

Boone, NC

Sidewalk, Multi-Use Path, and Greenway Feasibility Study Report

September 2024



Integrated Mobility Division

N.C. DEPARTMENT OF TRANSPORTATION



Kimley»»Horn

Acknowledgments

Local Partners

Todd Moody, Public Works Director, Town of Boone

Justin Stines, Deputy Director of Public Works, Town of Boone

Jane Shook, Director of Planning and Inspections, Town of Boone

David Graham, Transportation Planner, High Country Council of Governments

Dave Freireich, Harmony Lanes

Jennifer Tyson, Harmony Lanes

State Partners

Michael Stafford, Project Manager, NCDOT Integrated Mobility Division

Hart Evans, Statewide Planning and Programming Manager, NCDOT Integrated Mobility Division

Project Consultants

Alex McIntyre, PE, Kimley-Horn

John Moore, EIT, Kimley-Horn

Elizabeth Clever, EIT, Kimley-Horn

Table of Contents

Acknowledgments	2
Table of Contents	3
Executive Summary	4
Introduction and Project Description	6
Why is Pedestrian Connectivity So Important?.....	6
Existing and Future Plans	7
Project Background	7
What is a Feasibility Study?.....	7
Study Considerations	8
Natural Environment Considerations	8
Impact on Existing Site Conditions	9
Existing Demographic Conditions	11
Existing Community Destinations and Infrastructure	13
Existing Bike and Pedestrian Safety Conditions.....	13
Community Involvement	14
Alternatives Development	17
Design Criteria.....	17
Scope and Objectives.....	18
Segment Alternatives Development	19
Alternative Analysis	20
Results and Recommendations	35
Study Results	35
Recommendations	38
Cost, Funding, and Implementation	39
Cost Estimates.....	39
Implementation	39
Feasibility Study Funding Document (Federal, State, Local, and Private Funding Mechanisms)	40
Appendices	43
Appendix A: OPCC	44
Appendix B: Environmental Review	48
Appendix C: Demographic Maps	49
Appendix D: Detailed Exhibit	60
Appendix E: Public Survey Results.....	62

Executive Summary

The North Carolina Department of Transportation (NCDOT) awarded the Town of Boone a Multimodal Planning Grant to complete a feasibility study to determine the best bike and pedestrian infrastructure route. The study evaluated various routes connecting Appalachian State University to the Boone Greenway. The overarching goal of this study was to identify the route that creates the best opportunities for multimodal transportation in Boone. The Town of Boone has previously identified these areas examined in the study as primary candidates for bike and pedestrian infrastructure.

The feasibility study recommends design and construction for:

- The 0.5 miles of a 10-foot multi-use path (MUP) along Faculty Street from Holmes Drive to NC-105
- The 0.8 miles of a 10-foot MUP along Winklers Creek Road, Greenway Road, and Leola Street from Wilson Drive to Pride Drive, connecting to the existing Boone Greenway
- Intersection improvements at Winklers Creek Road/Wilson Drive and NC-105/Wilson Drive to make it accessible to cyclists and pedestrians and to connect the proposed design to existing facilities

This report will outline the study process and provide insight into the project's:

- Introduction and Project Description
- Study Considerations
- Alternatives Development
- Results and Recommendations
- Cost and Implementation

The infrastructure examined in this study is designed to provide bike and pedestrian mobility to different areas of the Town of Boone by connecting residents to popular destinations. The proposed design will help create a new, thriving corridor through the heart of Boone. Adding this to its bike and pedestrian network, the Town of Boone aims to enhance community connectivity, safety, health, and equity by providing alternative transportation options.



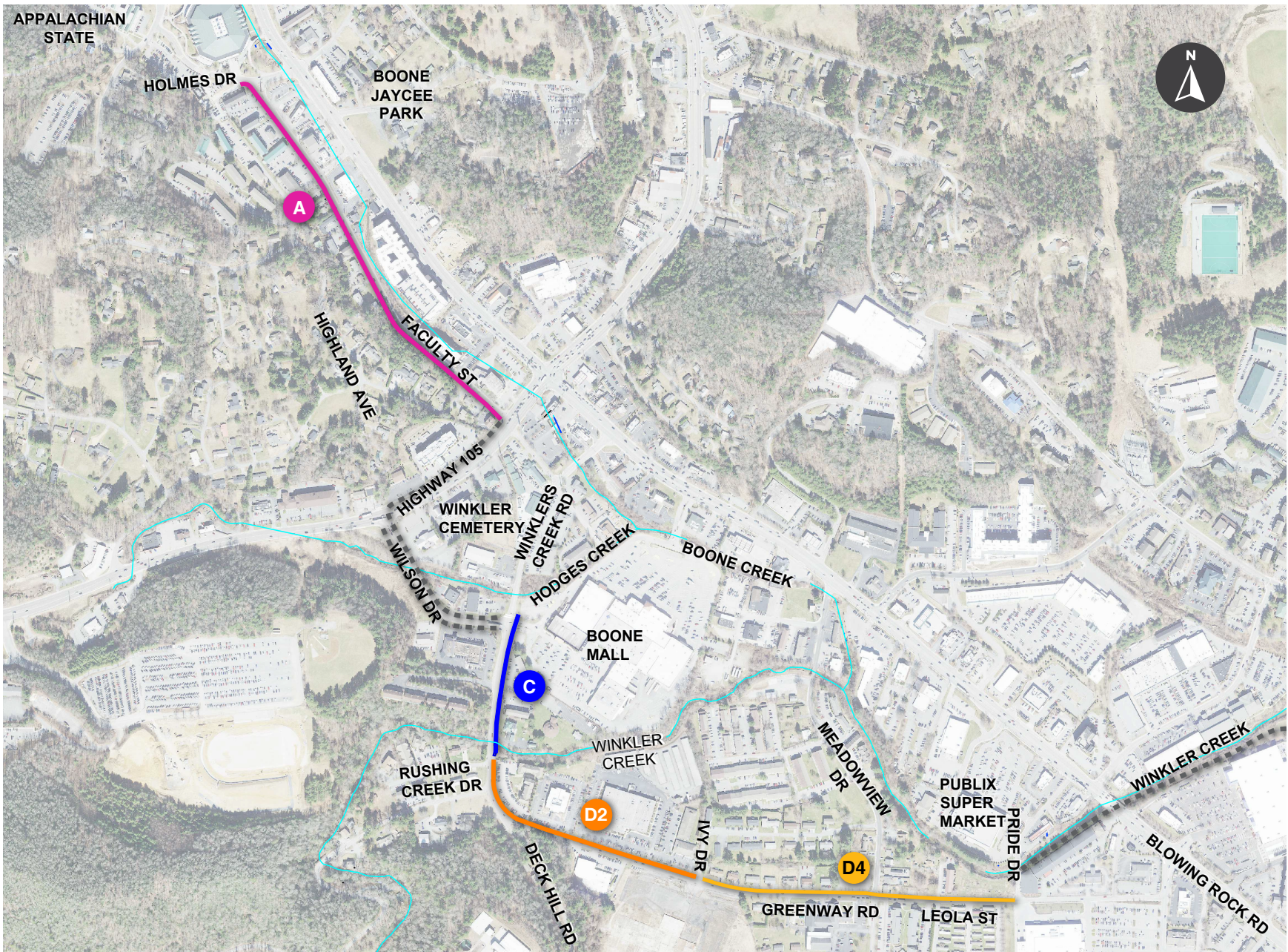
207 Leola Street, looking west



Bike and pedestrian intersection at intersection of Davidson Street and Jordan Place (Charlotte, NC)



Greenway stream crossing over a Little Sugar Creek (Charlotte, NC)



Preferred Alternative Overview

Introduction and Project Description

Why is Pedestrian Connectivity So Important?

Health

Alternatives to vehicular travel, such as MUPs, greenways, sidewalks, and bike lanes, encourage people to be more healthy and physically active. People in walkable communities had 0.75 times the likelihood of being obese and were 1.5 times more likely to be physically active. Creating an environment where people feel safe and physically active is critical to encouraging healthier communities. Citizens of all ages in Boone are entitled to a lifestyle that promotes good physical health, and providing areas that allow active commuting is a step in that direction.¹

Safety

Adding MUPs, sidewalks, and bike lanes to existing roadways improves safety for cyclists and pedestrians. Bike lane additions on two-lane roads can reduce vehicle-bike crashes by up to 30% by offering cyclists a viable option outside the traditional vehicle lanes. Additionally, adding sidewalks on both sides of a road was noted to halve the vehicle-pedestrian crashes observed. Allowing the space for pedestrians and cyclists of Boone to share the road with their vehicular commuting community members results in less stress and more safety for everyone.²

Alternative Modes of Transportation

When building transportation networks, all users need to be considered. While cars are the primary mode of transportation for most Americans, up to 37% of the US population consists of people who cannot drive a car, such as children, older adults, and people with disabilities. Infrastructure design must account for providing means of alternative transportation for those who may not have another option. Having various modes of transportation for people helps make Boone a more inclusive community.³

Increased Property Values

Often, properties in more walkable areas are perceived as more valuable. In a study focusing on 15 independent real estate markets, 13 markets were found to have links between increases in walkability and property value. Some people view walkable neighborhoods and communities as more desirable. Adding MUPs, greenways, sidewalks, and bike lanes to Boone has the potential to create a positive economic impact when implemented.⁴

¹ McKoy, J. (2023, February 2). *US Neighborhood Walkability Influences Physical Activity, BMI Levels*. *Wwww.bu.edu*.
<https://www.bu.edu/sph/news/articles/2023/us-neighborhood-walkability-influences-physical-activity-bmi-levels/#comments>

² *Bicycle Lanes* | FHWA. (2019). *Dot.gov*.
<https://highways.dot.gov/safety/proven-safety-countermeasures/bicycle-lanes#psc-footnote>

³ Federal Highway Administration. (n.d.). *FHWA Safety Program Safety Benefits of Walkways, Sidewalks, and Paved Shoulders*
https://safety.fhwa.dot.gov/ped_bike/tools_solve/walkways_brochure/walkways_brochure.pdf

⁴ Cortright, J. (2009). *Walking the Walk How Walkability Raises Home Values in U.S. Cities*.
https://nacto.org/wp-content/uploads/2015/04/walking_the_walk_cortright.pdf

Existing and Future Plans

This feasibility study connects past planning to the actual design and construction of bike and pedestrian infrastructure. By translating the future visions outlined in the plans into actionable steps, the study will identify the best route for design implementation. Moreover, it will pave the way for securing funding to turn the initial designs into reality.

Project Background

Published in 2014, The Town of Boone Pedestrian and Bicycle Plan identifies Winklers Creek Road/Greenway Road from Wilson Drive to Pride Drive as a prime candidate for new pedestrian and bike infrastructure upgrades. It connects to the existing sidewalk and bike lanes at Wilson Drive and the sidewalk and greenway at Pride Drive, providing a strong connection through an area of Boone that does not have robust bike and pedestrian infrastructure. Numerous attractive destinations in this area, such as grocery stores, commercial centers, and various neighborhoods, would benefit from additions to the existing pedestrian network.

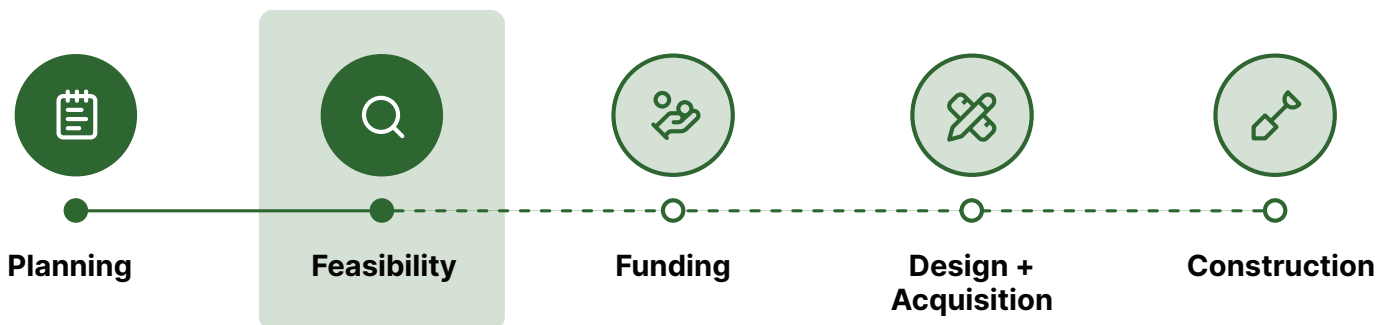
There also is a recognized need along the Faculty Street corridor for additional bike and pedestrian infrastructure. The proposed MUP in this area would connect the Appalachian State University Campus to the existing MUP along NC-105, creating a stronger connection from the campus to Boone's bike and pedestrian network. This proposed corridor would have an uninterrupted bike and pedestrian infrastructure from the Appalachian State University Campus to Boone Greenway.

What is a Feasibility Study?

Feasibility studies are essential in transitioning from conceptual planning to the prioritization and programming of projects. These studies build upon higher-level planning efforts and thoroughly evaluate potential alignment alternatives. The primary objective is to assess technical feasibility regarding design, permitting, and constructability. Local community input and stakeholder feedback are vital in shaping the recommended alignments. High-level cost estimates based on quantities are prepared to aid decision making, which also helps identify funding needs and outline the next steps for project implementation. The ultimate alignment of a project will depend on the cooperation of property owners and the availability of funding.



ADOPTED APRIL 24, 2014



Study Considerations

Natural Environment Considerations

A desktop environmental assessment of the site was conducted to evaluate the potential impacts of the different segments. The areas of greatest environmental concern were along the greenway sections of the study and the bridge crossing at Winklers Creek Road. Since the other segments are adjacent to the existing roadway, they were deemed to have minimal impact on existing environmental conditions.

Greenways along creeks are susceptible to impact streams due to the addition of impervious surfaces close to the creek. Without proper mitigation, these impacts can have negative consequences. In future design iterations, a more in-depth hydraulic model would be developed to understand the impacts of the greenway alternative segment. The design also includes two stream crossings of Winkler Creek modeled to determine their impacts.

The existing hydraulic conditions were analyzed to determine the feasibility of a necessary stream crossing directly east of an existing roadway over Winkler Creek. The stream crossing is modeled as part of the Boone Greenway Trail project, which continues along Winkler Creek. The proposed crossing was modeled in the shadow of the existing bridge as the proposed crossing met the following criteria: the hydraulic opening was equal to or greater than the nearest upstream bridge, and the bottom chord elevations matched. Manning's n values were adjusted to incorporate the proposed greenway alignment. The analysis showed that, by following this approach, the proposed crossing and greenway alignment would not exceed the allowable changes to the Base Flood Elevation (BFE), establishing a no-rise condition and meeting the Town of Boone's flood ordinance requirements.



Example of bridge (left) and boardwalk (right) structures along Little Sugar Creek Greenway

Impact on Existing Site Conditions

The proposed corridor's field walk occurred on October 13, 2023, with participation from the Town of Boone, North Carolina Department of Transportation Integrated Mobility Division (NCDOT IMD), Kimley-Horn, Harmony Lanes, and High Country Council of Governments. The walk intended to gather information and cultivate a deeper understanding of existing conditions.



156 Faculty Street, facing southeast



Leola Community Garden, facing west

One important observation was the steepness of some terrain adjacent to Faculty Street. In these areas, a retaining wall will be necessary to accommodate the width of the path. The proposed path will be along the back of the curb, and approximately 530 feet of retaining wall will be added along the outside edge. The retaining wall will stabilize the existing ground and minimize grading impacts. A MUP would likely not be feasible without the retaining wall in this area.



Steep terrain adjacent to the roadside along Faculty Street

Another important observation was the proximity of the proposed utilities along Greenway Road behind the existing sidewalk. Many utility poles, fire hydrants, and other utilities would need to be relocated to accommodate the proposed design, which would require the MUP to be relocated. These relocations can be expensive, and any further design must consider these impacts and how to mitigate them.

The final key observation on the field walk was of the pedestrian bridge location for the crossing over Winkler Creek adjacent to Winklers Creek Road. This location has an existing vehicular bridge but needs to be wider to accommodate the proposed MUP design alongside vehicular traffic. Therefore, a pedestrian bridge will be built alongside the vehicular bridge, using the advantageous crossing location. The proposed pedestrian bridge will be approximately 50 feet long. While structures like bridges can be costly, and there is no other option to cross Winkler Creek, using the location of the Winklers Creek Road vehicular bridge can help minimize costs.

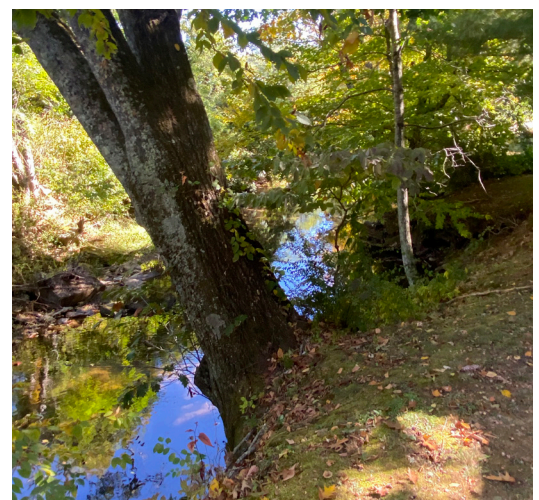


Location of proposed pedestrian bridge over Winkler Creek



Existing utilities along back of existing sidewalk on Greenway Road

The preliminary greenway alignment was used to determine a project boundary. This boundary was used as the basis for environmental analysis. Two streams, Boone Creek and Winkler Creek, were found within the project boundary, as **Appendix B** shows. However, the proposed design only encroaches on Winkler Creek. While some encroachment on Winkler Creek will be unavoidable with the greenway alternative, it may be possible to mitigate some of these impacts by using structures or altering the alignment to avoid impacting these environmentally sensitive areas. More detailed analysis and field observation would be needed to determine more precise impacts and develop more definitive conclusions.

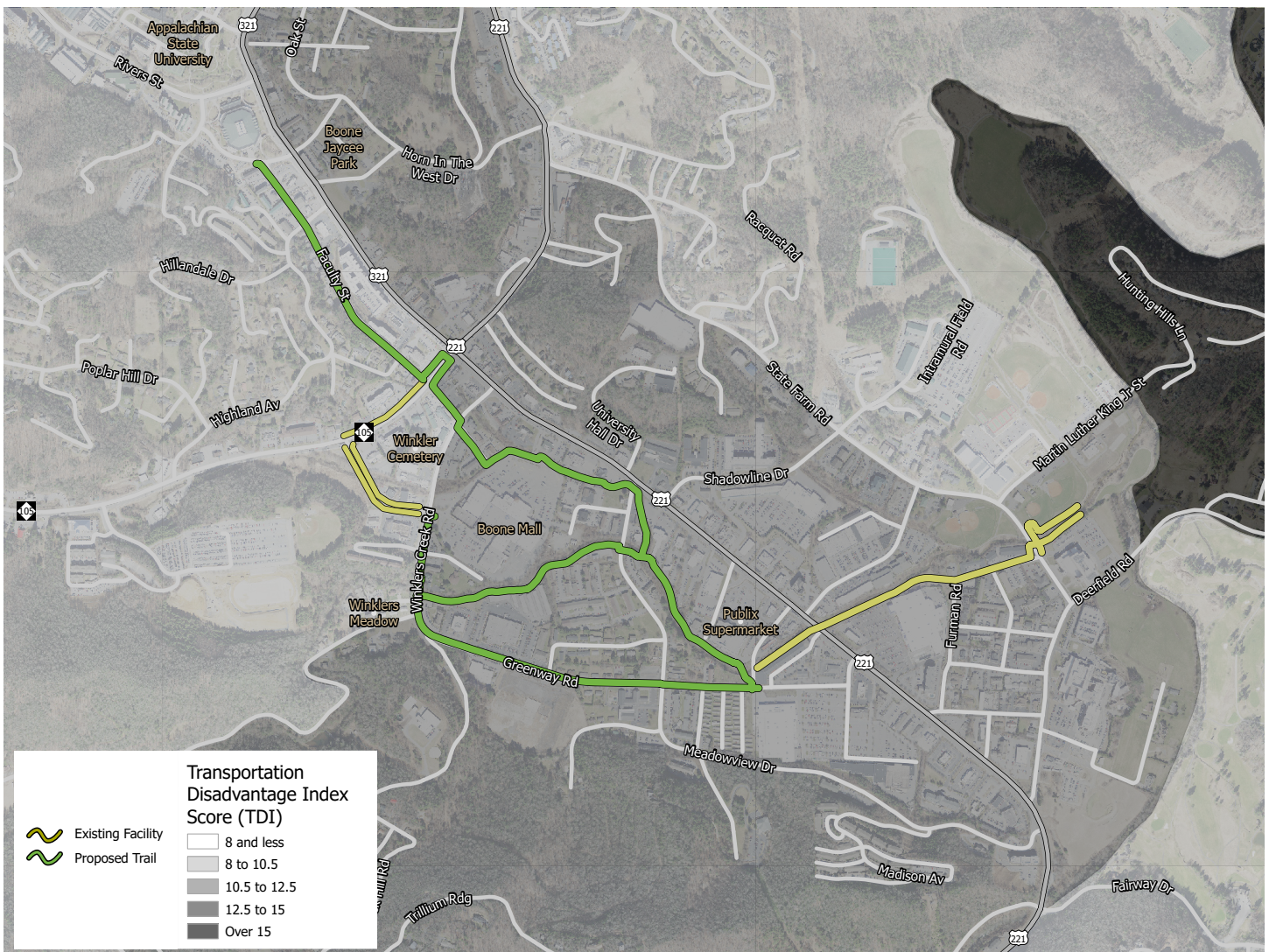


Constrained area along Winkler Creek

Existing Demographic Conditions

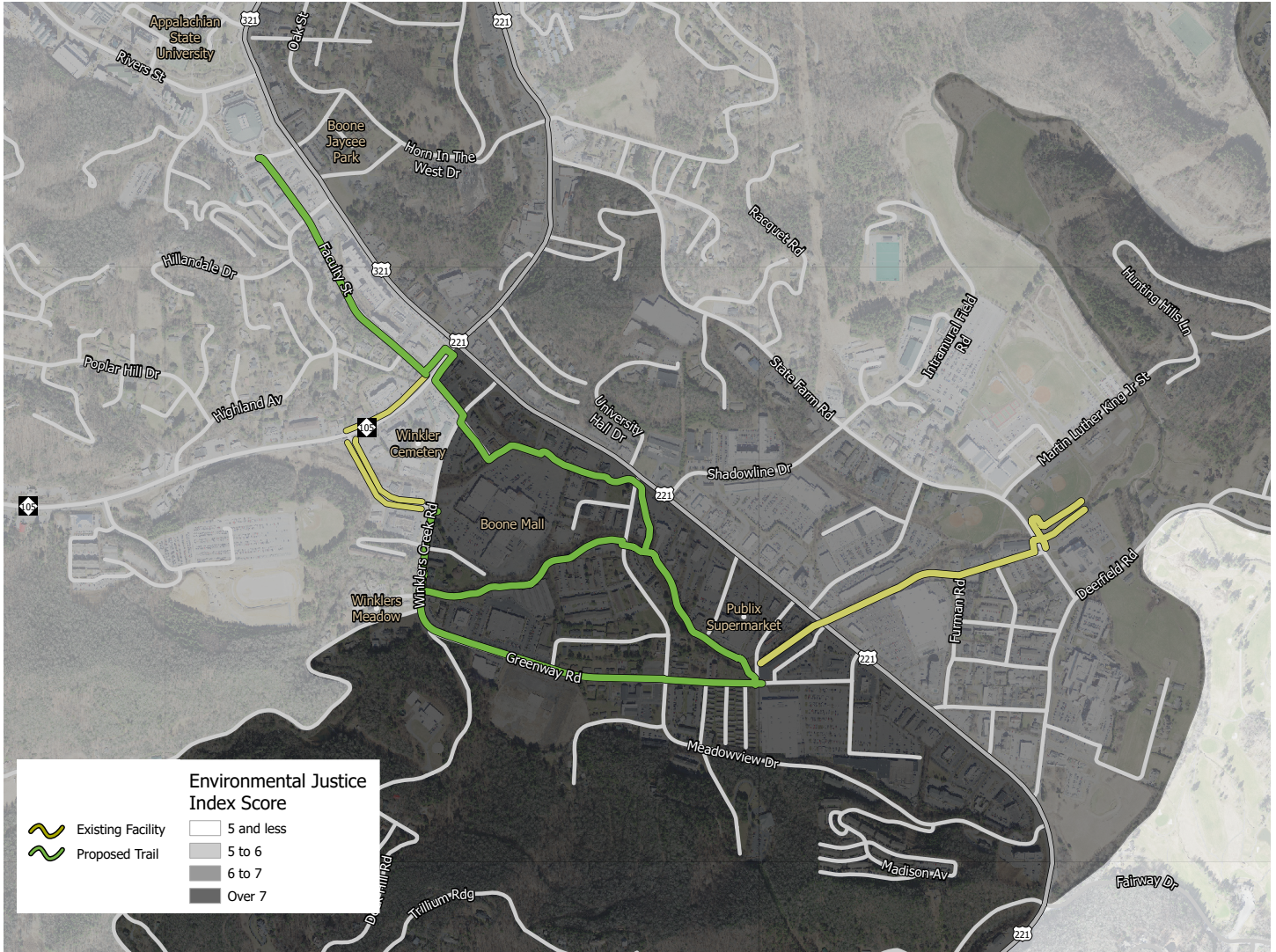
The existing demographics of this project area reveal a diverse community with various needs and challenges. The map below shows the project area's Transportation Disadvantage Index (TDI). The TDI is a composite score based on seven indicators of potential transportation disadvantage:

- 1) Relative concentration of carless households to the average for the selected geography.
- 2) Relative concentration of low-income people to the average for the selected geography.
- 3) Relative concentration of people with mobility impairments aged 18 and older (physical, mental, or self-care disability) to average for the selected geography.
- 4) Relative concentration of youth aged 15 and younger (non-drivers) to the average for the selected geography.
- 5) Relative concentration of seniors to the average for the selected geography.
- 6) Relative concentration of the (Black, Indigenous, Persons of Color) BIPOC population to the average for the selected geography.
- 7) Relative concentration of the Limited English Proficiency (LEP) population to the average for the selected geography.



The map below shows the project area's Environmental Justice (EJ) Index Score. The EJ index score is a composite score based on:

- Relative concentration of racial minorities to the average for the selected geography
- Relative concentration of ethnic minorities to the average for the selected geography
- Relative concentration of people with low incomes to the average for the selected geography



Existing Community Destinations and Infrastructure

The study area contains many different parts of Boone, each with characteristics that make them candidates to be connected to the proposed bicycle and pedestrian network. Several important destinations line the proposed corridor. These destinations can be primarily classified into four categories: educational, commercial, residential, and recreational.

The 2014 Pedestrian and Bicycle Plan emphasizes accessibility and connectivity as fundamental principles for the community. The Town's goal is to provide mobility options for citizens, students, and visitors, preserving the vibrant character of the small town. The Town strives towards this goal to this day. This study represents a significant effort to realize this goal.

Currently, there are limited accommodations for pedestrians or cyclists traveling from Appalachian State University and Highway NC-105 to the Boone Greenway Trail, which starts on Pride Drive. This project is a top priority for the Town due to the high traffic concentration in the study area. The study area encompasses a mixed-use land with major shopping centers, including Walmart, Publix, Boone Drug, Verizon, Greenway Baptist Church, the Islamic Center of Boone, Hellbender Fitness, and various restaurants. Additionally, multiple housing apartment complexes, a manufactured housing community, and single-family homes are situated along the project study area. Creating safe walking and biking paths here would benefit minorities, low-income individuals, and anyone seeking employment opportunities or access to services without relying on a vehicle.

Existing Bike and Pedestrian Safety Conditions

Introducing dedicated bike and pedestrian infrastructure is key to increasing feelings of safety among Boone's cyclist and pedestrian populations. The Town of Boone experienced 24 pedestrian and 7 bike-involved crashes. During that same time, Watauga County has experienced 31 pedestrian and 8 bike-involved crashes.^{5,6,7} It is necessary to make investments to improve the current bike and pedestrian network to reduce these numbers and create a safer environment for bicyclists and pedestrians in Boone and Watauga County.



208 Faculty Street, looking northeast towards Holmes Convention Center



301 Pride Drive, looking northeast along the Boone Greenway

⁵Jessup, Torre J., Timothy P. Hayworth, and Shawn Troy. Rep. *North Carolina 2020 Traffic Crash Facts*. Raleigh, NC: North Carolina Division of Motor Vehicles, 2021.

<https://connect.ncdot.gov/business/DMV/CrashFactsDocuments/2020%20Crash%20Facts.pdf>.

⁶Boyette, J. Eric, Wayne Goodwin, James C. Moore, and Shawn Troy. Rep. *North Carolina 2021 Traffic Crash Facts*.

Raleigh, NC: North Carolina Division of Motor Vehicles, 2022.

<https://connect.ncdot.gov/business/DMV/CrashFactsDocuments/2021%20Crash%20Facts.pdf>.

⁷Boyette, J. Eric, Wayne Goodwin, Janna Allison, and Brian Murphy. Rep. *North Carolina 2022 Traffic Crash Facts*.

Raleigh, NC: North Carolina Division of Motor Vehicles, 2023. <https://connect.ncdot.gov/resources/safety/Documents/Crash%20Data%20and%20Information/2022.pdf>.

Community Involvement

Public engagement is crucial for such feasibility studies because it allows community members to voice their needs, concerns, and ideas. By involving the public in the planning process, stakeholders can gain valuable insights, build support, and help ensure that the project aligns with the community's priorities and aspirations.

As part of this study, two stakeholder meetings, two steering committee meetings, one public meeting, and one public survey were conducted.

The stakeholder meeting invitees comprised various nearby homeowners and business owners along the proposed corridor. The first meeting occurred on November 24, 2023. Feedback from these citizens was received and incorporated into the design and another meeting was held on March 12, 2024 to present the final alternatives analysis.

The steering committee members were the Town of Boone Public Works Director, Deputy Public Works Director, Director of Planning and Inspections, Harmony Lanes, NCDOT IMD, Kimley-Horn, and the High-Country Council of Governments. Two steering committee meetings were convened for the project. The initial meeting on October 13, 2023, served as the project kickoff. The subsequent meeting occurred on March 11, 2024, following the project team's review of the final alternatives analysis. The steering committee provided valuable feedback on the alternative alignments and typical sections throughout both sessions, which were instrumental in refining the concept designs.

A public outreach session for this project was held on March 27, 2024. The project team held a 2.5-hour drop-in-open-house-style meeting. During this time, the public had the opportunity to review the draft alternatives, ask questions to the project team, and provide feedback.

Overall, the public feedback was positive, highlighting a strong community desire for enhanced bicycle and pedestrian infrastructure. Most attendees at the open house preferred the trail to serve primarily as a transportation route rather than a recreational one. They envisioned using the trail for practical purposes such as commuting to work, running errands, and picking up groceries. This valuable input played a crucial role in the decision-making process, leading to the selection of **Alternative 1**, which prioritizes transportation needs, instead of **Alternative 2**, which was more focused on recreational use.

During the public meeting, numerous participants stressed the critical need for improvements at the intersection of NC-105 and Wilson Drive. They highlighted safety concerns and the potential benefits of enhancing this busy crossing for pedestrians and cyclists. Initially, the project did not include adjustments to the crosswalk and stop bar at this intersection. However, these upgrades have been incorporated into the project in response to the strong community feedback. More information on these adjustments is on **Inset A on page 59**.

The public survey questionnaire was initiated in May 2024 and remained open for public input for one month, during which it garnered participation from 294 individuals and received 3,697 responses. The survey results in **Appendix E** reflected the strong community preference for greenways as the favored facility type. Respondents highlighted their likelihood of using greenways primarily for exercise, accessing destinations like parks and grocery stores, and as a means of transportation to and from work. Moreover, the findings underscored the significance of connectivity, safety, and user experience as the most important factors for the residents of Boone.

Boone Pedestrian Mobility Feasibility Study

PUBLIC MEETING

Town of Boone



Will you join us?

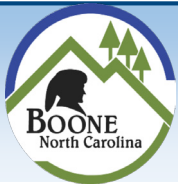
The Town of Boone, in collaboration with the North Carolina Department of Transportation's Integrated Mobility Division (NCDOT IMD), invites you to attend a public meeting on Wednesday, March 27, 2024 to discuss the comprehensive feasibility study currently underway for a multi-use path on Faculty Street from Holmes Drive to Blowing Rock Road and on Winklers Creek Road/Greenway Road from Wilson Drive to Leola Street. Please see the attached exhibits which detail the routes studied.

We welcome you to stop by anytime that day between the hours of **3 pm and 5:30 pm** at **Council Chambers located at 1500 Blowing Rock Road**. During this time you will have the opportunity to meet with members of the project team who will be available to provide information, answer questions, and gather your feedback.

Unable to make it? No problem! A project team member will be happy to answer your questions anytime prior to the meeting - please see the contact information for Justin Stines at the bottom of this invitation.

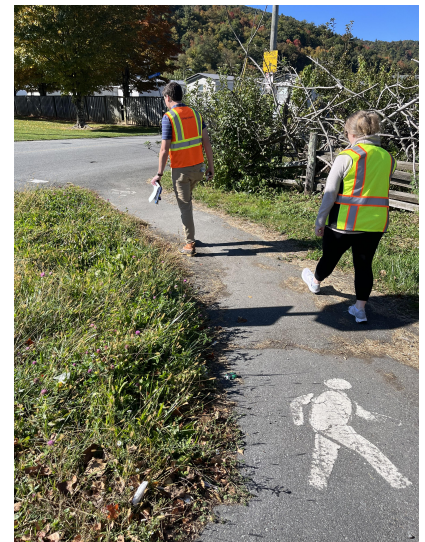
Your presence and active participation are vital in shaping this project for the benefit of our community.

We hope to see you there!



WHAT? Public Meeting
WHEN? Monday, March 27 from 3pm - 5:30pm (drop-in)
WHERE? Boone Council Chambers
1500 Blowing Rock Rd
Boone, NC 28607

PROJECT CONTACT
Justin Stines
Town of Boone
Deputy Public Works Director
P (828)-268-6236
justin.stines@townofboone.net



The Community's feedback provided during the public meeting and in the survey's comment section is summarized:

Safety Concerns

A strong emphasis is placed on safety, with many residents expressing the need for safe walking and biking paths separated from traffic. Dangerous roads, such as 321 and 105, are frequently mentioned, along with the necessity for safe crossings, including suggestions for overpasses or tunnels. There are repeated calls for physical separation in bike lanes to protect cyclists and pedestrians from vehicular traffic.

Accessibility and Connectivity

The community wants the greenway to connect various parts of the town, including residential areas, downtown Boone, parks, and essential services. It is crucial to make sure the greenway is accessible to all, including students and tourists, and connects to existing paths. Specific suggestions for key connections include areas like Bamboo Road and linking Appalachian State University with downtown and other critical areas.

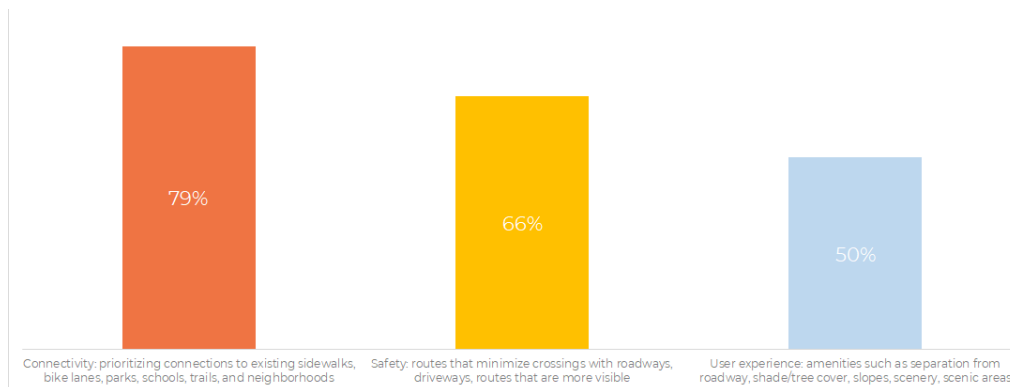
Recreational and Aesthetic Features

Residents express interest in using greenways for exercise and recreation, emphasizing the benefits of scenic and visually appealing paths. Suggestions for enhancing the user experience include incorporating features like benches, art, and outdoor music installations.

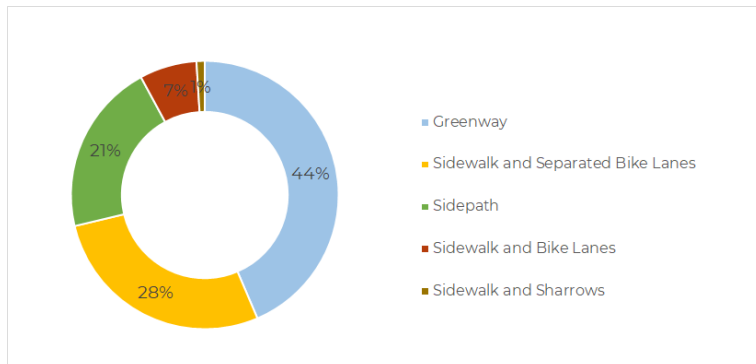
Community and Environmental Impact

The community recognizes the potential for greenways to reduce traffic congestion and support sustainable transportation options. There is strong advocacy for infrastructure that considers Boone's future growth and supports a healthier, more active community. The environmental benefits of reducing car emissions and promoting walking and biking also are emphasized.

Survey Responses to "Which criteria are most important when considering a route for the trail?"



Survey Responses to "Which facility type do you prefer when walking or biking in Boone?"



Alternatives Development

Design Criteria

The design criteria for this feasibility study are based on recommendations from various state and national guidelines on bicycle and pedestrian infrastructure. Different sources were examined and compared based on their applicability to the varied existing infrastructure. The following design criteria were used to develop the alternative alignments and choose the most feasible route.

Proposed Design Criteria	Value	Design Reference	Comments
MUP/Greenway Width	12.0' (preferred) 10.0' (minimum)	<ul style="list-style-type: none"> NCDOT Std. 848.01 American Association of State Highway and Transportation (AASHTO) Boone Pedestrian Plan 	
Planting Strip Width	8.0' (preferred) 5.0' (minimum)	<ul style="list-style-type: none"> AASHTO 	
Shoulder Width	5.0' (preferred) 2.0' (minimum)	<ul style="list-style-type: none"> AASHTO 	
Minimum Profile Grade	0.5% minimum Or match existing road grade if along road	<ul style="list-style-type: none"> AASHTO 	
Maximum Profile Grade	5.0% maximum Or match existing road grade if along road	<ul style="list-style-type: none"> AASHTO 	
Maximum Cross Slope	1.5% (preferred) 2.0% (max)	<ul style="list-style-type: none"> AASHTO Public Right-of-Way Accessibility Guidelines (PROWAG) 	
Minimum Horizontal Curve Radius	100' (preferred) 50' (minimum) Or follow existing road alignment	<ul style="list-style-type: none"> AASHTO 	
Typical Section	2" asphalt (S9.5C) + 6" ABC (greenway + MUP) 6" fiber reinforced concrete + 6" ABC (greenway) 6" concrete (driveway crossings)	<ul style="list-style-type: none"> AASHTO 	*in low lying/flood prone areas
Driveways	Desirable Driveway Grades (preferred) Maximum Driveway Grades (acceptable)	<ul style="list-style-type: none"> NCDOT Std. 848.02 	

Note: Project will be designed in accordance with the latest guidance from AASHTO and National Association of City Transportation Officials (NACTO) and will comply with the Americans with Disabilities Act (ADA) requirements and PROWAG guidelines.

Scope and Objectives

The feasibility study aimed to examine possible alternatives for bike and pedestrian infrastructure between Appalachian State University and Boone Greenway. The study also explored alternative connections to connect various destinations along the main alignment. Throughout the progression of the feasibility study, several objectives remained paramount, including:

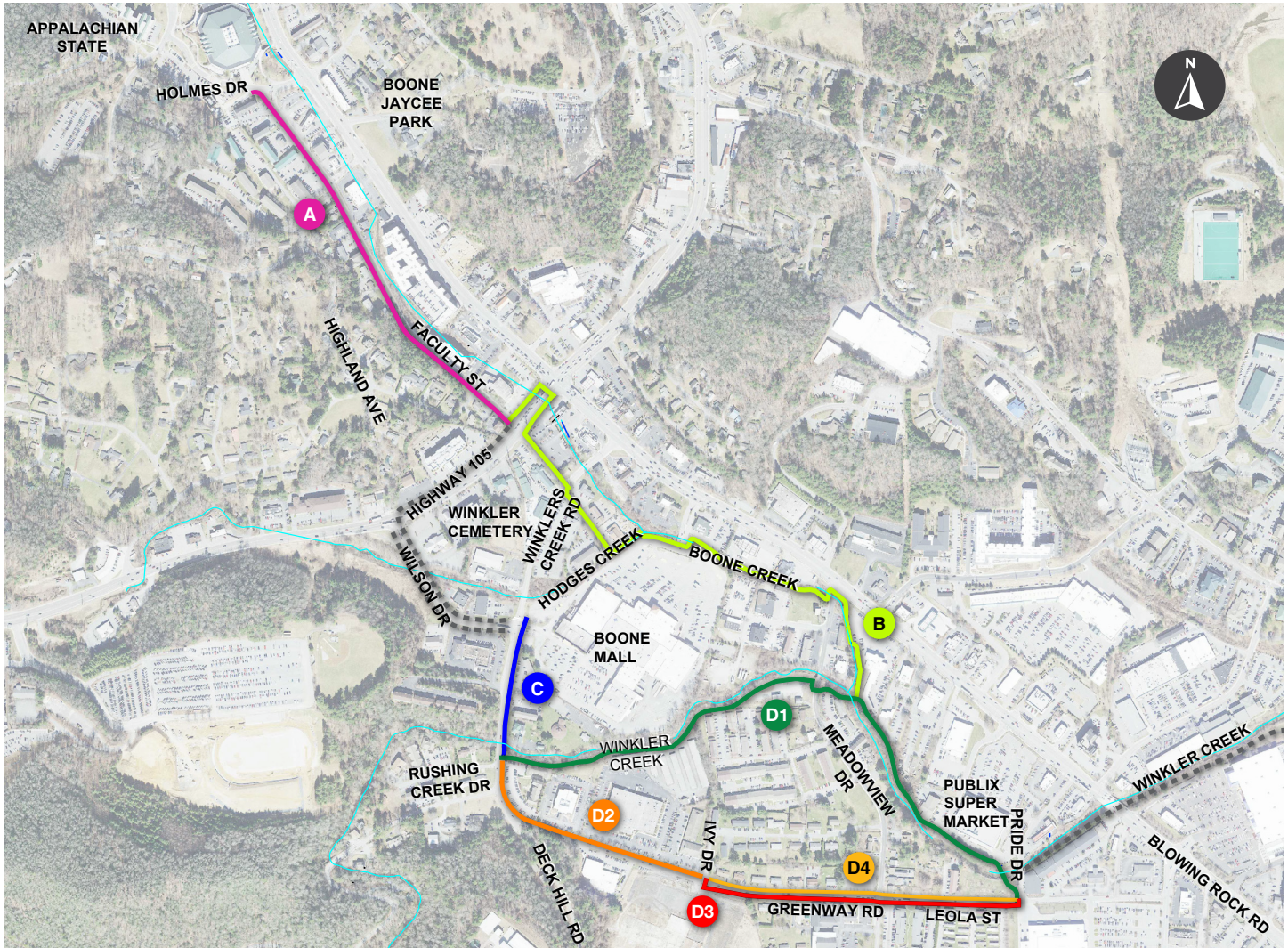
- Safety of users
- Accessibility
- Cost Effectiveness
- Connectivity
- Opportunity for Future Improvements
- Utilization of Existing Infrastructure
- Utilization of Existing Right-of-Way (ROW)
- Community Support

Below are matrices illustrating the scores of each alternative against each objective. The cumulative scores are at the bottom of the matrix. This scoring process facilitated the selection of the preferred alternatives.

Evaluation Criteria	Mainline Alternative Segments						
	Alt Seg A	Alt Seg B	Alt Seg C	Alt Seg D1	Alt Seg D2	Alt Seg D3	Alt Seg D4
Safety	1	0	1	2	1	0	1
Accessibility	2	1	2	2	2	1	2
Cost Effectiveness	1	1	1	1	2	2	2
Connectivity	2	1	2	1	2	1	2
Opportunity for Future Improvements	2	1	2	1	2	1	1
Utilization of Existing Infrastructure/ROW	2	0	2	0	1	1	1
Community Support	2	0	2	1	2	1	2
Total Points	12	4	12	8	12	7	11
(Score: 2=Most desirable, 1=Least desirable)							

Segment Alternatives Development

Based on the objectives and design criteria outlined above, alternative segments were evaluated to create different routes from the Appalachian State University campus to Boone Greenway. Two mainline alternatives were created out of these alignments. The mainline alignments serve as the main transportation mechanism and connect the patchwork of existing infrastructure to create a more cohesive bike and pedestrian network. These alternatives are shown below and on the following pages.

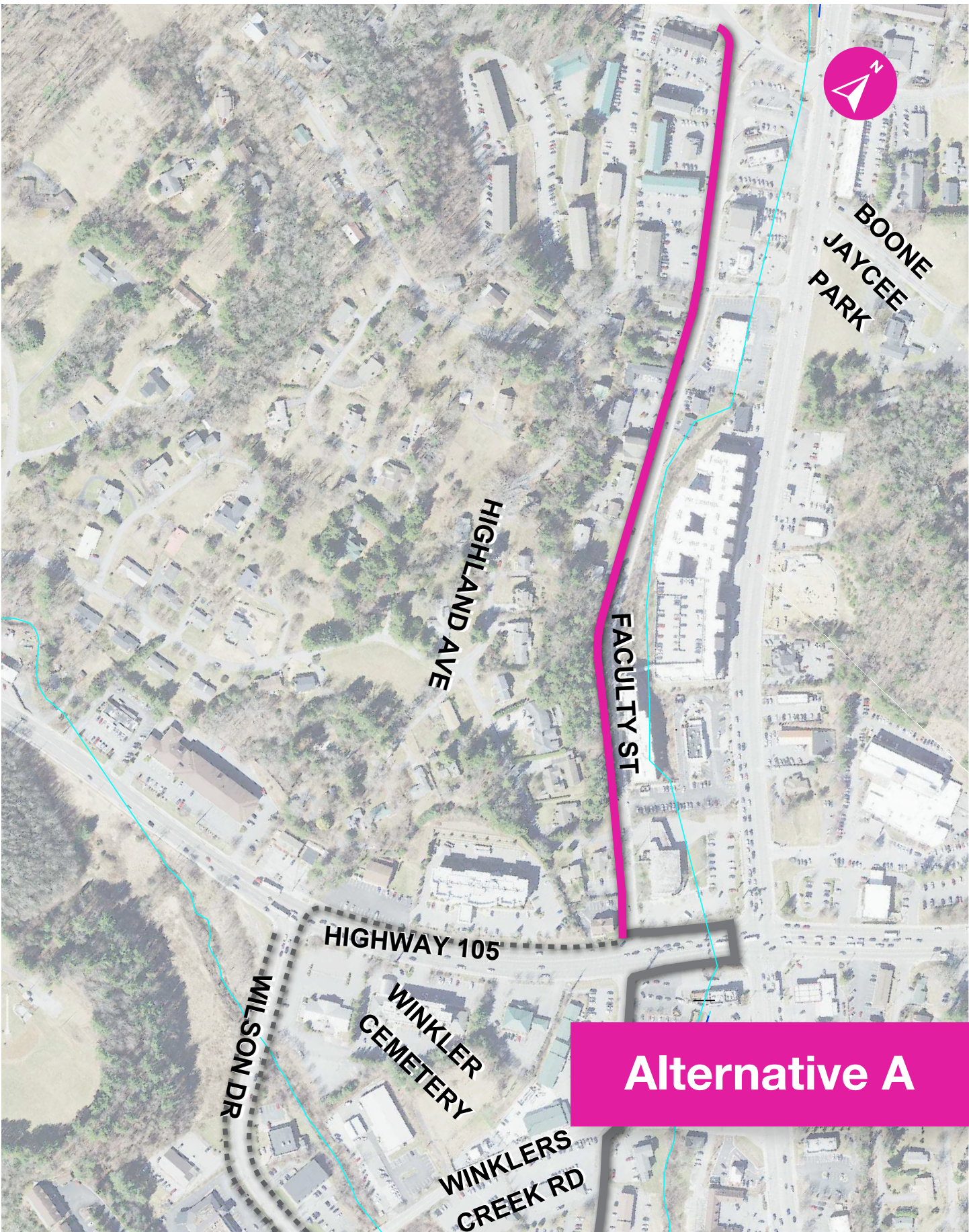


Segment Alternatives Exhibit

Alternative Analysis

ID	Segment Name	Description	Length (LF)	Estimated Cost	Challenges/Constraints
A	Faculty Street MUP	The MUP runs along the south side of Faculty Street from Highway 105 to Holmes Drive.	2,300	\$1,490,000	Impacts to property owners Multiple retaining walls
B	Boone Creek Greenway	The trail departs Winkler Creek and runs along the eastern banks of Boone Creek, crosses Meadowview Drive at Blowing Rock Road, and continues along the southern banks of Boone Creek. The trail crosses the Boone Mall entrance and runs along the western edge of the Boone Mall parking lot until it veers west to run along Boone Creek Drive and Faculty Street Extension. The trail continues north along Highway 105 from Faculty Street Extension to Blowing Rock Road, where it crosses Highway 105 and runs south to Faculty Street.	3,550	\$2,662,500	Property impacts to residents Floodplain impacts Three creek crossings Multiple retaining walls Dangerous 7-lane crossing required
C	Winklers Creek Road MUP	The MUP crosses Winkler Creek with a pedestrian bridge approximately 5' east of the vehicular bridge and continues along the east side of Winklers Creek Road until the intersection with Wilson Drive.	800	\$563,000	One creek crossing Impacts to utilities and real estate Signal and intersection modifications
D1	Boone Greenway	The trail starts on the south side of Winkler Creek, approximately 100 LF west of Pride Drive. It crosses Winkler Creek heading north and runs along its northern banks until its convergence with Boone Creek. The trail then crosses Winkler Creek and runs west along its southern banks until the Winklers Creek Road vehicular bridge.	3,650	\$2,765,000	Two creek crossings, one boardwalk, and multiple retaining walls Floodplain Impacts Property impacts to residents
D2	Greenway Road MUP	The MUP runs along the north side of Greenway Road until the Winkler Creek vehicular bridge.	1,450	\$688,000	Impacts to utility poles.
D3	Greenway Road MUP South	The mid-block crossing of Leola Street at Pride Drive. The MUP runs along the south side of Leola Street and Greenway Road. The mid-block crossing of Greenway Road at Ivy Drive.	1,800	\$855,000	Two mid block crossings Drivers are typically traveling at higher speeds on Leola Street and Greenway Road, creating a dangerous condition for bicyclists/ pedestrians
D4	Greenway Road MUP North	The MUP starts on the north side of Leola Road at the Pride Drive intersection and continues along Greenway Road's north side.	1,750	\$829,000	Impacts to property owner's driveways Impacts to utilities

Segment Alternatives Summary



Alternative A

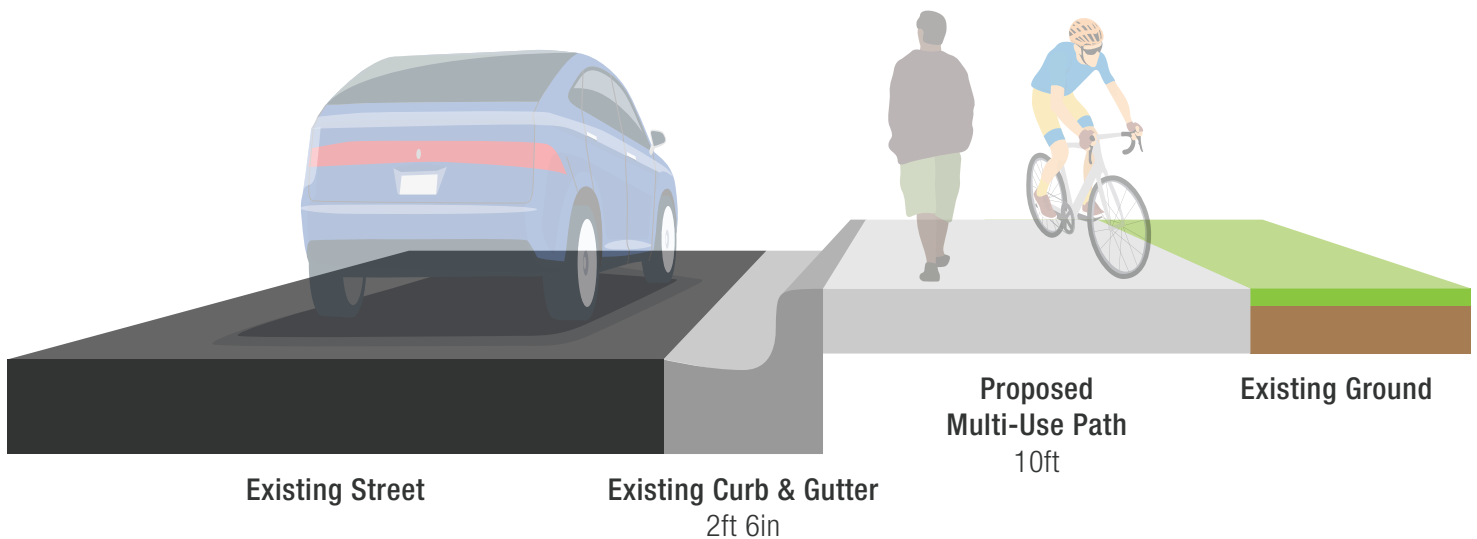
Alternative Segment A

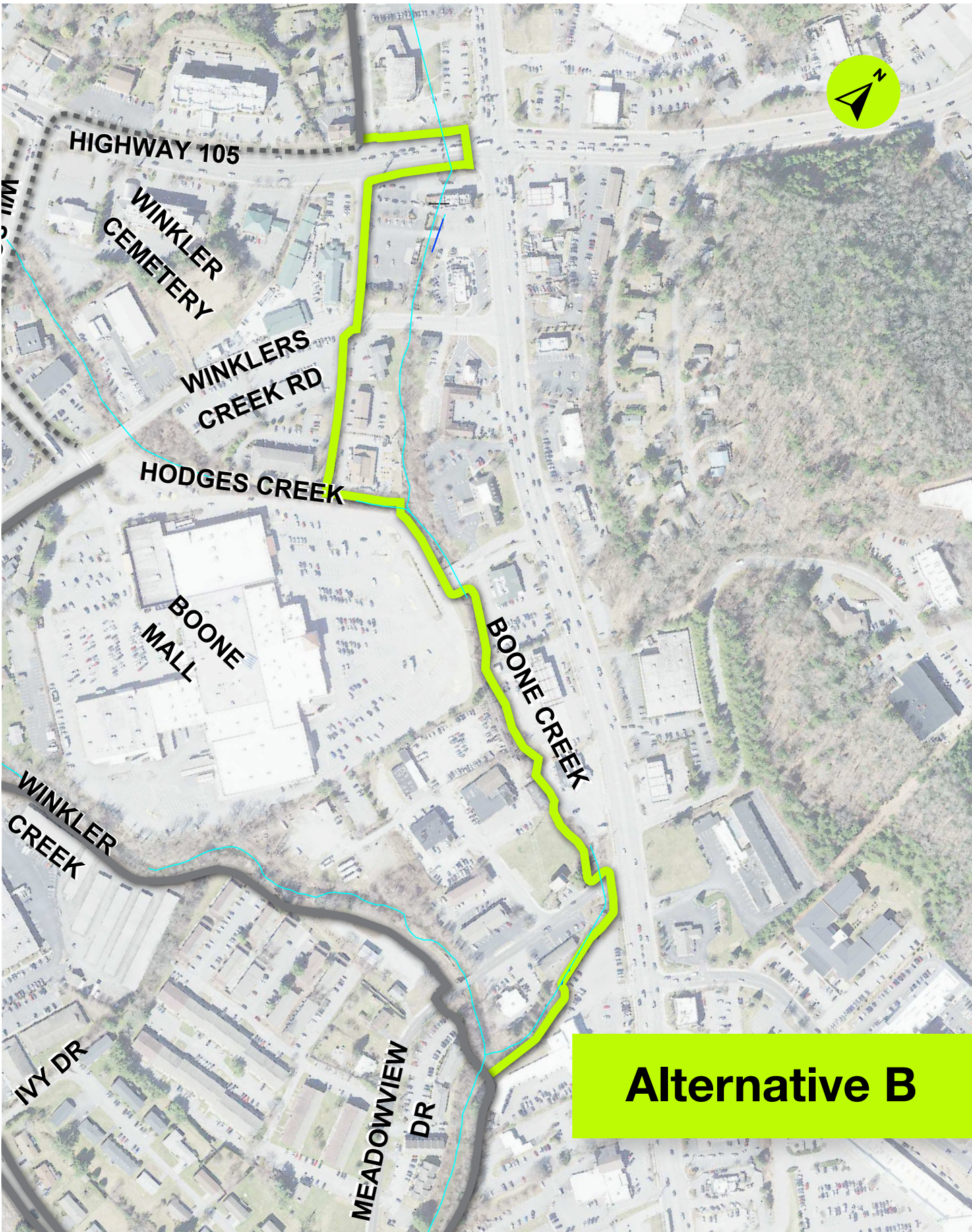
Many of the proposed design segments are located along existing roadways. Alternative Segment A is located along the southern side of Faculty Street from Holmes Drive to NC-105. The proposed typical section in this location is a 10-foot concrete MUP along the back of the existing curb and gutter. The MUP design is meant to accommodate bikes and pedestrians safely in the same space. The path will allow cyclists to stay out of vehicle travel lanes while allowing space for pedestrians to travel as well. With the 10-foot width of the path, there is ample room for bidirectional travel for all users. Along this segment's roadway is an existing curb and gutter, which provides vertical separation from vehicles and creates a path for water to flow efficiently after leaving the travel surface. There are 16 driveways and two roadway crossings that conflict with the proposed segment. Any driveways impacted by adding the MUP will be rebuilt to account for the path and vehicles entering the driveway. Crosswalks and curb ramps will be added at the existing roadway intersections of Highland Avenue and Wintergreen Lane to provide safe, accessible road crossings for all users. Construction of the design will require utility relocation and coordination to allow for adequate horizontal space. Due to areas of steep terrain along the roadside of Faculty Street, sections of the retaining wall will be necessary to accommodate the full width of the path. While Faculty Street has a sidewalk on the northern side of the road, the proposed MUP would provide more room to accommodate bike and pedestrian users and create more separation from vehicular travel. Given the limited space available in this corridor, no other feasible alternatives exist.

Cost: \$1,490,000

Length: 2,300 LF

Pros:	Cons:
<ul style="list-style-type: none"> • Provides dedicated space for pedestrians and bicyclists • Proposed design located partially in existing ROW 	<ul style="list-style-type: none"> • Conflicts with commercial driveways • Structures needed to accommodate design • Typical sections





Alternative B

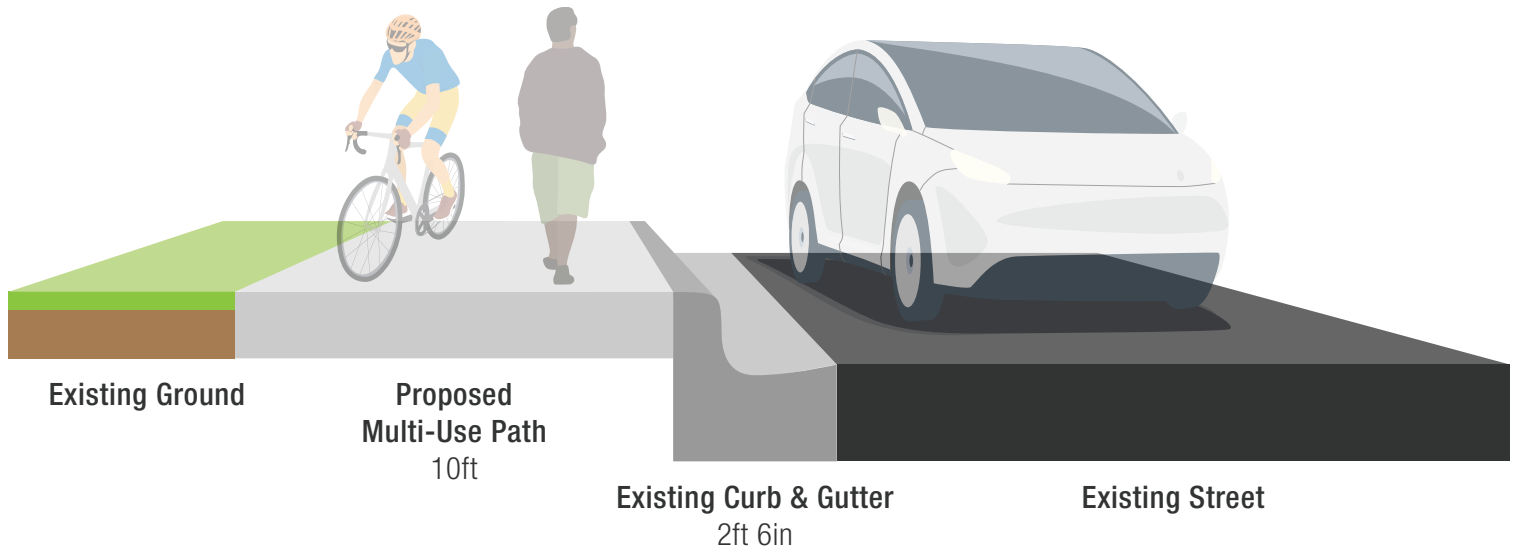
Alternative Segment B

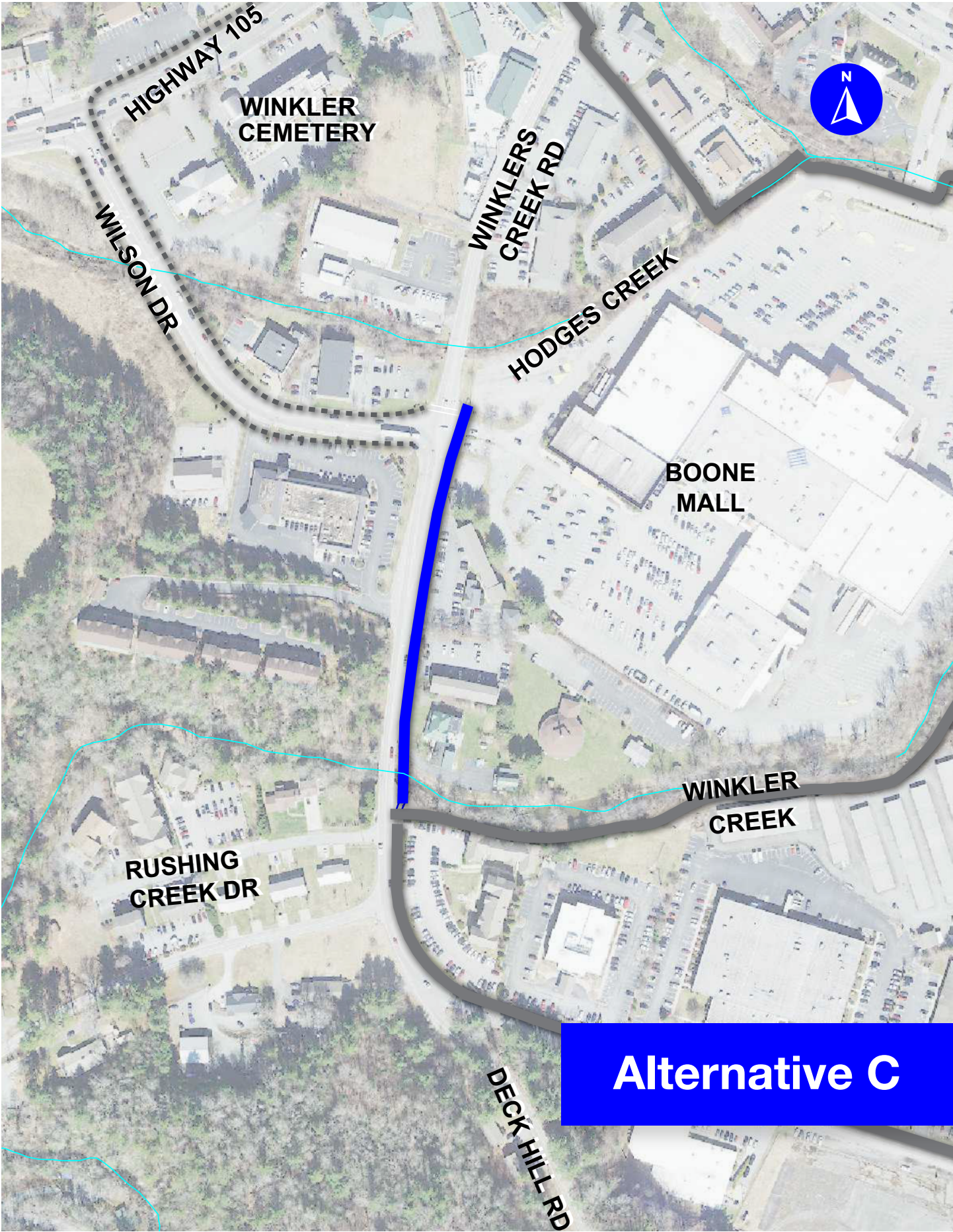
Alternative Segment B runs along Faculty Street, NC-105, Faculty Street Extension, and Boone Creek Drive in an MUP along the back of the existing curb. Once reaching Hodges Creek, the alternative segment switches to a greenway, continuing to the convergence of Hodges and Boone Creek. The segment then continues down Boone Creek to the convergence of Boone Creek and Winkler Creek. This alternative was initially considered in the early phases of the study but was not completed due to environmental, safety, and cost concerns.

Cost: \$2,662,500

Length: 3,550 LF

Pros:	Cons:
<ul style="list-style-type: none"> Provides connectivity to dense part of Boone 	<ul style="list-style-type: none"> Unsafe pedestrian crossing locations Circuitous routing High costs





Alternative C

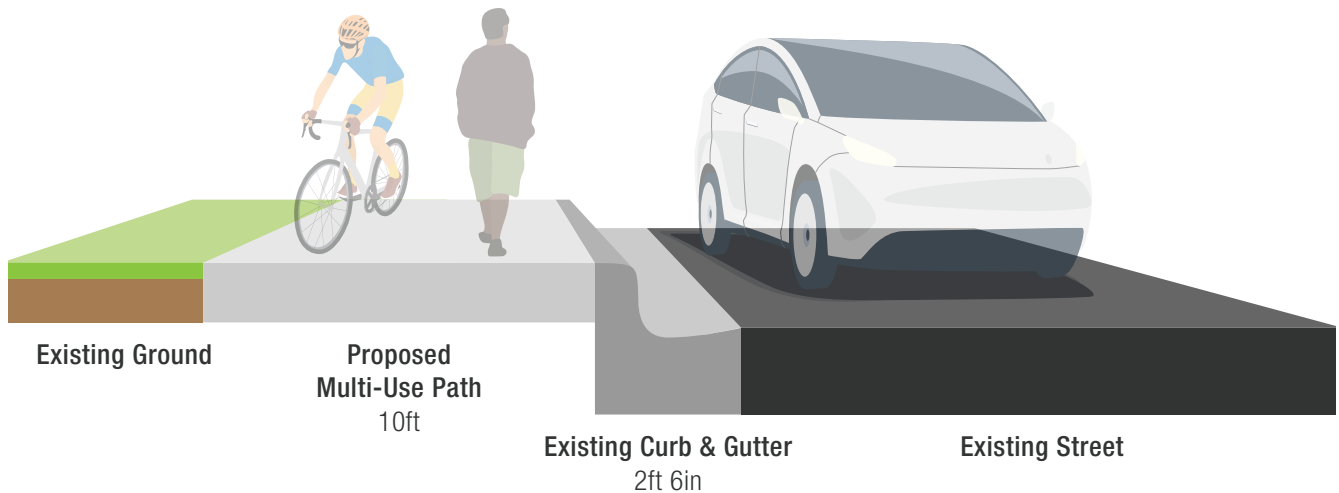
Alternative Segment C

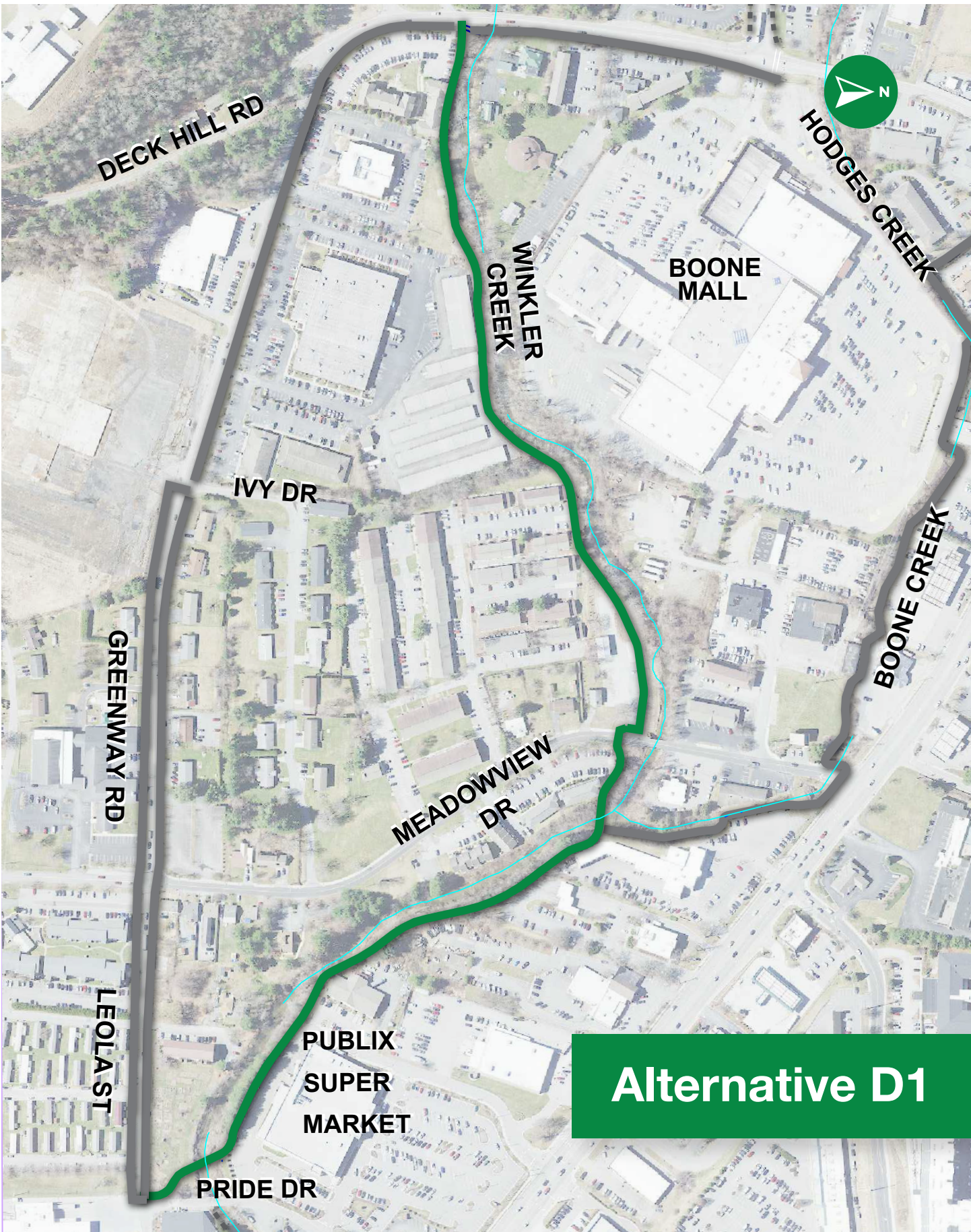
Alternative Segment C runs along the eastern side of Winklers Creek Road from Wilson Drive to the pedestrian bridge crossing at Winkler Creek. The segment will consist of an MUP along the back of the curb through most of the alignment. In this area, Winklers Creek Road crosses over Winkler Creek. However, there needs to be more horizontal space on the existing vehicular bridge to add pedestrian or bicyclist accommodations, potentially a separate pedestrian bridge adjacent to the existing vehicular bridge. The path will meander from the back of the curb to accommodate the pedestrian bridge crossing. The 50-foot pedestrian bridge will be located approximately 5 feet from the existing vehicular bridge. This creates an advantageous crossing location for the pedestrian bridge and minimizes the hydraulic impact of the bridge on Winkler Creek. Given the limited space available in this corridor, no other feasible alternatives exist.

Cost: \$563,000

Length: 800 LF

Pros:	Cons:
<ul style="list-style-type: none"> Provides dedicated space for pedestrians and bicyclists Proposed design located partially in existing ROW 	<ul style="list-style-type: none"> Environmental and hydraulic impacts of stream crossing Structures needed to accommodate design





Alternative D1

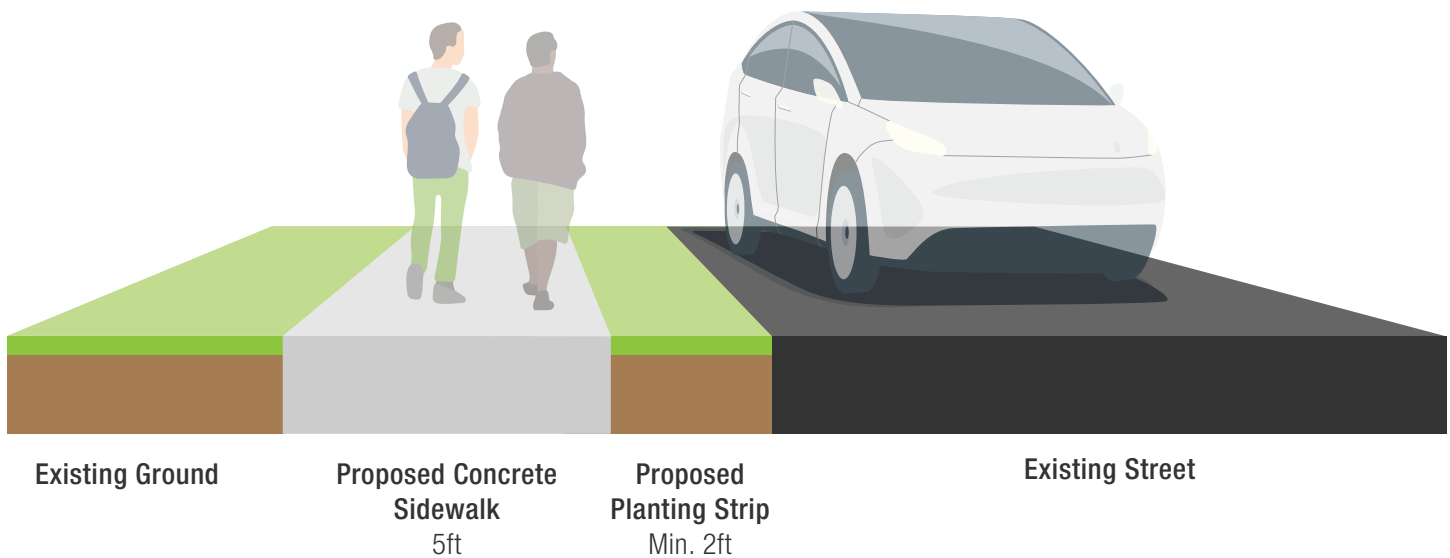
Alternative Segment D1

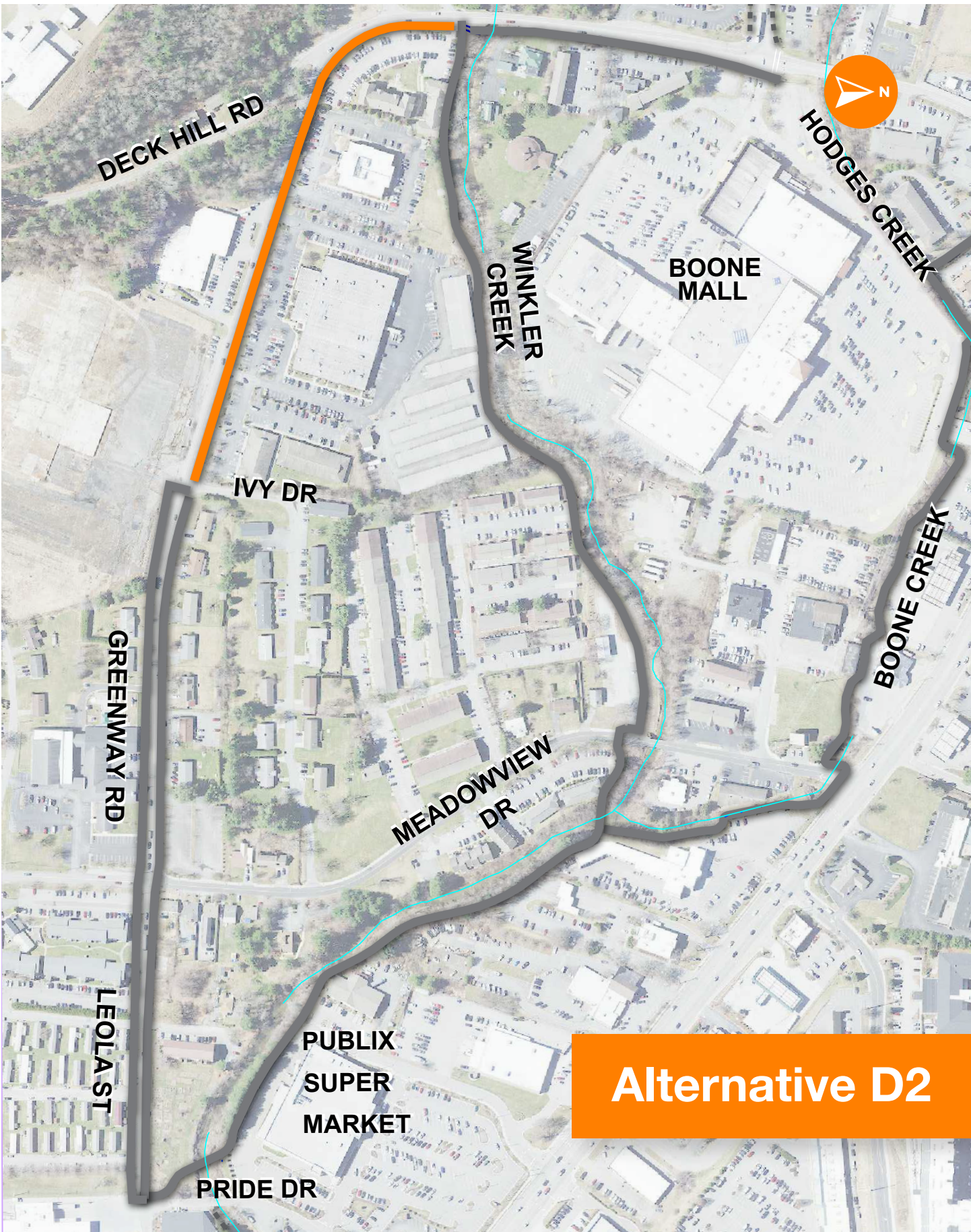
Alternative Segment D1 is a greenway segment that follows Winkler Creek as it winds behind the Boone Mall. It begins at the proposed pedestrian crossing over Winkler Creek at Winklers Creek Road and ends at Pride Drive and Leola Street. The asphalt greenway segment is balanced between remaining as close to Winkler Creek as possible without impacting the hydraulics of Winkler Creek. The segment crosses over Winkler Creek twice via a bridge. Due to the steep banks of Winkler Creek in some areas, approximately 284 feet of retaining wall and approximately 512 feet of boardwalk are necessary to accommodate the trail's width. These significant structures add immense cost and complexity to this segment. This segment also requires a mid-block crossing at Meadowview Drive to continue further along the creek, raising some safety concerns. The proposed greenway segment also would impact 16 private properties, and significant permanent easements would be necessary to create room for the greenway segment.

Cost: \$2,765,000

Length: 3,650 LF

Pros:	Cons:
<ul style="list-style-type: none"> Creates a more recreational experience 	<ul style="list-style-type: none"> High cost High property impacts Mid-block crossing needed





Alternative D2

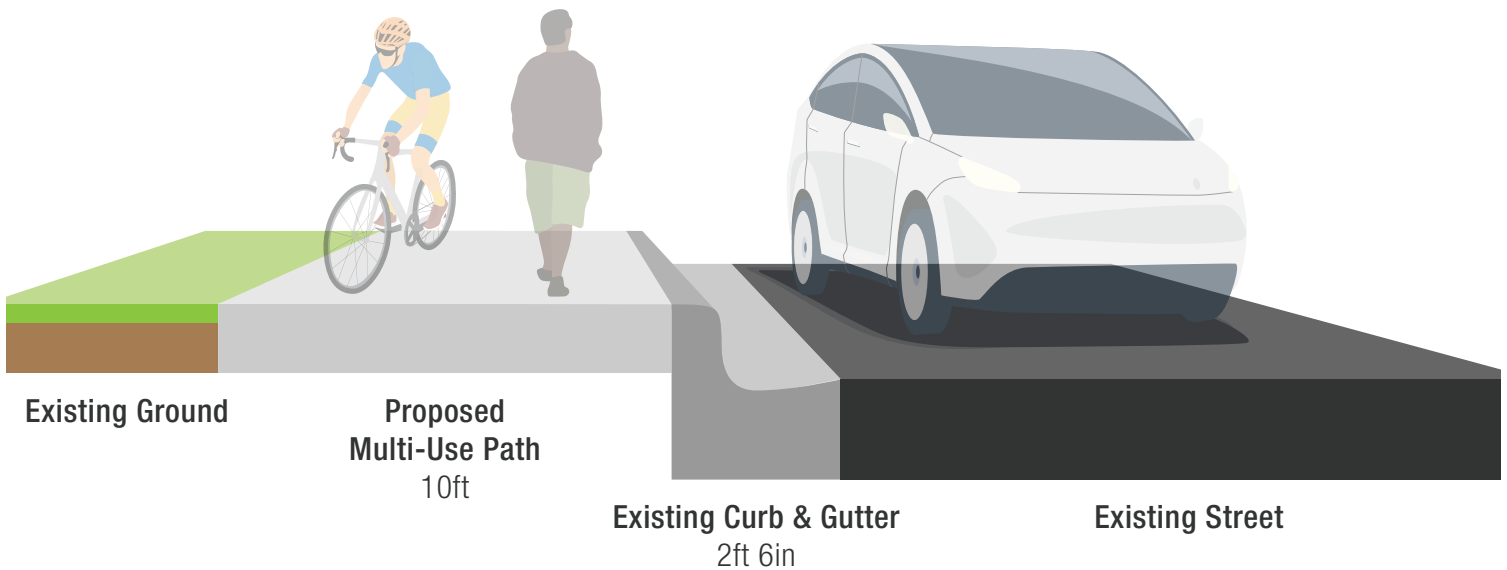
Alternative Segment D2

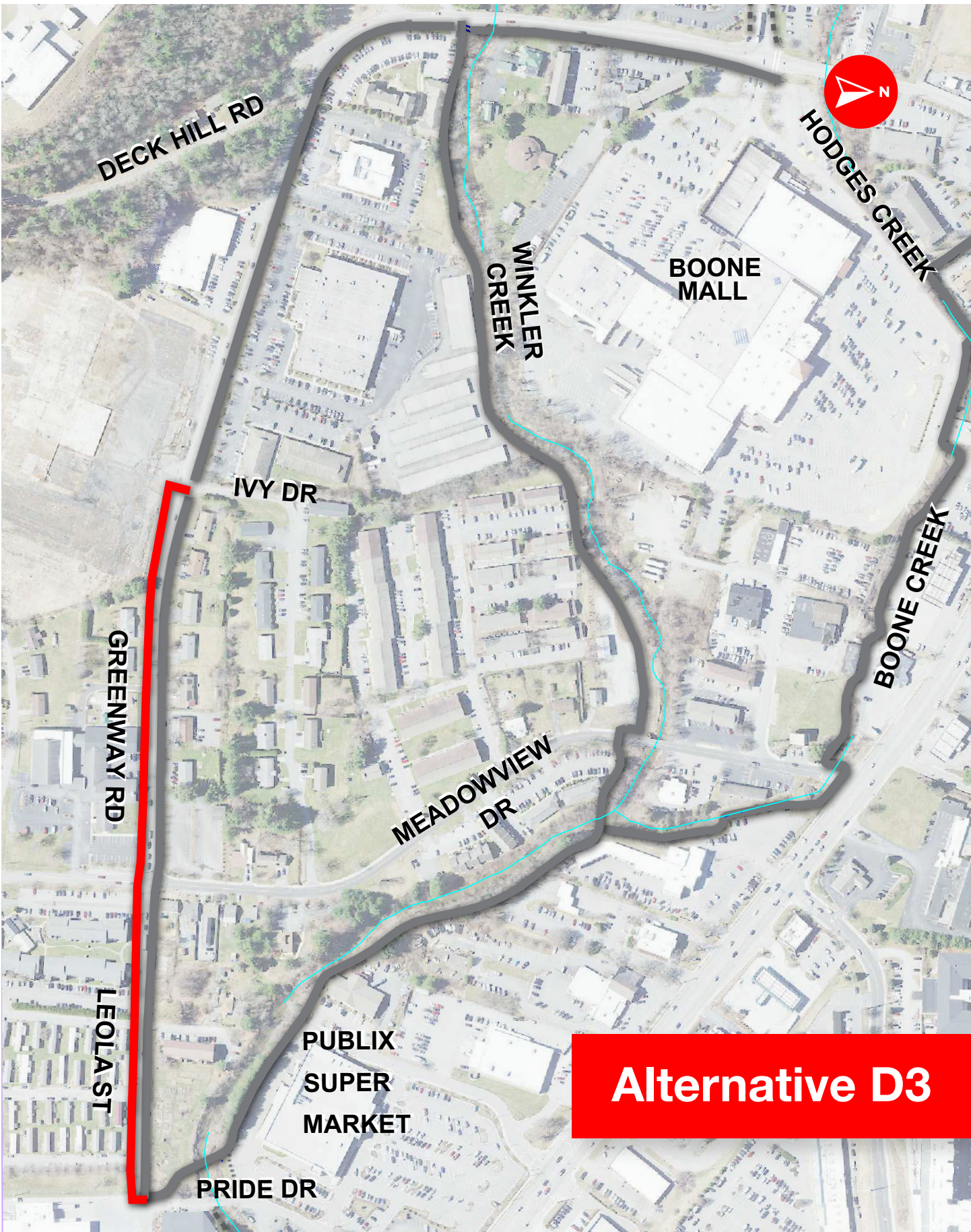
Alternative Segment D2 runs along the northeast side of Winklers Creek Road and Greenway Road from Winklers Meadow to Greenway Road at Ivy Drive. The concrete MUP will remain at the back of the existing curb and tie into the existing ground. Many utilities along the back of the existing sidewalk must be relocated in this area to accommodate the design. Additionally, five existing driveways must be adjusted to create the proper grade for the path. Any driveways impacted by adding the MUP will be rebuilt to account for the path and vehicles entering the driveway. Crosswalks and curb ramps will be added at the existing roadway intersection at Ivy Drive to provide safe, accessible road crossings for all users. There are significant drainage problems on properties along Greenway Road, and the proposed curb and gutter would alleviate some of these problems by routing water to drainage inlets. Curb and gutter also create vertical separation between the roadway and the MUP, adding a layer of safety to the design and creating a more pleasant user experience. Alternative Segment D2 would be combined with either Segment D3 or D4 to create a continuous MUP from Winklers Meadow to Pride Drive.

Cost: \$688,000

Length: 1,450 LF

Pros:	Cons:
<ul style="list-style-type: none"> • Connects users to more destinations • Uses existing ROW 	<ul style="list-style-type: none"> • Closer to vehicular traffic • Utility conflicts





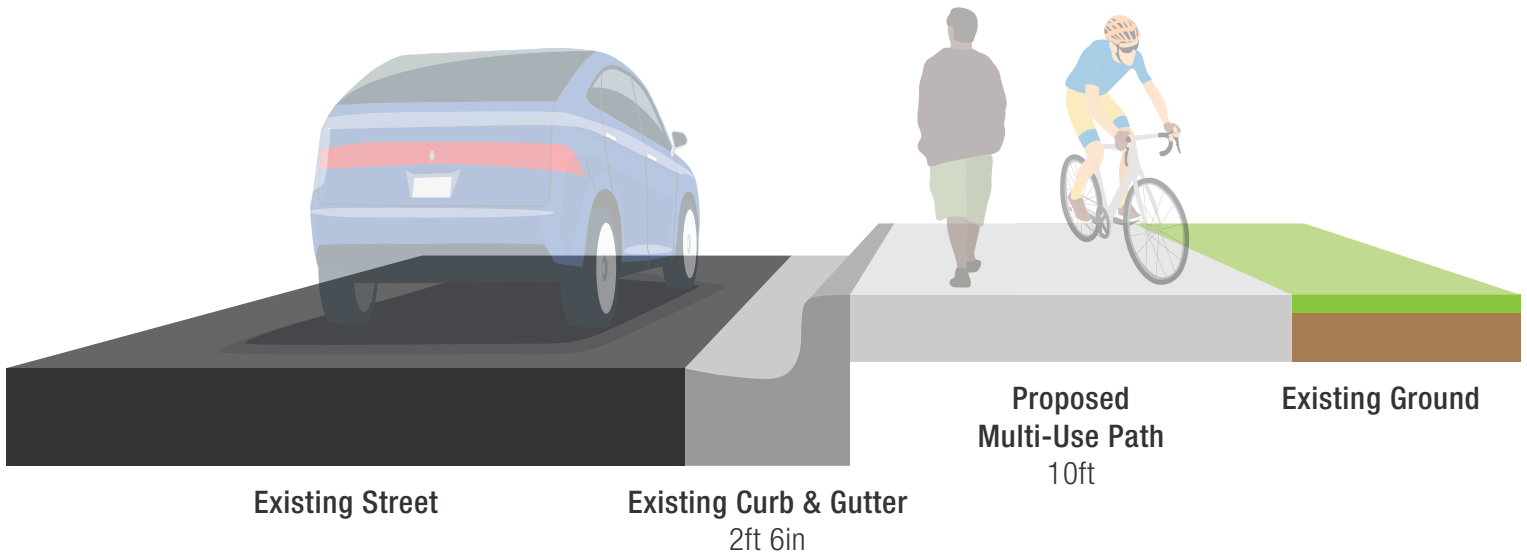
Alternative Segment D3

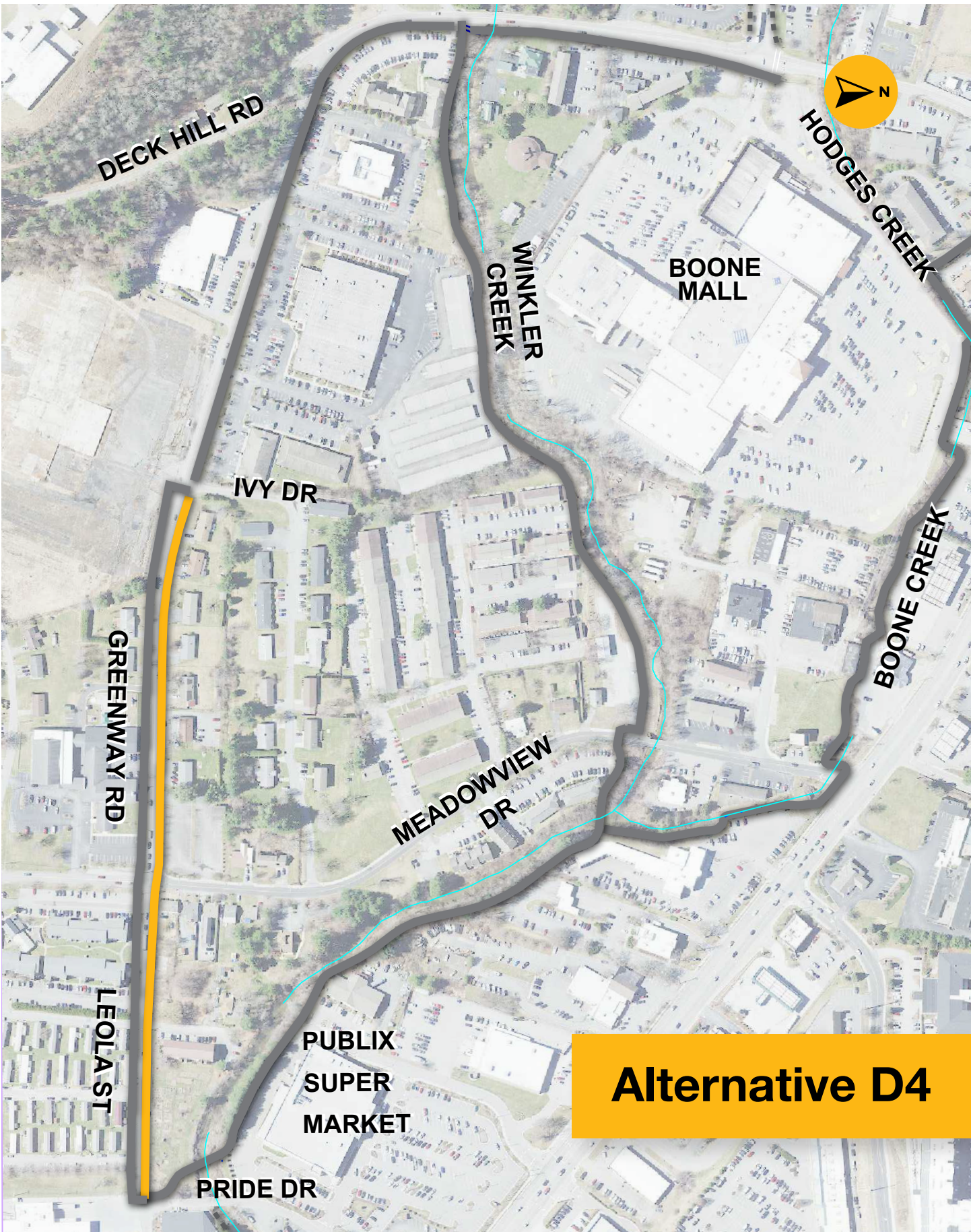
Alternative Segment D3 runs along the south side of Greenway Road and Leola Street from Ivy Drive to Pride Drive. Two mid-block crossings would be necessary for this alternative, which causes some safety concerns. The concrete MUP will remain at the back of the existing curb and tie into the existing ground. Any driveways affected by the addition of the MUP will be rebuilt to account for the path and vehicles entering the driveway. Crosswalks and curb ramps will be added at the six existing roadway intersections at Ivy Drive, Meadowview Drive, Zeb Street, Winter Drive, Summer Drive, and Pride Drive to provide safe, accessible road crossings for all users. There are significant drainage problems on properties along Greenway Road and Leola Street, and the proposed curb and gutter would alleviate some of these problems by routing water to drainage inlets. Curb and gutter also create vertical separation between the roadway and the MUP, adding a layer of safety to the design and creating a more pleasant user experience. Alternative Segment D3 would be combined with Segment D2 to create a continuous MUP from Winklers Meadow to Pride Drive.

Cost: \$855,000

Length: 1,800 LF

Pros:	Cons:
<ul style="list-style-type: none"> Fewer driveway conflicts Uses existing ROW 	<ul style="list-style-type: none"> Close to vehicular traffic Mid-block crossings





Alternative D4

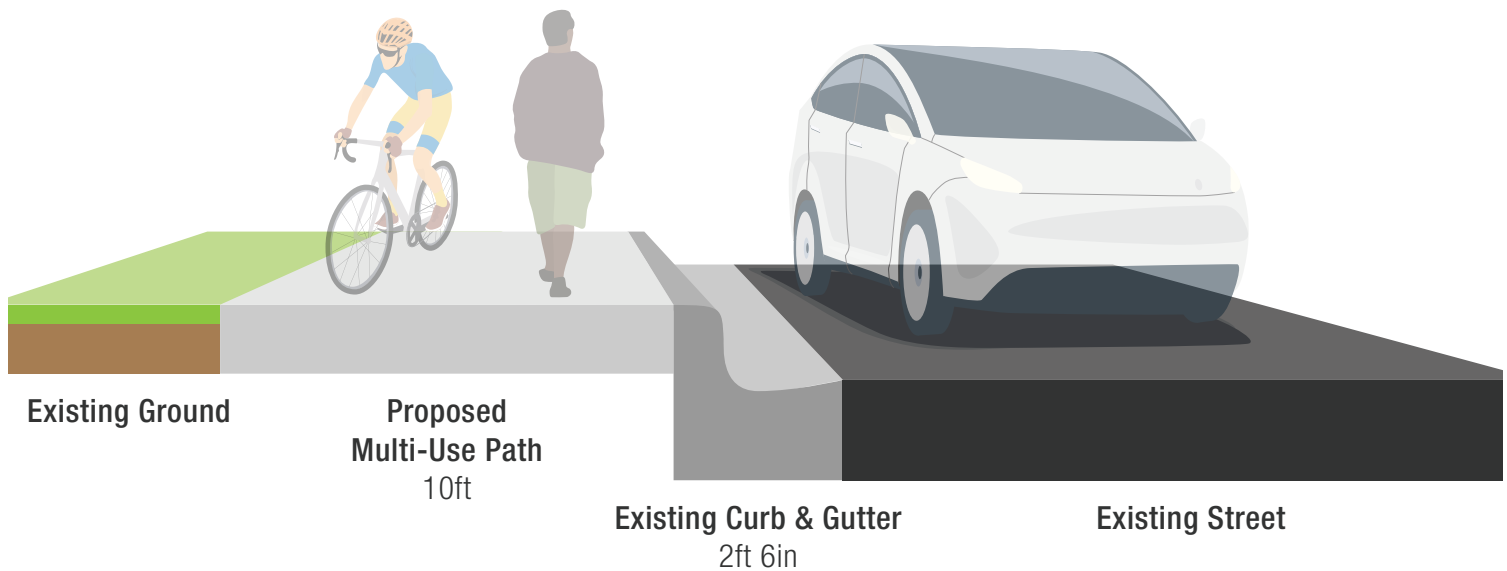
Alternative Segment D4

Alternative Segment D4 runs along the north side of Greenway Road and Leola Street from Ivy Drive to Pride Drive. The concrete MUP will remain at the back of the existing curb and tie into the existing ground. Many utilities along the back of the existing sidewalk must be relocated in this area to accommodate the design. Additionally, 11 existing driveways must be adjusted to create the proper grade for the path. Any driveways affected by the addition of the MUP will be rebuilt to account for both the path and vehicles entering the driveway. Crosswalks and curb ramps will be added at the three existing roadway intersections at Ivy Drive, Meadowview Drive, and Pride Drive to provide safe, accessible road crossings for all users. There are significant drainage problems on properties along Greenway Road and Leola Street, and the proposed curb and gutter would alleviate some of these problems by routing water to drainage inlets. Curb and gutter also create vertical separation between the roadway and the MUP, adding a layer of safety to the design and creating a more pleasant user experience. Segment D2 would combine Alternative Segment D4 to create a continuous MUP from Winklers Meadow to Pride Drive.

Cost: \$829,000

Length: 1,750 LF

Pros:	Cons:
<ul style="list-style-type: none"> • Crosses roads at intersections • Uses existing ROW 	<ul style="list-style-type: none"> • Close to vehicular traffic • Residential driveway impacts

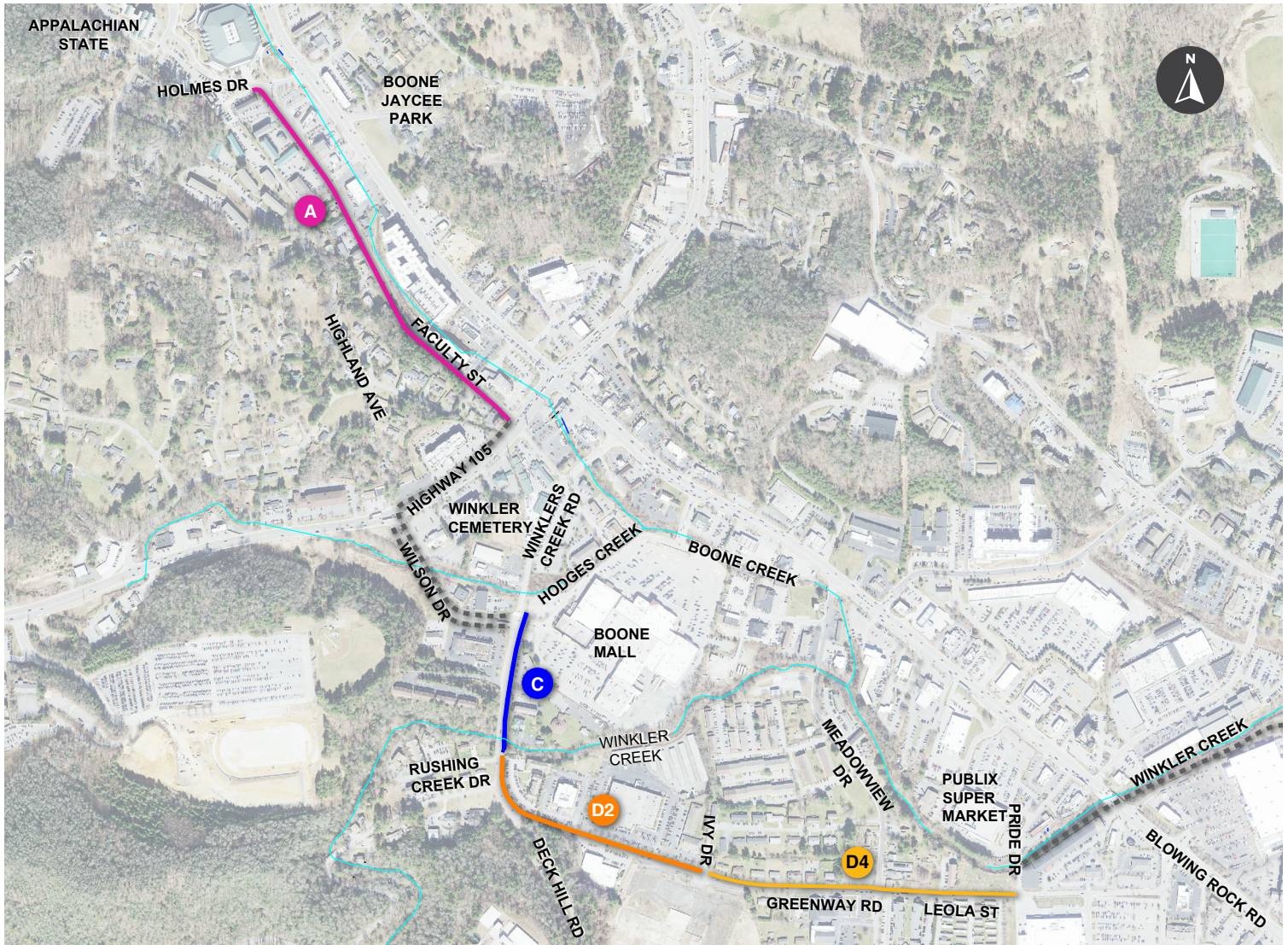


Results and Recommendations

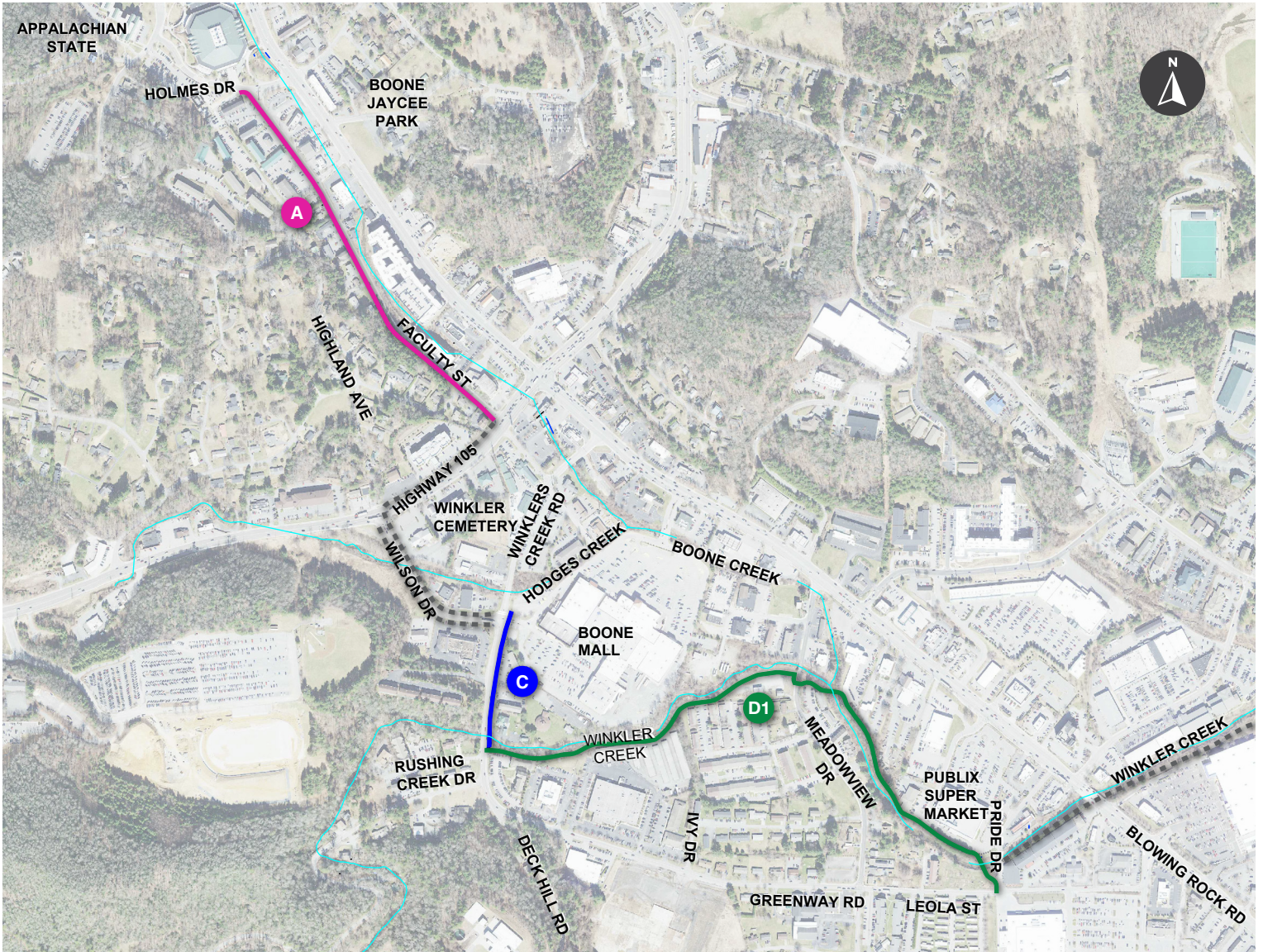
Study Results

Community input on the segments resulted in two mainline alignment alternatives. They are shown in the following exhibits.

Alternative 1:



Alternative 2:



Alternative Analysis

ALTERNATIVE 1

A ▶ C ▶ D2 ▶ D4

Mainline Length = **1.19 mi**

Mainline Construction Cost = **\$3.60M***

PROS

- No mid-block crossings
- Minimizes # of stream crossings
- Few floodplain/stream buffer impacts
- Fewer property impacts**
- Maximizes use of existing right-of way
- Emphasizes trail use for transportation/commuting for daily needs

CONS

- Impact to 33 private driveways
- Constrained construction access and work area
- High impact to utilities

ALTERNATIVE 2

A ▶ C ▶ D1

Mainline Length = **1.28 mi**

Mainline Construction Cost = **\$4.80M***

PROS

- Emphasizes recreational trail use
- Minimizes pedestrian conflicts with vehicles
- Impact to 18 private driveways
- Minimizes utility conflicts

CONS

- Greater environmental/floodplain/stream buffer impacts
- More property impacts**
- Maximizes # of stream crossings
- Minimizes trail use for transportation/commuting for daily needs

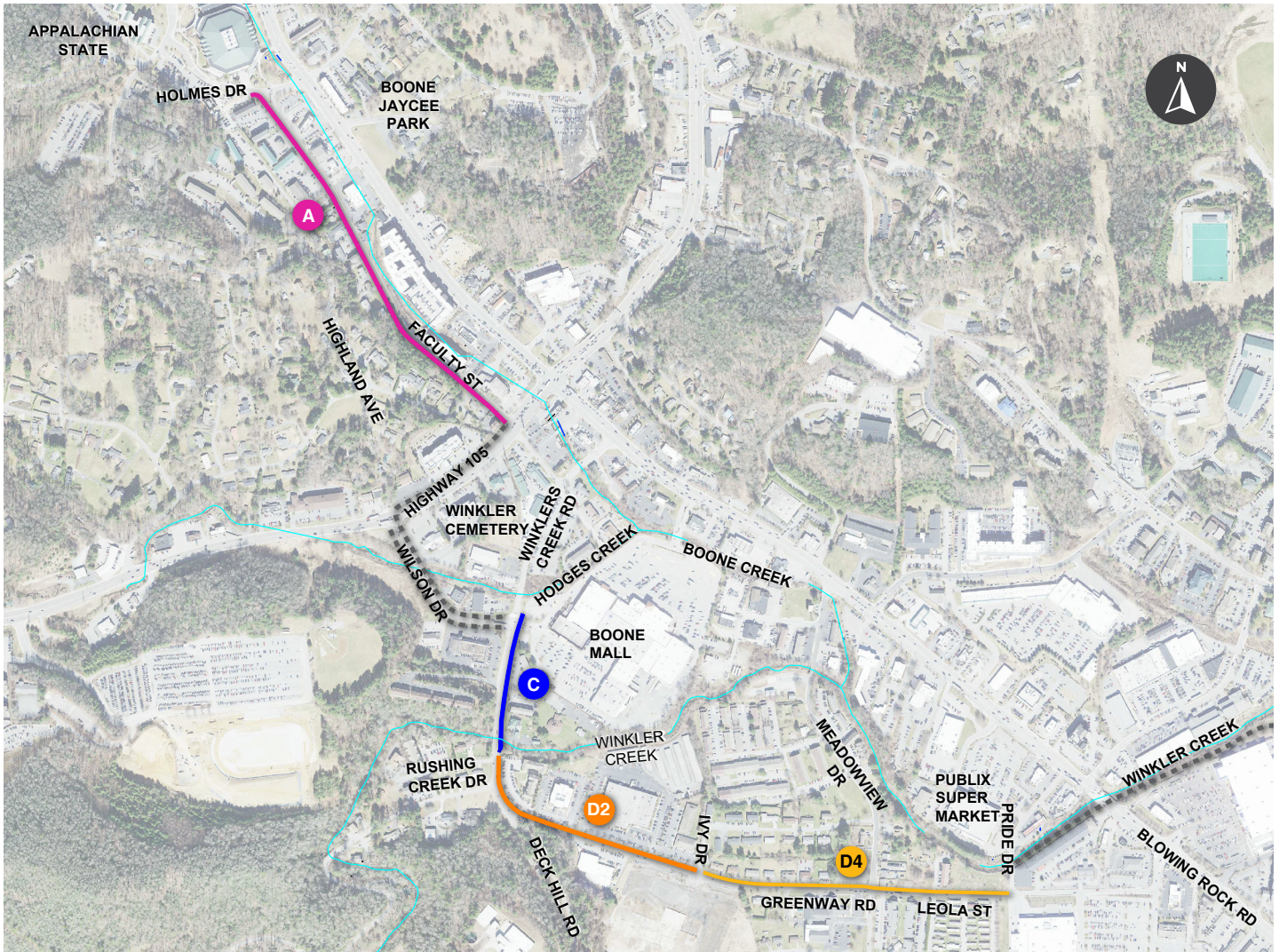
***Construction costs shown include 30% contingency but do not account for inflation.**

****Full property impacts will not be known until full survey has been completed.**

Recommendations

Alternative 1 is the preferred alignment and is the more suitable choice because it is:

- More Direct—Alternative 1 is roughly 475 feet shorter than Alternative 2, reducing travel times.
- More Economical—By being more direct and having fewer property impacts, Alternative 1 also becomes less expensive to design, construct, and maintain.
- More Connective—Alternative 1 is along the existing roadway, which is accessible from more areas and connects more important residential and commercial areas.



Preferred Alternative for Proposed Bike and Pedestrian Network

Cost, Funding, and Implementation

Cost Estimates

Based on planning and preliminary engineering efforts, estimated project costs for the recommended alternative are shown in the table below. Construction costs for each alternative segment were estimated separately, including earthwork/grading, retaining walls, stream crossing structures, roadway materials, and trail materials. Costs are primarily driven by topography (grading and retaining walls) and stream crossings (bridge and boardwalk structures). Assumptions for the estimate include the following:

- 2-inch asphalt concrete surface course for the greenway
- 6-inch aggregate base course for the greenway
- 4-inch concrete sidewalk
- 10-foot wide greenway trail
- Mobilization of 10%
- Traffic Control of 5%
- Storm Drainage of 5–10%
- Erosion Control of 5–10%
- Construction Cost Contingency of 30%
- Additional cost of inflation of 10% over 3 years
- Real estate costs not included

Opinion of Probable Construction Cost	\$3,570,000
Construction Cost Inflation (Summer '27)	\$1,181,670
Engineering and Construction Administration (30%)	\$1,071,000
Town Led Project Administration (15%)	\$535,500
Utility Relocations	\$50,000
Permitting Fees	\$20,000
Subtotal	\$6,428,170
Project Contingency (30%)	\$1,607,042.50
Total Project Cost	\$8,035,212.50

Implementation

The following three pages provide a thorough funding strategy for the project, which outlines funding mechanisms and considers estimated application windows, project phases eligible for each funding source, required matching funds, and minimums and maximums that can be requested for each funding source. This information will help the Town of Boone put together more competitive funding applications to expedite the design and construction of the project.

Feasibility Study Funding Document (Federal, State, Local, and Private Funding Mechanisms)

The Bipartisan Infrastructure Law (BIL)

BIL, officially known as the Infrastructure Investment and Jobs Act (IIJA), is a landmark piece of legislation signed into law in 2021. This law represents a significant investment in the United States infrastructure, allocating approximately \$1.2 trillion to various projects throughout five years. The BIL aims to modernize the nation's transportation systems, including roads, bridges, and public transit as well as address critical needs for broadband internet access, clean water, and the electric grid. Additionally, the law focuses on enhancing climate resilience and improving environmental justice. By addressing these diverse infrastructure needs, the BIL seeks to boost economic growth and improve the quality of life for all Americans.

Surface Transportation Block Grant Program (STBGP)

STBGP is a federal-aid highway funding program administered by NCDOT that provides flexible funding for various transportation projects. These projects include highways, bridges, transit systems, and pedestrian and bicycle infrastructure improvements. The STBGP funds are allocated to states and localities based on a formula that considers population and road mileage. This program aims to enhance the safety, efficiency, and accessibility of transportation networks, supporting economic growth and improving the quality of life for residents. The STBGP also emphasizes the importance of maintaining and upgrading existing infrastructure to ensure long-term sustainability.

Transportation Alternatives (TA) Set-Aside

The TA Set-Aside program is a subset of the STBGP, managed by NCDOT, which allocates federal funds for non-traditional transportation projects. The program supports various initiatives, including developing pedestrian and bicycle facilities, construction of turnouts and overlooks, community improvements like historic preservation and vegetation management, environmental mitigation related to stormwater and habitat connectivity, and recreational trails. By focusing on smaller-scale projects, the TA Set-Aside program helps create safer, more connected, and equitable transportation networks across the state.

Employing STBGP Money at a State Level

The NCDOT Strategic Transportation Investments (STI) law, passed in 2013, equips NCDOT to use funding efficiently and effectively to enhance infrastructure while supporting economic growth, job creation, and a higher quality of life. The STI law establishes the Strategic Mobility Formula, which allocates available revenues based on data-driven scoring and local input. This formula is used to develop the State Transportation Improvement Program (STIP), identifying projects that will receive funding during a 10-year period.

NCDOT's STIP is a comprehensive plan that outlines the funding and scheduling of transportation projects statewide for 10 years. The program enhances the state's transportation infrastructure, improves traffic flow, and supports economic growth. The STIP includes various projects such as highway improvements, public transit expansions, and bicycle and pedestrian pathways. Funding for these projects comes from federal and state sources. The program is updated every two years to reflect changing priorities and available resources.

Active Transportation Infrastructure Investment Program (ATIIP)

ATIIP is a federal competitive grant initiative aimed at enhancing active transportation networks. It focuses on constructing safe and connected facilities like sidewalks, bikeways, and trails that link key destinations such as schools, workplaces, and recreation areas. The program also emphasizes integrating these networks with public transportation to improve accessibility and connectivity. ATIIP aims to boost safety, efficiency, and quality of life by investing in these projects, particularly in disadvantaged communities.

Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Discretionary Grant Program

RAISE Discretionary Grant Program provides substantial funding for essential transportation infrastructure projects across North Carolina. This program provides federal aid that supports various initiatives, including road, rail, transit, and port improvements, focusing on enhancing safety, efficiency, and sustainability. RAISE grants prioritize projects with significant local or regional impacts, promote economic competitiveness, and improve quality of life, particularly in underserved communities. Additionally, the program emphasizes environmental sustainability and resilience, helping ensure that funded projects contribute to a more sustainable and equitable transportation network.

Safe Streets and Roads for All (SS4A)

SS4A Grant Program, established under the BIL, provides \$5 billion in funding for five years to support regional, local, and tribal initiatives to prevent roadway deaths and serious injuries. The program funds developing comprehensive safety action plans as well as implementing projects and strategies to address significant roadway safety concerns. Eligible applicants include political subdivisions of states, metropolitan planning organizations, and federally recognized tribal governments. The SS4A grants support various activities, including planning, construction, equipment and materials, operations and maintenance, and technology demonstrations.

Environmental Protection Agency (EPA) Community Change Grants

The EPA's Community Change Grants program, funded by the Inflation Reduction Act, allocates funding to support disadvantaged communities. These grants aim to reduce pollution, enhance community climate resilience, and build capacity to address environmental and climate justice challenges. The program emphasizes community-driven initiatives, helping ensure projects are responsive to local needs and stakeholder input. Eligible applicants include partnerships between community-based non-profits, local governments, and educational institutions.

North Carolina Recreational Trails Program (RTP)

North Carolina (RTP) provides federal funding to support the development and maintenance of recreational trails statewide. This program is managed by the North Carolina Division of Parks and Recreation and aims to enhance outdoor recreational opportunities for residents and visitors alike. Funding from the RTP can be used for various purposes, including constructing new trails, maintaining and repairing existing trails, land acquisition, and purchasing trail tools and planning. The program also covers legal, environmental, and permitting costs associated with trail projects.

North Carolina Parks and Recreation Trust Fund (PARTF)

The North Carolina PARTF is a program established in 1994 to provide matching grants to local governments to acquire, develop, and improve parks and recreational facilities. Administered by the North Carolina Division of Parks and Recreation, PARTF aims to enhance the quality of life for residents by increasing access to public parks, beaches, and recreational areas. The fund supports many projects, including land acquisition, park development, and renovations of existing facilities. Local governments can apply for these grants, which require a dollar-for-dollar match, to help achieve their community's recreational goals.

Sales Tax Increases

Sales tax can be an effective tool for funding infrastructure projects by providing a steady stream of revenue that can be allocated to various public works. When implemented, a small percentage of sales tax is added to the cost of goods and services purchased within a specific area. This additional revenue is then earmarked for infrastructure improvements. By spreading the cost across all consumers, including residents and visitors, sales tax ensures that everyone who benefits from the infrastructure contributes to its maintenance and development. This funding method can help communities address critical infrastructure needs without relying solely on property taxes or state and federal funding, making it a versatile and community-driven approach to public investment.

Developer Contributions

Developer contributions to infrastructure, often called development contributions or infrastructure contributions, are payments made by developers to help fund the infrastructure needed to support new developments. These contributions can take several forms, including monetary payments, providing land, or constructing infrastructure directly (“works-in-kind”). The funds collected from these contributions are typically used for essential infrastructure such as roads, water and drainage systems, parks, schools, and community facilities, helping ensure that new developments are well-integrated into existing communities and have the necessary services and amenities. The process usually involves local councils or planning authorities determining the infrastructure needs based on projected growth and development plans. Developers are then required to contribute a fair share towards these costs, which helps mitigate their developments’ impact on the community.

Funding Source	Application Window	Eligible Project Phases	Minimum Required Match from Town	Minimum Award Amount	Maximum Award Amount
NCDOT STIP	June–July	Design, Acquisition, and Construction	20%	N/A	N/A
ATIIP	March–June	Planning, Design, and Construction	20% (0% if Poverty Rate is >40%)	\$100,000 (Planning/Design), \$15,000,000 (Construction)	N/A
RAISE	February	Planning, Design, and Construction	20% (maybe 0%, APP/HDC)	\$1,000,000	\$25,000,000
SS4A	May (Implementation) August (Planning)	Planning, Design, and Construction	20%	\$100,000 (Planning), \$2,500,000 (Implementation)	\$1,000,000 (Planning) \$25,000,000 (Implementation)
Community Change Grant	November	Construction	0%	N/A	N/A
NC Recreational Trails Program	August	Acquisition	25%	\$10,000	\$100,000
NC PARTF	May	Acquisition	50%	N/A	\$500,000

Sales tax increases and developer contributions do not fit within the framework of this table. They can be implemented at any time by the Town.

Appendices

- Appendix A: OPGC 44
- Appendix B: Environmental Review 48
- Appendix C: Demographic Maps 49
- Appendix D: Detailed Exhibit 60
- Appendix E: Public Survey Results..... 62

Kimley»»Horn

Expect More. Experience Better.



Appendix A: OPCC

Boone Multi-Use Path and Greenway Feasibility Study

Project Location: Boone, NC
 Project Description: 1.2 miles of Multi-Use Path, and 0.7 miles of greenway
 Client: Town of Boone
 Client Project No. 011036737

ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION - Feasibility

MUP - Faculty St					
Section	Item Description	Quantity	Unit	Unit Price	Cost
800	MOBILIZATION (10%)	1	LS	\$ 79,550.00	\$ 79,550.00
	COMPREHENSIVE GRADING (5%)	1	LS	\$ 39,780.00	\$ 39,780.00
520	AGGREGATE BASE COURSE	913	TON	\$ 53.00	\$ 48,389.00
620	ASPHALT BINDER FOR PLANT MIX	25	TON	\$ 885.00	\$ 22,125.00
SP	GEOGRID FOR PAVEMENT STABILIZATION	2460	SY	\$ 5.00	\$ 12,300.00
610	ASPHALT CONC SURFACE COURSE, TYPE S9.5C	420	TON	\$ 125.00	\$ 52,500.00
848	CONCRETE CURB RAMPS	3	EA	\$ 4,000.00	\$ 12,000.00
848	6" CONCRETE DRIVEWAY	1120	SY	\$ 100.00	\$ 112,000.00
1205	PAINT PAVEMENT MARKING LINES (8")	90	LF	\$ 5.00	\$ 450.00
1205	THERMOPLASTIC PAVEMENT MARKING LINES (24", 90 MILS)	50	LF	\$ 35.00	\$ 1,750.00
455	PRECAST GRAVITY RETAINING WALLS	3780	SF	\$ 150.00	\$ 567,000.00
1510	UTILITY RELOCATION	1	LS	\$ 30,000.00	\$ 30,000.00
1515	RELOCATE FIRE HYDRANT	1	EA	\$ 7,500.00	\$ 7,500.00
1510	RELOCATE EXISTING SIGN	4	EA	\$ 400.00	\$ 1,600.00
SP	EROSION CONTROL (5%)	1	LS	\$ 39,780.00	\$ 39,780.00
SP	STORM DRAINAGE (5%)	1	LS	\$ 39,780.00	\$ 39,780.00
SP	TRAFFIC CONTROL (10%)	1	LS	\$ 79,550.00	\$ 79,550.00

SUBTOTAL \$1,146,054.00

CONTINGENCY @ 30% \$343,816.20

CONSTRUCTION COST SAY \$1,490,000

Notes:

1. Cost opinion does not include costs for easement or ROW acquisition.
2. Cost opinion does not include engineering, geotech, design survey, or construction administration.
3. Unit costs used in this cost opinion are representative of typical market costs as best known to the Consultant as of the date of this estimate, and do not account for inflationary cost escalation.
4. Quantities used in this cost opinion are approximations based Concept Exhibit by Kimley-Horn dated 09-15-2023 and are subject to revision prior to bid.
5. The Engineer has no control over the cost of labor, materials, or equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs, as provided here, are made on the basis of the Engineer's experience and qualifications and represent the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from opinions of probable cost prepared for the Owner.

Boone Multi-Use Path and Greenway Feasibility Study

Project Location: Boone, NC
Project Description: 1.2 miles of Multi-Use Path, and 0.7 miles of greenway
Client: Town of Boone
Client Project No. 011036737

ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION - Feasibility

MUP - Winklers Creek Rd					
Section	Item Description	Quantity	Unit	Unit Price	Cost
800	MOBILIZATION (10%)	1	LS	\$ 30,390.00	\$ 30,390.00
	COMPREHENSIVE GRADING (5%)	1	LS	\$ 15,200.00	\$ 15,200.00
520	AGGREGATE BASE COURSE	248	TON	\$ 53.00	\$ 13,144.00
620	ASPHALT BINDER FOR PLANT MIX	10	TON	\$ 885.00	\$ 8,850.00
SP	GEOGRID FOR PAVEMENT STABILIZATION	670	SY	\$ 5.00	\$ 3,350.00
610	ASPHALT CONC SURFACE COURSE, TYPE S9.5C	120	TON	\$ 125.00	\$ 15,000.00
846	2'-6" CONCRETE CURB & GUTTER	590	LF	\$ 62.00	\$ 36,580.00
848	6" CONCRETE DRIVEWAY	160	SY	\$ 100.00	\$ 16,000.00
1205	PAINT PAVEMENT MARKING LINES (8")	200	LF	\$ 5.00	\$ 1,000.00
1205	THERMOPLASTIC PAVEMENT MARKING LINES (24", 90 MILS)	55	LF	\$ 35.00	\$ 1,925.00
SP	BRIDGE STRUCTURES	50	LF	\$ 4,000.00	\$ 200,000.00
1510	UTILITY RELOCATION	1	LS	\$ 30,000.00	\$ 30,000.00
1510	RELOCATE EXISTING SIGN	2	EA	\$ 400.00	\$ 800.00
SP	EROSION CONTROL (5%)	1	LS	\$ 15,200.00	\$ 15,200.00
SP	STORM DRAINAGE (5%)	1	LS	\$ 15,200.00	\$ 15,200.00
SP	TRAFFIC CONTROL (10%)	1	LS	\$ 30,390.00	\$ 30,390.00

SUBTOTAL \$433,029.00

CONTINGENCY @ 30% \$129,908.70

CONSTRUCTION COST SAY \$563,000

Notes:

1. Cost opinion does not include costs for easement or ROW acquisition.
2. Cost opinion does not include engineering, geotech, design survey, or construction administration.
3. Unit costs used in this cost opinion are representative of typical market costs as best known to the Consultant as of the date of this estimate, and do not account for inflationary cost escalation.
4. Quantities used in this cost opinion are approximations based Concept Exhibit by Kimley-Horn dated 09-15-2023 and are subject to revision prior to bid.
5. The Engineer has no control over the cost of labor, materials, or equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs, as provided here, are made on the basis of the Engineer's experience and qualifications and represent the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from opinions of probable cost prepared for the Owner.

Boone Multi-Use Path and Greenway Feasibility Study

Project Location: Boone, NC
Project Description: 1.2 miles of Multi-Use Path, and 0.7 miles of greenway
Client: Town of Boone
Client Project No. 011036737

ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION - Feasibility

MUP - Greenway Rd					
Section	Item Description	Quantity	Unit	Unit Price	Cost
800	MOBILIZATION (10%)	1	LS	\$ 106,040.00	\$ 106,040.00
	COMPREHENSIVE GRADING (5%)	1	LS	\$ 42,420.00	\$ 42,420.00
520	AGGREGATE BASE COURSE	1154	TON	\$ 53.00	\$ 61,162.00
620	ASPHALT BINDER FOR PLANT MIX	25	TON	\$ 885.00	\$ 22,125.00
SP	GEOGRID FOR PAVEMENT STABILIZATION	3260	SY	\$ 5.00	\$ 16,300.00
610	ASPHALT CONC SURFACE COURSE, TYPE S9.5C	370	TON	\$ 125.00	\$ 46,250.00
846	2'-6" CONCRETE CURB & GUTTER	2150	LF	\$ 62.00	\$ 133,300.00
848	CONCRETE CURB RAMPS	12	EA	\$ 4,000.00	\$ 48,000.00
848	6" CONCRETE DRIVEWAY	880	SY	\$ 100.00	\$ 88,000.00
1205	THERMOPLASTIC PAVEMENT MARKINGLINES (24", 90 MILS)	70	LF	\$ 35.00	\$ 2,450.00
SP	UTILITY RELOCATION - APPROX. 16 UTILITY POLES	1	LS	\$ 390,000.00	\$ 390,000.00
1515	RELOCATE FIRE HYDRANT	5	EA	\$ 7,500.00	\$ 37,500.00
1510	RELOCATE EXISTING SIGN	8	EA	\$ 400.00	\$ 3,200.00
SP	EROSION CONTROL (5%)	1	LS	\$ 42,420.00	\$ 42,420.00
SP	STORM DRAINAGE (5%)	1	LS	\$ 42,420.00	\$ 42,420.00
SP	TRAFFIC CONTROL (10%)	1	LS	\$ 84,830.00	\$ 84,830.00

SUBTOTAL \$1,166,417.00

CONTINGENCY @ 30% \$349,925.10

CONSTRUCTION COST SAY \$1,517,000

Notes:

1. Cost opinion does not include costs for easement or ROW acquisition.
2. Cost opinion does not include engineering, geotech, design survey, or construction administration.
3. Unit costs used in this cost opinion are representative of typical market costs as best known to the Consultant as of the date of this estimate, and do not account for inflationary cost escalation.
4. Quantities used in this cost opinion are approximations based Concept Exhibit by Kimley-Horn dated 09-15-2023 and are subject to revision prior to bid.
5. The Engineer has no control over the cost of labor, materials, or equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs, as provided here, are made on the basis of the Engineer's experience and qualifications and represent the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from opinions of probable cost prepared for the Owner.

Boone Multi-Use Path and Greenway Feasibility Study

Project Location: Boone, NC
Project Description: 1.2 miles of Multi-Use Path, and 0.7 miles of greenway
Client: Town of Boone
Client Project No. 011036737

ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION - Feasibility

Greenway - Winkler Creek					
Section	Item Description	Quantity	Unit	Unit Price	Cost
800	MOBILIZATION (10%)	1	LS	\$ 100,660.00	\$ 100,660.00
SP	COMPREHENSIVE GRADING (10%)	1	LS	\$ 100,660.00	\$ 100,660.00
520	AGGREGATE BASE COURSE	1363	TON	\$ 53.00	\$ 72,239.00
620	ASPHALT BINDER FOR PLANT MIX	30	TON	\$ 885.00	\$ 26,550.00
SP	GEOGRID FOR PAVEMENT STABILIZATION	3850	SY	\$ 5.00	\$ 19,250.00
610	ASPHALT CONC SURFACE COURSE, TYPE S9.5C	440	TON	\$ 125.00	\$ 55,000.00
848	CONCRETE CURB RAMPS	2	EA	\$ 4,000.00	\$ 8,000.00
1205	THERMOPLASTIC PAVEMENT MARKING LINES (24", 90 MILS)	100	LF	\$ 35.00	\$ 3,500.00
SP	BRIDGE STRUCTURES	159	LF	\$ 4,000.00	\$ 636,000.00
455	PRECAST GRAVITY RETAINING WALLS	1240	SF	\$ 150.00	\$ 186,000.00
SP	BOARDWALK STRUCTURES	512	LF	\$ 1,500.00	\$ 768,000.00
SP	EROSION CONTROL (5%)	1	LS	\$ 50,330.00	\$ 50,330.00
SP	STORM DRAINAGE (10%)	1	LS	\$ 100,660.00	\$ 100,660.00

SUBTOTAL \$2,126,849.00

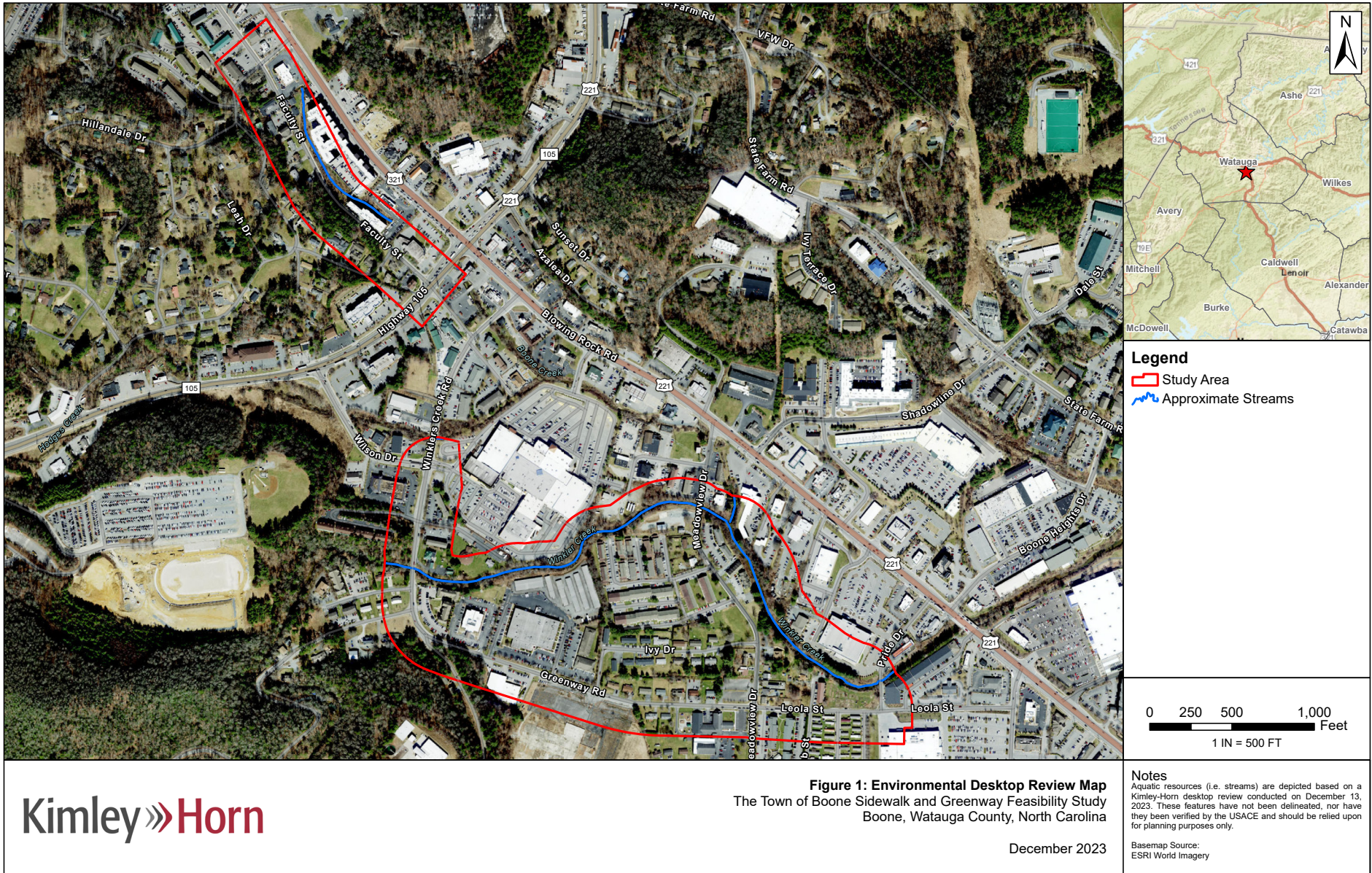
CONTINGENCY @ 30% \$638,054.70

CONSTRUCTION COST SAY \$2,765,000

Notes:

1. Cost opinion does not include costs for easement or ROW acquisition.
2. Cost opinion does not include engineering, geotech, design survey, or construction administration.
3. Unit costs used in this cost opinion are representative of typical market costs as best known to the Consultant as of the date of this estimate, and do not account for inflationary cost escalation.
4. Quantities used in this cost opinion are approximations based Concept Exhibit by Kimley-Horn dated 09-15-2023 and are subject to revision prior to bid.
5. The Engineer has no control over the cost of labor, materials, or equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs, as provided here, are made on the basis of the Engineer's experience and qualifications and represent the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from opinions of probable cost prepared for the Owner.

Appendix B: Environmental Review



Kimley»Horn

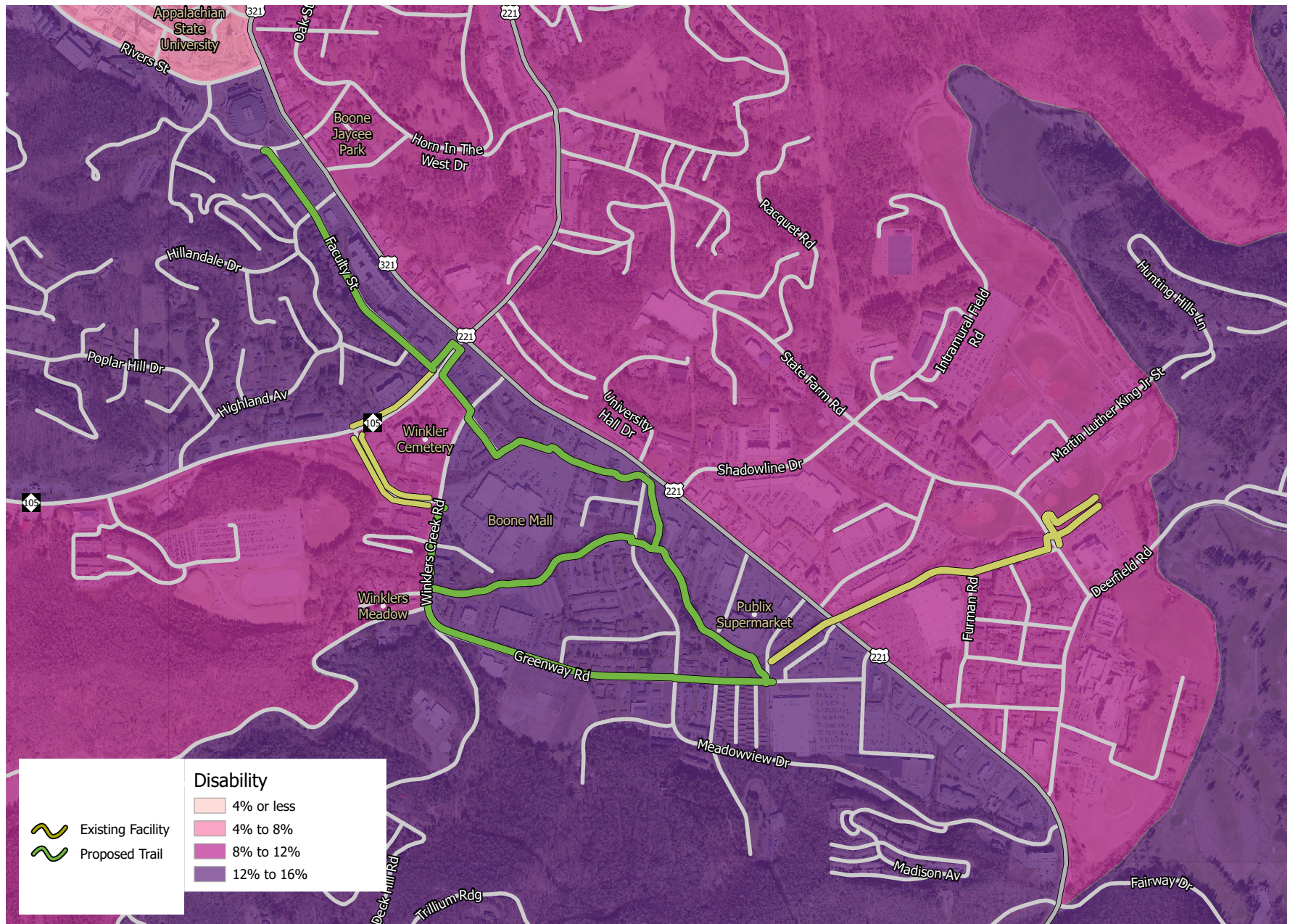
Figure 1: Environmental Desktop Review Map
 The Town of Boone Sidewalk and Greenway Feasibility Study
 Boone, Watauga County, North Carolina

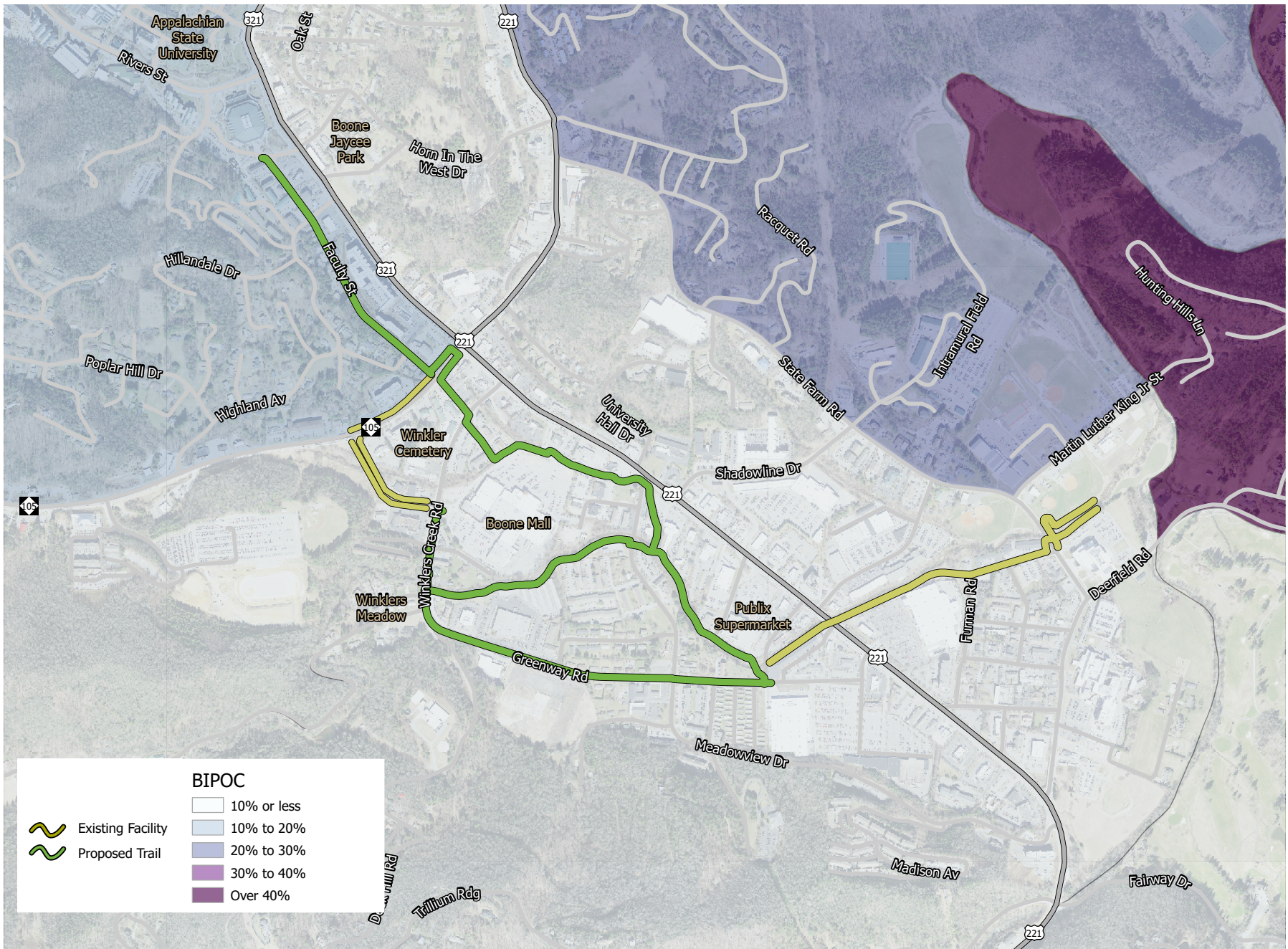
December 2023

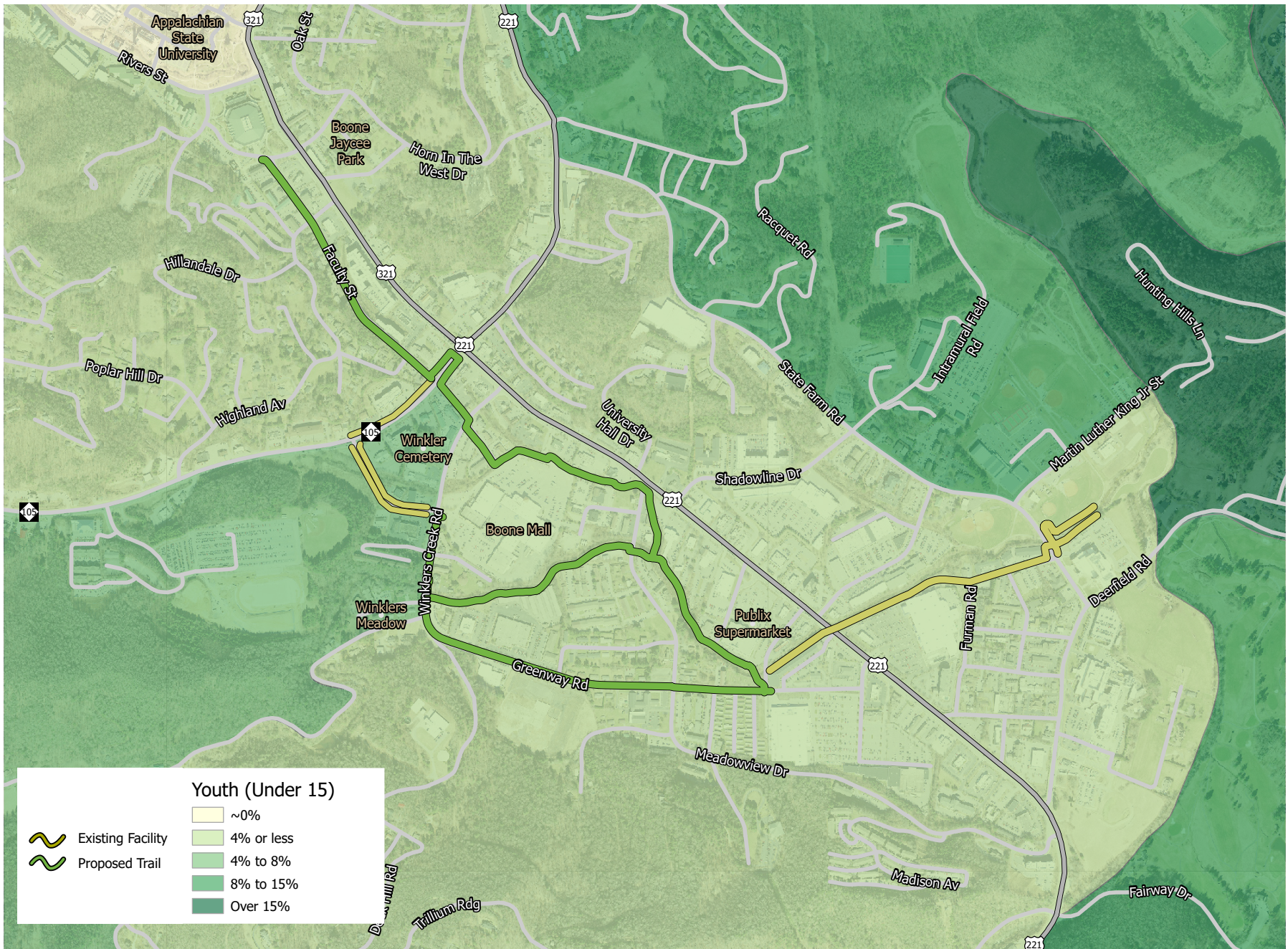
Notes
 Aquatic resources (i.e. streams) are depicted based on a Kimley-Horn desktop review conducted on December 13, 2023. These features have not been delineated, nor have they been verified by the USACE and should be relied upon for planning purposes only.

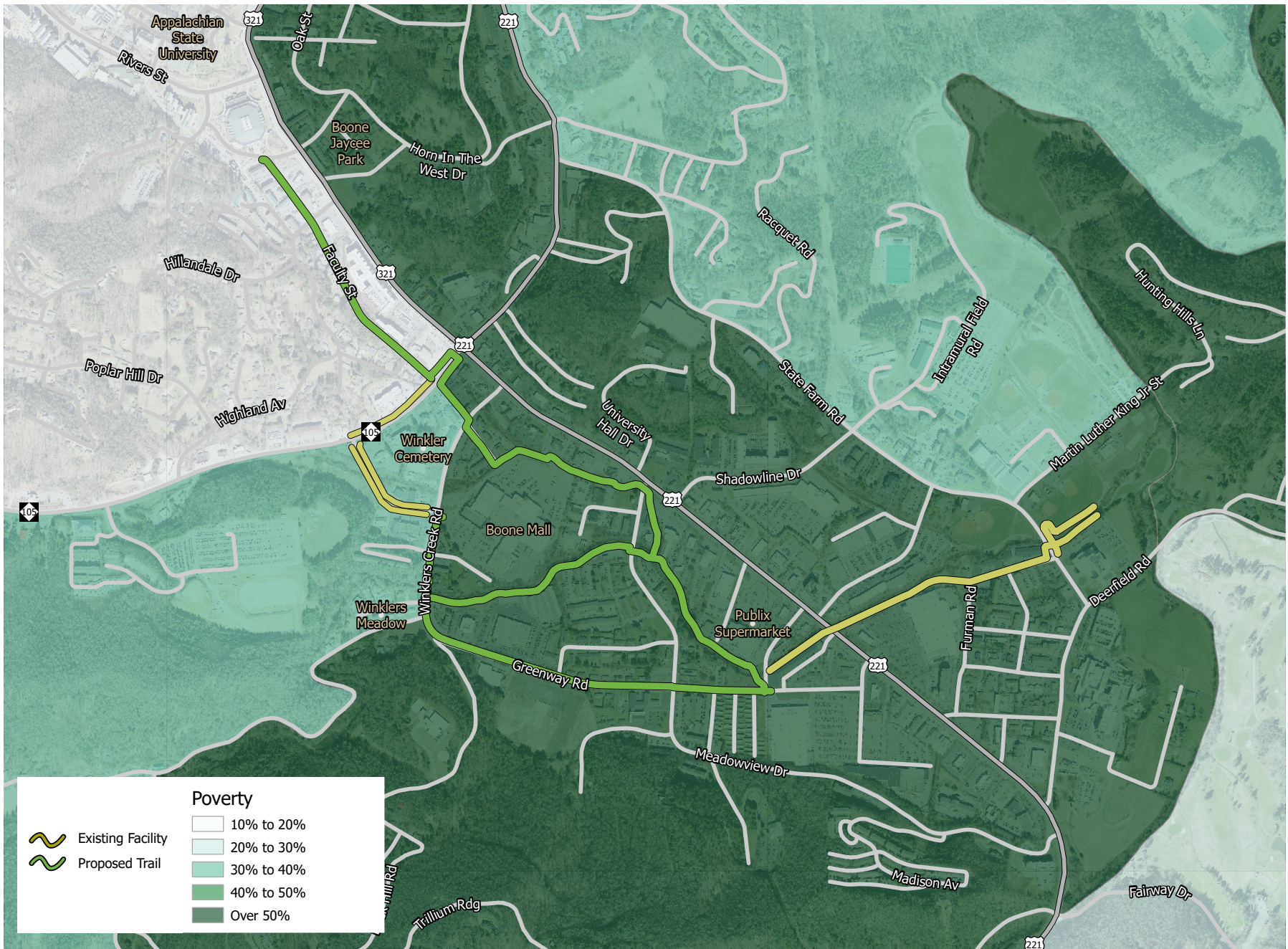
Basemap Source:
 ESRI World Imagery

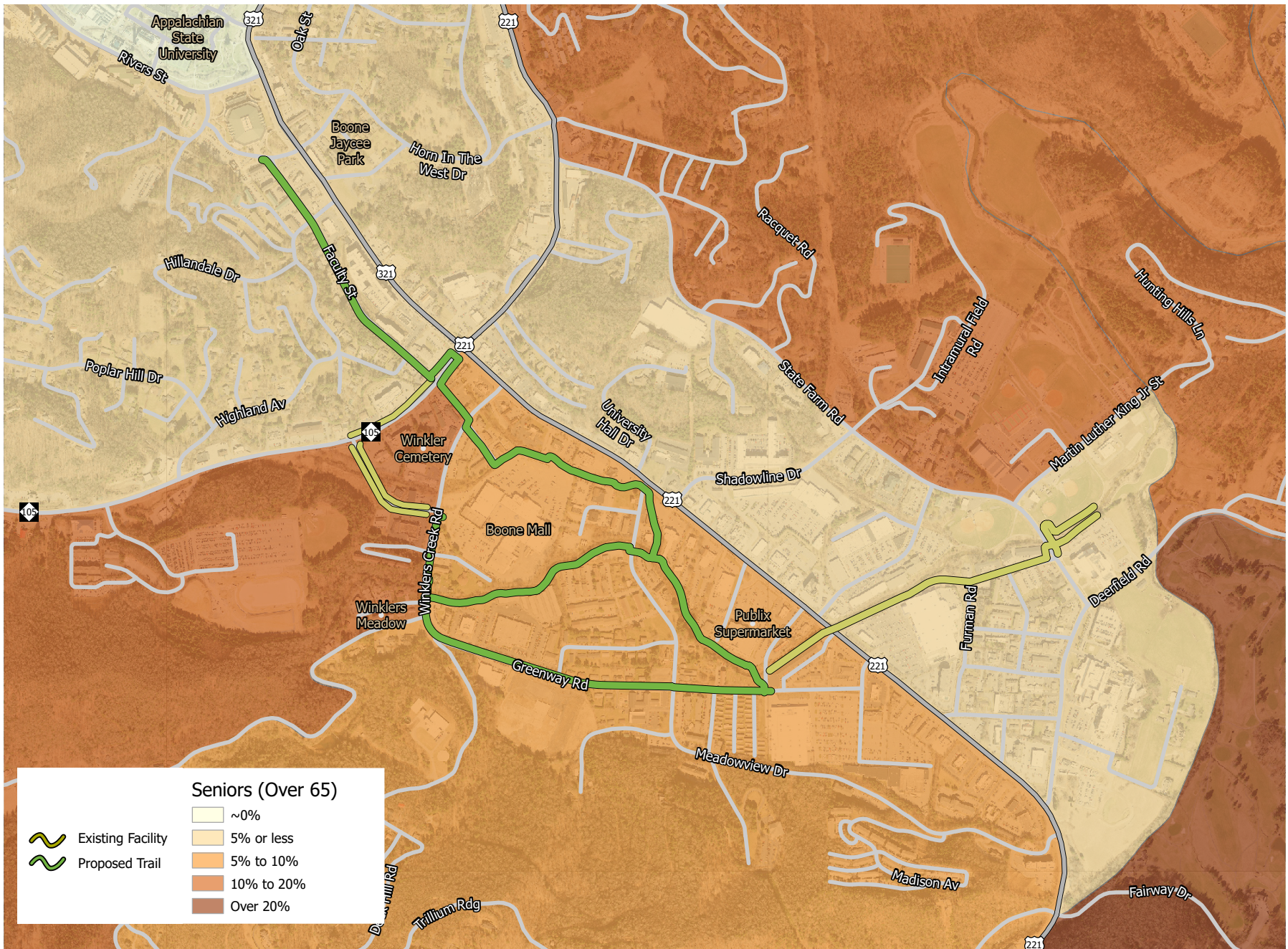
Appendix C: Demographic Maps

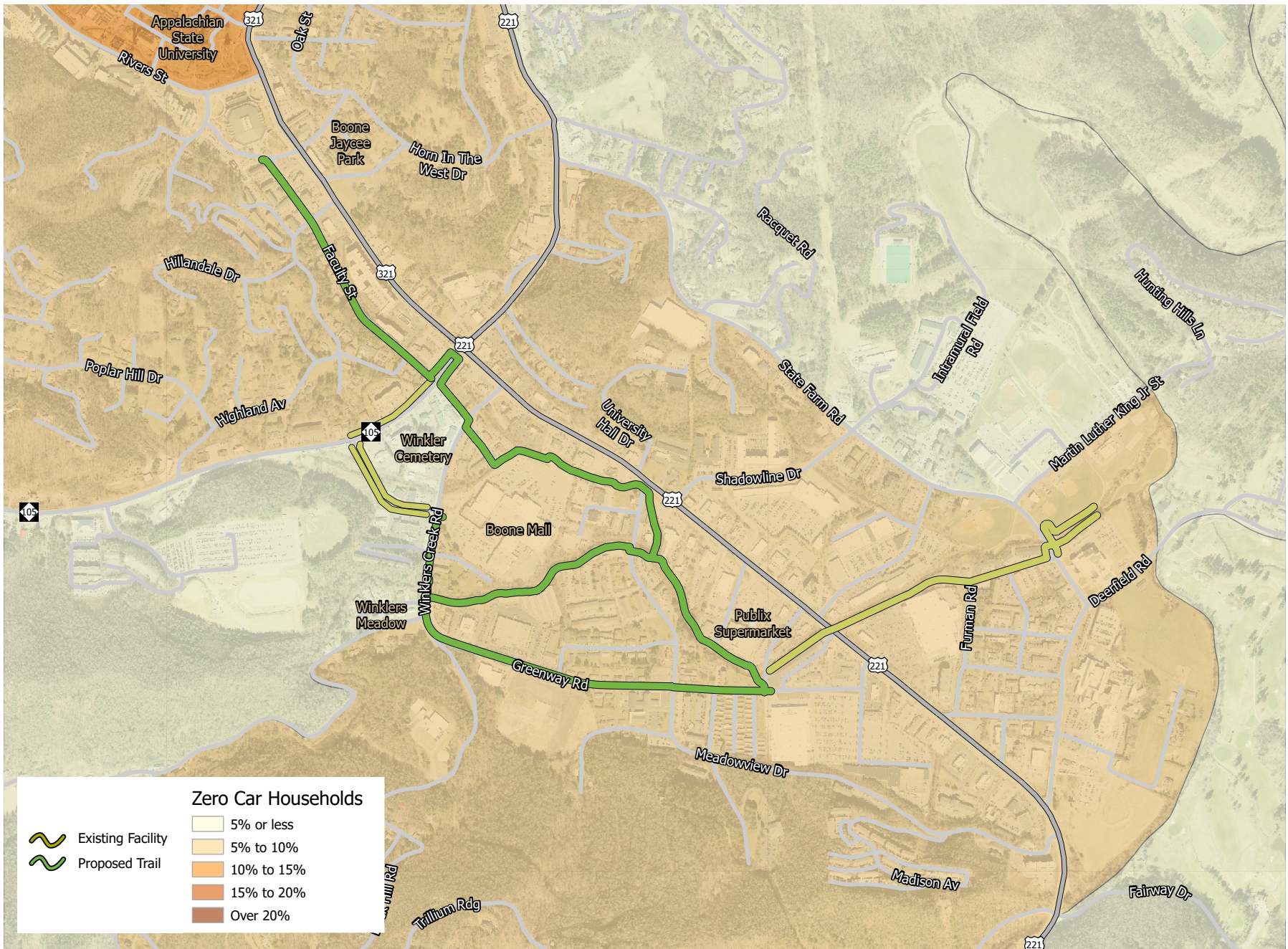


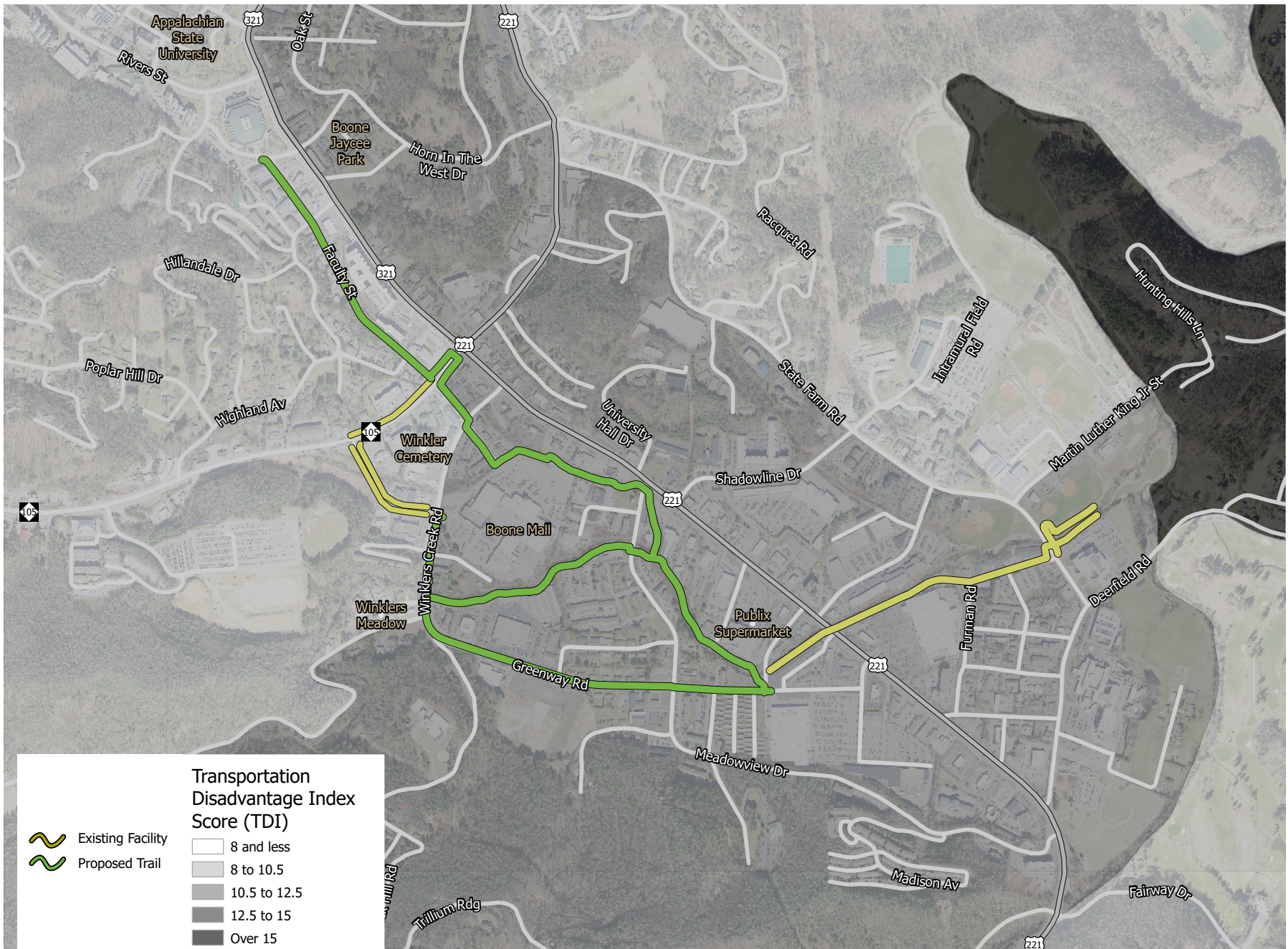


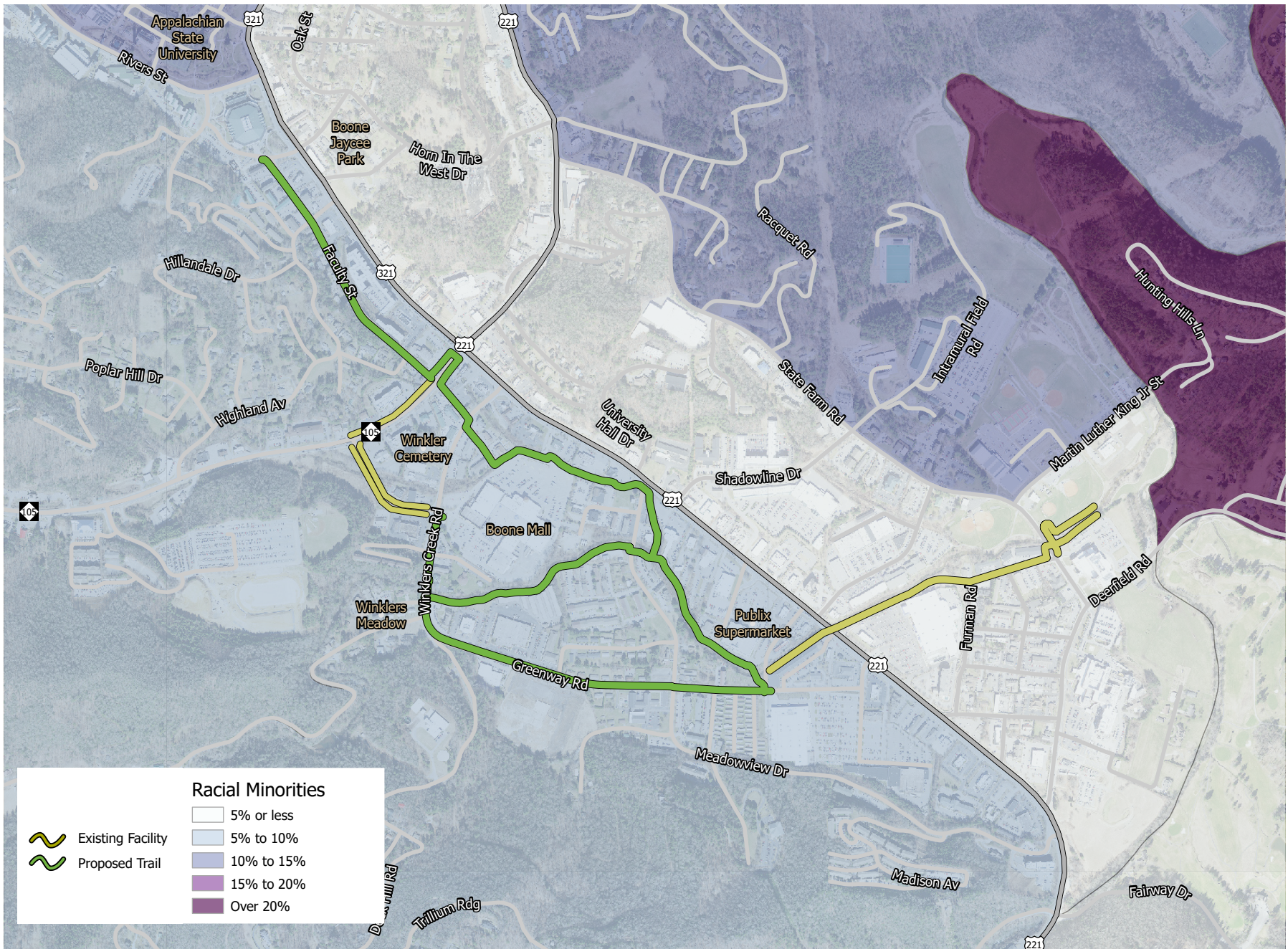


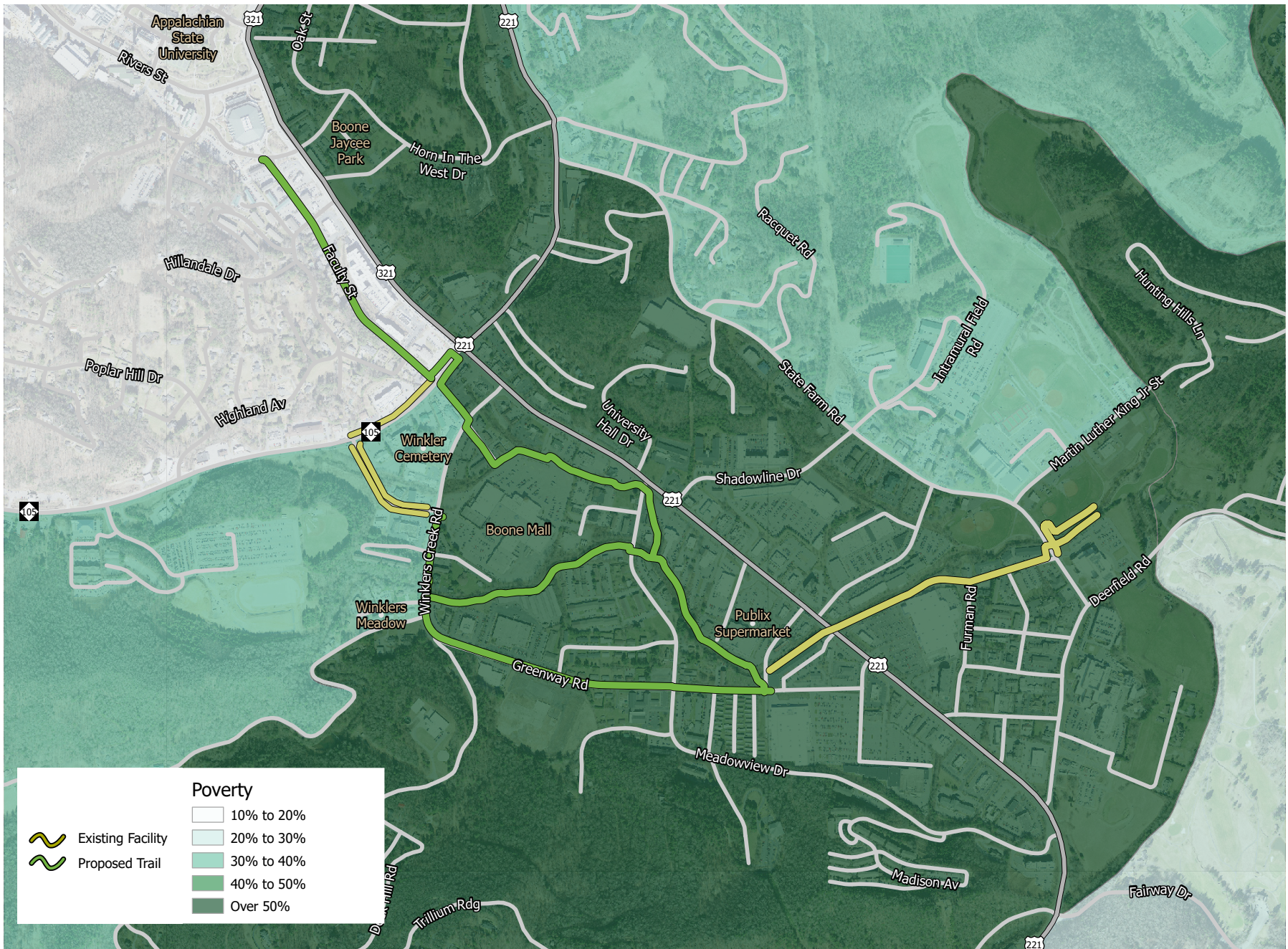


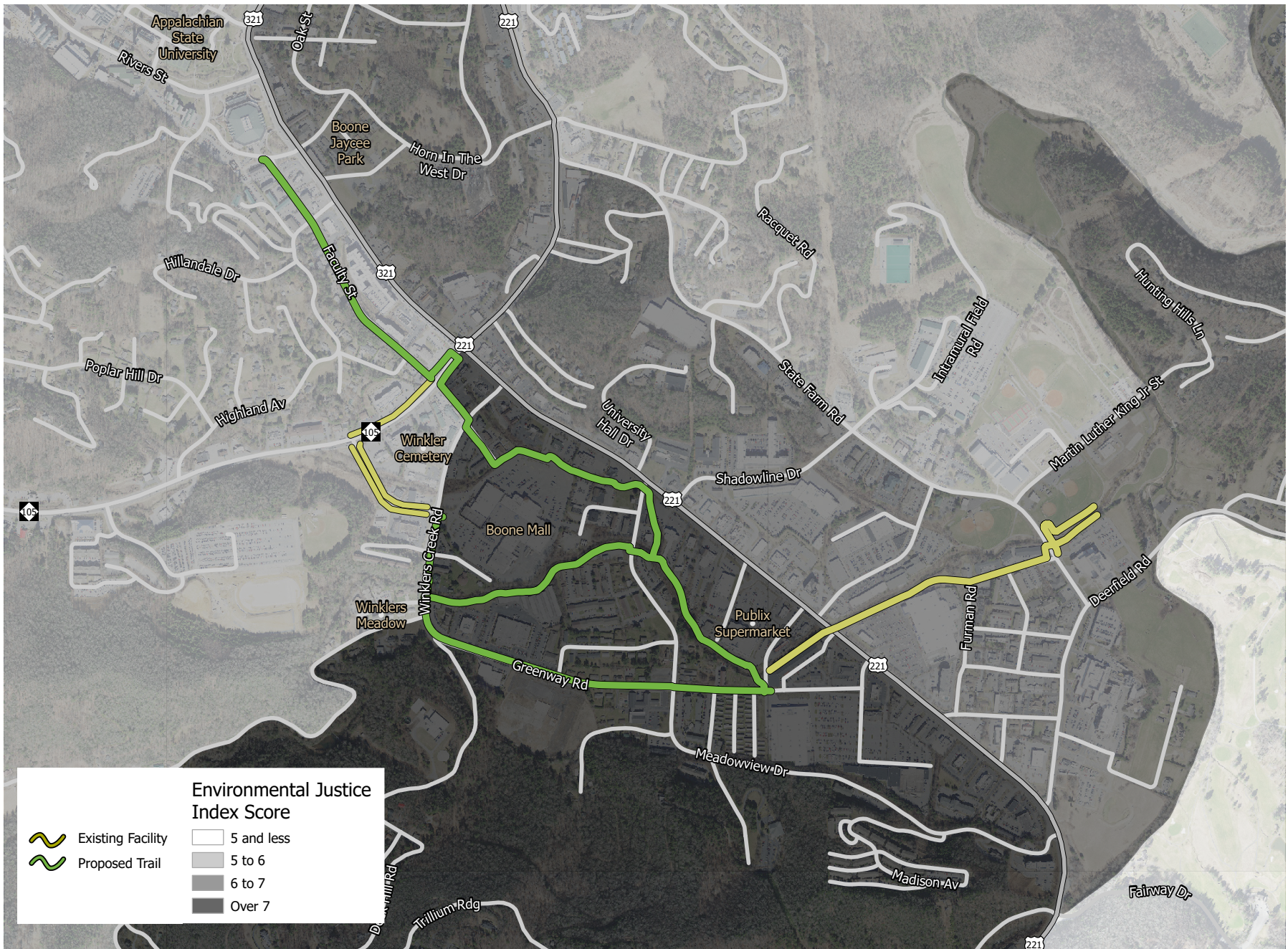




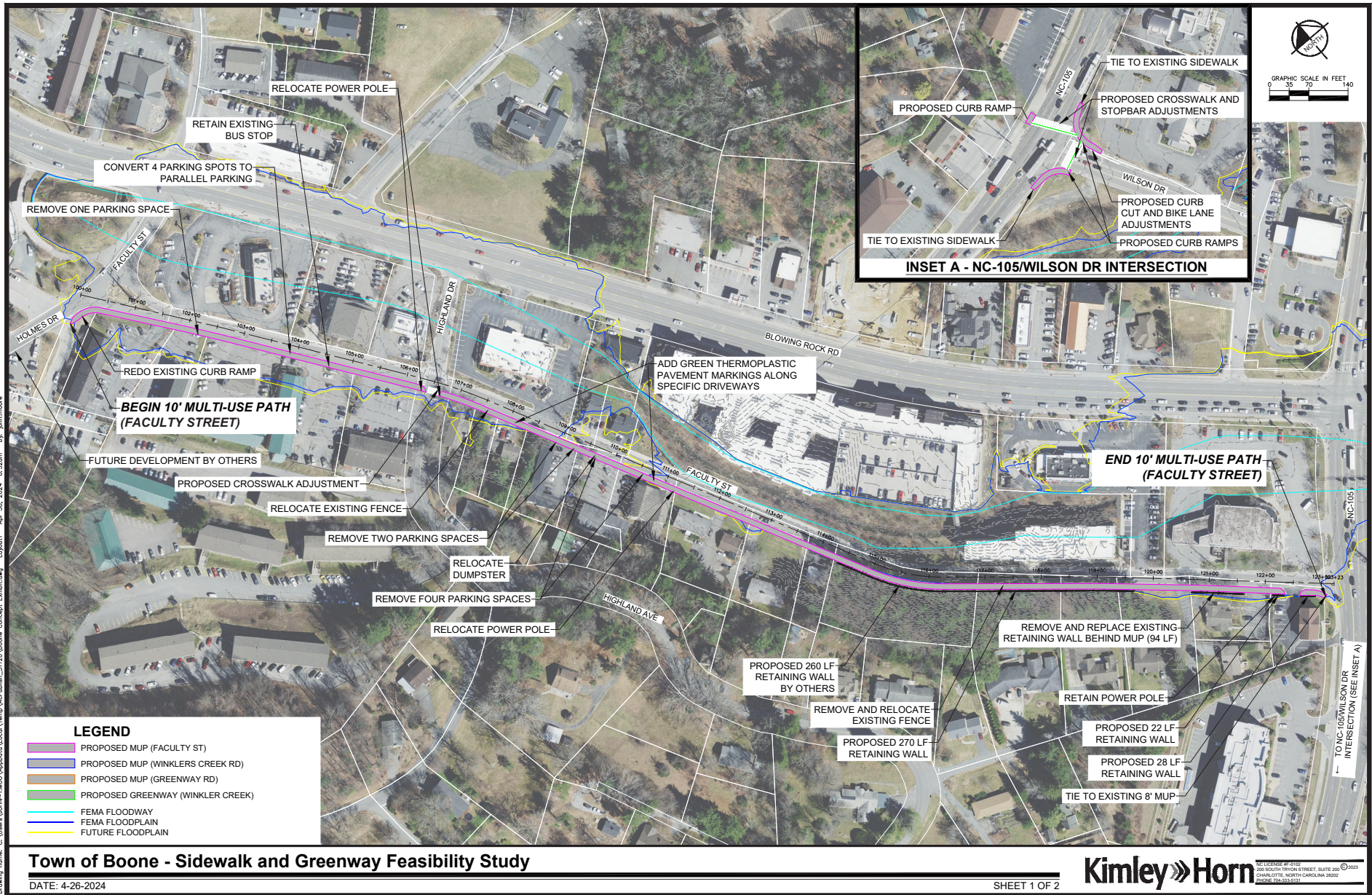


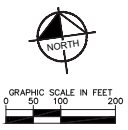
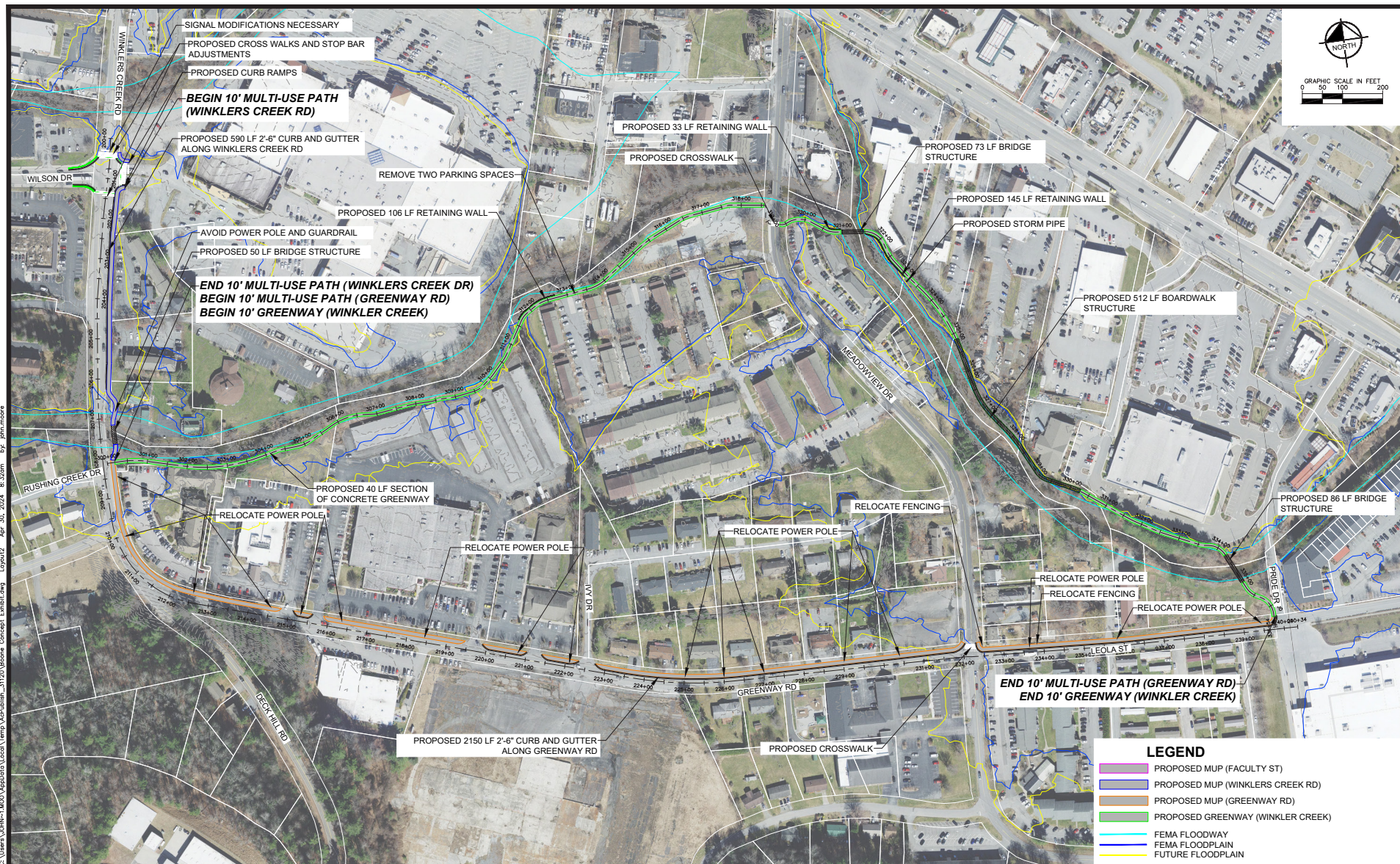






Appendix D: Detailed Exhibit





Drawing name: C:\Users\John\OneDrive\LocalTemp\MapData\LocalTemp_Maps\31120\Boone_Concept_Exhibit.dwg Layout2 Apr 30, 2024 8:32am by: john.mccoy

Town of Boone - Sidewalk and Greenway Feasibility Study

DATE: 4-26-2024

SHEET 2 OF 2

Kimley»Horn

PROJECT NUMBER: 31120
 200 SOUTH TRYON STREET, SUITE 200
 CHARLOTTE, NORTH CAROLINA 28202
 PHONE: 704.333.3151

THIS DOCUMENT, TOGETHER WITH THE CONCEPTS AND DESIGNS PRESENTED HEREIN, AS AN INSTRUMENT OF SERVICE, IS INTENDED ONLY FOR THE SPECIFIC PURPOSE AND CLIENT FOR WHICH IT WAS PREPARED. REUSE OF AND IMPROPER RELIANCE ON THIS DOCUMENT WITHOUT WRITTEN AUTHORIZATION AND ADAPTATION BY KIMLEY-HORN AND ASSOCIATES, INC. SHALL BE WITHOUT LIABILITY TO KIMLEY-HORN AND ASSOCIATES, INC.

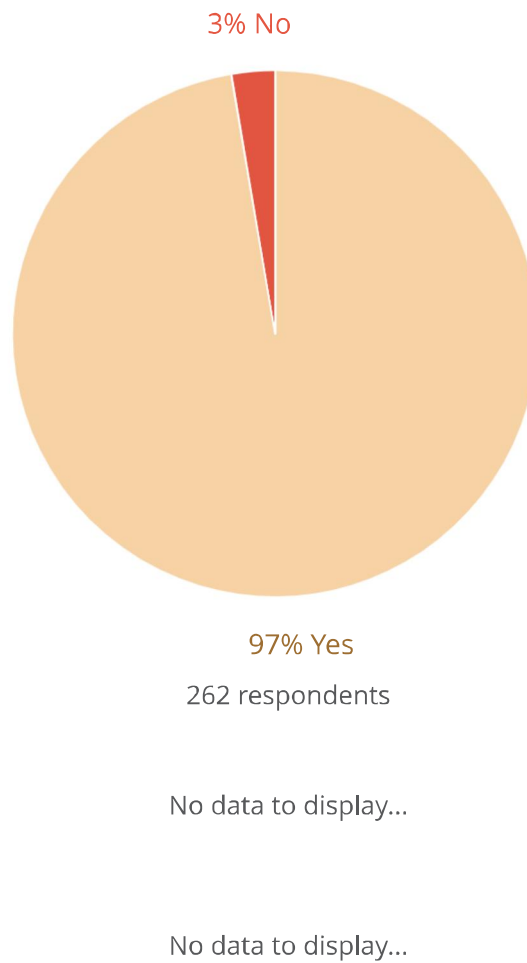
Appendix E: Public Survey Results

Boone Paved Trail Feasibility Study Public Survey

Project Engagement

VIEWS	PARTICIPANTS	RESPONSES	COMMENTS
533	294	3,697	406

* Do you have access to a personal vehicle at least most of the time?



If you responded no to question 1, how do you usually get around?

na

22 days ago

N/A

one month ago

Car

one month ago

Usually by car, other times by bike or skateboard

one month ago

1. Automobile, 2. walking, 3. bike when/where I can.

one month ago

I live in downtown Boone and generally walk, bike, or drive my personal vehicle depending on the nature of the trip.

one month ago

I do have access to a personal vehicle. But I would prefer to bike for longer distances or walk for only a few blocks. But often, neither biking or walking are feasible because of traffic concerns, therefore I drive.

one month ago

Car

one month ago

N/A

one month ago

N/A

one month ago

Car but want to bike more! Not safe in boone

one month ago

Car but would bike more if trails existed to connect downtown to other things.

one month ago

Car

one month ago

bus

one month ago

walking or driving

one month ago

Na

one month ago

Bus and walk

one month ago

a personal vehicle at least most of the time?

You selected:Yes

one month ago

Walking and personal vehicle

one month ago

car

one month ago

one month ago

N/A

one month ago

-

one month ago

N/A

one month ago

car or walking

one month ago

I do have a vehicle, but I would much prefer to walk, which I do with my dogs every day.

one month ago

Car

one month ago

Public transportation, walking.

one month ago

The buses don't run on wi knees creek road. Let's keep it that way. A bike path or trail would be GREAT to cut down on more traffic.

one month ago

n/a

one month ago

Na

one month ago

Walking or riding the bus

one month ago

Bus, bile, ride share

one month ago

car, largely. would love to bike more.

one month ago

Electric Scooter to get to campus.

one month ago

NA

one month ago

N/a

one month ago

Bike and bus

one month ago

Walk or bike.

one month ago

While I do have access to a car, I usually bike to commute from downtown to the store and for recreation

one month ago

By bike!

one month ago

By bike

one month ago

Car

one month ago

my car

one month ago

n/a

one month ago

Drive

one month ago

drive

one month ago

I typically don't use my vehicle because it's the slowest mode of transportation around Boone.

one month ago

n/a

one month ago

No

one month ago

Car

one month ago

Car

one month ago

car

one month ago

Often by car, but I bike or walk as much as possible.

one month ago

Drive

one month ago

Walk or bike.

one month ago

I have a vehicle but if I could safely travel by bike or on foot I would prefer that.

one month ago

I have access to a personal vehicle which I usually use to get around. However, biking/walking options were safe and available I would prefer that.

one month ago

Walking

one month ago

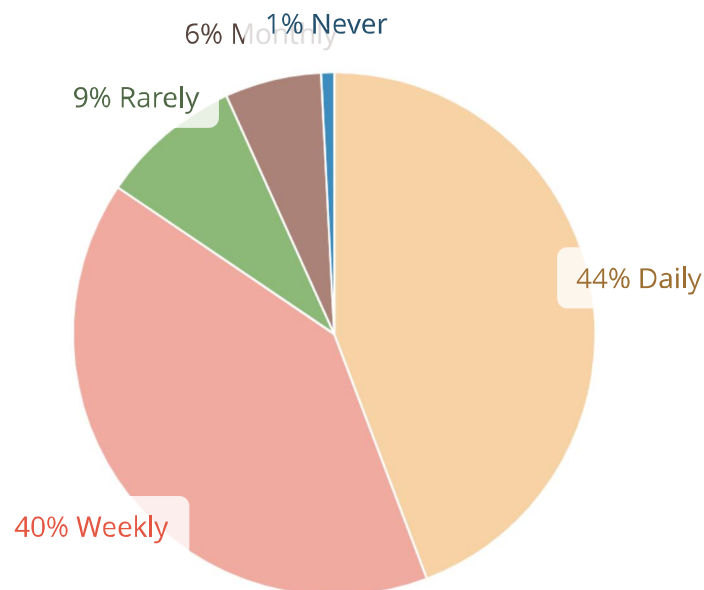
Walk

one month ago

Personal car

one month ago

* How often do you bike, walk, or roll around Boone?



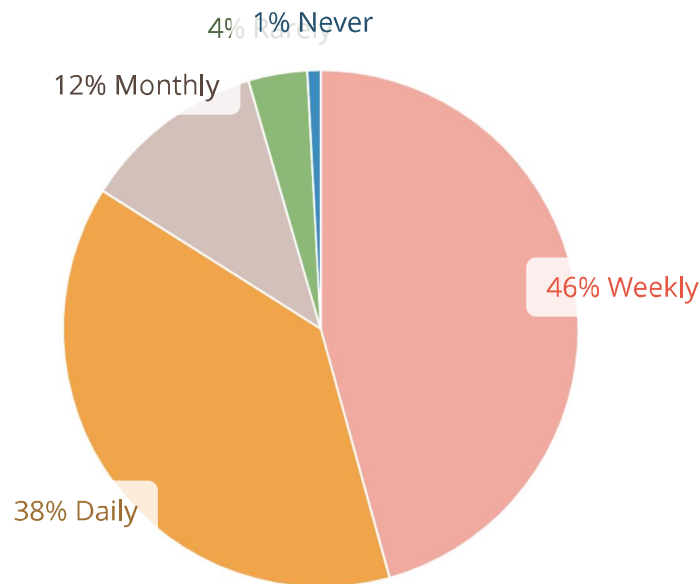
251 respondents

If you walk, bike, or roll, what is the purpose/where are you going? **Drag your choices into the box**

86%	Exercise	Rank: 1.39	185 ✓
57%	Access destinations like shopping, groceries, etc.	Rank: 1.98	122 ✓
47%	Work	Rank: 2.10	100 ✓
16%	Other	Rank: 3.06	34 ✓
24%	No particular reason	Rank: 3.19	52 ✓
19%	Medical-related appointments and destinations	Rank: 3.60	40 ✓

214 Respondents

* If a greenway/trail system was available in the study area as shown on exhibit above, how often would you use it?



242 respondents

* Which destinations around Boone are most important to access?

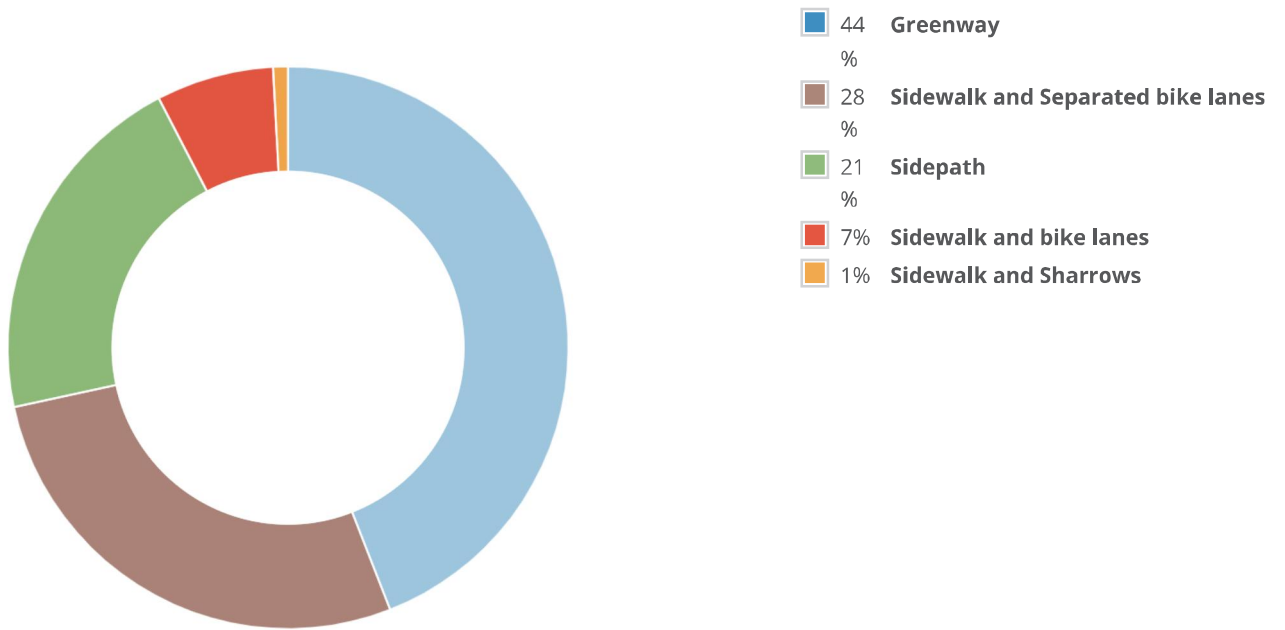
91%	Parks/Community Amenities	217 ✓
65%	Grocery Stores	155 ✓
50%	Work	120 ✓
46%	School	110 ✓
43%	Shopping	103 ✓
23%	Medical	54 ✓
12%	Social Services	29 ✓
9%	Other	22 ✓

239 Respondents

* How important are greenways, sidewalks, bike lanes, and other multimodal infrastructure to you?



* Which facility type do you prefer when walking or biking in Boone?



236 respondents

* Which criteria are most important when considering a route for the trail?

79%	Connectivity: prioritizing connections to existing sidewalks, bike lanes, parks, schools, trails, and neighborhoods	181 ✓
66%	Safety: routes that minimize crossings with roadways, driveways, routes that are more visible	151 ✓
50%	User experience: amenities such as separation from roadway, shade/tree cover, slopes, scenery, scenic areas	115 ✓
37%	Environment: routes that have less environmentally-damaging impacts (i.e. wetlands, streams, tree canopy)	85 ✓
28%	Equity: prioritizing connections to low-income and historically underserved/underfunded communities	65 ✓
17%	Ease of implementation: select the alternatives that allow the path to be incorporated the soonest. This can include cost, property acquisition, and environmental impacts.	39 ✓
7%	Property Acquisition: alternatives that prioritize utilizing existing ROW, easements, and publicly owned property	15 ✓
6%	Cost: influenced by factors including land acquisition, environmental impacts, bridge crossings, trail/path length and surface	14 ✓
0%	Other	1 ✓

230 Respondents

What street do you live on?

Queen St

20 days ago

Anonymous

22 days ago

Horn in the West dr

23 days ago

clint Lewis Rd

24 days ago

105 extension

27 days ago

NA

28 days ago

I'm an Ashe County resident, recently retired

28 days ago

Fairway Drive

one month ago

Terrace Lane

one month ago

Yosef Dr

one month ago

Meadowview Drive

one month ago

Queen St

one month ago

Grand Blvd

one month ago

Grand Blvd

one month ago

Grand Blvd

one month ago

Locust St

one month ago

park street

one month ago

Appalachian dr

one month ago

Watauga Drive

one month ago

Turkey Trot Ln

one month ago

Farthing

one month ago

wynfield ridge

one month ago

116 Grand Blvd

one month ago

Alpine Rd

one month ago

Hidden Valley Circle

one month ago

East Ridge Dr

one month ago

Meadowview Drive

one month ago

Crest Drive

one month ago

King street

one month ago

Briarwood

one month ago

US 421 S

one month ago

Hampton Dr

one month ago

Hiview Dr

one month ago

Edited st.

one month ago

Ravens Ridge

one month ago

Flannery fork

one month ago

Charlotte Ann Land

one month ago

Arbor Ln

one month ago

Deck Hill Rd.

one month ago

Wake Robin Ln.

one month ago

Rocky Mountain Lane

one month ago

421

one month ago

Stratford Lane

one month ago

Chase hill drive

one month ago

Georges Gap Road

one month ago

Arbor Lane

one month ago

562 NC 105 Bypass

one month ago

Turtle Creek Drive

one month ago

Howard st

one month ago

Anonymous

one month ago

Rolling Hill Dr

one month ago

325 Hodges valley road

one month ago

Winklers Creek

one month ago

Blairmont Dr

one month ago

farthing street

one month ago

Old east king st

one month ago

I work on 1179 State Farm Road

one month ago

I work on 1179 State Farm Road in Boone.

one month ago

Rhododendron Lane in University Village

one month ago

Meadowview Dr.

one month ago

Junaluska Road

one month ago

N/A

one month ago

N/A

one month ago

Christopher Ct

one month ago

Parkwood Cir

one month ago

Winklers Creek

one month ago

Rogers dr

one month ago

Blairmont

one month ago

Blairmont

one month ago

Watauga Drive

one month ago

Slabtown Road in Zionville (we need recreation/trails out here please)

one month ago

Howard St

one month ago

Blowing Rock Road

one month ago

Fairway Dr

one month ago

Wood Circle

one month ago

Chestnut Hill Dr

one month ago

Forest Hill Drive

one month ago

State Farm Road

one month ago

Pine run

one month ago

Ray estes

one month ago

440 Running Deer Trail

one month ago

194 One Love Lane

one month ago

Greenway

one month ago

Dogwood Rd.

one month ago

Rocky Creek Road

one month ago

Mabel School rd

one month ago

686 State Farm Dr

one month ago

Pinnacle lane

one month ago

Hopewell church

one month ago

Hopewell Church

one month ago

Big Hill Rd

one month ago

Highland avenue

one month ago

Meadowview

one month ago

Seven Oaks Rd

one month ago

Azalea Drive

one month ago

Old east king

one month ago

Farthing

one month ago

421

one month ago

Dakat Ln

one month ago

Dakat Lane

one month ago

Pine Hill Rd.

one month ago

Windsong Lane

one month ago

Stirrup Lane

one month ago

Blowing Rock

one month ago

Hillandale Drive

one month ago

Appalachian St

one month ago

Sable Dr.

one month ago

Orchard st

one month ago

Windy Dr

one month ago

Dove circle

one month ago

Eastview dr

one month ago

Orchard st

one month ago

HWY 194

one month ago

Green Street

one month ago

Orchard street

one month ago

I live on ambling way at university highlands. I'm a student and commute to and around campus on a bike. I also ride recreationally very often

one month ago

Mulberry Mtn

one month ago

Poplar Grove

one month ago

Delmar street

one month ago

homespun hills rd

one month ago

Poplar hill drive

one month ago

Hickory Ln

one month ago

Edgewood Drive

one month ago

grand blvd

one month ago

Lloyd Bentley Lane

one month ago

Sw

one month ago

Ravens View

one month ago

Stadium

one month ago

Eastbrook Drive

one month ago

Oak Grove Road

one month ago

Eastbrook Drive

one month ago

Eastbrook Drive

one month ago

Dogwood Rd

one month ago

Delmar st

one month ago

Rivendell Ct

one month ago

Pilgrams Way

one month ago

Honeysuckle Lane

one month ago

Councill

one month ago

Wildwood Lane

one month ago

formerly lived on Bluebird Lane in Boone, now had to move to Ashe County though I still work and bike in Boone

one month ago

Blairmont rd

one month ago

Woodland Drive

one month ago

Highland Avenue

one month ago

Blanwood

one month ago

Horn in the West Dt.

one month ago

Ridge point drive

one month ago

Hillandale Drive

one month ago

Dotson drive

one month ago

Burl Lawrence Rd

one month ago

Cherry Dr

one month ago

Charles St

one month ago

Green Briar

one month ago

Saddle Hills Rd

one month ago

238 Berton St

one month ago

Snowy Oak Rd

one month ago

Oak

one month ago

Kimberly Dr.

one month ago

224 Charles Street

one month ago

Fire Pink Road

one month ago

Poplar Grove Road

one month ago

Ridgewood Drive

one month ago

Bear Trail

one month ago

Charlew

one month ago

Appalachian Dr.

one month ago

Lloyd Bentley Ln.

one month ago

Poplar Hill Drive

one month ago

Wintergreen

one month ago

Aho Rd

one month ago

Highland Avenue

one month ago

Hwy 194

one month ago

Faculty St

one month ago

Eastview Dr

one month ago

Crest

one month ago

Eli Hartley Drive

one month ago

Sheridan Ave

one month ago

317 The Meadows

one month ago

Rogers Drive

one month ago

Grand Blvd

one month ago

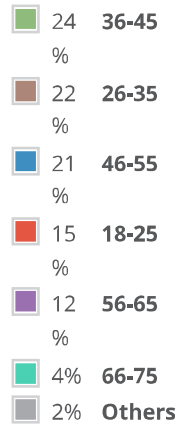
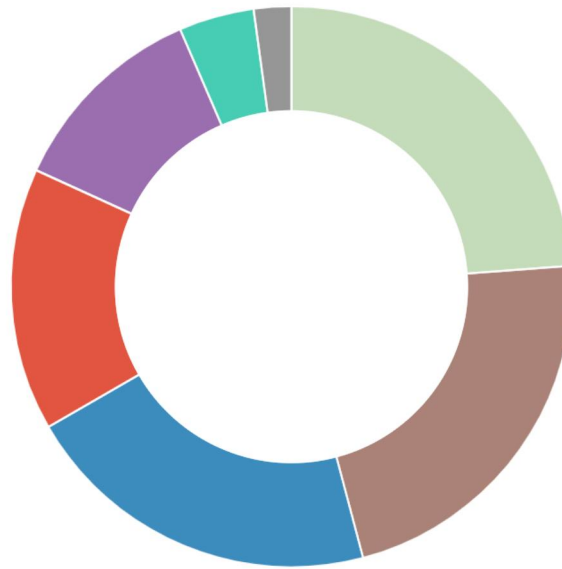
Winklers Creek Rd

one month ago

Chase Court

one month ago

What is your age?



231 respondents

What is your race/ethnicity?

94%	White	206 ✓
5%	I prefer not to answer	10 ✓
2%	Hispanic, Latino, or Spanish	5 ✓
1%	Asian	2 ✓
0%	Black or African-American	1 ✓
0%	American Indian or Alaska Native	1 ✓
0%	Other	1 ✓
0%	Native Hawaiian or Other Pacific Islander	0 ✓

220 Respondents

Do you have any other comments?

I would really love this greenway! I love walking at the Greenway, but I dislike having to drive all the way over there when I just want to go for a quick walk. It would be great to be able to walk there on a path that is safe, away from traffic, and visually appealing as opposed to walking down 321 or driving. I also think it's incredibly important that safety is a top priority and I am advocating for a design similar to the riverside greenway in the River Arts District in Asheville. I feel very comfortable there because the sidewalk is far from the road and there is a physically separate, protected bike lane between the sidewalk and road. Plus there are lots of places to sit along the way, which is an important accessibility feature. If the budget allows, it would also be great to have some sort of low-maintenance art or outdoor music installations along the path.

20 days ago

Anonymous

22 days ago

We live off 194 going toward Todd. There is absolutely no sidewalk or way to walk or safely bike on this stretch of 194. It would be so great to have a protected pathway so we could bike or walk on this stretch. Applecourt needs to also run buses from 194/421 to Goober Peas Store!!

24 days ago

As indicated, I am an Ashe County resident, recently retired. I ride Railroad Grade Road 3-4 times per week and would enjoy the variety that an extended Greenway would offer. Given this, recognize that I'm not the typical user you are hoping to engage with but hope my responses are in some way helpful.

28 days ago

N/A

one month ago

This needs to be done.

one month ago

I would love for there to be a safe and effective way to get to town from my location on Meadowview Drive. I love having access to the greenway for recreation cycling. In the event that I need to bike into downtown Boone, I must risk driving on dangerous 321, or ride on the sidewalk which is filled with holes, bumps, driveways which cars speed out of, and using pedestrian walkways which are not always safe. I would enjoy a safer, smoother and well-lit alternative to be able to ride into downtown Boone to access the restaurants, shops, post office, etc. Right now it is dangerous to ride a bicycle into Boone from where I live.

one month ago

These areas seem incredibly valuable if built out to accommodate bikes. Also - I know this is not the topic at hand, and perhaps something is already in the works for this, but one very short, very critical leg that should be added is along bamboo road from the gas station on 421 to hospitality house and Center 45. There are so many people, every single day that walk on the grassy shoulder at all times of day or night. A segment here would link into the existing sidewalk/underpass and greenway which connects out to Brookeshire going north and the rec center going south. I know so many people in the community would benefit from this one connection in particular. Thank you!

one month ago

I love this effort. It has the potential to reduce traffic, particularly along blowing rock road IF it becomes a solid option for students to commute to class. Please consider its accessibility and attractiveness to student use. This could also be a fabulous addition to ease tourist traffic if it can connect shopping and restaurants, and be a fun activity for visitors.

Please make it as safe as possible...a crossing solution at 105 seems necessary.

Thank you for the opportunity to comment.

one month ago

This doesn't appear to solve the most serious problem of finding a safe way to cross 105. That should be the highest priority.

one month ago

Providing ample walking and biking options for citizens should be considered a top priority. Please do anything you can to get the extreme amount of students off of the road by providing other options. The town of Boone is reaching its breaking point in terms of growing population and current infrastructure in place designed to support a town half our size. Please think of the future of Boone and do what's right to ensure we age gracefully as a town.

Thanks.

one month ago

None

one month ago

No

one month ago

1. Make this work, 2. Revisit the bike park off Deck Hill Rd.

one month ago

I don't feel that bike lanes on or next to our roads would be safe, a Greenway that get all around town would be nice.

one month ago

Boone is not a town designed for vehicle traffic at the current numbers. Alternative transportation as well as routes must be priority for planning.

one month ago

Thank you!

one month ago

I highly support any type of infrastructure that can connect biking/walking around our community including the greenway project as well as creating safe biking lanes (which we are severely lacking. It would create a huge positive impact on our town.

one month ago

no

one month ago

As someone who already regularly bikes along Greenway rd to access the greenway trails and community center, I think implementing features along both proposed corridors would be incredibly beneficial to myself and the community at large. Both offer something slightly different in terms of their appeal and utility and I think there is cause to build both if possible. A route along faculty and greenway rd seems easier to implement than the more scenic route along the creek so I think that project would be worth prioritizing first. The most challenging thing however seems to be developing some sort of crossing feature for 105, unless the plan is to let the current 105/321 intersection be the crossing point. If that is indeed the plan I think development along the northern portion of faculty is a bit less meaningful and perhaps instead you should look to update and repaint the existing bike lanes along 321 from the convocation center to 105.

one month ago

Get it done. Don't just talk about it like Howard Street renovation.

one month ago

N/A

one month ago

Na

one month ago

Confused on the designation of faculty drive as a greenway, more of a road with a sidewalk. And I'm having trouble seeing a vision of it being more than that. Not meaning this in a bad way as sidewalk infrastructure on this road is already fantastic, confused on what needs optimizing or changing specifically on this road.

one month ago

Hope this happens! It would be great!

one month ago

It would be a great addition to downtown Boone to have usable, safe, and protected connections to the existing Greenway. This not only would benefit locals on a daily basis, but would enhance the experience and draw for tourists as well.

one month ago

An overpass over the busy highway to connect campus to town

one month ago

Boone to blowing rock needed asap please

Ps survey does not work right numerous people having trouble and unsure response is recording!

one month ago

We need more sidewalks in Boone. A trail to connect ASU/Downtown it existing Greenway is key.

one month ago

Boone needs to be more bikeable. Winklers creek at least needs a road shoulder if need thing else. Would be cool to have a greenway down from camp sky ranch all the way down that creek to hit the existing greenway

one month ago

We have a young child with special needs (autism) and plan to stay in this area long term to raise him. Mom is a cyclist and wants safe bike lanes in what is a very car congested area so that cyclists of all ages and skill levels can be safe.

one month ago

In this community, simply painting lines in the street does not create a safe bike lane. Some separation is essential. I would bike often if it was safe.

one month ago

More greenways plz

one month ago

Na

one month ago

I would love to see more trails in Boone. I don't have access to sidewalks to leave my neighborhood and don't feel safe biking or walking on 421.

one month ago

Please increase bike and foot access across the community!!!

one month ago

This project needs to find a grade separated means of crossing 105 for it to be successful. The proposed NCDOT STIP project for improvements to the 105 corridor several years ago might have been a good means of doing that but alas the Town would not support it.

one month ago

N/a

one month ago

na

one month ago

More walking options helps with connectivity and improves health outcomes

one month ago

Boone needs more options for pedestrians

one month ago

Connect to Blowing Rock

one month ago

No

one month ago

No

one month ago

I am hopefully this section will create more greenway sections in town as currently the paths end at very inopportune places leaving commuters on sidewalks or trying to navigate busy road ways. As this expands I believe the use of the paths for students and community members will expand

one month ago

None

one month ago

Thanks for doing this!

one month ago

One of the things that makes Boone so amazing is it's scenery. Being able to experience this town on foot or on wheels (not in a car) adds even more to that experience. We are an outdoorsy town. Unfortunately the infrastructure just isn't there. We have peacemeal options that abruptly begin and end and make travel unsafe for those not traveling by car- especially as you get further from downtown. Sidewalks are not safe for cycling, and relegating cycling to sidewalks is dangerous for pedestrians. We have a mountain bike park that can only safely be accessed by car. I love this town, and I would love for more people to be able to experience it safely on two wheels and on foot. More bike paths, more sidewalks - and safe ones! I'm excited for this study, and for the town's interest in better supporting our non-vehicular infrastructure.

one month ago

Na

one month ago

No

one month ago

N/A

one month ago

No

one month ago

Having a continuous bike lane on 421 would be incredibly beneficial

one month ago

Thank you!

one month ago

I also want to mention the incredible economic development opportunities built environment, walkability/bikeability provides. It impacts locals and the broader community for the better! Let me know how I can play a part!

one month ago

I'm excited for this study and more bike/ped infrastructure. Please look into implementing more of the study from 2013 not just this. This area desperately needs more infrastructure for alternative transportation.

one month ago

None

one month ago

None

one month ago

Safely provide bike routes separate from other traffic would be awesome.

one month ago

Let's do this!

one month ago

Expansion of bike trails would be a destination for me. I used to bike a 20 mile greenway trail everyday where I used to live. We also need hiking and/or biking trails in the western end of the county where we have none and no public recreation.

one month ago

Being able to walk or bike to safely in Boone would be a wonderful addition to my quality of life.

one month ago

Making Boone not as reliant on cars in town, especially with the increased population, is important

one month ago

Look at Denver, Colorado for inspiration

one month ago

Please, please, please create more ways to get around Boone that do not rely on motorized transportation.

one month ago

No

one month ago

No!

one month ago

I would love to drive my car less!!

one month ago

Boone needs to catch up with all the other GREAT towns in western nc. We are so behind in doing stuff like this. We deserve it!

one month ago

Trail access from greenway trails

one month ago

My concern is that by connecting the Greenway there will be more homeless people coming over to this side.of town.

one month ago

I ride a bike daily and have close calls with cars almost weekly. People texting and driving and the fact there is rarely even a shoulder to ride on is really scary. Safe alternative travel would greatly reduce traffic congestion!

one month ago

This would be incredible! I hope it works out!

one month ago

NA

one month ago

Great plan! PEVs, bikes, skaters, etc. need a smoother ride. The sidewalk, particularly on blowing rock rd., is uneven and very bumpy.

one month ago

No

one month ago

There are several neighborhoods (such as Cherry St) that have high vehicle traffic and would greatly benefit from sidewalks

one month ago

The safe accessibility to navigate thru the Town of Boone is so important for the future of our town. With Appalachian's campus expanding rapidly and car traffic becoming increasingly worse an alternative route via bike, foot or other would be beneficial to so many members of our community. Whether they are a freshman in college having to commute far distances due to parking complications on campus or someone like myself who prefers to walk to work in downtown Boone from my home on Highland avenue.

I look forward to hearing more about this amazing project.

one month ago

I have stopped riding my bike in Boone after too many close calls.

Simply having a contiguous bike path that allows you to go across town would be a huge step forward.

one month ago

No

one month ago

No

one month ago

I hope I will still be alive to see more Greenway space in Boone.

Also would like to see present Greenway widened and center line painted.

one month ago

With respect to the question above on which facility type I prefer, it is a poorly worded question since there is not really more than one option when traveling to a particular destination in Boone. However, any of the last three are preferable to the first two - separate is safer.

one month ago

If a safe path was available from The Greenway to downtown, I would use it instead of driving to work multiple days per week during good weather.

one month ago

N/A

one month ago

Safe pedestrian and bike routes to the places people live in the outskirts of town is critical. Basic sidewalks are so necessary for a safe, healthy community. Sidewalks serve everyone.

one month ago

No

one month ago

Boone needs both alternative 1 and 2! Thank you for prioritizing pedestrians in our beautiful city. With this kind of infrastructure, I feel much more comfortable starting a family here. This project will support a healthier community in Boone while lowering transportation emissions and driving congestion. Win win!!

one month ago

Safety should not be a selectable option, it should be inherent in any type of pathway. Vehicular collisions with pedestrians are WAY up in the US and physical separation must be designed in to plans like this. Especially take note of the 105 crossing here- between the 2 segments- a pedestrian over bridge or tunnel should be used to prevent inevitable crossing accidents at that very busy intersection. Whether or not that area is considered in the scope here, it WILL become part of the overall route and needs to be presented as part of the plan.

one month ago

We have to somehow get bikes and pedestrian traffic across hwy 105 at Wendy's

one month ago

If it's not safe, people won't use it, even if it's beautiful or painted bright green or convenient. If it's not safe (meaning completely separate from traffic wherever possible), people won't use it.

one month ago

Please use money to make pedestrians walking or cycling safer. Make ASU pay for some of it because of them taking over the town.

one month ago

PLEASE ADD SOMETHING!! Bike lanes in this town suck and are straight up dangerous. It needs to change and a lot more people would commute in a more sustainable and healthy fashion if this were to be implemented

one month ago

This will help Boone towards a more sustainable future. It's fun and do I have to even mention parking.

one month ago

Connectivity and attractiveness are key

one month ago

Connectivity and attractiveness are KEY!

one month ago

I applaud the review of the 2013 pedestrian plan.

<https://connect.ncdot.gov/municipalities/PlanningGrants/Documents/Boone%20Bike%20Plan.pdf> I hope more will be do implement the balance of their recommendations.

In addition to these plans i would encourage at all intersections of road that cross walks from either connecting side are made available. I.e. at Wilson dr.nd 105 there is no connection from west side of intersection towards bike lane on Wilson.

one month ago

Get it done

one month ago

Connectivity needs to be improved in the Town of Boone as well as in the county. Traveling by foot or bike in the areas where the trails are proposed is pretty sketchy so a greenway/trail such as what is proposed is a great addition to our existing greenway in connecting our town safely, equitably & sustainably.

one month ago

we definitely need a safe route from campus to walmart so we can get to leon levine/ greenway

one month ago

I'm excited for this project and hope that it will be a great success. Please continue to make an effort to share updates with the community as this project progresses!

one month ago

This is extremely important, given the infrastructure of Boone!! Thank you.

one month ago

I believe Boone's biggest downfall is the lack of biking infrastructure. It would greatly reduce the amount of traffic on the roads and also lower emissions by incorporating bike lanes on all main roads as well as help connect paths such as the greenway.

one month ago

Just do it

one month ago

Thank you for discussing and caring about this!!

one month ago

downtown neighborhoods need sidewalks

one month ago

If Boone was bikeable it would be good for citizens and bring in tourist dollars.

one month ago

Please make Boone more bikeable! It would help reduce issues with parking and traffic and make our community better!

one month ago

Downtown neighborhoods need sidewalks too

one month ago

We really need more people parking their car and biking throughout town. The planned XBC is a good idea but it needs to connect with the health department and DSS up poplar grove road. More students would use alternative to their car if separated bike lanes were accessible to their homes. All new housing construction should be forced to implement bike lanes a good crosswalks by their buildings

one month ago

Adding sidewalks and side paths encourages walking, biking, and other alternatives to cars. Please do more to make Boone less car-centric.

one month ago

I would love to see a connected Boone through bike and walk lanes. I think it will be a great boost for the community and lessen the burden of traffic.

one month ago

Safer places to walk and bike are needed

one month ago

The greenway system is awesome. Most of the bike Lanes are awesome. We just need a few connections to enable riding from Greenway to campus to town

one month ago

More bike paths and sidewalks would be awesome, too many neighborhood roads are unsafe for walking

one month ago

I hope this happens, I think it's a great idea!

one month ago

Appalachian American

one month ago

No

one month ago

I'd love more greenways!

one month ago

I love using the greenway for bike rides, but would only do it if it is separated from the crazy drivers with the car traffic. I know the greenway crosses on Hunting Hills, which I don't like, but can handle because of minimal traffic, but would still prefer a tunnel or some other separation.

one month ago

Safe pedestrian travel is a number one concern I have living in Boone. The drivers are not looking out for pedestrians

one month ago

I'm so excited this is in the works! So many residents in Boone crave more safe, scenic, and convenient pedestrian space.

one month ago

No

one month ago

No

one month ago

no

one month ago

We desperately need connecting bike lanes and sidewalks!

one month ago

Thank you!

one month ago

Boone really needs a connected, safe, greenway system tying the whole Boone valley to both ASU campuses (main and Levine) and the downtown area.

one month ago

We need more sidewalks in the areas around downtown Boone. In some places the sidewalks just end which makes it unsafe to walk to town. I love the greenway trail and would love to see it connect with other spots around town.

one month ago

This would be wonderful! Boone can't hold any more cars and walk/bike infrastructure is the way to go. I love the proposed plan in general, but I don't understand how it is going to work if it doesn't include some kind of crossing over 105. It is too dangerous to cross on foot or by bike at the Wendy's intersection and that is the main reason I can't do errands without a car. We at least need a crosswalk with a signal that's NOT at an intersection, like the one on Hardin Street.

one month ago

I fully support the multi modal project for Faculty and Greenway roads. But please consider how to cross HWY 105 because that is the most dangerous section of that route. Not addressing this crossing will still cause multi modal fragmentation issues.

one month ago

Increasing the amount of safe human powered modes of transportation will open up roadways and parking at a significantly lower investment than widening roads and creating parking structures. Studies have shown increased spending when people travel to shops on foot/bikes over cars. Biking/Walking is good for tourism and can actually attract more tourists. Human powered transportation is better for community mental and physical health as well as the environment.

one month ago

This is so past due, please get it done, it's been part of the plan since 1994! We need those connectors to connect existing. safe walking and cycling routes.

one month ago

Connectivity to existing paths and increasing infrastructure to promote alternatives to cars is essential to decrease traffic as well as the increase the safety of bikes/pedestrian users.

one month ago

No

one month ago

N/A

one month ago

No

one month ago

It is important for Boone to have a safe greenway/pedestrian row. The traffic is heavy and congested and it is not safe in a lot of areas for pedestrians

one month ago

This town is very unfriendly to bikes, more access to proper bike lanes would be great!

one month ago

A greenway connector between the ASU campus and the existing greenway system is critical to both connectivity and safety. In addition to the proposed route along Faculty St. and Greenway Rd, the ability to cross HWY 105 safely should be considered. Faculty St dumps onto six lanes of 105 and presents a major obstacle to pedestrians and cyclists.

one month ago

Excited to see the Town pursue the development of more bike lanes and sidewalks in partnership with the NCDOT, particularly along US 421/East King Street.

one month ago

I would ride my bike in lieu of my car for daily errands/commuting if we had better and safer bike/pedestrian connectivity and infrastructure.

one month ago

Used to live in Fayetteville, AR where biking is integrated into the community. The benefits are countless. Really hopeful for this project!

one month ago

N/A

one month ago

We moved away from the airport area because of the lack of sidewalks and tight roads that were unsafe to walk on. Relying on cars to go everywhere was becoming a hassle and we really love being able to walk everywhere now.

one month ago
