 105 from NC 105 BYP (SR 1107) to US 421 is currently over capacity. Improvements are needed to relieve existing congestion and to accommodate projected traffic volumes in order to maintain a LOS D on the facility.

NC 105 from NC 105 BYP (SR 1107) to US 421 is a five lane facility with four 12 foot thru lanes and a speed limit of 35 mph. This stretch of NC 105 has a center turn lane except for the portion between US 321 and Dogwood Road. The 2010 AADT volume ranges from 24,700 to 28,500 vpd, compared to a LOS D capacity of 22,000 to 26,600 vpd. The estimated range of 2040 traffic volume is 29,600 to 50,200 vpd. Additionally, from 2006 through 2008, fourteen intersections along this corridor were identified as having 10 or more crashes or had a severity index above the state's average of 8.4 for an injury crash.

The CTP proposes improving this section of NC 105 to a boulevard by removing the center turn lane, providing a median, and bicycle accommodations.

Based on a planning level environmental assessment using available GIS data, the proposed project is in the vicinity (300ft from centerline) of water distribution pipes, sewer system pipes, trout streams, and land trust priority areas.

The 1991 Boone Thoroughfare Plan recommended improving NC 105 to a 5 lane cross section. This improvement has been completed.

NC 105, TIP No. R-2566

NC 105 from NC 105 BYP (SR 1107) to Linville in Avery County is projected to be over capacity by 2040. TIP project R-2566 is intended to address this deficiency.

The TIP project includes widening NC 105 to a four lane boulevard with bicycle accommodations. For additional information about this project, including the Purpose and Need, contact NCDOT's Project Development and Environmental Analysis Branch (PDEA) or visit the project website¹⁶.

¹⁶ The R-2566 project website can be viewed at: <http://www.ncdot.gov/projects/nc105widening/>.

Bamboo Road (SR 1514), Local ID: WATA0008-H

Bamboo Road (SR 1514) from Wilson Ridge Road (SR 1523) to US 421 is currently over capacity. Improvements are needed to relieve existing congestion and to accommodate projected traffic volumes in order to maintain a LOS D on the facility.

Bamboo Road (SR 1514) from Wilson Ridge Road (SR 1523) to US 421 has two 10 foot lanes and a speed limit of 35 mph. The 2010 AADT along this facility is 9,000 vpd compared to a LOS D capacity of 8,800 vpd. The estimated 2040 traffic volume is 12,900 vpd. Additionally, from 2006 through 2008, three intersections along this corridor were identified as having 10 or more crashes or had a severity index above the state's average of 8.4 for an injury crash. Those intersections included: US 421, Brookhollow Road (SR 1614), and Wilson Ridge Road (SR 1523).

In 2009, NCDOT's Division 11 Project Manager contracted Rummel, Klepper & Kahl, LLP (RK&K) to study the possibility of corridor improvements along Wilson Ridge Road (SR 1523), Deerfield Road (SR 1522), and Bamboo Road (SR 1514). Several alignment and intersection alternatives were studied, but no final recommendation was made.

The CTP proposes widening Bamboo Road (SR 1514) to 12 foot lanes with 4 foot paved shoulders to accommodate bicycles. Additionally, intersection improvements are recommended at Wilson Ridge Road (SR 1523). Based on a planning level environmental assessment using available GIS data, the proposed project is in the vicinity (300ft from centerline) of sewer system pipes, sewer system pumps, water distribution pipes, trout streams, and land trust priority areas.

The 1991 Boone Thoroughfare Plan did not recommend any improvements to Bamboo Road (SR 1514).

Bodenheimer Drive, Local ID: WATA0021-H

By request of the Town of Boone, Division 11 has begun an investigation into a new location facility connecting Homespun Hills Road (SR 1148) and Bodenheimer Drive west of Appalachian State University (ASU). This would require a minimum of 200 feet of new location to connect the two facilities. Making this connection will open up a new tertiary access point between ASU and NC 105.

Based on a planning level environmental assessment using available GIS data, the proposed project is in the vicinity (300ft from centerline) of lakes and wetlands. Land use in the vicinity is either residential along Homespun Hills Road (SR 1148) or institutional (ASU) along Bodenheimer Drive.

For more information about this project, please contact the NCDOT's Highway Division 11 office.

Deerfield Road (SR 1522), Local ID: WATA0009-H

Deerfield Road (SR 1522) from State Farm Road to Bamboo Road (SR 1514) is currently over capacity. Improvements are needed to relieve existing congestion and to accommodate projected traffic volumes in order to maintain a LOS D on the facility.

Deerfield Road (SR 1522) from State Farm Road to Bamboo Road (SR 1514) has two 10 foot lanes and a speed limit of 35 mph. The 2010 AADT along this facility is 13,300 vpd compared to a LOS D capacity of 8,800 vpd. The estimated 2040 traffic volume is 16,200 vpd. Additionally, from 2006 through 2008 the intersections of Deerfield Road (SR 1522) with State Farm Road and Wilson Ridge Road (SR 1523) experienced 15 and 12 crashes, respectively, with average severities of 2.93 and 3.96, compared to the state's 4.73 average for the same period.

In 2009, NCDOT's Division 11 Project Manager contracted Rummel, Klepper & Kahl, LLP (RK&K) to study the possibility of corridor improvements along Wilson Ridge Road (SR 1523), Deerfield Road (SR 1522), and Bamboo Road (SR 1514). Several alignment and intersection alternatives were studied, but no final recommendation was made.

The CTP proposes widening Deerfield Road (SR 1522) to 12 foot lanes with 4 foot paved shoulders to accommodate bicycles from State Farm Road to Bamboo Road (SR 1514). Additionally, intersection improvements are recommended at Wilson Ridge Road (SR 1523).

Based on a planning level environmental assessment using available GIS data, the proposed project is in the vicinity (300ft from centerline) of sewer system pump, sewer system pipes, water distribution pipes, trout streams, water supply watershed, wetlands, and land trust priority areas.

The 1991 Boone Thoroughfare Plan recommended improving Deerfield Road (SR 1522) from State Farm Road to Bamboo Road (SR 1514) to a 4 lane, undivided cross section.

Presnell School Road (SR 1125) Extension, Local ID: WATA0020-H

Beech Mountain is the highest town in Eastern America with an elevation of 5,506 feet. The only paved access point to Beech Mountain from the surrounding road network is via NC 184. In recent years there has been growing concern about wild fires in the area. In the event that NC 184 is closed because of wild fires or other natural disasters, an alternative access route between Beech Mountain and the surrounding network is desired for emergency purposes.

The CTP proposes extending Presnell School Road (SR 1125) to Cherry Gap Road in Beech Mountain. This new location facility would be 2 lanes. The proposed new location would attempt to utilize an existing local road bed.

There is an unpaved facility connecting to Beech Mountain in the form of Buckeye Creek Road through Avery County. Buckeye Creek Road is a locally maintained facility in Watauga County and is SR 1312 in Avery County. At this time Presnell School Road

(SR 1125) was chosen as the preferred alternative because of the added benefits of a third connection.

Based on a planning level environmental assessment using available GIS data, the proposed project is contained in a land trust priority area. According to the 2010 Citizens Plan for Watauga there is also a protected ridge line in the area including Egg Knob. The 2002 Watauga County Thoroughfare Plan did not previously identify any similar improvements.

Seven Devils Road (SR 1151), Local ID: WATA0023-H

Seven Devils is located in southwest Watauga County and has an elevation of 3,944 feet. The only access point to Seven Devils from the surrounding network is via Seven Devils Road (SR 1151). In recent years there has been growing concern about wild fires in the area. In the event that Seven Devils Road (SR 1151) is closed because of wild fires or other natural disasters, an alternative access route between Seven Devils and the surrounding network is desired for emergency purposes.

The CTP proposes building a new facility between Seven Devils Road (SR 1151) and NC 105. This new facility would be 2 lanes.

Two locations were evaluated during the course of the CTP. However neither proved adequately feasible to include in the plan. The first was a connection from western Seven Devils to Arnett Road (SR 1338) in Avery County. This facility has already been built but was not allowed to open due to a court injunction. This alternative was rejected for the CTP because of legal concerns over the court injunction. The second alternative was to connect eastern Seven Devils to Justus Road (SR 1137). This alternative would involve Rhobo Lane a private neighborhood road. This alternative was rejected because Rhobo Lane is not up to secondary road standards, and therefore not eligible for the Secondary Road Program. There was also a concern about the single property that would have to be purchased within Seven Devils to complete the facility. Further study is needed to select a location for the facility.

Based on a planning level environmental assessment using available GIS data, the proposed project is in the vicinity (300ft from centerline existing Seven Devils Road (SR 1151) of land trust priority areas, water distribution popes, and a water distribution treatment plant. According to the 2010 Citizens Plan for Watauga there is also the Foscoe-Grandfather Mountain Community Council Area in the vicinity.

The 2002 Watauga County Thoroughfare Plan did not previously identify any similar improvements.

State Farm Road, Local ID: WATA0010-H

State Farm Road from NC 105 to Deerfield Road (SR 1522) is projected to be over capacity by 2040. Improvements are needed to accommodate projected traffic volumes in order to maintain a LOS D on the facility.

State Farm Road from NC 105 to Deerfield Road (SR 1522) has two 12 foot lanes and a speed limit of 35 mph. The 2010 AADT volume ranges from 10,600 to 8,900 vpd, compared to a LOS D capacity of 9,400 vpd. The estimated range of 2040 traffic volume is 11,400 to 14,400 vpd. Additionally, from 2006 through 2008, three intersections along this corridor were identified as having 10 or more crashes or had a severity index above the state's average of 8.4 for an injury crash. Those intersections included: NC 105, Deerfield Road (SR 1523) and Boone Heights Drive.

The CTP proposes improving State Farm Road to a three lane cross section with 4 foot paved shoulders to accommodate bicycles.

Based on a planning level environmental assessment using available GIS data, the proposed project is in the vicinity (300ft from centerline) of sewer system pipes, water distribution pipes, trout streams, water supply watershed, lands managed for conservation, and land trust priority areas.

The 1991 Boone Thoroughfare Plan recommended improving State Farm Road from Deerfield Road (SR 1522) US 221 to a 5 lane cross section.

Wilson Ridge Road (SR 1523), Local ID: WATA0011-H

Wilson Ridge Road (SR 1523) from Deerfield Road (SR 1522) to Bamboo Road (SR 1514) is projected to be near capacity by 2040. Improvements are needed to accommodate projected traffic volumes in order to maintain a LOS D on the facility.

Wilson Ridge Road (SR 1523) from Deerfield Road (SR 1522) to Bamboo Road (SR 1514) has two 10 foot lanes and a speed limit of 35 mph. The 2010 AADT along this facility is 7,700 vpd compared to a LOS D capacity of 8,800 vpd. The estimated 2040 traffic volume is 8,300 vpd. Additionally, from 2006 through 2008, two intersections along this corridor were identified as having 10 or more crashes or had a severity index above the state's average of 8.4 for an injury crash. Those intersections were with Deerfield Road (SR 1523) and Hickory Lane (SR 1626).

In 2009, NCDOT's Division 11 Project Manager contracted Rummel, Klepper & Kahl, LLP (RK&K) to study the possibility of corridor improvements along Wilson Ridge Road (SR 1523), Deerfield Road (SR 1522), and Bamboo Road (SR 1514). Several alignment and intersection alternatives were studied, but no final recommendation was made.

The CTP proposes widening Wilson Ridge Road (SR 1523) to 12 foot lanes with 4 foot paved shoulders to accommodate bicycles. Additionally, intersection improvements are recommended at Deerfield Road (SR 1522) and Bamboo Road (SR 1514).

Based on a planning level environmental assessment using available GIS data, the proposed project is in the vicinity (300ft from centerline) of water distribution pipes, wetlands trout streams, and water supply watershed.

The 1991 Boone Thoroughfare Plan recommended improving Wilson Ridge Road (SR 1523) from Deerfield Road (SR 1522) to Bamboo Road (SR 1514) to 12 foot lanes. Insert project history.

MINOR WIDENING IMPROVMENTS

The following facilities within Watauga County do not have capacity issues, but were identified as candidates for upgrading to NCDOT design standards. Implementation of the proposed projects should be coordinated through NCDOT's Highway Division 11 office.

- **WATA0012-H:** NC 194 from Howards Creek Road (SR 1306) to Castle Ford Road (SR 1333) – Widen to 12 foot lanes with 4 foot paved shoulders to accommodate bicycles.
- **WATA0013-H:** Bamboo Road (SR 1514) from Deerfield Road (SR 1523) to Friendship Church Road (SR 1525) – Widen to 12- foot lanes with 4- foot paved shoulders to accommodate bicycles.
- **WATA0014-H:** Broadstone Road (SR 1112) from NC 194 to NC 105 – Widen to 12 foot lanes with 4 foot paved shoulders to accommodate bicycles.
- **WATA0015-H:** Greenway Road from Wilson Drive to Leola Drive – Widen to 12 foot lanes.
- **WATA0016-H:** Meadowview Road from US 221-321 to US 221-321 – Widen to 12 foot lanes.
- **WATA0017-H:** Leola Drive from Greenway Road to US 321 – Widen to 12 foot lanes.
- **WATA0018-H:** Poplar Grove Road (SR 1102) from Rivers Street (SR 1163) to NC 105 – Widen to 12 foot lanes.
- **WATA0019-H:** Rivers Street (SR 1163) from Poplar Grove Road (SR 1102) to US 321 (Hardin Street) – Widen to 12 foot lanes.

Unaddressed Deficiencies

The following deficiencies were identified during the development of the CTP, but they remain unaddressed.

- US 321-421 (King Street) from US 321 (Hardin Street) to Hodges Gap Road (SR 1104) in downtown Boone is currently over capacity. Because of physical constraints, no method of improvement was found to be acceptable to Boone at this time. Central business district storefront development prevents any additions to the current pavement width. While the existing pavement width would be sufficient to provide four travel lanes, Boone prefers to keep the existing arrangement of two 12 foot travel lanes and roadside parking.
- US 321 BUS from US 221 to Globe Road (SR 1537) in downtown Blowing Rock is projected to be over capacity by 2040. Because of physical constraints, no method of improvement was found to be acceptable to Blowing Rock at this time. Central business district storefront development prevents any additions to the current pavement width. While the existing pavement width would be sufficient to provide four travel lanes, Blowing Rock prefers to keep the existing arrangement of two 12 foot travel lanes and roadside parking.
- A small section of Deerfield Road (SR 1522) is projected to be over capacity by 2040. This section begins at the intersection with State Farm Road, and extends 250 feet to the northeast. The primary cause of this congestion is the reduced capacity resulting from a 25 mph speed limit around Watauga County Hospital. At this time, locals prefer to maintain the speed limit zone.
- Seven Devils is located in southwest Watauga County and has an elevation of 3,944 feet. The only access point to Seven Devils from the surrounding road network is via Seven Devils Road (SR 1151). In recent years there has been growing concern about wild fires in the area. In the event that Seven Devils Road (SR 1151) is closed because of wild fire or other natural disaster, an alternative access route between Seven Devils and the surrounding road network would be needed. Two possible locations for such a route were studied as part of this CTP; however, neither proved feasible at this time. Additional study is required to select an appropriate alternative.

PUBLIC TRANSPORTATION AND RAIL

AppalCART currently operates fixed bus routes in the county. Out of county services are provided by the Mountaineer Express. During the development of the CTP, one new route was identified as a strategic new expansion for AppalCART. This is in addition to improving and expanding all current routes to keep pace with demand. Current strategies being explored by AppalCART include increasing the number of busses per route, providing reverse route services, and expanding operational hours to include more weekends and evenings. Please refer to the 2011 AppalCART Community Transportation Service Plan¹⁷ (CTSP) for more details.

- **WATA0001-T:** New bus route between Boone and Blowing Rock utilizing US 321.

Additionally, seven locations were identified for potential park and ride lots. They are proposed at the following intersections:

- **WATA0002-T:** US 221 and US 321 in Blowing Rock
- **WATA0003-T:** US 421 and Brookshire Road (SR 1328)
- **WATA0004-T:** US 321 and US 421 in Vilas
- **WATA0005-T:** US 421 and NC 105 BYP (SR 1107)
- **WATA0006-T:** US 421 and Old US 421 in Rutherwood
- **WATA0007-T:** US 421 and US 221 in Deep Gap
- **WATA0008-T:** NC 105 and Shulls Mill Road (SR 1557) in Foscoe

Out of county services provided by the Mountaineer Express connect Boone with the regional hubs of Charlotte, and Greensboro. Both the East/West and the North/South routes are projected to need additional service capacity by 2040.

- **WATA0009-T:** From Boone to Lenoir, Hickory, Lincolnton, Gastonia, and Charlotte
- **WATA0010-T:** From Boone to North Wilkesboro, Hamptonville, Winston-Salem, and Greensboro

¹⁷ The 2011 AppalCART CTSP can be viewed at: <http://www.ncdot.gov/nctransit/download/CTSP/AppalCART.pdf>.

BICYCLE

In accordance with American Association of State Highway and Transportation Officials (AASHTO), roadways identified as bicycle routes should incorporate the following standards as roadway improvements are made and funding is available:

- Curb and gutter sections require at minimum 4 foot bike lanes or 14 foot outside lanes.
- Shoulder sections require a minimum 4 foot paved shoulder.
- All bridges along roadways where bike facilities are recommended shall be equipped with 54 inch railings.

Improvement to Existing Facilities:

- **WATA0001-B:** US 221 from Caldwell County to Blowing Rock municipal limits
- **WATA0002-B:** US 221 from US 321 Bus to US 321
- **R-2915:** US 221 from Ashe County to US 421
- **R-2237:** US 321 from Caldwell County to US 221
- **R-5016:** US 321 from Avery County to US 421 in Vilas
- **WATA0004-H:** US 321 from US 421 to Deerfield Road (SR 1522)
- **R-2615:** US 421 from Vilas to the proposed US 421 BYP
- **WATA0003-B:** US 3421 from the proposed US 421 BYP to Junaluska Road (SR 1102)
- **WATA0004-B:** US 321 BUS from US 321 to US 221
- **WATA0022-H:** US 421 from Tennessee to US 321 in Vilas
- **R-2566:** NC 105 from Avery County to NC 105 BYP
- **WATA0007-H:** NC 105 from NC 105 BYP (SR 1107) to US 421
- **WATA0002-H:** NC 105 BYP (SR 1107) from US 421 to NC 105
- **WATA0005-B:** NC 184 from Beech Mountain to Avery County
- **WATA0003-H:** NC 194 from US 421 to Howards Creek Road (SR 1306)
- **WATA0012-H:** NC 194 from Howards Creek Road (SR 1306) to Castle Ford Road (SR 1333)
- **WATA0006-B:** NC 194 from Castle Ford Road (SR 1333) to Ashe County
- **WATA0007-B:** NC 194 from US 421 to Avery County
- **WATA0008-H:** Bamboo Road (SR 1514) from US 421 to Wilson Ridge Road (SR 1323)
- **WATA0008-B:** Bamboo Road (SR 1514) from Wilson Ridge Road (SR 1323) to Deerfield Road (SR 1522)
- **WATA0014-H:** Broadstone Road (SR 1112) from NC 194 to NC 105
- **WATA0009-B:** Deerfield Road (SR 1522) from US 321 (Blowing Rock Road) to State Farm Road.
- **WATA0009-H:** Deerfield Road (SR 1522) from State Farm Road to Bamboo Road (SR 1514)
- **WATA0010-B:** Deerfield Road (SR 1523) from to Bamboo Road (SR 1514) to Bamboo Road (SR 1514).
- **WATA0011-B:** Faculty Street, from NC 105 to Holmes Drive
- **WATA0012-B:** Hill Street from Holmes Drive to Rivers Street (SR 1163)

- **WATA0013-B:** Holmes Drive from Faculty Street to Hill Street
- **WATA0014-B:** New Market Boulevard from NC 194 to US 2421
- **WATA0018-H:** Poplar Grove Road (SR 1102) from NC 105 to Rivers Street (SR 1163)
- **WATA0019-H:** Rivers Street (SR 1163) from Poplar Grove Road (SR 1102) to US 321
- **WATA0010-H:** State Farm Road from NC 105 to Deerfield Road (SR 1522)
- **WATA0015-B:** Water Street from Poplar Grove Road (SR 1102) at Rivers Street (SR 1163) to US 421 at Junaluska Road (SR 1102)
- **WATA0011-H:** Wilson Ridge Road (SR 1523) from Deerfield Road (SR 1522) to Bamboo Road (SR 1514)

Multi-Use Path Facilities:

Multi-use paths are facilities physically separated from motor vehicle traffic that is either within the highway right-of-way or on an independent right-of-way. Multi-use paths include bicycle paths, rail-trails, or other facilities built for bicycle and pedestrian traffic. Multi-use paths from the Boone pedestrian plan, Walk Boone 2011, were incorporated into the CTP. Additionally, the following multi-use path project was identified to serve the needs of Watauga County.

- ***Middle Fork Greenway, Local ID: WATA0001-M***

The envisioned Middle Fork Greenway would run between Boone and Blowing Rock, a distance of about 6.5 miles. The greenway would connect the existing Boone Greenway with Shoppes on the Parkway at the intersection of US 221 and US 321 in Blowing Rock. The Middle Fork River is part of the headwaters of the New River and as such is important to watershed, trout streams, and wetlands found in the vicinity. Watauga County Pathways¹⁸ is a non-profit organization working towards the preservation and eventual construction of this corridor.

¹⁸ For more information on Watauga County Pathways, visit: <http://highcountrypathways.org/>.

PEDESTRIAN

Boone has an existing pedestrian plan entitled "Walk Boone 2011" that was utilized in the development of the pedestrian element of the CTP. The Walk Boone 2011 plan was cooperatively developed by Boone and NCDOT's Division of Bicycle and Pedestrian Transportation. The Town of Beech Mountain Streetscape Plan was developed in 2010. The information from these pedestrian plans was incorporated into the CTP. Additionally, the following projects were recommended during the development of the CTP.

New Facilities:

- **R-2237 (Blowing Rock):** US 321 from US 221 to Goforth Road (SR 1536)
- **WATA0001-P (Blowing Rock):** Chestnut Drive from US 321 BUS (Main Street) to Morris Street
- **WATA0002-P (Blowing Rock):** Chestnut Street from Wallingford Road to US 321 BUS (Main Street)
- **WATA0003-P (Blowing Rock):** Morris Street from Chestnut Drive to Morris Street
- **WATA0004-P (Blowing Rock):** Ransom Street from Sunset Drive to US 321
- **WATA0005-P (Blowing Rock):** Wallingford Road from Laurel Lane to Globe Road (SR 1537)
- **WATA0006-P (Boone):** US 421 from NC 105 BYP (SR 1107) to Boone municipal limits
- **WATA0002-H (Boone):** NC 105 BYP (SR 1107) from NC 105 to US 421
- **WATA0018-H (Boone):** Poplar Grove Road (SR 1102) from NC 105 to Water Street

Improvement to Existing Facilities:

- **WATA0007-P (Blowing Rock):** US 221 from US 321 BUS to Chetola Lake Drive

New Off Road Facilities:

- **WATA0008-P (Blowing Rock):** from Clark Street at Old Stable Lane to US 221 at Cone Road (SR 1571) opposite the Bass Lake parking lot