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APPENDIX A: SURVEY ANALYSIS

Public Policy Institute

Western Carolina University

2018 Waynesville Strategic Planning Survey Report



The Public Policy Institute (PPI) of Western Carolina University was contacted by the town of Waynesville, NC, to review survey data provided by the town. This survey was administered online by the town and open to the public at large. While the PPI was not involved in the data collected, we are happy to provide this summary of the 368 responses to the survey.

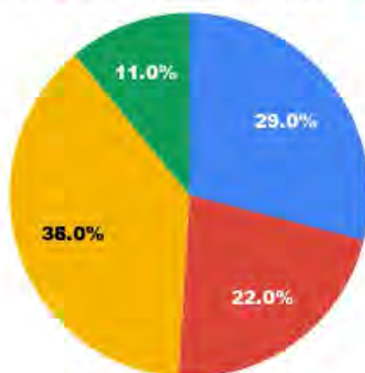
I. SURVEY METHODS & SAMPLE DEMOGRAPHICS

Working with Jackie Turner of Stewart (a planning, design, and engineering firm with offices in Raleigh, Durham, and Charlotte), Waynesville opened an online survey to the public as part of its strategic planning process. Respondents completed several items including demographic questions, such as their age, income, and length of residence, and substantive questions about their opinions on the needs in the town, future development, and other planning issues.

Of the 368 respondents to the survey, the plurality of respondents (40%) were above 60 years-old, 28% were between 30 and 44, and 25% of respondents were between 45 and 59. A smaller group, about 6%, were under 30 years-old. The three largest respondent-groups based on income included 67 respondents (18.4%) that reported earning between \$100,000 and \$149,999, another 66 respondents (18%) reported earning between \$50,000 and \$74,999, and the third largest group (54 residents or 14%) reported earning between \$25,000 and \$49,999.

Length of Residency for Year-round Respondents

1-5 years 6-10 years 11-20 years 21+ years



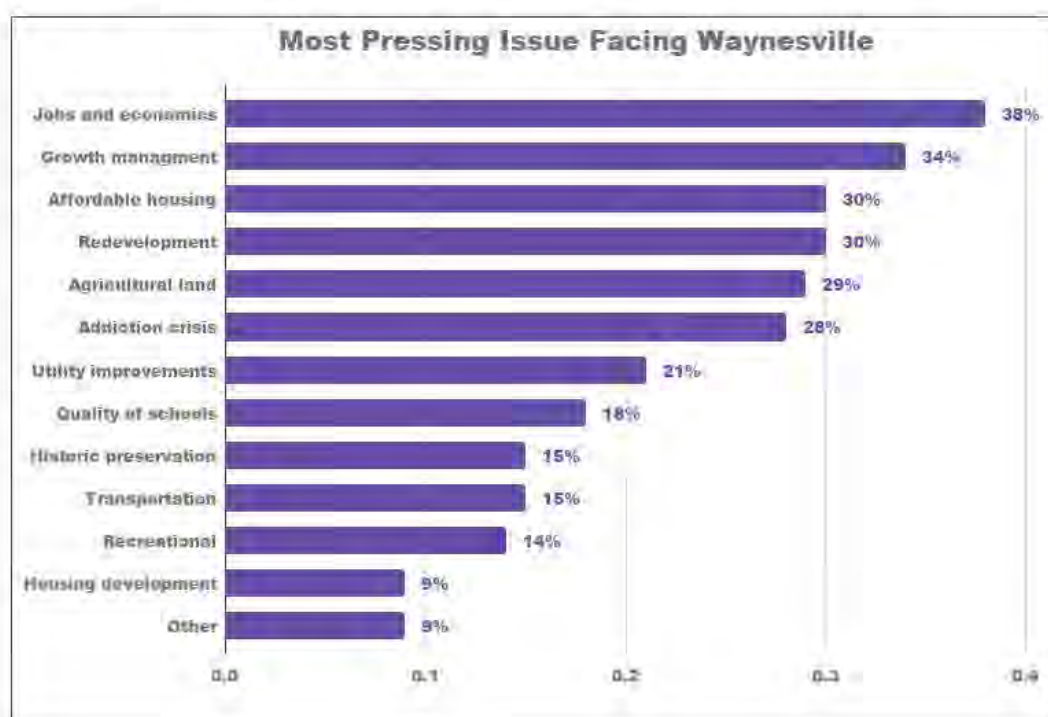
As to residency, the clear majority of respondents (over 91% or 292 respondents) reported living in Waynesville for more than six months a year. Twenty-six respondents reported living in town for less than six months a year. For those living in the area for more than six months a year, the largest number (38%) had lived in the area between 11 and 20 years, another 29% for less than five years, 22% between 6 and 10 years, and 11% for 21 years or more, as displayed in the figure to the left.

II. SURVEY RESULTS

The survey asked many substantive questions including what is the most pressing issue facing Waynesville, where and what types of growth should be the focus of the Town, types of housing that should be promoted, and issues about services and infrastructure.

A. Pressing Issues

Respondents were asked to select what they believe to be the most pressing issue facing Waynesville. For this question, respondents had the option of selecting three choices from a list of 11 potential issues or the respondents could write in an issue if it was not included in the predefined list. As displayed in the bar graph below, the issue most often selected by respondents was jobs and economic growth, which was selected by 38% of all respondents. Other often selected categories included growth management and controlling urban sprawl (34%), affordable and workforce housing (30%), redevelop distressed commercial and residential properties (30%), protection of agricultural lands and open spaces (29%), and addressing the addiction crisis (28%).



Thirty-five respondents selected something other than the issues provided in the predefined list and wrote their own issue. These 35 answers varied greatly without a clear trend and some were rephrasing of and issue on predefined list, such as one respondent that wrote in “addressing the issues of addiction.” Overall the top six “pressing issues” may be of importance as over one-fourth of the respondents listed these in their choice of three.

B. Growth, Development, & Housing

Several questions for respondents targeted issues of economic development, town growth, and housing. Respondents were asked where residential development and growth should occur from a list of six predefined choices or the respondent could select “other” and write an open-ended response.

Respondents could select as many answers as they wanted. As the table to the right displays, most respondents felt that growth should occur away from sensitive environmental resources (66%), where infrastructure already exists (63%), and in parts of towns ready for redevelopment (60%). The open-ended responses to this question varied greatly for the 40 respondents that wrote something other than a predefined category and there was not a clear trend

Area for Growth	Number	Percentage of Respondents
Away from Sensitive Environmental Resources	244	66%
Where infrastructure (water & sewer) exists	213	63%
In Sections of Town Ready for Redevelopment	222	60%
Near Existing Shopping and Services	138	38%
Other	40	11%
Anywhere/Everywhere	33	9%
Near Major Intersections	32	9%

Two other questions asked about the preferred types of affordable or workforce housing that should be promoted and what types of residential neighborhoods a respondent favored. For both of these

questions respondents were provided with pictures representative of different types of housing and neighborhoods of various densities. For the workforce/affordable housing question, respondents selected one choice from five different pictures of varying housing types. These photos included representations of single-family housing, manufactured homes, less dense apartments, denser multi-floor apartments, and townhomes. Most respondents (247 or 68% of all respondents) selected small, single-family housing as the preferred type. The accompanying picture is displayed to the left.



Photo example provided in the survey of “Small Single-Family Housing”

respondents could select one of the photos as their preferred type of neighborhood for new residential development. Most respondents (198 residents or 54% of all respondents) selected the photo representing a medium density residential neighborhood. Almost one-third (118 respondents or 32%) selected the photo depicting a “very low density residential” neighborhood and the other 14% of respondents (49) selected a photo displaying a “traditional town grid,” which was denser. The photo example of the top choice (“medium density residential”) is displayed below.

Concerning residential neighborhood density, respondents were offered a selection of three photos of three different neighborhood types. The



Photo example provided in the survey of a "Medium density residential" neighborhood. Small Single-Family Housing" selected by most (54%) of survey respondents

C. Limiting Development & Protection of Open Spaces

Several questions also asked respondents about their opinions on protecting open spaces and limiting development. One question asked respondents whether they agreed or disagreed that sensitive natural areas should be protected from development. A majority (63%) "strongly agreed" that natural areas should be protected, while another 24% "agreed" with this statement. Eight percent indicated they were "neutral" to protecting sensitive areas and about 4% either "disagreed" or "strongly disagreed" that sensitive natural areas should be protected.

Respondents were also asked what types of areas should be protected, if any. Respondents could select up to three areas that the respondent felt should be preserved or conserved for open spaces by Waynesville. A large majority of respondents (83%) said that streams and areas important for water quality should be protected. The three other highest areas deemed in need of protection, as indicated by the table below, included areas important for habitat and biodiversity (41%), agricultural areas (39%), and scenic views 37%.

Type of Area to Protect	Number	Percentage of Respondents
Streams and Areas Important for Water Quality	306	83%
Lands Important for Habitat and Biodiversity	151	41%
Farms, Orchards, and Working Agricultural Lands	145	39%
Scenic Views	136	37%
Mature Forests	107	29%
Corridors for Future Greenways and Trails	100	27%
Steep Slopes	79	21%
Floodplain	61	17%

Respondents were also asked which one type of open space they most wanted to protect from development and were provided photo examples of each type of open space. There were seven predetermined types of areas that the respondents could choose from in their answer. The three most often selected open areas deemed worthy of protection included "streams / rivers" (33%),

“ridgeline” (27%), and “woodland” (19%). The example photos from the survey are included below:



Photo example provided in the survey of a “stream/river”



Photo example provided in the survey of “woodland”



Photo example provided in the survey of a “ridgeline”

D. Infrastructure Focus

Residents were also asked which three public services they thought should be of the highest priority. The respondents were provided a list of eight services or infrastructure items and were allowed to pick the three that they believed were of the highest priority. As the table below displays, almost

Services of the Highest Priority	Number	Percentage of Respondents
Parks, Greenways, Trails	179	49%
Public Safety (Police, Fire, EMS)	173	47%
Roads and Transportation	157	43%
County Schools (K-12)	154	42%
Open Space Preservation	142	39%
Water and Sewer	126	34%
Broadband Service	105	29%
Affordable/Subsidized Housing	66	18%

half (49%) of respondents included parks, greenways, and trails in their top three services or infrastructures of importance. Forty-seven percent of respondents indicated that public safety services were important, 43%

included roads and transportation, and 42% included county schools.

E. Open-ended Responses

Lastly, two open-ended questions were included asking respondents what they valued most about Waynesville and another place to add any additional feedback to the Waynesville staff and elected officials. The PPI staff reviewed all the comments in these two sections and categorized each response to look for general trends. Some of the responses covered more than one category, so the numbers presented in the tables below do include multiple responses and thus the percentages may add up to more than 100%.

In total 337 respondents left a comment on what they liked best about Waynesville. When asked this question, 49% of those that left a comment noted that they most appreciated the “small town feel” of Waynesville. For example, one respondent commented on “The small-town environment and the beauty of the location” as what was most liked. Others commented that town is a good mix of small town with amenities, such as one respondent that wrote that Waynesville had “small town charm” with “a lot of conveniences of a larger city.” Other respondents (22%) noted the geographic location as ideal, such as one person that liked the “views around every bend.” Others (15%) also stressed the importance of the downtown area, as one person commented they liked Waynesville’s “vibrant downtown, shopping areas and it’s a smart growth community.”

What Respondents Like Most about Waynesville	Number	Percentage of Respondents to This Question (337 Total)
Small Town Feel	165	49%
Geographical Location	73	22%
Downtown	50	15%
People	39	12%
Other	37	11%
Safety	16	5%
Quality of life	17	5%
Weather	13	4%

As to the final open-ended question concerning other feedback, 216 people took the time to add some comment. The statements were wide ranging but common issues mentioned in this area include the need to develop urban standards and limit urban sprawl (70 respondents), the need for more parks and public areas (24 respondents), and the need for improved roads (21 respondents). Again, these topics varied greatly and we encourage those interested to review the open-ended comments.

Community Strengths

In response to the open-ended question: *what respondents value most about Waynesville*, the response was as follows.

"...49% noted that they most appreciated the "small town feel" of Waynesville. One respondent commented on "The small-town environment and the beauty of the location" as what was most liked. Others commented that town is a good mix of small town with amenities, such as one respondent that wrote that Waynesville had "small town charm" with "a lot of conveniences of a larger city." Other respondents (22%) noted the geographic location as ideal, ... "views around every bend." Others (15%) also stressed the importance of the downtown area -- "vibrant downtown, shopping areas and it's a smart growth community."

Community Concerns

"Respondents were asked to select what they believe to be the most pressing issue facing Waynesville. With three choices from a list of 11 potential issues, the issue most often selected by respondents (38%) was jobs and economic growth. Other selections included growth management and controlling urban sprawl (34%), affordable and workforce housing (30%), redevelop distressed commercial and residential properties (30%), protection of agricultural lands and open spaces (29%), and addressing the addiction crisis (28%)."

The survey also included one open-ended question which allowed respondents to address concerns and provide additional comments for Town staff and the project team. Out of 216 responses, 70 included a comment that stated a need for urban standards and to limit urban sprawl.

Community Preferences

The visioning workshop and online survey both contained visual preference exercises related to design, aesthetics, recreation, housing, density, and more. When asked the preferred type of affordable, workforce housing, or low-to-moderate income housing, attendees primarily selected two-story detached single-unit dwellings as their preferred style with two-story attached single-unit dwellings as the next preferred style of residential development. Denser, multi-family apartment complexes received almost no votes as the preferred style of low-moderate income housing.

On the survey, over 68 percent of respondents selected small, single family homes as their preferred affordable or workforce housing type. Quite a distance behind were townhomes (14.92%), workforce housing duplexes/quadplexes (10.5%), apartments (4.14%), and manufactured homes (2.21%).

Very low density residential was the most preferred density/neighborhood development type, with over 54 percent of respondents making that selection. Following closely behind was medium density residential (32.33%). A traditional, town grid-type development was selected the

**PREFERRED AFFORDABLE/
WORKFORCE HOUSING 68.23%**



least frequently (13.42%).

For town center/infill housing, attendees overwhelmingly preferred small, craftsman-style bungalow visuals over single-family dwellings more suburban in appearance or dwellings with

PREFERRED INFILL DEVELOPMENT TYPES

Town Infill - Commercial



Town Infill - Housing



less square footage. Single-story garden apartments received the second highest number of votes based on visual preference for town center/infill housing.

When asked about goals for housing, respondents selected "Provide different housing types including traditional single family, multi-family, nontraditional units that include rental and for sale units" as a preferred recommendation over "Provide affordable housing options" and "Provide housing options for aging in place."

A disconnect seemed to exist among Workshop attendees regarding how to define low-to-moderate income housing and the implications for creating more affordable housing stock in Waynesville. Additionally, many attendees seemed concerned about the possible construction of public housing and/or Section 8 dwellings and not only confused the two but also perpetuated misconceptions about how such programs operate. The community profile of Waynesville and Haywood County housing appears in Chapter 3, where there also is a explanation of the differences in housing classification.

With regard to open space conservation, streams/rivers was the type of open space respondents chose most frequently to protect from development. That was closely followed by ridgelines (26.8%), woodlands (19.06%), farmland (11.05%), undeveloped land at the edges of town (7.46%), and orchards (2.49%).

OPEN SPACE TO PROTECT



APPENDIX B: TAPESTRY SEGMENTATION PROFILE

Below are descriptions of the most popular geodemographic groups in Waynesville. "Tapestry is a geodemographic segmentation system that integrates consumer traits with residential characteristics to identify markets and classify US neighborhoods. Neighborhoods with the most similar characteristics are grouped together, while neighborhoods with divergent characteristics are separated. Internally homogeneous, externally heterogeneous market segments depict consumers' lifestyles and life stages. Tapestry Segmentation combines the "who" of lifestyle demography with the "where" of local geography to create a classification model with 67 distinct, behavioral market segments."

Source: <https://doc.arcgis.com/en/esri-demographics/data/tapestry-segmentation.htm>

SMALL TOWN SIMPLICITY

The Small Town Simplicity group makes up 44.3% of Waynesville's population. They are both young families and senior householders that have community ties. They live a down to earth and semi-rural lifestyle, with television for entertainment and news. Emphasis is on convenience for both young parents and senior citizens. Common hobbies are those such as online computer games, renting movies, indoor gardening, and/or hunting and fishing. Finances are kept simple and debt is avoided—1 in 4 households is below poverty level.

KEY TRAITS:

Median age: 40.8 ~ Median household income: \$31,500 ~ Average household size: 2.26 ~ 67% have high school diploma or some college ~ labor force participation rate lower at 52%

THE NEIGHBORHOOD:

- » Small towns or semi-rural neighborhoods mostly outside of metropolitan areas.
- » Homes are a mix of older single-family houses, apartments, and mobile homes. Half of all homes are owner-occupied.
- » Median home value is around \$92,300, about half the US median
- » Half of householders are aged 55 years or older and households are predominantly single-person.

44.3%

Of Population in
Waynesville



ROOTED RURAL

This group makes up 18.2% of the population in Waynesville. Many residents live in many of the heavily forested regions of the country, this group is heavily concentrated in the Appalachian mountain range as well as in Texas and Arkansas. Nearly 9 of 10 residents are non-Hispanic white. This group enjoys time spent outdoors, hunting, fishing, or working the garden. Family time is also important: time watching TV with a spouse or with pets is spent. These communities are heavily influenced by religious faith, traditional gender roles, and family history. They like to buy American made products.

KEY TRAITS:

Median age: 45.2 ~ Median household income: \$42,300 ~ Average household size: 2.48 ~ Do-it-yourself mentality ~ Thrifty shoppers than use coupons frequently and buy generic goods ~ Far-right political values on religion and marriage

THE NEIGHBORHOOD:

- » 80% of homes are owner-occupied and are primarily single family.
- » Market is dominated by married couples, few with children
- » A high proportion of the housing stock is for seasonal use

RURAL RESORT DWELLERS

» Homes values are

Rural Resort Dwellers make up 14.2% of the Waynesville population. They are a small market that survived through the Great Recession. Many are located in areas where the change in seasons supports a variety of outdoor activities. Many workers in this group are postponing retirement or returning to work to maintain their current lifestyles. They have simple tastes but are very passionate about their hobbies.

KEY TRAITS:

Median age: 54.1 ~ Average household size: 2.22 ~ close to retirement

THE NEIGHBORHOOD:

- » Housing is owner-occupied, single family homes, with some mobile homes
- » Strong market for second homes; over half of the housing units are vacant due to a high seasonal vacancy rate.
- » 42% of households consist of married couples with no children, 28% of households are single person

18.2%

Of Population in
Waynesville



14.2%

Of Population in
Waynesville



OLD AND NEWCOMERS

The Old and Newcomers group make up about 12.9% of the population in Waynesville. The focus of this group is more on convenience than consumerism. Composed of neighborhoods in transition, populated by renters who are just beginning their careers or retiring. Folks in this group are still in college or taking adult education classes. They support charity causes and are environmentally conscious.

KEY TRAITS:

Median Age: 39.4 ~ Average household size: 2.12 ~ 31% have a college degree ~ Lower unemployment rate at 5.1% ~ Median household income: \$44,900 ~ Labor force participation rate of 62.6%

THE NEIGHBORHOOD:

- » Metropolitan city dwellers
- » Predominantly single households with a mix of married couples with no children
- » 55% of homes are renter-occupied
- » 45% of housing units are single-family, 45% are multi-unit buildings in older neighborhoods, built before 1980.

12.9%

Of Population in
Waynesville



MIDLIFE CONSTANTS

Midlife Constants are about 5% of the population in Waynesville. This group is seniors, at or approaching retirement, with below average labor force participation and above average net worth. Located predominantly in metropolitan areas, but also live outside the central cities in smaller communities. Their lifestyle is more country than urban.

KEY TRAITS:

Median Age: 47 ~ Average household size: 2.31 ~ Median household income: \$53,200 ~ unemployment lower at 4.7% ~ prefer to buy American and natural products ~ 63% have a high school diploma or some college

THE NEIGHBORHOOD:

- » Older homes (most built before 1980) found in the suburban periphery of smaller metropolitan markets.
- » Primarily married couples, but a growing share of singles.
- » Settled neighborhoods. Residents have lived in the same house for years.
- » Single-family homes, less than half still mortgaged.
- » Median home value of \$154,100

5%

Of Population in
Waynesville



APPENDIX C: TRANSPORTATION PLAN ASSESSMENT

In order to maintain the quality of life for which Waynesville is recognized while supporting future growth, the Town must plan for future transportation needs.

The railroad helped connect Waynesville to the rest of the region in the early 1900s and created opportunities for agriculture, forestry and tourism. The downtown area, and the Frog Level commercial area, became the center of transportation for the town. As the automotive industry took hold and North Carolina's roadway network expanded, the railroad declined in importance, and development began to expand to new corridors and more distant residential tracts. By 1950, passenger train service to Waynesville was discontinued. Today, Waynesville's proximity to Interstate 40 and the Great Smoky Mountains Expressway (Hwy 23/74) is more important than its connection to the railroad, with easy links to Asheville, Knoxville, and Atlanta; making it a very convenient location for regional travel.

The Town works with NCDOT to plan improvements on major thoroughfares so that projects met the needs of the community overall. The Town conducted corridor studies for North Main, South Main and Russ Avenue which informed the NCDOT designs. The studies promote connectivity, support active modes of transportation and encourage streetscape that is aesthetically pleasing. Subsequent meetings facilitated by the Town on the Russ Avenue project have resulted in changes to NCDOT designs that decreased the proposed footprint of roadway improvements through the Spreadout Historic District (along Walnut Street) and to extend sidewalk north of the Expressway. Similar efforts for North and South Main Street have produced new gateway elements, roundabouts and medians and improved sidewalk connectivity and landscaping.

Similar efforts to design streetscapes for South and North Main Street have produced new gateway elements (e.g. roundabouts, medians) and improved pedestrian connectivity and accessibility.

Meanwhile, the Town is determined to turn existing greenway plans into reality, extending the greenway on a parallel track along Richland Creek to create



NCDOT is developing a number of new roundabouts along Waynesville's Main Street, working with the community to develop the most appropriate design alternative for each site. These can serve as attractive and efficient gateways.

a backbone for a bicycle and pedestrian network. As property and funding become available, the Town is constructing trail segments in a concerted effort to develop this multimodal corridor. The Town is also active on a regional level, participating in the Haywood County Greenways Council and supporting regional trail connections with Buncombe County and other localities. Regional trail initiatives of Land-of-Sky Regional Council and the Southwestern Commission present on-going opportunities to connect Waynesville with other communities, to the benefit of residents, businesses, and visitors.



New sections of the expanding Richland Creek Greenway are designed for both functional transportation and recreation uses. They highlight the scenic appeal of the creek and its tributaries, while connecting to parks, neighborhoods, and the town's sidewalk system.

The Town completed an ADA Self-Assessment & Transition Plan, whereby all municipal buildings were analyzed by a third party to see if any changes were necessary to improve accessibility for all users, especially those with disabilities. These efforts continue making sure that Waynesville is a Town that everyone can enjoy. A complete sidewalk network allows for effective movement throughout the Town, but is ultimately only functional if people can safely access their destinations.

Haywood County has developed a wayfinding sign system with variations on a consistent

theme for each Town in the County. The Town of Waynesville has endorsed the design and is looking forward to improved motorist and pedestrian directional orientation that comes from a distinct and effective wayfinding sign system. Wayfinding signs also give districts and destinations a much-needed boost, and help the public find parking, improve traffic flow, and ease the transition between car, pedestrian, and transit use.



Wayfinding signs can reinforce an area's defining history and culture. These signs will feature different animal motifs for each community, with an elk for Maggie Valley, a cardinal for Clyde, a bear for Canton, and a plott hound for Waynesville.

To implement the greenway feasibility study, the Town is planning trail alignments strategically, identifying path orientation in cooperation with landowners, available rights-of-way or unopened rights-of way, and where the trail can connect with neighborhoods, commercial centers, schools and parks.

The plan should spur economic investments throughout Waynesville, providing residents, developers, and entrepreneurs with opportunities to leverage this connectivity for economic opportunity. In addition, trail development will create areas for streambank restoration and public access to Richland Creek and its tributaries as part of watershed management.

The success of Waynesville's greenway system may influence support for additional trail connections and further investment in other projects like the Pigeon River Greenway, the Lake Junaluska trail, and even a regional trail system that could connect multiple counties. This will take continued initiative, championing, financing, commitment and partnership so that greenways continue to be considered in overall transportation planning.

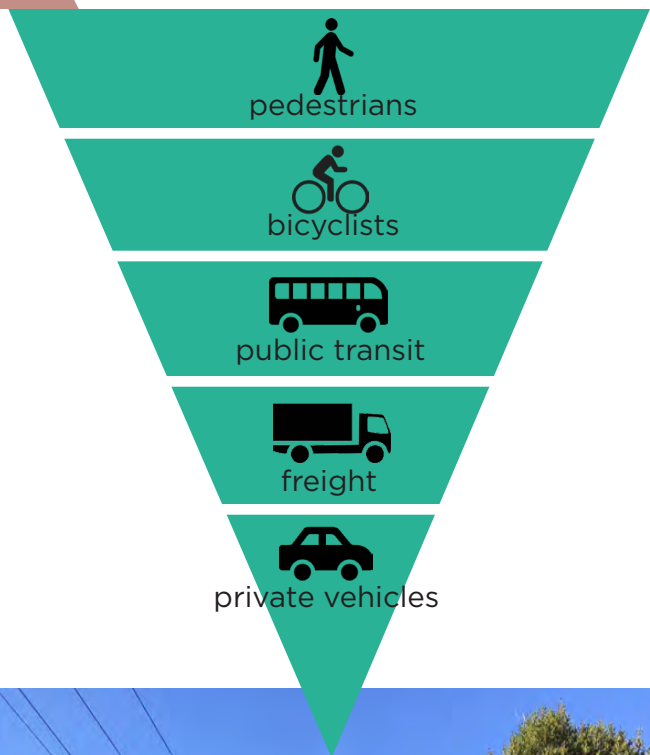
Waynesville is well-positioned to further develop its active transportation environment. A robust sidewalk network and local support for bicycling can translate to improvements in connectivity and accessibility. Bike lanes, sidewalks and trail connections are part of the Russ Avenue, North Main and South Main roadway improvements, and sidewalk infrastructure is being expanded in accordance with the 2010 Pedestrian Plan through both Town Powell Bill investments and NCDOT programming. The 2013 Comprehensive Haywood County Bicycle Plan lays out recommendations for on-street and off-street bicycle infrastructure improvements.



The town may see increase interest in transit and in emerging trends. Haywood Transit, a program of Mountain Projects, Inc. is working with the French Broad River MPO to implement fixed-route service that will provide scheduled mobility around Waynesville and Canton with connections to Buncombe County and Asheville. Reliable service to employment centers and neighboring towns can improve residents' economic prospects and help relieve roadway congestion at peak hours. Electronic scooter companies that allow users to rent scooters in urban areas are seeking new markets as trail, sidewalk and bicycle infrastructure is developed in urbanizing areas. Such new modes of travel will require consideration in regulation, design, and parking as they emerge. However, they can also alleviate parking demand and serve a wide range of citizens and visitors.

Waynesville is situated at the western terminus of the long-term regional vision for trail connectivity in WNC known as the Hellbender Regional Trail Network. Linking the Town's greenways to a broader system will enable bicycle commuting, recreational tourism and "trail town" economic development, and new races and events.

7 APPENDIX



Transportation in Waynesville twenty years from now might look different than it does today. The NCDOT widening of the Smoky Mountain Expressway, sections of I-40, and Jonathan Creek Road will enable more efficient freight movement around Waynesville and keep commuter traffic moving. Meanwhile, automated vehicles (AVs) could offer improvements to efficiency and safety, and enhance regional transportation networks. As NCDOT projects on South Main and Russ Avenue are completed, Waynesville's roadways and intersections will be much safer for all users, which is the ultimate goal. New roundabouts limit conflict points, center medians require safer turning movements, and pedestrians will have shorter crossings and sidewalks that meet state standards and ADA requirements.

As the Town invests in new transportation projects, safety and accessibility are primary objectives, enabling safe connections to schools, parks, and all that the community has to offer. Multimodal accommodations and connections should always be considered in design, recognizing that diversified transportation options give people choice in their movement and benefit the entire community.

Roadway corridors are also gateways into Waynesville's commercial and residential areas. The Town desires to integrate landscaping, wayfinding signage, and other treatments to create entry features. The Arts Commission would like to identify opportunities for public art installations within transportation corridors and at gateways into Town.



Many of Waynesville streets are two lanes, with a sidewalk along one side. The Town should make sure that drivers are adhering to the 20mph speed limits to maintain these streets' safety and functionality.

2035 French Broad River MPO Long-Range Transportation Plan (LRTP)

The 2035 French Broad River MPO Long-Range Transportation Plan (LRTP) in effect for Haywood County includes a significant element related to pedestrian and bicycle transportation, including several references to policy initiatives at the state and federal level. Chapter 3 focuses on pedestrian and bicycle usage and crash statistics throughout Buncombe, Haywood, and Henderson Counties and references to various funding programs.

Tier II projects (2016-2025) include:

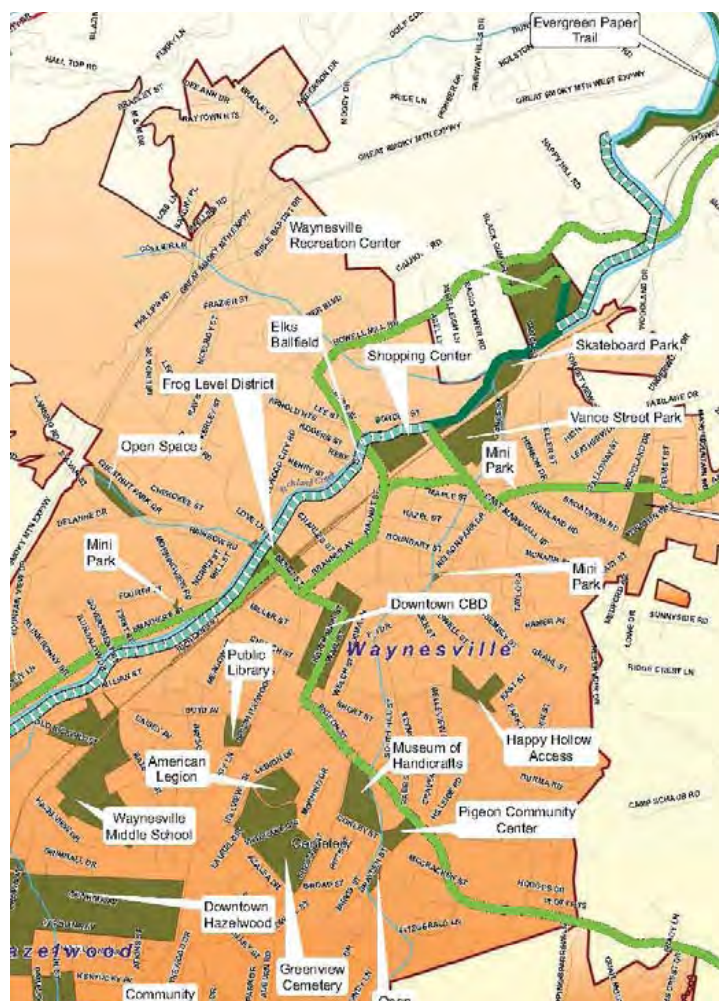
- » \$1 million for region-wide projects including signs, shared lane markings, and bicycle lane striping.
- » \$7 million for region-wide bicycle and pedestrian elements of highway projects.
- » \$1.8 million for region-wide infrastructure improvements to provide bicycle and pedestrian access to transit.
- » Tier III projects (2026-2035) include:
 - » \$10 million for implementation of municipal/county bicycle, pedestrian, and greenway plans.
 - » \$6.5 million for repaving and widening of rural roads to accommodate bicyclists and pedestrians.
 - » \$1 million for bicycle signage, sharrows, and bike lanes.

Comprehensive Pedestrian Plan (2010)

The Waynesville Comprehensive Pedestrian Plan focuses on providing convenient, safe pedestrian access while linking neighborhoods to destinations and promoting a sustainable and vibrant lifestyle.

Key recommendations from the Plan include:

- Support Safe Routes to School (SRTS) efforts to educate and expand infrastructure.



Source: 2010 Comprehensive Pedestrian Plan

The 2010 Comprehensive Pedestrian Plan recognized the value of greenways and recommends that the Town of Waynesville actively acquire ownership interest in properties within floodways along corridors planned for greenway expansion.

- Extend Richland Creek Greenway and consider expansion along Raccoon Creek.
- Develop and implement a plan to remove sidewalk obstructions, improve sidewalk maintenance, add missing sidewalk links, and provide end-of-trip amenities at major destinations that incorporates public art.
- Adopt regulations that require developments to incorporate sidewalks along pedestrian corridors and require dedication of right-of-way as needed.
- Require sidewalk construction on both sides of thoroughfares and arterials and one side of local residential streets as well as require sidewalk and/or greenway connections between adjacent businesses.
- Improve safety and aesthetics to create a more pedestrian-friendly environment through improved signaling and markings, design improvements, wayfinding, and development of urban design standards.
- Invest in more distinguished wayfinding signage along the greenway and surrounding roads to inform residents and visitors of access points and general information.

Bike in Beds: How to Maximize Bicycle Tourism in Haywood County and WNC (2015)

In 2015, the Haywood County Tourism Development Authority (TDA) and Southwestern Commission developed *Bikes in Beds: How to Maximize Bicycle Tourism in Haywood County and WNC*, in an effort to capitalize on the rapidly changing and growing bicycle tourism industry. The report states that “While there are no greenways in Western North Carolina that have the same draw as the Virginia Creeper Trail in Virginia or Swamp Rabbit Trail in South Carolina, there is some potential to attract low stress riders. Each community should work toward developing facilities and strategies to attract all types while capitalizing on their unique attributes for specific bicyclists.”

The report lists the economic benefits of bicycle tourism and lists several recommendations:

- » A greenway connecting Waynesville to Canton, which it estimates could attract thousands of visitors to Haywood County each year and generate up to \$1 million in annual tourism expenditures, serving as a regional attraction for visitors. Families and other groups looking for low-stress cycling excursions without vehicle traffic would enjoy the trail. The cost of constructing the proposed Haywood County greenway is estimated at \$9 million, but could result in increased property values.
- » Mountain bike trails. The mountainous terrain and large amount of public land in Haywood County provide potential for the development of additional high quality trails that can attract visiting mountain bikers. There is a large network of Forest Service roads in the region that could be promoted to attract the growing number of cyclists looking for gravel road rides and gravel grinder events.
- » A Scenic Bikeways program to fuse recreation, transportation, and the economic benefits of bicycle tourism.

US 276—Pigeon Road / Cruso Road

Short-/Long-term investment

Estimated Cost: \$1 - 47 million *

Context: Route is a two-lane route through rolling terrain from Waynesville to Bethel, with a mix of residential, commercial, and agricultural uses. From Bethel, US 276 winds its way to the Blue Ridge Parkway.

Influences:

- Downtown Waynesville
- Bethel Community & Schools
- Blue Ridge Parkway connection
- Connections to other recreational routes
- Campgrounds



Length: 6.5 - 13.5 miles

Recommendations: *Short-term*—add share the road signs & climbing shoulders where possible between Waynesville & Bethel. *Long-term*—FBRMPO long-range plan identifies 6-mile \$47 million project from Waynesville to NC 215.



US 276—Pigeon Road was consistently mentioned as one of the corridors that presents the most challenges for bicyclists in terms of feeling safe next to high-speed traffic on a narrow two-lane road.

**US 276—Russ Avenue**

Short-term investment

Estimated Cost: \$22+ million *

Context: The Russ Avenue corridor study recommended bicycle lanes from US 23/74 to downtown Waynesville for this commercial corridor. Cross street improvements were not evaluated for bicycle facilities.

Influences:

- Connectivity between Maggie Valley & Waynesville
- Commercial land uses along Russ Avenue
- Local street connections to greenway & parks
- Need for various Complete Streets components identified in corridor study



Length: 5.9 miles

Recommendations: *Short-term*—FBRMPO Long-Range plan identifies 2016-2025 as timeframe for corridor study implementation (\$22 million). *Long-term*—Conduct similar study from US 23/74 to US 276 / US 19—Dellwood Road.



A corridor study for US 276—Russ Avenue identified several improvements, including the addition of bicycle lanes, a completed network of sidewalks, landscaped medians and local street / parking area connectivity.



The Haywood County Bike Plan recommended improvements to the primary corridors through Waynesville. NCDOT is planning for bike lanes along Russ Avenue, which should address some of these concerns, as well as some concerns about intersection safety.

80% of survey respondents in Haywood County support greenways that connect parks to schools.

US 23 Business: S. Main Street—Waynesville

Short-/Long-term investment

Estimated Cost: \$21 million *

Context: Route is under study for section between Ninevah Road and US 23/74 interchange. The corridor consists of neighborhoods and commercial uses from downtown Waynesville to shopping centers at US 23/74.

Influences:

- Downtown Waynesville & Hazelwood
- West Waynesville shopping district
- Connections to recreational routes, Haywood Hub & Blue Ridge Parkway (State Bicycle Route 2)
- Railroad tracks & Allens Creek.



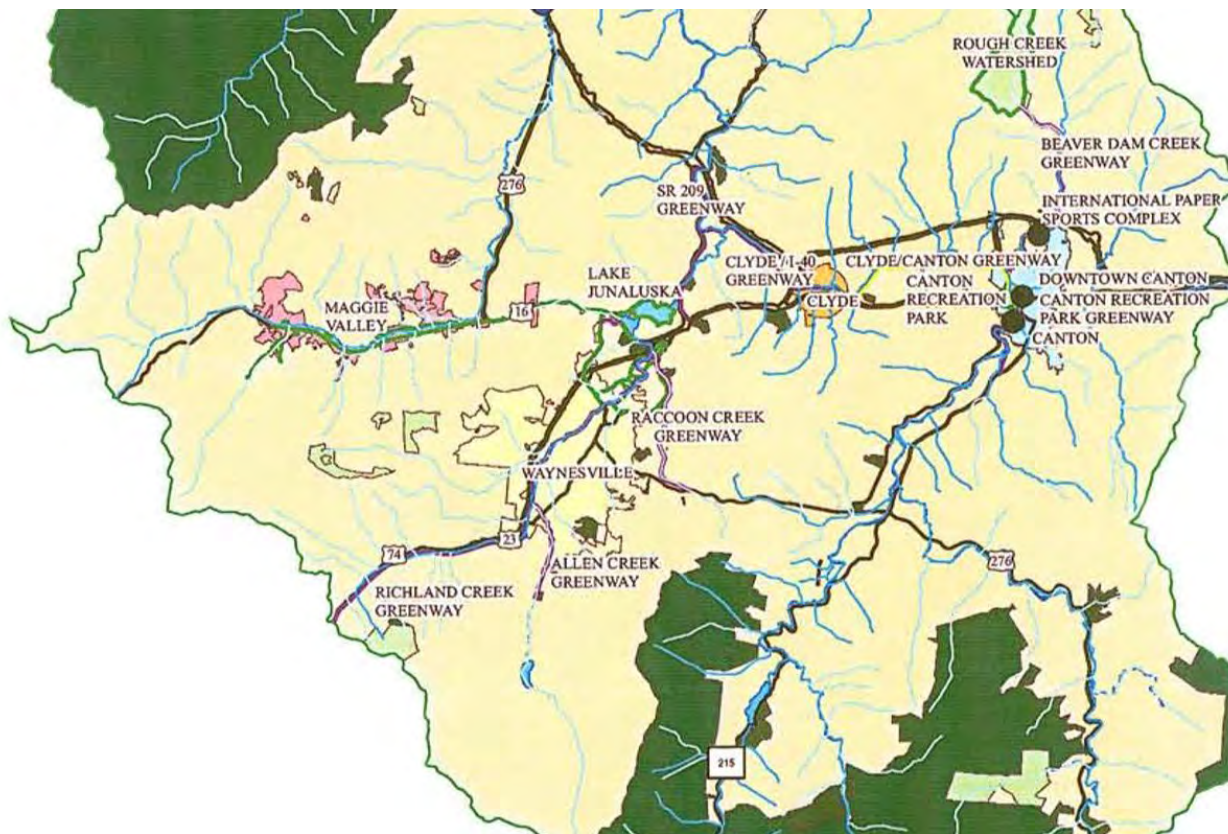
Length: 2.2 miles

Recommendations: *Short-term*—Add Share the Road signs & designate as bicycle route. *Long-term*—Install bicycle lanes consistent with NCDOT Complete Streets cross section for Urban/Suburban Main Street (Urban/Suburban Avenue if 4 lanes).



US 23 Business—S. Main Street is under analysis for potential improvements from Ninevah Road to the US 23/74 interchange, which is a busy street with numerous commercial driveways and turning conflicts.





The Haywood County Parks & Recreation Master Plan highlights several possible locations for future greenways, including Allen Creek, Richland Creek, Raccoon Creek, and SR 209 in Waynesville.

MountainElements: A MountainWise Health Impact Assessment for Western North Carolina

This 2015 eight-county health impact assessment (HIA) is designed to help the region share success stories and evaluate proposed planning and policy actions around the built environment, with recommendations based on the region's context and heritage. The goal of the project is to merge planning with health, focusing on economic growth, job creation, mobility, access to nature, creating healthy conditions for citizens of all ages and abilities, and making sure future generations have a place to grow and prosper.

One of the HIA's seven major themes is that "active transportation can improve physical activity rates . . . [and] making walking, bicycling, and transit use accessible increases physical activity and participation."

Priority recommendations include:

- » Linking recreational opportunities to communities via active transportation networks - connecting parks, rivers, and greenways.
- » Ensuring new development constructs adequate active transportation infrastructure.



- » Collecting baseline count information for pedestrians and bicyclists around key areas for future comparison.
- » Secondary recommendations include:
- » Educating children about active transportation benefits and laws.
- » Ensure NCDOT follows ADA and AASHTO guidelines with all roadway projects.

The continued push toward improving infrastructure for active transportation, like walking trails and bike lanes, will incentivize biking and walking, thereby increasing physical activity rates and the associated health benefits.- Mountain Elements Health Impact Assessment (2015)

GroWNC

This plan highlights the goal of increasing transportation choices and providing for non-motorized transportation as a means to accelerating the economic potential of the region.

- » Support watershed protection efforts that preserve the integrity of the region's critical watersheds (i.e. sustain and enhance water quality) by establishing, restoring, and promoting streamside protection areas.
- » Direct growth to areas where transportation infrastructure exists, preserving key ecological corridors that could accommodate greenways, which serve as recreational and transportation corridors.
- » Identify areas throughout the region for targeted infrastructure investments.
- » Ensure the region remains a premier destination for recreation and tourism.
- » Coordinate with NCDOT and FBRMPO to improve pre-NEPA environmental screening of transportation projects.



GroWNC states that "bicyclists can coexist with other modes on the road, and additional facilities are not always necessary or appropriate. However, adding facilities can improve safety and increase bicycle use throughout the region," and that "the presence of sidewalks is less likely in areas further from downtowns, and rural areas often lack any pedestrian facilities. Even in areas with pedestrian infrastructure, gaps in the network, connectivity and access issues, substandard design, and poor maintenance is often a problem."

Key transportation recommendations include:

- » Improve pedestrian and bicycle connectivity between neighborhoods and community destinations. This was the second-most important outcome of GroWNC overall, an "ingredient critical to achieving a number of other desired outcomes, including many not directly associated with transportation."
- » Use the MPO/RPO process to advance pedestrian and bike priorities and increase funding levels for pedestrian and bike projects in the TIP.

- » Expand pedestrian and bicycle data collection. Assess current gaps, barriers, safety hazards, and usage.
- » Retrofit existing neighborhoods and commercial centers to include safe pedestrian facilities. Include these facilities in new developments as well.
- » Preserve and improve existing pedestrian and bicycle facilities to create safe routes to transit centers, bus stops, schools, and other key community destinations. Identify and eliminate gaps, barriers, and safety hazards.
- » Enhance coordination of ongoing greenway planning and implementation.
- » Improve communications between NCDOT and local communities on greenway and bicycle plans as well as planned road improvements.
- » Identify local funding sources to support bicycle and pedestrian needs.
- » Work with NCDOT on better pedestrian/bicycle integration through implementation of state and local complete street policies.
- » Increase the amount of secure bicycle parking in commercial centers.
- » Include a public health component in local comprehensive, land use, and transportation plans.

Opt-In Regional Vision

The Southwestern Commission, in partnership with the Appalachian Regional Commission and the NCDOT, produced a regional vision for seven WNC counties. Opt-In was predicated on evaluating the regional utility of a major highway corridor and calls for the development of compact downtowns with a variety of transportation choices including biking and walking.

The Opt-In Vision states that “existing roads should be made more pedestrian friendly through the addition of sidewalks, bicycle lanes, crosswalks, good lighting, and other amenities. Traffic calming, tree planting, and landscaping initiatives can also create a safer and more pleasant experience for pedestrians and bicyclists. On-street parking, reduced building setbacks, and sidewalk shops can also improve the pedestrian experience.”

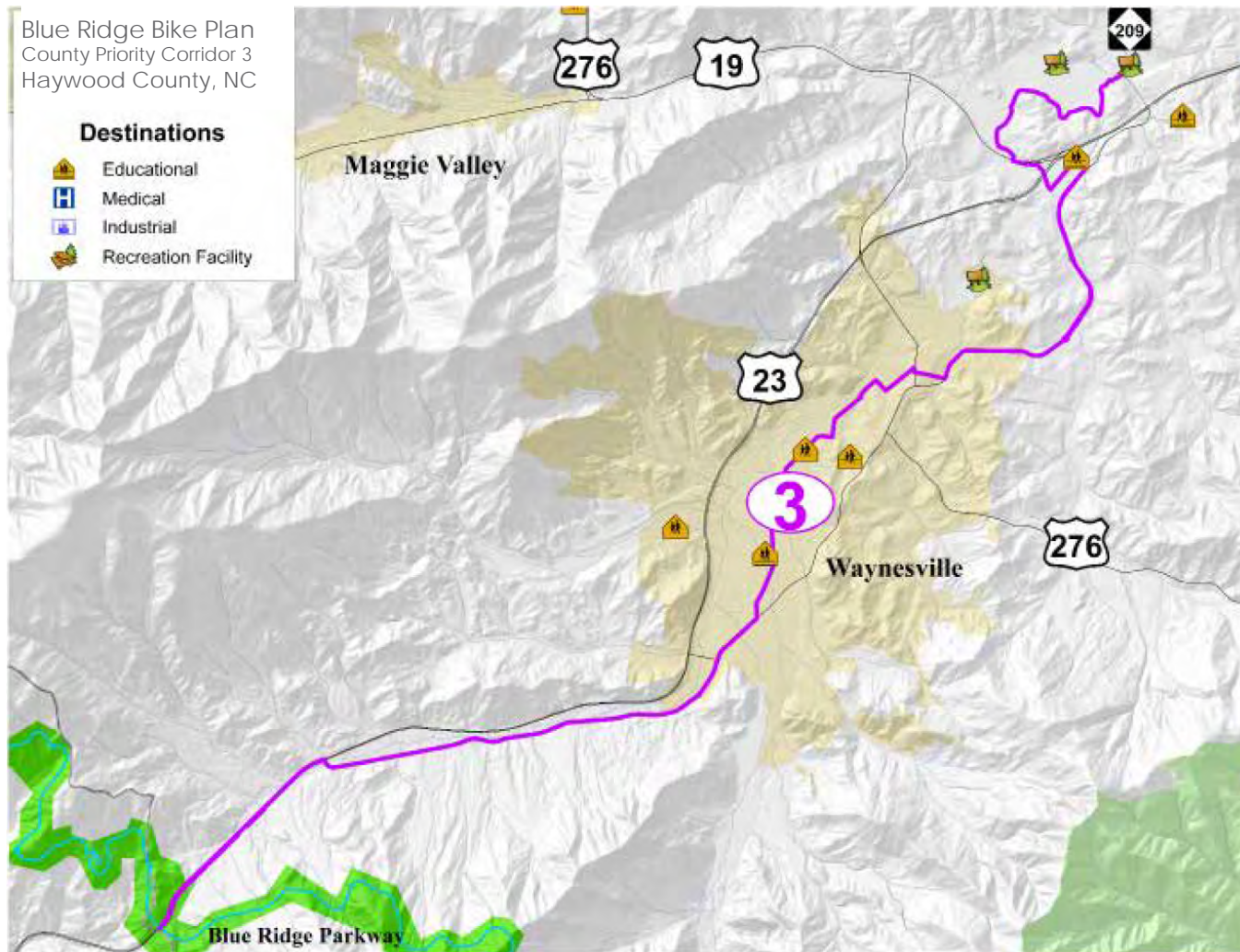
For the region, there exists a strong consensus that it is important to increase walking, biking, and public transportation choices within existing towns. This is seen not only as a quality-of-life issue but also as a way to increase the towns’ vitality and their ability to attract younger talent to the region, thus linking transportation with land use and economic priorities.

The Opt-In Vision also supports incorporating NCDOT Complete Streets Design Guidelines in town transportation plans, ensuring streets enable convenient, comfortable, and safe travel and access by those walking, bicycling, driving automobiles, riding public transportation, or delivering goods.

Ongoing implementation of trails and greenways “should be a priority to position the region as a leader in recreation and wellness.” Towns should prioritize pedestrian and bikeway projects for funding through the French Broad River MPO.

Blue Ridge Bike Plan (2013)

This plan was developed by the Land of Sky Regional Council for a seven-county region and the municipalities within them. This planning effort was developed to address safety, connect



The Blue Ridge Bike Plan identified this corridor as a priority for bicycle improvements, suggesting that a main arterial with adequate bicycle facilities could function to connect residents and the region to their destinations, and catalyze overall functionality of the system.

destinations, address dangerous roads and intersections, and develop recommendations communities can use to improve conditions.

Relevant recommendations included:

- » Develop a 12-mile on-road route that runs through downtown Waynesville and connects the Blue Ridge Parkway to Lake Junaluska
- » Form bike advocacy groups in each county
- » Support bicycle parking through ordinance requirements
- » Organize Bike-to-Work events
- » Develop and implement local greenway plans

Roadways Overview

Many of Waynesville's roads are in good condition and the Town is appropriately connected via a system of state- and Town-maintained streets that navigate the mountainous terrain. Most streets branch out from the primary corridors of US Route 276 and US Route 23 Business, whose crossings form the heart of Waynesville. The Town has some congestion during peak rush hours, but the current system functions well. With recent changes to Howell Mill Road and Asheville Road, NCDOT has demonstrated a commitment to improving these key accessways. NCDOT has also designed roadway improvements for several more streets in Waynesville, including Russ Avenue and South Main Street.

Russ Avenue is a five lane undivided roadway with a continuous two-way left turn lane. It is well-used during business hours, but patterned with multiple driveways, which has a dramatic effect on traffic operations due to the absence of any access control. These driveways serve to increase congestion, lower level of service, and decrease safety.

The improvements slated for Russ Avenue mostly entail access management and new bicycle lanes. The new configuration will be a 4-lane, curb and gutter roadway with turn lanes at key intersections, and a landscaped median along the majority of the road. All new NCDOT construction will incorporate accessible curb ramps and minimum sidewalk widths. The new bike lanes are not buffered or protected, however, which will limit people's perception of safety and discourage most riders from using the facility.

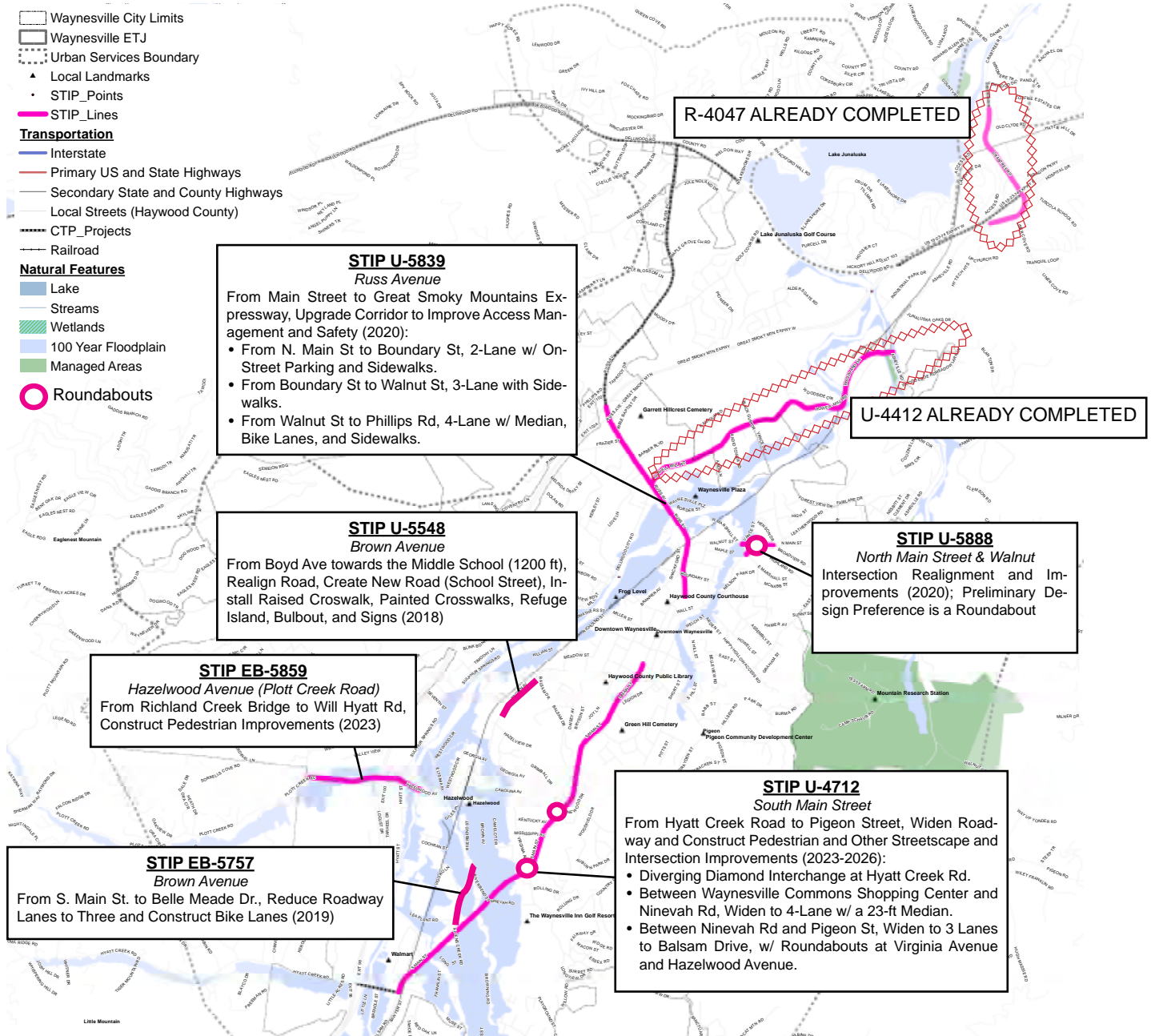
2018-2027 NCDOT State Transportation Improvement Program (STIP).

The North Carolina Department of Transportation's STIP is NCDOT's data-driven, multi-year schedule for its transportation projects. A community's project(s) may be included in the STIP after the community scores projects against NCDOT goals. Projects in the STIP include highway, bridge, public transit, bike, pedestrian, railroad, and other improvements.

The NCDOT projects for Haywood County mostly include bridge replacements, I-40 maintenance, and a few roadway improvements in Waynesville. Russ Avenue and South Main Street, for instance, will see major construction in 2022 and beyond, while Brown Avenue will see a road diet and school safety improvements. Several new roundabouts are planned for both North and South Main Street, and Hazelwood will see pedestrian safety improvements near the elementary school.

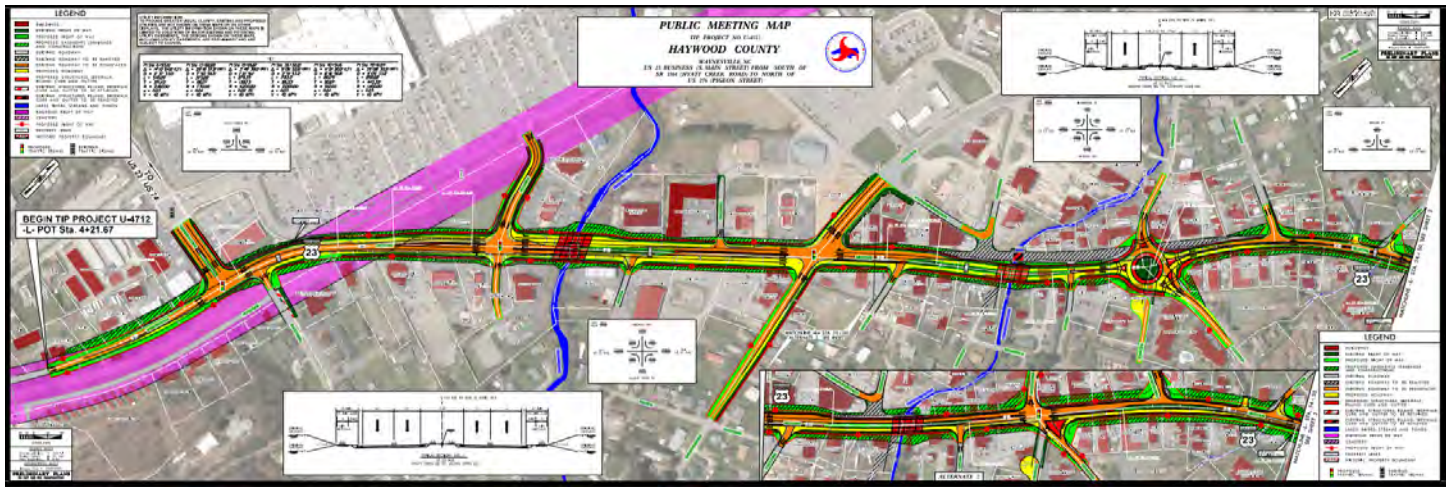
The most effective investments for Waynesville's transportation system are those that link residential areas and employment centers to other attractions, such as schools, parks, cultural and historic sites, downtown, and greenways. These planned STIP projects will affect Waynesville's roadway capacity for a long time.

NCDOT's STIP Projects in the Waynesville Area



	2019	2020	2021	2022	2023
U-5839 (Russ Avenue)		ROW/Utilities		Construction	
U-5548 (Brown Ave Ped)	Construction				
EB-5757 (Brown Ave Bike)			Engineering		Construction
U-4712 (S Main St)		ROW			Construction
U-5888 (N Main St/Walnut)		Construction			
EB-5859 (Hazelwood Ave)			Engineering	ROW	Construction

NCDOT's STIP Project U-4712 (South Main Street Improvements)



sidewalks. South Main Street's viability as a successful commercial corridor should improve with better pedestrian accessibility and resulting infill investments, linking more appropriately to the grid of adjacent neighborhood streets by creating better protected intersections for cars, bikes, and pedestrians to cross. In the past, NCDOT and municipalities have designed streets for efficiency, maximizing vehicular movement, which would often induce speeds that were incompatible with surrounding land use. New methodologies and guiding principles are now dictating that streets are going to have to bring speed down to what is appropriate for their context and enabling safe behavior from all users.

2040 Metropolitan Transportation Plan (MTP) (2015)

The French Broad River MPO is the planning organization in charge of transportation planning in a five-county region that includes the Town of Waynesville. A Metropolitan Transportation Plan (MTP) is a fiscally constrained plan that identifies how the multi-modal transportation will be managed and operated. Oftentimes, projects included in the MTP are pulled from supporting plans like a Pedestrian Plan. Projects are prioritized, and money is programmed for plans such as transit, roadway improvements, greenways, multi-use paths, sidewalks, and other upgrades and amenities.

Projects within the 20-year planning horizon for the Town include:

- » Widening NC 209 around the Lake Junaluska area.
- » Russ Avenue Corridor Improvements.
- » Construction of sidewalk on Russ Avenue.
- » A realignment of Brown Avenue.
- » Road diet and complete streets improvements along Brown Avenue.
- » Pedestrian improvements on Hazelwood Avenue.

APPENDIX D: TRANSPORTATION EXISTING CONDITIONS ANALYSIS

History

This chapter describes Waynesville's current transportation opportunities and challenges with an emphasis on promoting health, wellness, and accessibility.

The Town of Waynesville is expected to continue to grow over the years, inevitably accompanied by more people driving on its roads, more people in search of convenient ways to travel around the town, and more demand for transportation amenities. In order to maintain the quality of life for which Waynesville is recognized while supporting future growth, the Town must plan for future transportation needs.

The railroad helped connect Waynesville to the rest of the region in the early 1900s and created opportunities for agriculture, forestry and tourism. The downtown area, and the nearby Frog Level commercial area, became the center of transportation for the town. As the automotive industry took hold and North Carolina's roadway network expanded, the railroad declined in importance, and development began to expand to new corridors and more distant residential tracts. By 1950, passenger train service to Waynesville was discontinued. Today, Waynesville's proximity to Interstate 40 and the Great Smoky Mountains Expressway is more important than its connection to the railroad, with easy links to Asheville, Knoxville, and even Atlanta; making it a very convenient location for regional travel by automobile.

Context

According to a Federal Highway Association (FHWA) report, in 1969 about half of all students in the U.S. walked or bicycled to school. Today, fewer than 15 percent of all school trips are made by walking or bicycling. Many take a bus, but up to half of all school children go to and from school in a private automobile. The shift of student walking and bicycling trips to auto trips has contributed to many problems that local communities are now struggling to address:

- » Increased traffic congestion, especially around schools;
- » A perceived decrease in pedestrian safety, especially on routes to school;
- » Poor air quality around schools and related health problems for children such as asthma;
- » Childhood obesity and related health problems such as type-2 diabetes.

Various partnerships to improve bicycle and pedestrian safety are underway throughout the region, most notable of which is the Haywood Greenways Coalition, an effort to expand the

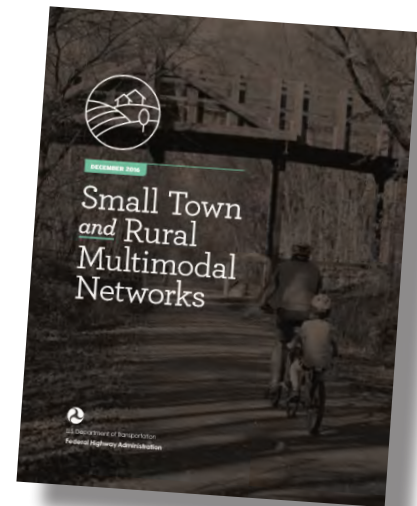
The community's desire for the development of walking trails, as well as the preservation of public open space, was expressed in the survey and at the public workshops. Based on this need for walking trails and greenways, a greenway master plan should be developed and opportunities for greenway development should be sought. Source: Waynesville Systemwide Parks Master Plan (2017)

regional system of trails. Also, most towns in the area are actively evaluating opportunities for smaller, more localized greenway facilities, and bicycle infrastructure is being actively evaluated by NCDOT with all new roadway construction projects. The construction of multimodal transportation infrastructure is a key goal of the Town of Waynesville, and NCDOT continues to adapt to a more determined multimodal approach to the state's transportation system.

In 2016, The FHWA developed the Small Town and Rural Multimodal Networks Report as a resource and idea book intended to help small towns and rural communities support safe, accessible, comfortable, and active travel for people of all ages and abilities. It provides a bridge between existing guidance on bicycle and pedestrian design and rural practice, encourages innovation in the development of safe and appealing networks for walking and bicycling in small towns and rural areas, and shows case studies and visual examples of appropriate facilities.

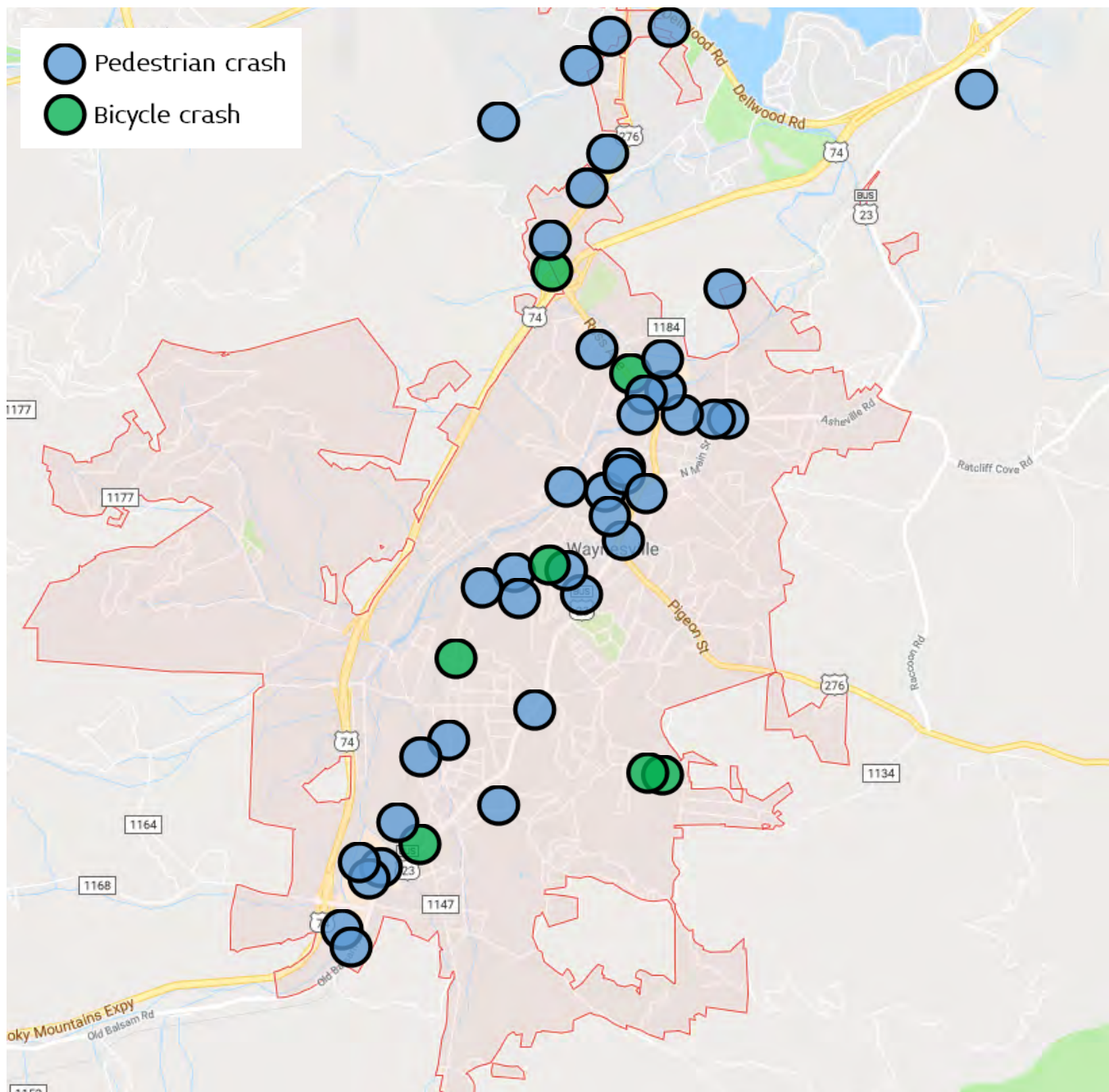
A few thoughtful additions can significantly expand the number of residential areas with access and can connect directly to more commercial corridors. Having access points throughout various neighborhoods and onto main thoroughfares will incentivize people to bike and walk to their destination. By building greenways, bike lanes, and sidewalks, communities make it easier for people to incorporate active living into their everyday life. There are many approaches and solutions to the health crises in our communities, but a primary goal is to make it easy to be physically active - people shouldn't have to get in a car and drive someplace for exercise. Cities and towns should help make it easy for their residents, by encouraging the right type of development and investing in equitable infrastructure. If people are able to simply walk out their front door and take their family on a neighborhood adventure outing, possibly to a small community park to play and visit with other neighbors, they will do so frequently. But if destinations are not well-connected to the people they serve and if driving is the only feasible mode of travel, achieving regular daily exercise becomes much more difficult.

A 2013 study in Canada found that for every dollar spent constructing a multi-use trail, at least \$2 are avoided in health care costs. Similarly, walkable and bikeable communities have become more valuable and stimulate economies through increased property values, job creation, local spending, and tourist spending. Transportation infrastructure improvements can thus have an impact on our physical, social, occupational, and environmental health.



Waynesville's downtown features several alleyways that easily connect Main Street to Wall Street, linking pedestrians to nearby additional parking.

NCDOT Waynesville Area Bicycle & Pedestrian Crash Map (2007-2015)



There are no clear patterns in the crash data for Waynesville's bicyclists and pedestrians. Planned improvements to South Main Street and Russ Avenue should alleviate the worst constraints by including new sidewalks and bike lanes. This map indicates that safety is less of an issue in residential neighborhoods, away from the core transportation and business corridors. Access management is helpful for improving pedestrian safety (because cars turn at intersections instead of across the sidewalk). Waynesville should continue to monitor vehicular crashes of all types and make assessments about which roadways are dangerous and what can be done to slow speeds and reduce the number of crashes overall.

There are local streets throughout the city with low traffic volumes and low travel speeds; these networks are foundational to a bicycling system and popular with recreational riders. Additionally, the practice of constructing wider (10'-12') greenways and multi-use paths is effective for suburban areas where bicycle traffic is not heavy; these paths are appropriate for both pedestrians and bicyclists, providing safe and comfortable infrastructure for users where striping and painting on-road bicycle facilities may not be feasible. However, many of the higher traffic volume streets are not designed to safely accommodate bicyclists, and a number of parks and neighborhoods are not adequately connected by infrastructure to safely accommodate pedestrians or bicyclists; these conditions present opportunities to improve Waynesville's quality of life and safe streetscape.

Waynesville's older commercial areas and neighborhoods are designed with a grid pattern and are well-suited for walking and bicycling. Newer developments, however, have followed a branching pattern up the steep hillsides, which poses more of a problem for bicycle and pedestrian access because many of these communities are only accessible from one key roadway - navigating the residential streets is sometimes hard to do because the winding streets feature many dead ends and rarely connect to one another in a straightforward or intuitive way. Even if a destination is nearby, the distance to reach it by bike or on foot is often prohibitive. Such conditions can be improved by constructing greenways, and by creating off-road connections between cul-de-sacs and nearby streets.



ADA Compliance Includes:

- » Accessible curb ramps with detectable warnings;
- » Smooth transitions;
- » Running slopes of under 8.3%, or a 1:12 gradient;
- » The "WALK" signals allow time for a safe crossing and are at a height of 42 inches.

ROADWAYS

Many of Waynesville's roads are in good condition and the Town is appropriately connected via a system of state- and Town-maintained streets that navigate the mountainous terrain. Most streets branch out from the primary corridors of US Route 276 and US Route 23 Business, whose crossings form the heart of Waynesville. The Town has some congestion during peak rush hours, but the current system functions well. With recent changes to Howell Mill Road and Asheville Road, NCDOT has demonstrated a commitment to improving these key accessways. NCDOT has also designed roadway improvements for several more streets in Waynesville, including Russ Avenue and South Main Street. A summary of the Corridor studies for these streets is in Chapter 2.

As more communities seek better balance between cars and people, context-based street design has gained prominence among transportation engineers, planners, public





New roundabouts on both ends of Main Street are planned through NCDOT's STIP. Waynesville can coordinate to include public art and gateway elements.

officials, and citizens. Indeed, NCDOT has redirected funding and prioritization to linking best practices in planning and engineering to follow its own Complete Streets and Vision Zero policies. In walkable neighborhoods and town centers, streets are public spaces that serve multiple social and economic functions, which contribute to the beauty and character of a community. Such thoroughfares should include main streets, boulevards, avenues, and local streets designed for slower traffic speeds.

When the Town of Waynesville modifies an existing street, it is valuable to understand what the community wants the surrounding to become and then design the street so that it enhances that vision and serves as a catalyst. Distinct and historic neighborhoods are sometimes destroyed when a roadway's vehicular speeds and the support for regional through traffic are too high. Waynesville's roadway plans must take into consideration many things—including placemaking, whether people will walk or bicycle, the target speed, topography and right-of-way constraints, shade and landscaping, and stormwater drainage—before we even think about redesigning a street. Waynesville can take an active approach to street design, where future roadway cross-sections are matched to the context and what people want the place to be.

Metrics and the data behind them can influence additional project spending. Identifying how many people are using the greenway system and counting cars at particularly busy intersections can help justify capital improvement funding and help the Town quantify its investments in infrastructure. Performance measures allow public agencies to align their decisions at each phase of project development and delivery with established community goals. Performance measures, generally, can be interpreted to mean the data inputs used when:

- » Undertaking long-range planning efforts
- » Selecting projects to fund

- » Performing an alternatives analysis—an evaluation of all reasonable options for a transportation project
- » Considering specific elements when finalizing a project's design
- » Evaluating the outcomes of a built project—the focus of this document
- » Displaying the current state of a system, as with a dashboard

Conventional transportation measures focused on automobile movement and have resulted in projects that expand roadway capacity and speed at the expense of safety.

GREENWAYS

Public input from this plan's various meetings and feedback from surveys and previous plans have shown that Waynesville residents want greenways. It's important that the town continue to pursue funding for these systems, as they meet many needs: recreational, health, transportation, environmental, aesthetic, and even economic. A new greenway can simultaneously increase a community's physical activity, improve water quality in streams, shorten commute times, and boost real estate value and business investment. The Town has already demonstrated a commitment to adding miles to the greenway network, with plans in place for a continuation of the Richland Creek Greenway that will ultimately traverse the entire length Waynesville.

Design principles for shared use pathways and sidepaths take both pedestrian and bicyclists' needs into account. Bicyclists need more space for two-way operation, especially when pedestrians also use the facility; this is why these paths are wider than standard sidewalks. A pathway that accommodates both types of users should be 10-feet wide at minimum; (8-feet is allowed in short, constrained sections) but 12-foot or 14-foot wide pathways are preferred in high volume areas or near parks and schools.

The Haywood County Comprehensive System-wide Parks and Recreation Master Plan was completed in March 2007. The plan noted the need for additional greenways, linear parks, and bike facilities throughout the County - survey respondents listed greenway trails as the second-most desired facility after neighborhood parks. 80.8% either strongly agreed or agreed that they would be in favor of greenway development to interconnect parks with school facilities.

It also recommends planning a network of bike trails, bike lanes and shared roadways to enhance connectivity, provide a viable alternative means of transportation, and promote recreational opportunities. The plan states that "any future roadway construction



Richland Creek Greenway

project in the county should include provisions to accommodate pedestrian and bicycle travel . . . bike racks (sheltered ones at schools and other high potential use areas) should be installed at all publicly owned facilities across the county."

Importantly, survey respondents indicated a willingness to support increasing financial investment in parks and recreation facilities - about 60% support. Respondents stated that the county should consider grant money, participation fees, and bonds. Additionally, the plan recommends partnerships with private sector organizations and businesses to secure donations, joint-use agreements, access through private lands, and funding. Generally, "commitment of funding for maintenance of new facilities should be a priority."

Both the Blue Ridge Bike Plan (2016) and Canton's Bicycle & Pedestrian Plan (2018) reflect a vision for a continuous greenway system that would link Waynesville to Canton by traversing Richland Creek, Lake Junaluska, and the Pigeon River. This vision, if implemented, could bolster new tourism and economic development activity, while improving the transportation and recreation options of residents throughout Haywood County. Meanwhile, the Haywood Greenways Coalition is re-energized with a plan to develop the Hellbender Trail, which would link Waynesville all the way to Asheville and beyond. Coupled with the Fonta Flora Trail (which will link McDowell County communities), someone from Waynesville could ride a bike safely and comfortably along a paved trail all the way to Morganton! It's important for the Town to demonstrate support for these initiatives and plan ahead by creating a viable greenway system within its limits; Waynesville can become a leader and inspire other small towns throughout the region to follow.



This proposed greenway would loosely follow Raccoon Creek from Howell Mill Road, along Asheville Road, Ratcliff Cove Road, and Raccoon Road all the way to Pigeon Road. Sidewalks should also be completed on Pigeon Road to connect this greenway to downtown Waynesville.

The Town of Waynesville's 2017 Systemwide Park Master Plan provides guidance on selecting primary corridors for greenway trails, which include a focus on Richland Creek and Raccoon Creek. That plan also emphasizes the need for greenways to link existing and planned park facilities, forming a continuous recreational system that is accessible by all.

Economic Impacts of Greenways

Greenways have been demonstrated to attract new business, increase tourism, enhance property values, and help promote a strong local economy. Many studies show increased property value and faster home sales near greenways. For example, homes near greenways were estimated to increase approximately 5% in value due to proximity to the trail.

A study of Greenville County's Swamp Rabbit Trail shows that the trail has generated approximately \$6.7 million for area businesses in 2013 - an excellent example of the positive influence greenways can have on a community's economy. Travelers Rest, SC, attracted more than half a million walkers, joggers and bicyclists in one year. Additionally, the number of businesses in their three-block business district increased from four to 60 after the trail was constructed.

Based on local tourism expenditure data and visitor profiles for Western NC, Bikes in Beds (Haywood County TDA and Southwestern Commission's report on bicycle tourism in the region) estimated that bicycle tourism accounts for roughly 2% of total trips to Rutherford County and generates more than \$3 million in annual expenditures by visitors. The report lists these bicycle tourism numbers for the region:

- » \$14 million estimated total impact of bicycle tourism in Western North Carolina.
- » \$150,000 to \$170,000 estimated visitor spending per year from the Blue Ridge Breakaway.
- » \$500,000 estimated economic impact of the 2014 Lake Logan Multisport Festival.
- » 91.5 million Americans went biking in 2013.
- » 33 percent of cycling tourists staying overnight.
- » \$76 spent per day of overnight stay and \$50 per day trip.
- » 2.8 people in the average group of cyclists.

Nearby Asheville, NC, was able to provide incentives for a large California brewery to build their eastern factory, distribution center, and taproom in the city. The brewery chose its location partly because it was adjacent to the French Broad River and an anticipated greenway connector. In exchange for NCDOT Complete Streets improvements and city concessions, the company designed and built the greenway segment during facility construction. Now, trail users can easily walk right up to the taproom after exercising and the city has valuable new tax revenue.

For information about NCDOT's goal of maximizing economic competitiveness, return on investment, and employment opportunities by creating walkable and bikeable communities, visit: <http://www.walkbikenc.com/pillars-of-plan/economy>

BICYCLES

Bicycle Lanes

A bicycle lane is defined by AASHTO as a “portion of roadway that has been designated for preferential or exclusive use by bicyclists by pavement markings and signs. It is intended for one-way travel, usually in the same direction as the adjacent traffic lane.” The bicycle lane is the most common application for dedicated bicycling facilities and typically ranges in width from four feet to six feet, adjacent to a motor vehicle lane. This width does not include the width of the gutter pan as it is not usable space for a bicyclist.

Four foot wide lanes are only appropriate on low-speed streets where there is not as much discrepancy in the speed of the bicyclist versus the speed of the motorist. On higher speed facilities, the width should be greater (5 feet on 35 mph to 45 mph streets; 6 feet on streets with speed limits greater than 45 mph).

Currently, Waynesville does not have any bike lanes, but NCDOT is planning for some along a portion



MUTCD's R4-11 sign is preferable to "Share the Road" signs because it states that bicyclists have legal precedent for using the entire travel lane.

FHWA's Bicycle Protection Hierarchy

LEAST PROTECTION



Signed Routes (No Pavement Markings)

A roadway designated as a preferred route for bicycles, usually with a wide paved shoulder.



Shared Lane Markings

A shared roadway with pavement markings ("sharrows") providing wayfinding guidance to bicyclists and alerting drivers that bicyclists are likely to be operating in mixed traffic.



On-Street Bike Lanes

An on-road bicycle facility designated by striping, signing, and pavement markings.



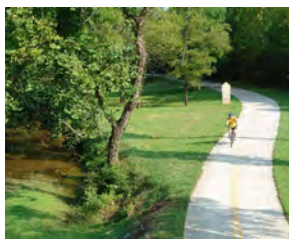
On-Street Buffered Bike Lanes

Bike lanes with a painted buffer increase lateral separation between bicyclists and motor vehicles.



Separated Bike Lanes

An exclusive facility for bicyclists that is located within or directly adjacent to the roadway and physically separated from motor vehicle traffic with a vertical element.



Off Street Trails / Sidepaths

Bicycle facilities physically separated from traffic, but intended for shared use by a variety of groups, including pedestrians, bicyclists, and joggers.

MOST PROTECTION

of Brown Avenue, reallocating pavement width by means of a “road diet”.

Shared Lane Markings (“Sharrows”)

The use of shared lane markings has become more popular on streets where adding a bicycle lane or shoulder is not feasible or planned. A shared lane marking is defined by AASHTO as a “pavement marking symbol that indicates an appropriate bicycle positioning in a shared lane, which is a lane of traveled way that is open to both bicycle and motor vehicle travel.”

Shared lane markings send other messages to bicyclists and motorists: 1) That a bicycle has a right to use the lane and the lane should be shared; 2) Positions a bicyclist in a travel lane with on-street parking in a location where they can avoid opening car doors; and 3) Positions a bicyclist in a travel lane without on-street parking in a location where they are not squeezed out or riding along the right edge of pavement.

Special care should be taken when marking a shared lane. MUTCD recommends a 10-foot or 11-foot distance from the center of the marking to the curb face when on-street parking is present. However, local conditions may vary and necessitate placing the marking further out into the travel lane or in the middle of the travel lane.



A bright, highly visible pedestrian crossing can make a big difference in establishing a safe, connected sidewalk network.

PEDESTRIANS

Pedestrian Accessibility

Connectivity is essential if non-motorized transportation is to be a viable and desirable option. Town streets should be designed to provide connectivity that meets all travel needs, especially people walking - after all, everyone is a pedestrian at some point in their day.

Sidewalks in Waynesville are prevalent in most areas of town, and currently provide a suitable level of accessibility and connectivity. The major thoroughfares all have pedestrian accommodations, and most outlying streets and residential neighborhoods are safe enough to not need sidewalks on all occasions. Many lower-occupancy streets are also low speed (20mph) and have sidewalks on at least one side.

With Waynesville’s topography, narrow roads are common, and it is acceptable to only have sidewalks on one side outside of the major corridors. Many residential neighborhoods do not have sidewalks, but the curves and hills create a low enough design speed that walking on the pavement is not uncomfortable or unsafe.

Some areas in need of sidewalk infrastructure include the entire length of Hyatt Creek Road. A sidewalk here would enable residents to safely walk into town for work and to reach the commercial sector of South Main Street. Connecting to another sidewalk along Old Balsam



According to a report by Active Living Research for SRTS, of the recommended 60 minutes of daily activity, on average 16 minutes (25%) can be achieved simply by walking or biking to school.

Road would provide a complete pedestrian loop for this part of town, improving safety dramatically and positively affecting the health of users. It is unlikely that a multi-use path along Old Balsam Road would be feasible due to right-of-way and topographical constraints, but this is a priority corridor for sidewalk improvements. Sidewalks are only needed on one side of each of these roads.

Creating a walkable Waynesville means much more than providing sidewalks and trails. Walkable communities take into consideration the following attributes in order to encourage walking as a preferable mode of transportation:

Convenience: The walk must be direct and convenient. Having to move around barriers or go out of the way will discourage walking.

Aesthetics: The environment should be attractive and interesting – highlighting community assets, great architecture, nature, public art, etc.

Activity: In addition to being attractive, pedestrian routes should be activated by adjacent uses. Walking one block past surface parking or blank walls feels much longer than walking one block fronted by restaurants, storefront windows, and outdoor dining.

Safety: One must feel safe walking in Waynesville - safe from traffic and safe from criminal activity. Walking when there are “eyes on the street” from adjacent uses provides a greater sense of security than walking along empty streets or along streets with poor visibility. Open sight lines and buffers from the roadway are critical.

Comfort: The walk needs to be comfortable. Access to shade when it is hot and sunshine when it is cool.

Pedestrian Access Routes

Downtown street activity should continue to be encouraged, as both the display of merchandise and outdoor dining contribute to a business district’s vibrancy and visual attractiveness. These types of activities engage the pedestrian and invite people to linger, wander, and enjoy Main Street. At least five feet of sidewalk should be maintained unobstructed by permanent or temporary obstacles and protruding objects such as benches, bike racks, fire hydrants, planters, and utilities. The brick sidewalks, street trees, and wooden benches along Main Street all contribute to the comfort of people walking downtown. Waynesville should continue to invest in these amenities and strive to replicate that feeling

along all commercial corridors, especially areas of higher density.

Alternative Pedestrian Facilities

Given budget limitations, the Town of Waynesville may find opportunities to explore other options for pedestrian facilities in a manner that addresses required technical elements of design but is cost-effective. The common design manuals often demonstrate the ideal standard, but this is not always possible given an area's context. Improvements can sometimes be constructed at 1/10th the cost of traditional curb, gutter and sidewalk designs, which is why it is important to consider these options before embarking on more costly improvements. Alternative facilities, such as painted pedestrian lanes or simple markings are suitable for low speed, low volume streets where motorists and pedestrians are already sharing the road space. An example in Waynesville is the striped pedestrian path on Wall Street, which provides an acceptable level of comfort for anyone walking, but there is no grade separation or buffer. Alternatives such as shoulders converted into labeled multi-use trails could be an interim measure before full-scale sidewalk construction or a link between greenways alongside a street. Gravel sidewalks and pathways without curbs can provide a minimum amount of safety for pedestrian travel without requiring extensive design work or implementation costs.

TRANSIT

Passenger rail service is not available in Western North Carolina, though recent NCDOT studies have indicated a long-term goal of linking major municipalities along an east-west corridor, with ultimate intended connectivity throughout the state. The only rail lines operating in the Town of Waynesville are Norfolk Southern lines, which are used for freight between industrial destinations. There are currently active spurs off Howell Mill Road and in Hazelwood. There are no more than one or two trains a day, a few days a week. If ever this line is decommissioned, it could provide an ideal greenway route, linking Waynesville to Asheville, Sylva, Canton, Clyde, Bryson City, and beyond for recreational bicycle riding. Indeed, the scenic river corridors and relatively level terrain would make for a trail comparable to the Virginia Creeper, which has helped spur economic development along its length and at its termini. In addition, many commuters could use the trail to get from town to town for work (with the line passing directly through the heart of these communities, with easy access to employment centers). Walkers and joggers would also make use of a trail through town, as it would connect all sectors in Waynesville. Another alternative is to explore the idea of a rail-with-trail, which adds a paved multi-use trail alongside the rail line and within the existing easement. This option is far more expensive, requiring new bridges and clearing a new pathway altogether.

Recently, Haywood County Transit has initiated plans for fixed-route bus service between towns and their commercial sectors. Mountain Projects is assessing the feasibility of two proposed routes - one through Waynesville and one through Canton and Clyde, linking up in the middle at a transfer hub in Clyde, providing cross-county transportation. Each route will have one bus making a continuous loop that's about an hour long, with a fare of \$1 a trip. Municipal staff, elected officials, and business representatives are providing input on this exciting new service, which will ultimately connect Waynesville residents to large employers, public services, and business districts within Haywood County.

Effective transit systems are vital for communities and their regional connections. By exploring creative and innovative solutions to mobility through public transportation, Waynesville can

promote economic competitiveness, environmental sustainability, and improve the quality of life. This can involve broad and collaborative engagement with transit users, transportation providers, public and private industry associations, nonprofit organizations, private organizations, and federal partners.

Waynesville can position itself as a Town that welcomes public transportation expansion by planning for accommodating infrastructure. Such planning can promote the availability of transportation options such as transit bus service, express bus routes, and light rail for Waynesville residents and can guide roadway development towards improved accessibility for all users and establishing a standard of accessibility and service. Increased and publicized demand for public transportation services can support such expansion in Waynesville.

BIKESHARE & E-SCOOTERS

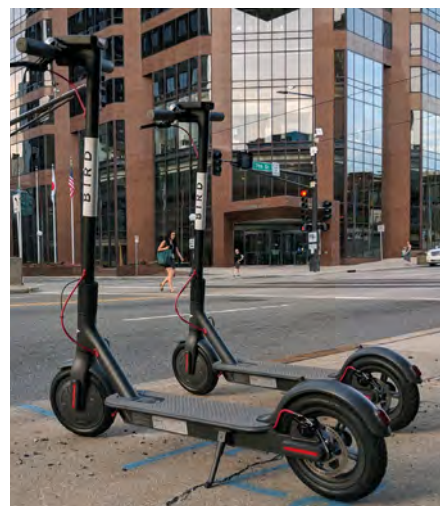
Waynesville is not ideally suited for any type of bike- or scooter-sharing system, but may want to consider exploring options for new regulations and establishing a framework for permitting. Electric-assisted bicycles and scooters may help address local topographic barriers to regular biking in Haywood County, while capitalizing on recent trends and making the service accessible to a wider variety of potential users, especially if bus service expands in Haywood County. The following are some of the core elements that may frame a bike share pilot permit, if Waynesville ever decides to test an electric bike or scooter system.

Limit the system to a modest fleet size of about 20-60 bicycles at launch. Starting small will help operators and the Town manage any issues that may arise and prevent them from becoming major problems. This fleet limit should be divided equally among all permitted operators and distributed in defined geographic areas.

Service should be allowed throughout Waynesville, but target bicycle distribution to activity centers and transit connections. Operators should be required to regularly rebalance a majority of their bikes to activity centers, helping ensure reliable service in Waynesville's densest and most vibrant neighborhoods and minimizing the scattering of isolated bicycles throughout residential areas. Well-stocked hubs contribute to both service reliability and orderliness. Designated preferred parking areas (painted areas or bike racks) can be installed to help keep walkways clear.

Waynesville must make sure to only use a pilot program with bikes or scooters that are GPS-enabled and trackable in real-time. Accurate location data is critical to assessing operator compliance with parking and rebalancing requirements, while the data collected from trips taken by users can also help the Town better understand where people ride and how best to invest in new or improved infrastructure. Indeed, a pilot program may provide enough user data to plan for future bike lanes and greenways.

System growth should be based primarily on operator compliance with permit requirements. Operators will be allowed to grow their fleets over time if they demonstrate they can abide by the Town's requirements.



Town of Waynesville funds should not be spent to own or operate bike- or scooter-share. Operator fees will help the Town recover costs associated with permit review, administrative oversight, bike/scooter hub installation, and data collection and analysis

Having scooters and bicycles used throughout Waynesville could help change the perception that roads are only for cars, particularly on low volume, low speed facilities (one of the Town's objectives in the 2010 Pedestrian Plan).

PARKING

Street Parking

Waynesville has designated on-street parking spaces along Main Street, Hazelwood Avenue, Virginia Avenue, Academy Street, Wall Street, Commerce Street, Miller Street, Montgomery Street, Depot Street, and several others, with parking allowed on most residential streets as well. However, there are no metered spaces at all within the town limits; the most in-demand spaces downtown have 3-hour limits between 8am-6pm (except Sundays), but there are currently no paid parking meters in town. Waynesville's on-street parking downtown is often full or near capacity, heightening the perception that there are not enough parking spaces. However, there are options to park a block away from Main Street and numerous business parking lots without restrictions. It is important for Waynesville to assess which it deems less desirable: public backlash against having to pay for parking, or negative perceptions of a lack of parking.

Waynesville could consider charging for curb parking so there are always one or two open spaces on every block, spending the resulting revenue to pay for added public services along the metered blocks so that stakeholders benefit. Some towns use parking meter revenue to provide free wi-fi on the street, pressure wash the sidewalks, plant new street trees, and remove graffiti every night. Investing the money back into the metered street creates the political will to charge the right price for on-street parking.

Waynesville could also pursue removing off-street parking requirements, which can have a big effect, even in the short run, because it allows for the adaptive re-use of older buildings and more infill development.

Parking Lots

Waynesville has several free surface parking areas and a large parking garage on Branner Avenue, which is also free. That garage and the primary public lot on Wall Street have a walkway and alleys to connect pedestrians directly to Main Street.



During any given weekday, Waynesville's downtown parking is usually at optimal capacity (high demand, but with at least 10% available). This demonstrates the commercial viability of Main Street and indicates that as development continues, the Town may need to consider priced parking or additional lots near commercial corridors.

Pedestrian circulation through parking lots is an essential element of walkability and can make the difference between a resident walking to a store or getting into a car for a short trip. Zoning should include requirements for pedestrian-friendly circulation to and from the front doors of places of business, and development review should include an assessment of pedestrian access and safety through vehicular areas in private developments, including attention to the standards for curb ramps, crosswalks, and driveways. Waynesville's zoning ordinance should be as specific as possible regarding pedestrian facility requirements for new construction and redevelopment. Developers should be told up front about expectations for pedestrian facilities that not only meet minimum requirements but enhance the pedestrian experience. Requirements may vary by zoning district, size of development, and functional classification and design features of the road the development abuts.

Bicycle Parking

Waynesville has installed bike racks throughout the town, but should consider a more systematic approach to adding more. There is an opportunity to rely on public demand and business support to influence placement locations and prioritization.



Source: Cyclesafe

AUTONOMOUS VEHICLES

While the private automobile yielded a 20th century dominated by suburban expansion, prevalent autonomous vehicle (AV) technology has the potential to support and promote denser, more urban development for the foreseeable future. AVs also have the potential to improve the safety and efficiency of transportation systems, reduce vehicle emissions, and improve the mobility of transportation-disadvantaged populations. However, AVs may also reinforce urban sprawl by reducing the monetary and perceived costs of travel. Proactive steps will be required for planners and policy makers to capitalize on the opportunities while mitigating the challenges.



AVs will also affect the built environment in a number of ways, including new right-of-way designs, changes to access management practices, reconsideration of signage and signalization, new models for pedestrian and bicycle networks, and reductions in demand and changes to the location of parking. A sustainable AV future can be made possible through thoughtful visioning, quality planning, and smart investment. This transformative technology can change our community for the better. The Town of Waynesville should continually monitor advances in the technology and explore the need for new policies and plans.

Indeed, Waynesville may need to rethink its streetscape overall, with reallocations of right-of-way for alternative modes, recognizing that AVs offer an opportunity to “right-size” roads at the human scale. Building upon the complete streets movement, AVs offer the potential for road diets that reallocate space previously used for automobiles back to human-powered and active travel modes. Waynesville has already demonstrated support for multimodal transportation, and may soon begin to experiment with new roadway typologies that provide prioritized accommodation to these modes. Right-of-way reallocation also holds the potential to provide new space for green infrastructure (public parks, landscaping, and stormwater management), public gathering places, and other features that can help achieve various community goals. Waynesville can also seek opportunities to pilot transit-specific applications of AV technology, with fully autonomous transit routes on public roads across the country.

These efforts showcase the power of AV technology to provide transit services that provide accessibility to underserved portions of communities.

<https://www.transportation.gov/sites/dot.gov/files/docs/policy-initiatives/automated-vehicles/320711/preparing-future-transportation-automated-vehicle-30.pdf>

RESOURCES & REFERENCES:

https://www.researchgate.net/publication/285579311_An_Assessment_of_Tax_Revenues_Generated_by_Homes_Proximate_to_a_Greenway_The_Context

<http://www.documentcloud.org/documents/404182-srt-20impact-20study-20year-201.html>

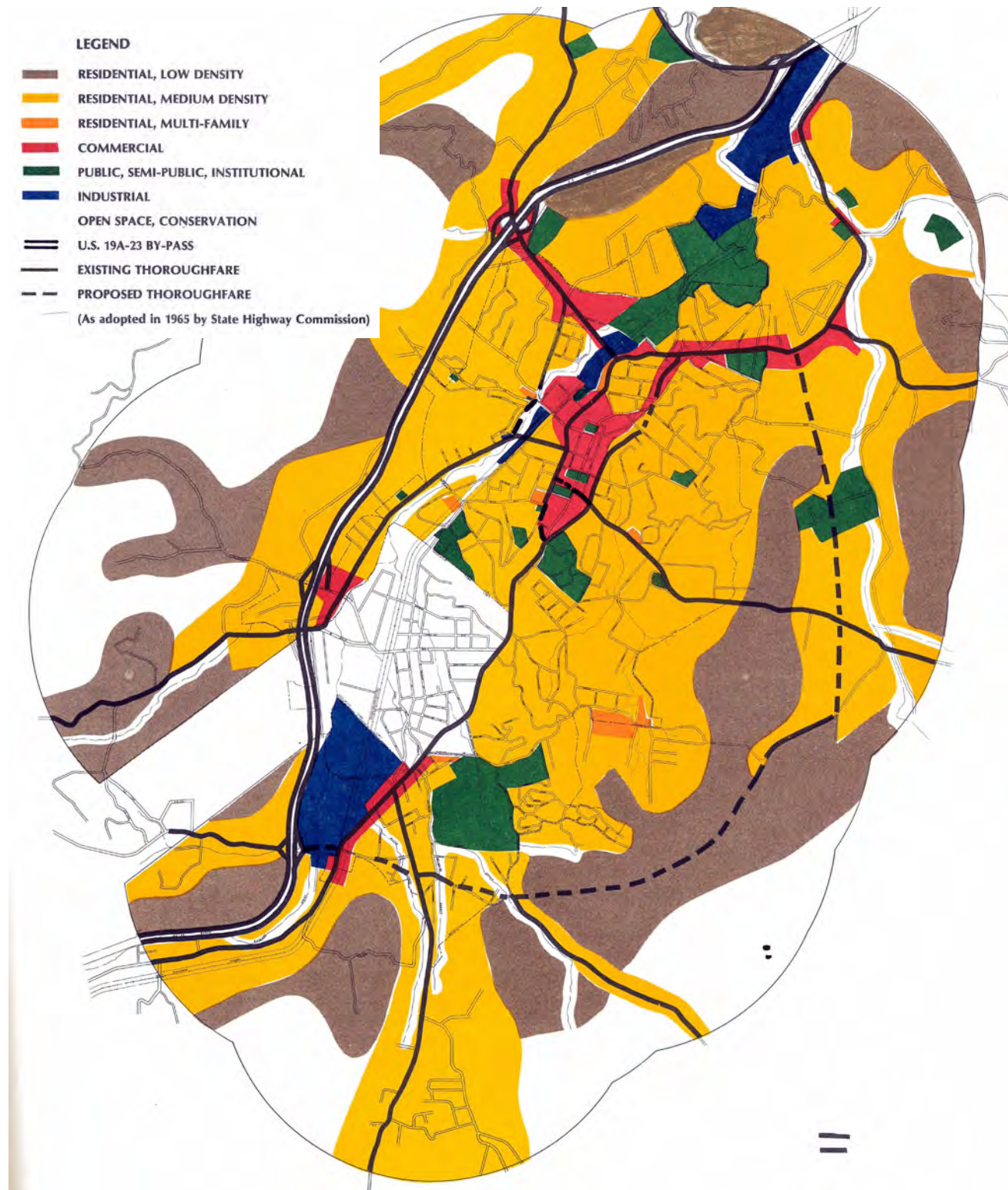


Source: EasyMile

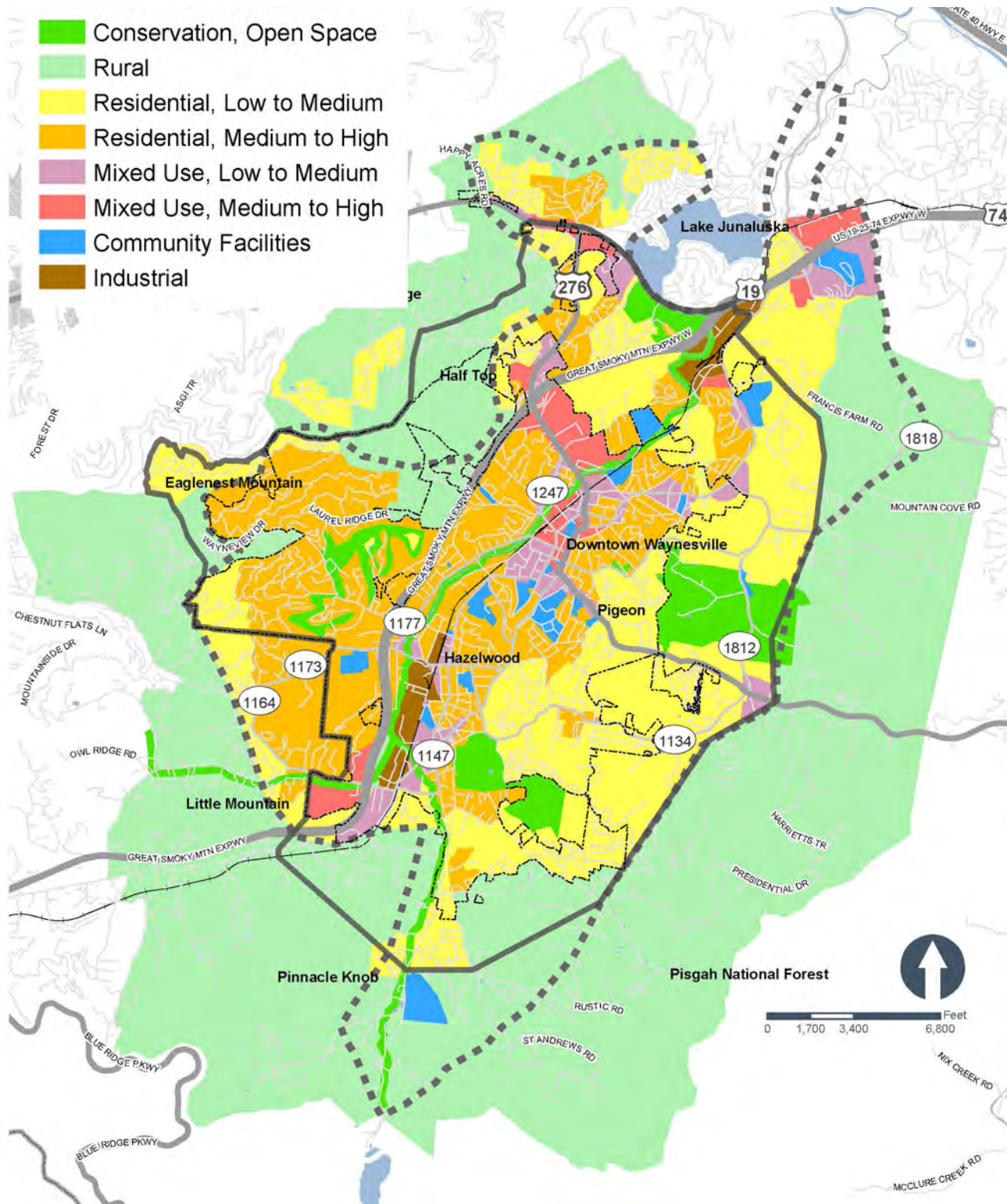
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APPENDIX E: MAPS

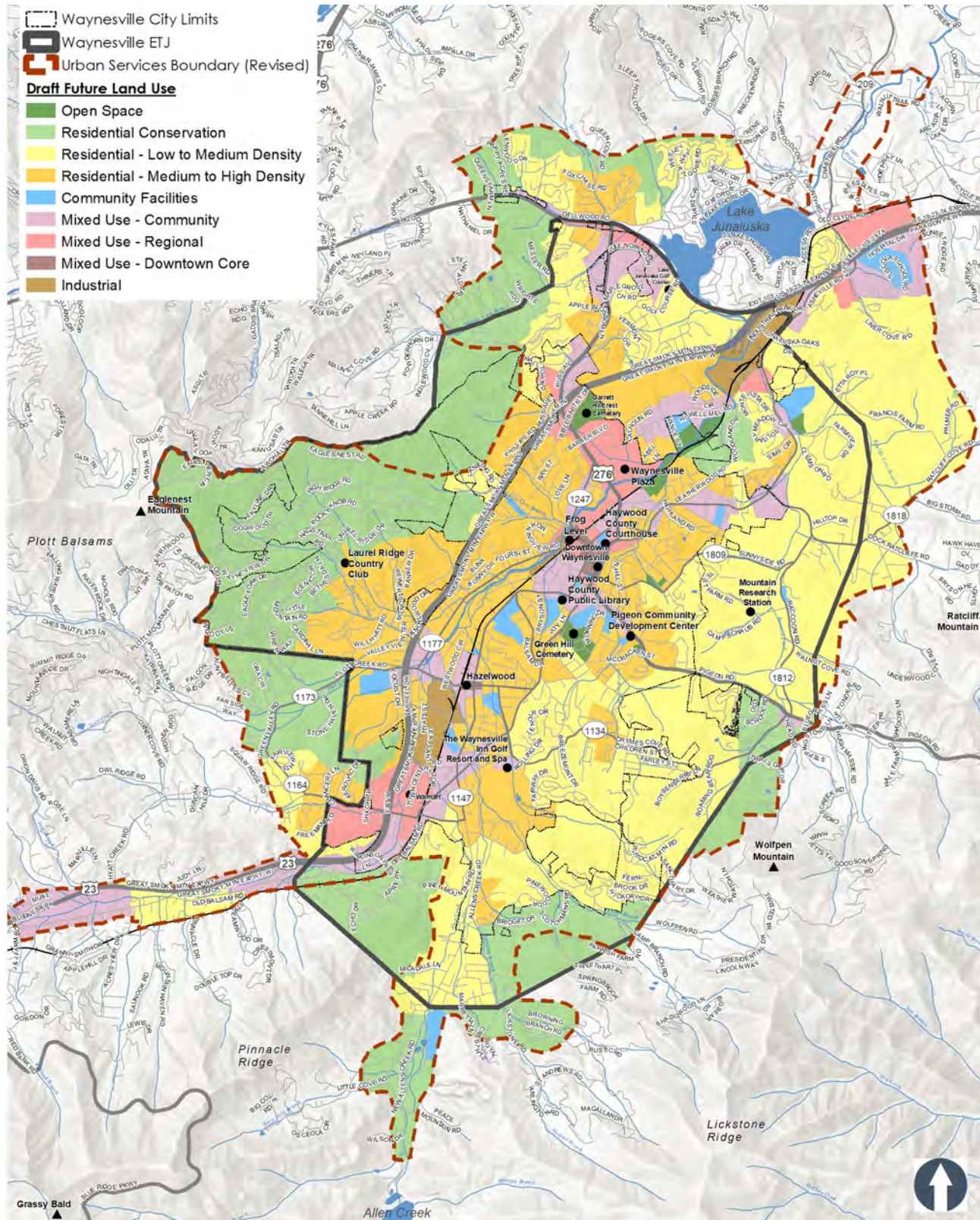
1976 Future Land Use Map



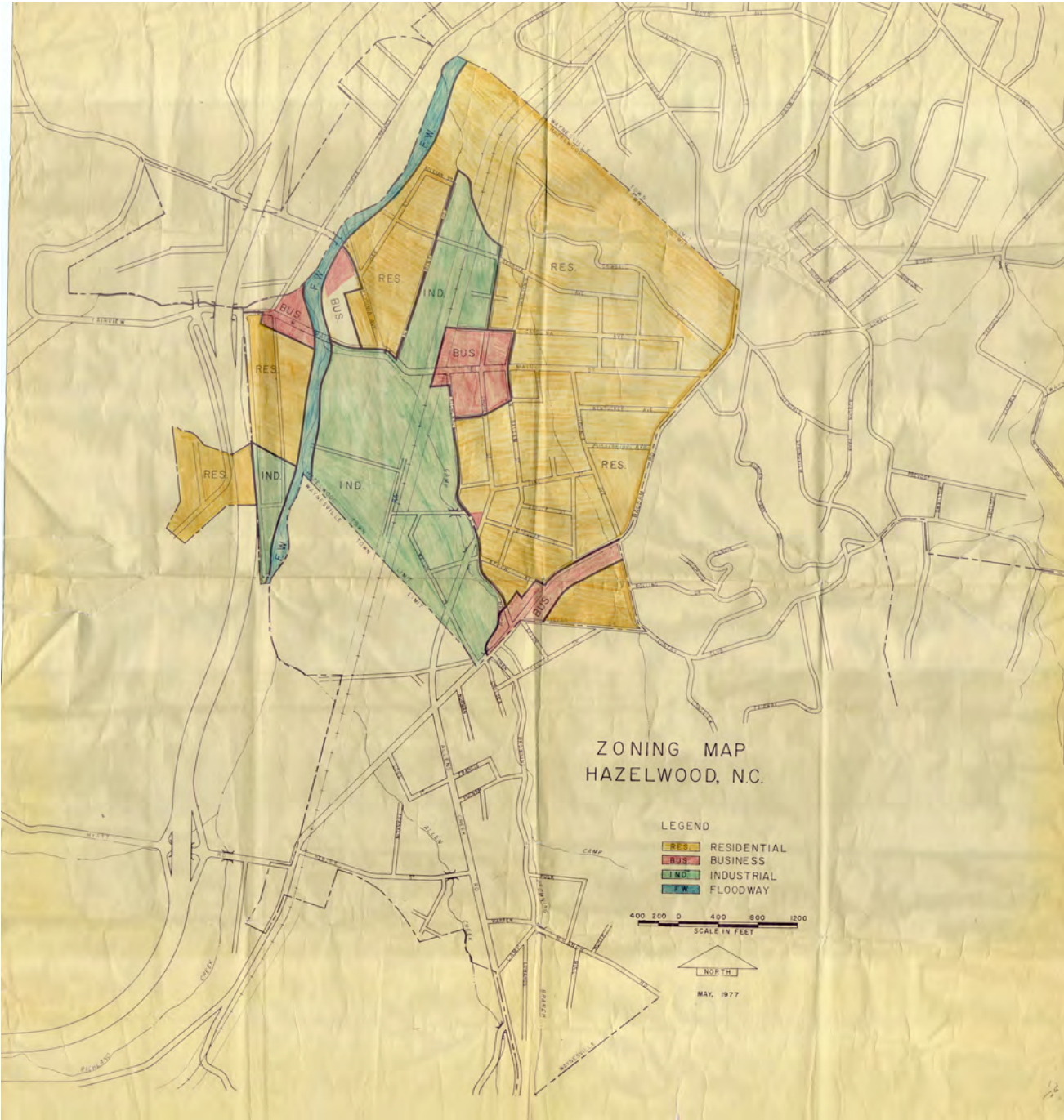
2002 Future Land Use Map (From Old 2020 Plan)



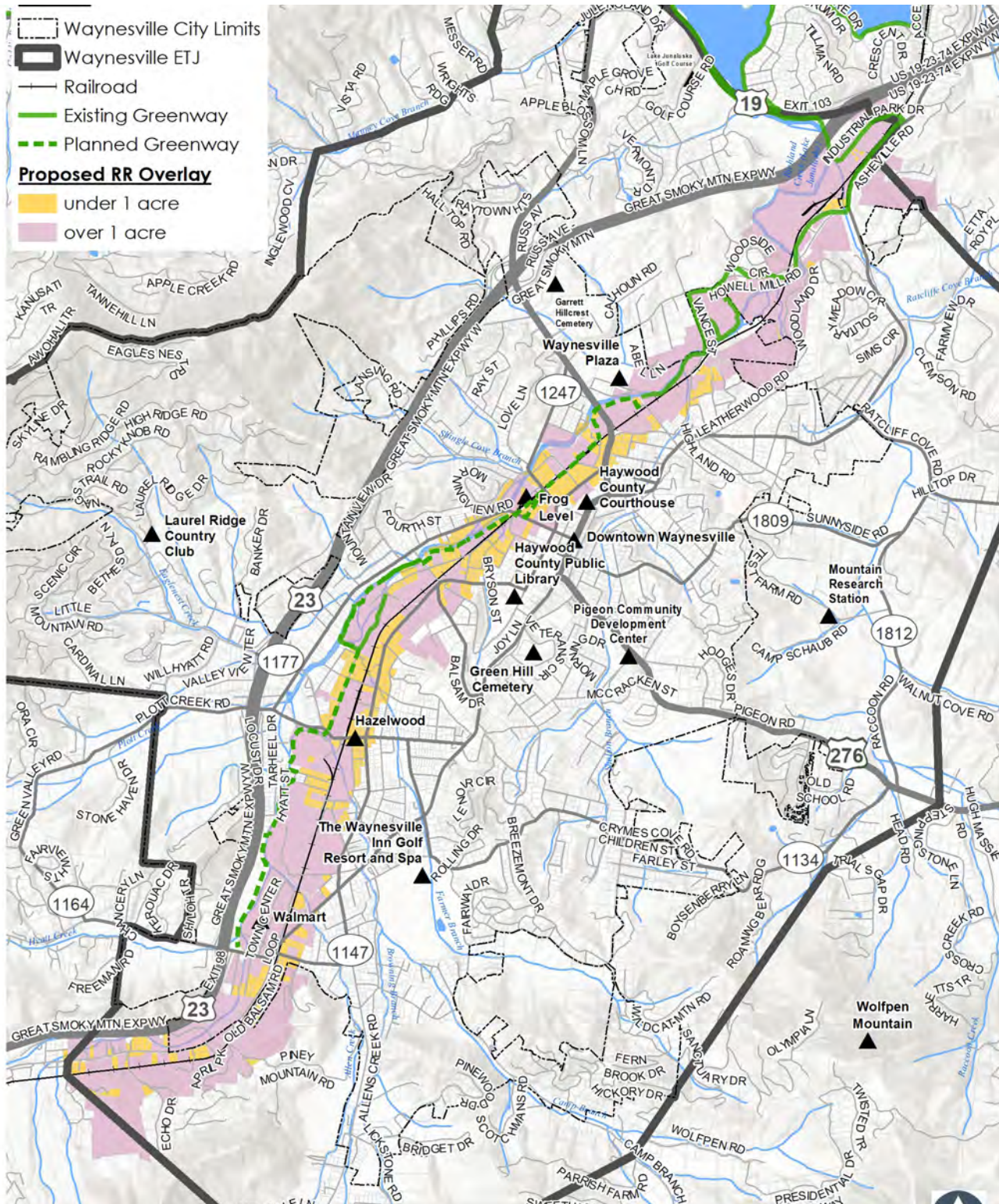
Future Land Use Map



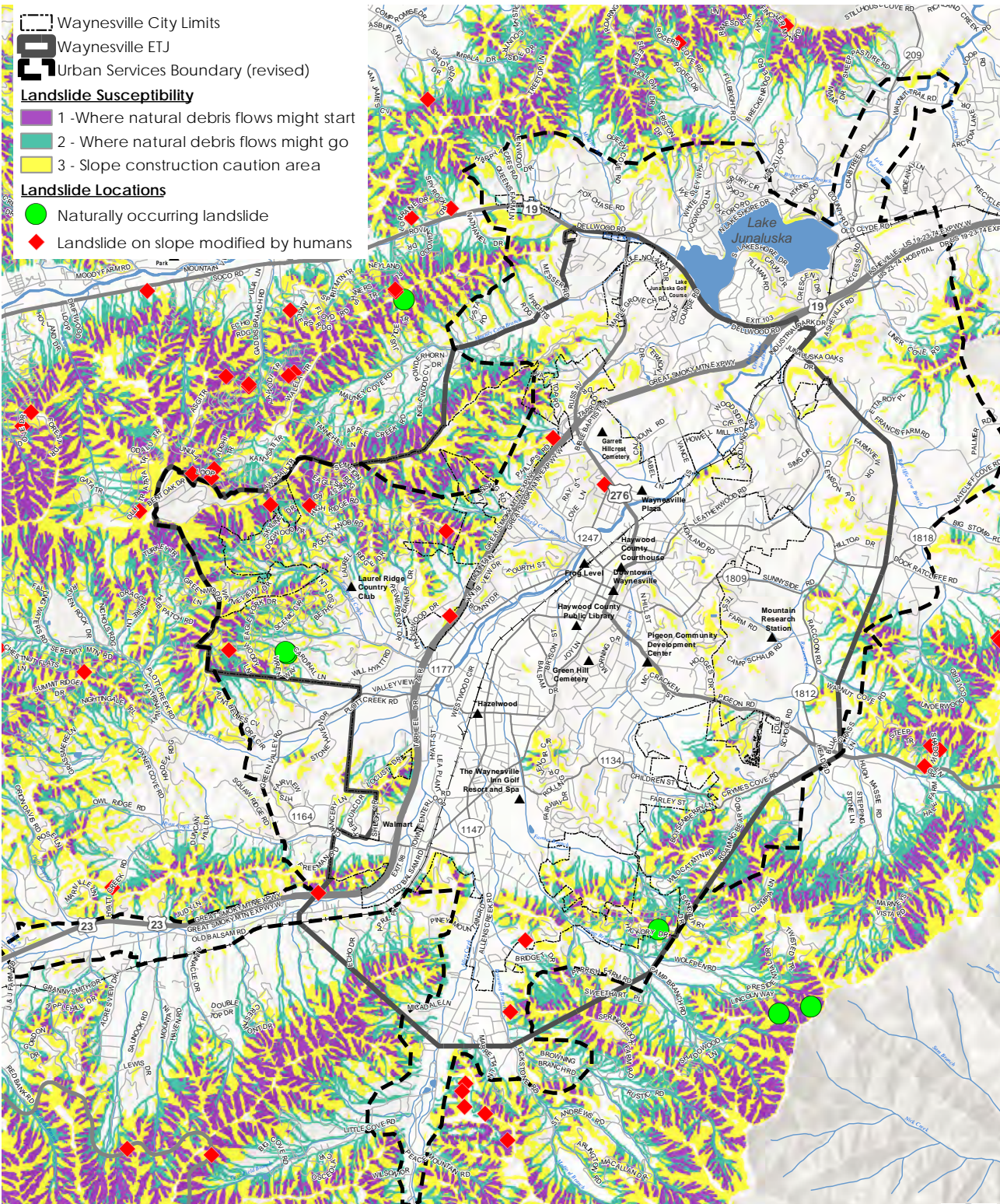
1977 Hazelwood Zoning Map



Potential Railroad Overlay Map



Landslide Map



APPENDIX F: GLOSSARY

The Glossary of terms below is provided to aid in understanding the Comprehensive Plan by defining terms that may be unfamiliar to readers. This glossary is not intended as an instrument of enforcement or policy. Additional information is available online; see website hyperlinks.

Affordable Housing: According to Federal guidelines, housing that a household can obtain for 30% or less of its income.

Conservation Development: An alternative form of subdivision design that focuses on environmental stewardship and preservation of land through configuration of lots that results in open space or linkages among open spaces within and outside a development's boundaries.

Existing Land Use: How land is currently used by parcel as determined from tax parcel records.

Floodplain: An area of low-lying land adjacent to a watercourse that is subject to flooding.

Infill: Development of a vacant or partially developed parcels that are surrounded by, or in close proximity to, areas that are substantially or fully developed

Land Supply: Vacant or available land and underutilized land that could accommodate additional development. Land supply is determined by an analysis of the ratio of the value of structures on a parcel compared to the value of land within the parcel. Land supply does not take into account environmental constraints or the owner's intentions for the parcel, such as generational desire to continue land as a working farm.

Living Wage: A wage that a worker must earn to afford basic necessities, without public or private assistance, as based on the local cost of living.

Metropolitan Planning Organization (MPO): As defined by the U.S. Census Bureau, a local governmental unit with legal jurisdiction over an urbanized area with a population of more than 50,000. Within their jurisdiction, MPOs provide government service planning such as transportation and land use planning.

Mixed Use: The use of a building, a set of buildings, or a specific area for more than one land use (i.e. commercial and residential).

Multimodal: A combination of more than mode of transportation. A multimodal transportation system caters to users of multiple modes (i.e. cars, transit, walking or biking).

Natural Heritage Element Occurrence (NHEO): Documented occurrences of rare species. This data is representative of historical and recent occurrences. The [NC Natural Heritage Program](#) collects this information and makes it available via the Natural Heritage Data Explorer and the Conservation Planning Tool.

Natural Heritage Natural Area (NHNA): These areas are unique habitats that are of local, regional, state, national, or global significance. They represent the best and most intact versions of a particular natural community and/or habitat. The [NC Natural Heritage Program](#) collects this information and makes it available via the Natural Heritage Data Explorer and the Conservation Planning Tool.

NCDOT: The North Carolina Department of Transportation.

Nodal Development/Node: A growth pattern that concentrates development within strategic spots to create nodes or activity centers. An alternative to strip development.

Redevelopment: Any proposed expansion, addition, or major change to an existing building, structure, or parking facility.

Reuse: Redevelopment or rehabilitation of an existing building or set of buildings for any use(s) other than the present use(s).

Streetscape: The natural and built environment of a street including but not limited to paving, lighting, plantings, stormwater management, furnishings, utilities, and transportation facilities.

Strip Development: A growth pattern that is characterized by highly auto-oriented commercial development arranged in a line, usually along a major roadway.

Suitability: The capacity of land to support a type of land use based on various environmental and economic attributes.

Tactical Urbanism: A planning approach that uses small-scale, short-term, and low-cost installations that facilitate community building and allow projects or policies to be tested.

Viewshed: Area within view from an specific observation point.

Vision Zero: Vision Zero is a multi-national road traffic safety project that aims to achieve a highway system with no fatalities or serious injuries involving road traffic.

Workforce Housing: Any form of housing that is affordable for households with an earned income that is insufficient to secure quality housing in reasonable proximity to the workplace.

Additional Web Resources

[American Planning Association](#)

[Department of Housing and Urban Development](#)

[Urban Land Institute](#)

[National Association of City Transportation Officials \(NACTO\)](#)

