

>> TRANSPORTATION + LAND USE + FORM



A stone archway with a brick pillar and a bird sculpture. The archway is made of rough-hewn stones and has a brick pillar on the left. A bird sculpture is visible on the right. The text "PISCO" and "NATIONAL" is visible on the archway.

PISCO
NATIONAL



The City of
Brevard
North Carolina

GAH
L FOREST



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>> acknowledgments

AS WITH ANY WORTH-WHILE PLANNING EFFORT, THE PEOPLE WHO CONTRIBUTE MAKE THE PLAN AND WILL TAKE THE PLAN THROUGH IMPLEMENTATION. THEIR EFFORTS ARE APPRECIATED.

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Jim Fatland, City Manager
Josh Freeman, Special Programs Director
Daniel Cobb, Planning Director
Aaron Bland, Planner
Janice Pinson, Admin. Services Manager
Kerry Lindsay, Exec. Administrative Assistant

OTHERS:

Pisgah National Forest Staff
The Pisgah Forest Conservancy



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CHAPTER ONE

>> introduction

THE CITY OF BREVARD IS COMMITTED TO DEVELOPING A LONG-RANGE VISION FOR NEW DEVELOPMENT AND REDEVELOPMENT THROUGHOUT THE PISGAH FOREST COMMUNITY.

The heart of Pisgah Forest, which includes the intersection of NC 280, US 276, and US 64, serves as a critical gateway to both downtown and Pisgah National Forest. The City wishes to evaluate and improve current zoning regulations, vehicular transportation, bicycle and pedestrian infrastructure, and the area's streetscape to ensure that growth is managed in accordance with a unified vision.

IN THIS CHAPTER

1. *Plan Background & Purpose*
2. *Study Area Overview*
3. *Plan Goals*
4. *Planning Process*

PLAN BACKGROUND & PURPOSE

The Pisgah Forest Small Area Plan will ultimately guide future public and private investment throughout this neighborhood, an important gateway entrance to Brevard and Pisgah National Forest. This plan represents the ongoing fulfillment of Brevard's goal to develop small-area plans throughout the city that further support its long-range planning and policy goals.



TRAFFIC FLOW

The Pisgah Forest Community continues to serve a critical role as Brevard and Pisgah National Forest attract more than 4 million visitors each year. The intersection of NC 280, US 276, and US 64, which, according to data collected as part of this plan, rates as “very poor” in regards to traffic flow. This intersection and major commercial node continues to attract new businesses to cater to local and visiting recreation enthusiasts. An improved bicycle and pedestrian infrastructure surrounding this intersection will further promote connectivity and commerce.

There are also major traffic issues in the vicinity of Ecusta Road and Wilson Road. Poor access management along Old Hendersonville Road combined with the release of nearby schools, creates an unsafe environment for motorists and pedestrians. This planning effort warrants an in-depth look at this area, not only for transportation improvements, but also for redevelopment opportunities, particularly in relationship to the proposed Ecusta Rail-Trail.



PLACES FOR BIKES/PEDS

This plan provides an opportunity to assess and improve bicycle and pedestrian connectivity within this neighborhood and beyond. An improved bicycle and pedestrian infrastructure will further promote connectivity and commerce.



PISGAH NATIONAL FOREST CONNECTIVITY

The proximity to the National Forest and the Davidson River means users of all sorts: on and off-road cyclists, hikers, those fishing and inner-tubing in the river and camp goers are all trying to share the same existing infrastructure. People are often seen walking, biking or carrying inner tubes along the busy Highway 276, which does not provide for safe pedestrian accommodations. This planning process engages Pisgah National Forest land managers so the City can collaborate with partners to improve safety along this corridor.



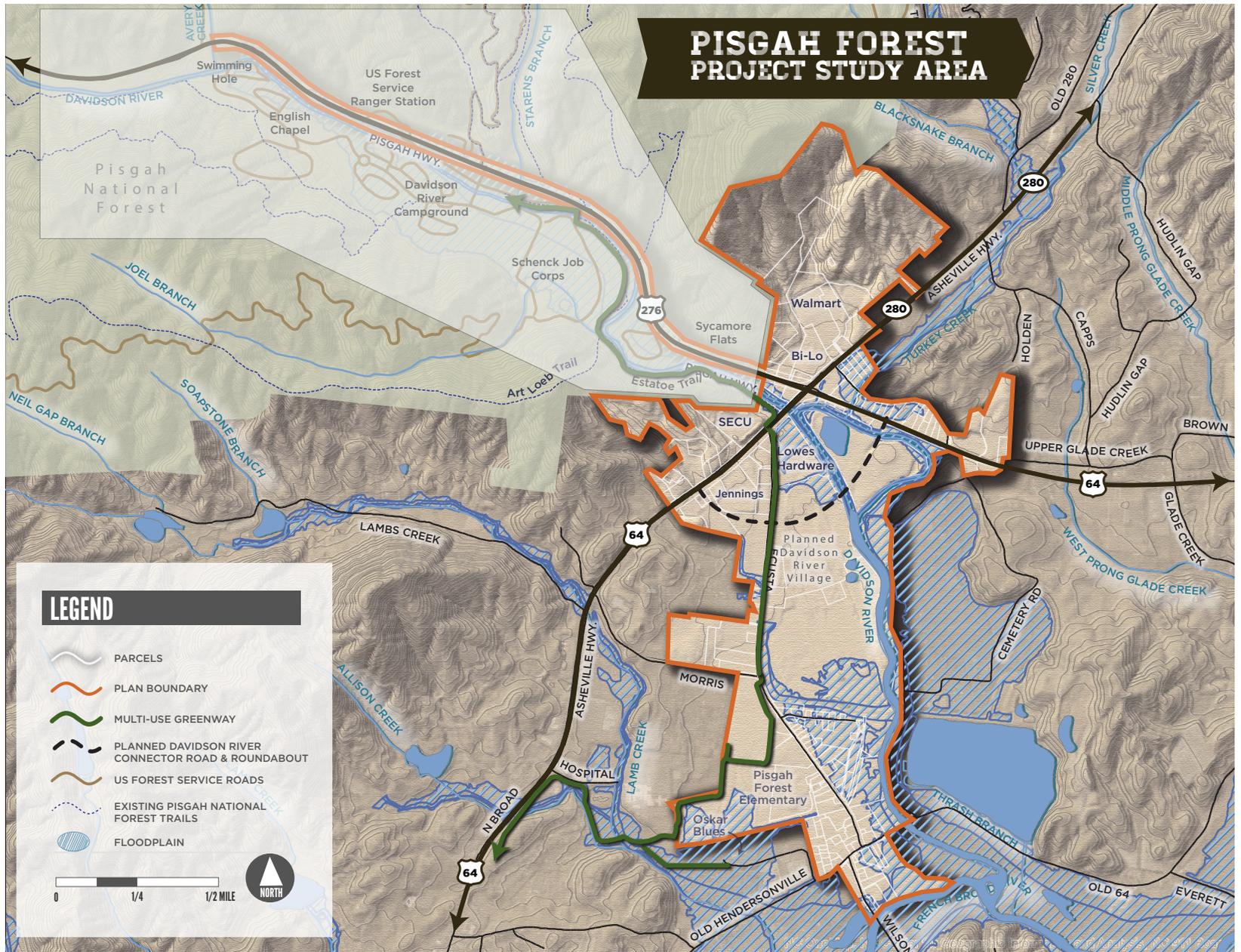
IMPROVE CORRIDOR DEVELOPMENT

Development along road corridors is a challenge for nearly every community. Without proper planning, extensive auto-oriented development can result in unsightly strip development, fast food joints creating a multitude of unnecessary roadside curb-cuts that make pedestrian travel unsafe, and an inefficient use of land where the City has provided costly water and sewer infrastructure. Accordingly, this plan addresses growth pressure along Highway 64 toward Hendersonville and along Ecusta Road, the location of the approved Davidson River Village development.



The Pisgah Forest community continues to attract new business to meet the demand of local and visiting recreation enthusiasts.

PISGAH FOREST PROJECT STUDY AREA



LEGEND

- PARCELS
- PLAN BOUNDARY
- MULTI-USE GREENWAY
- PLANNED DAVIDSON RIVER CONNECTOR ROAD & ROUNDABOUT
- US FOREST SERVICE ROADS
- EXISTING PISGAH NATIONAL FOREST TRAILS
- FLOODPLAIN

0 1/4 1/2 MILE



PLAN GOALS

1

Provide local leaders with clear policy direction as it relates to future land development and capital infrastructure improvements.

2

Provide transportation improvement recommendations that alleviate congestion, particularly at the intersection of Hwy. 280 and 64, and in the vicinity of Ecusta Road and Wilson Road.

3

Expand and create safe bicycle and pedestrian connections.

4

Establish a bold gateway for Pisgah National Forest.

5

Engage the public and local business owners to develop and further refine recommendations.

4 **pisgah forest small area plan**



A CRITICAL COMPONENT OF THIS PLAN WAS A SERIES OF STAKEHOLDER MEETINGS.

PLANNING PROCESS

project timeline

SEPTEMBER '15

DIRECTION SETTING

- Kick Off
- Facilitating Planning Oversight Committee
- Develop Project Brand & Fact sheet



OCT. '15 - FEB. '16

STAKEHOLDER MEETING PLAN DEVELOPMENT

- Develop Facebook Page
- Collect Traffic Data
- Meet with Stakeholders:
 - Pisgah Forest Conservancy
- Update Planning Board
- Develop Preliminary Recommendations



FEBRUARY '16

PUBLIC WORKSHOP

- Conduct Public Meeting & Present Draft Vision
- Request Recommendations to Refine Plan

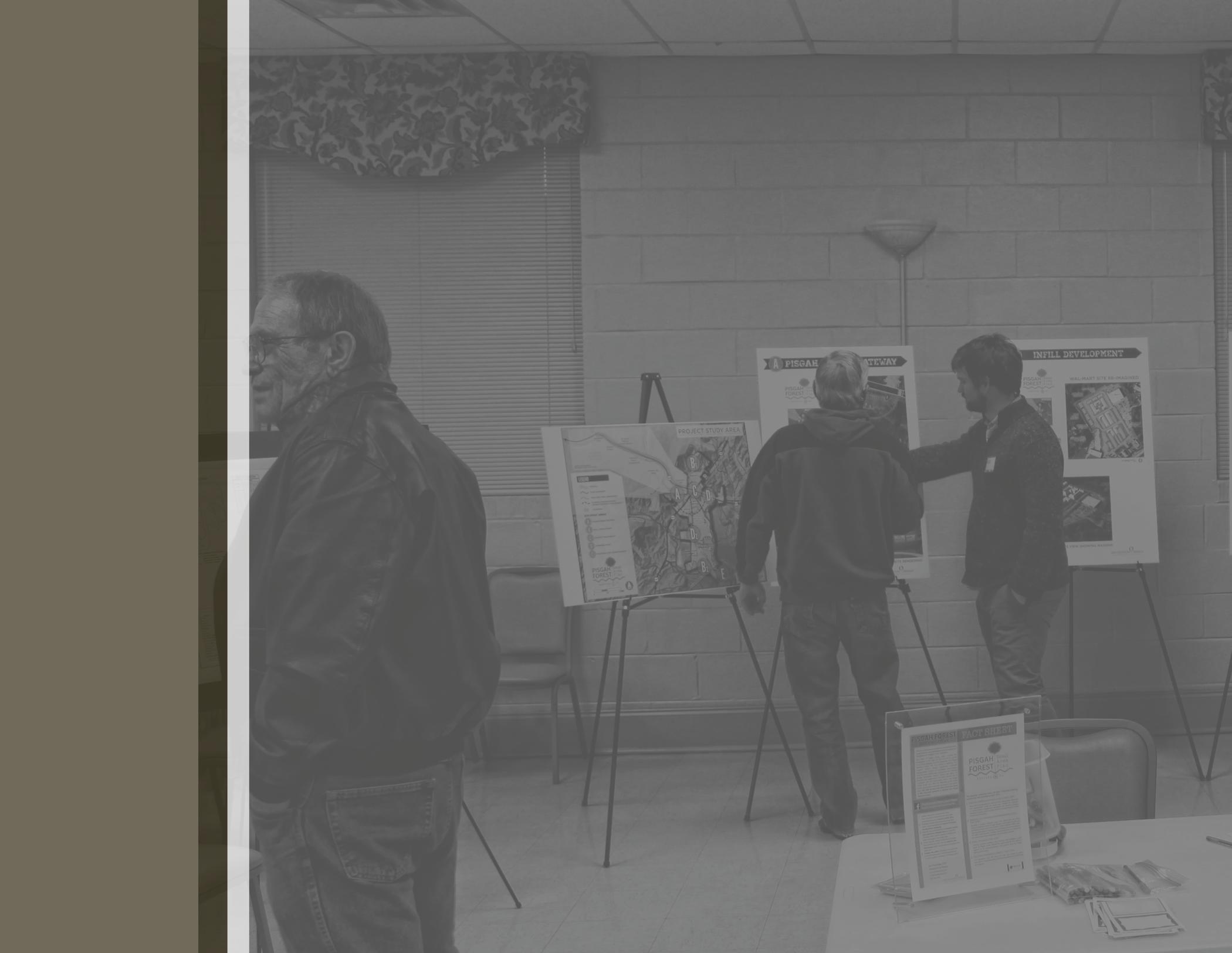


MARCH - APRIL '16

FINAL DRAFT DEVELOPMENT

- Revise Draft Plan
- Present to Brevard City Council for adoption





CHAPTER TWO

>> discovery, analysis, and public engagement

A COMPREHENSIVE OVERVIEW AND ANALYSIS OF THE OPPORTUNITIES AND CONSTRAINTS FOUND THROUGHOUT THE STUDY AREA.

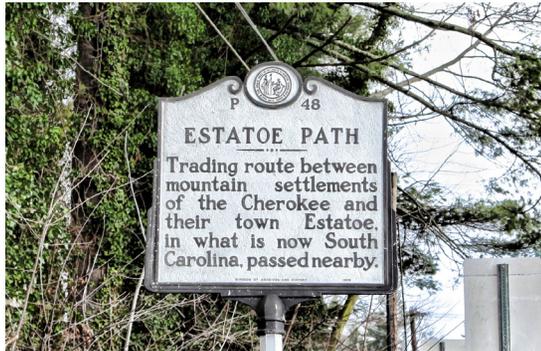
This chapter provides a comprehensive analysis of the overall study area. The analysis includes a review of existing infrastructure, zoning, and a variety of opportunities and constraints that have implications for future growth and development. This chapter also includes results from a detailed traffic analysis that was conducted as part of the planning process. The final part of this chapter provides an overview of the public workshop that was conducted on February 25, 2016, in which 25 participants provided their insights and thoughts on preliminary design concepts.

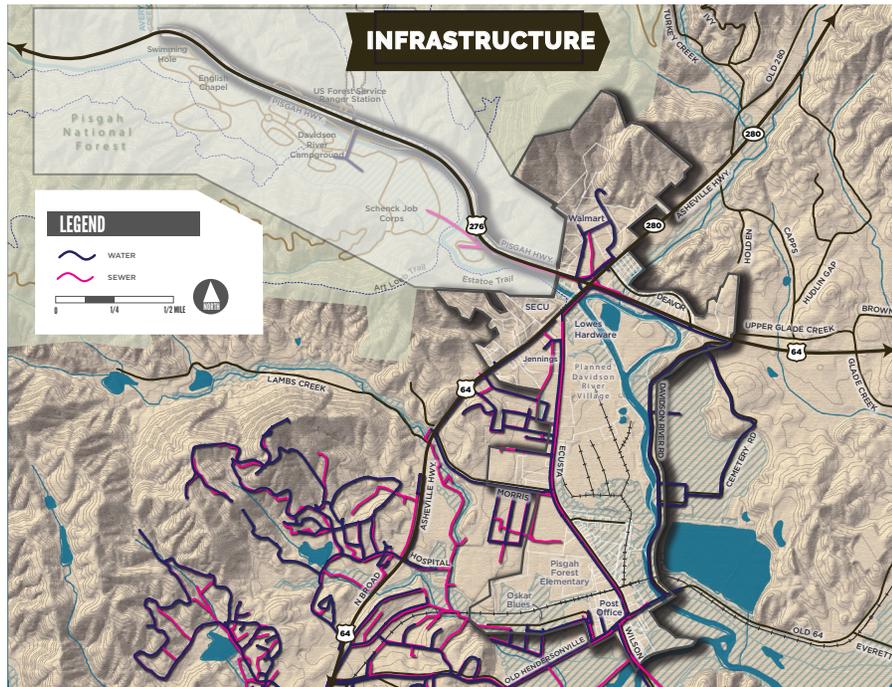
IN THIS CHAPTER

1. *Existing Conditions*
2. *Previous Plans*
3. *Transportation Analysis*
4. *Opportunities and Constraints*
5. *Preliminary Concepts and Public Engagement*

EXISTING CONDITIONS

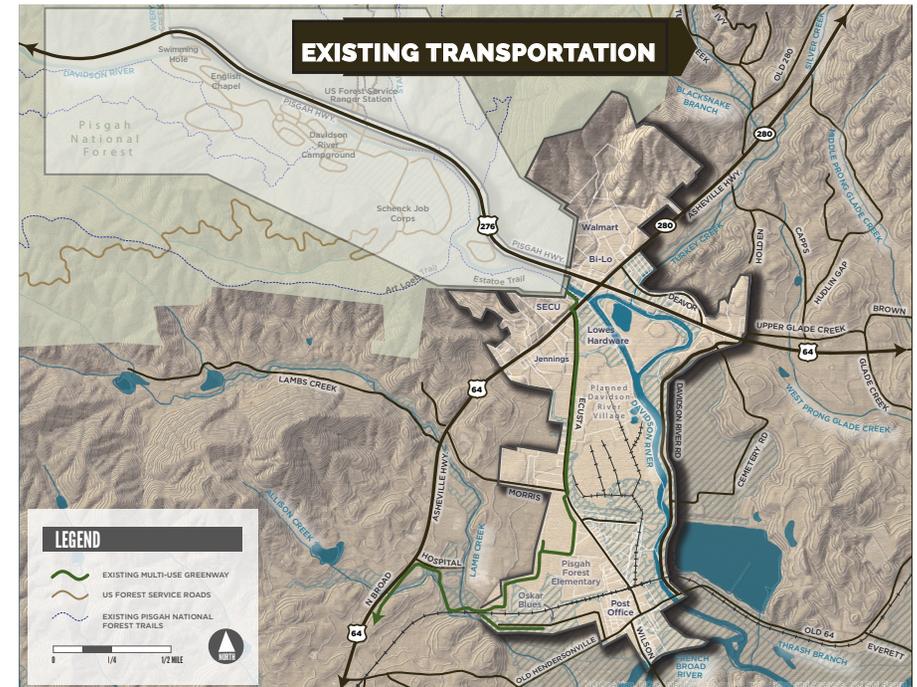
The Pisgah Forest Study Area is located in the northern area of Brevard's municipal jurisdiction. Current zoning standards, water and sewer infrastructure, and alternative transportation opportunities have major implications for future growth and development within this area. This section briefly explores the existing conditions associated with each of these important factors.





INFRASTRUCTURE (WATER/SEWER/TRANSPORTATION)

Water and sewer infrastructure represent some of the most costly investments made by a municipality. The entire study area has the availability of water and sewer, providing few limitations on the types of land uses or the extent of density that can be allowed. Considering the major highways and collector roads that serve the study area, the City must take advantage of this combined infrastructure to promote density and light manufacturing. By targeting this area for more dense strategic growth, this area offsets the City's net-loss in providing water and sewer services to less dense, particularly low-density residential land uses, in other areas of the City.



EXISTING BIKE/PEDESTRIAN INFRASTRUCTURE

Brevard's greenway network provides critical connections throughout the study area. The greenway extends along Ecusta Road, extends north and over Highway 64. To the south, the trail connects to recreation facilities and to Oskar Blues.

Numerous opportunities exist to improve the bicycle and pedestrian network throughout the study area. A multi-use trail along the Davidson River would provide for a more scenic recreation and transportation option, while providing an opportunity to protect riparian areas. As redevelopment occurs, alternative transportation options should be developed to improve access to the Ecusta Road and Wilson Road intersections with Old Hendersonville Road. Highway 276 toward Pisgah National Forest and Highway 64 east are both in need of improved access for pedestrians and cyclists.

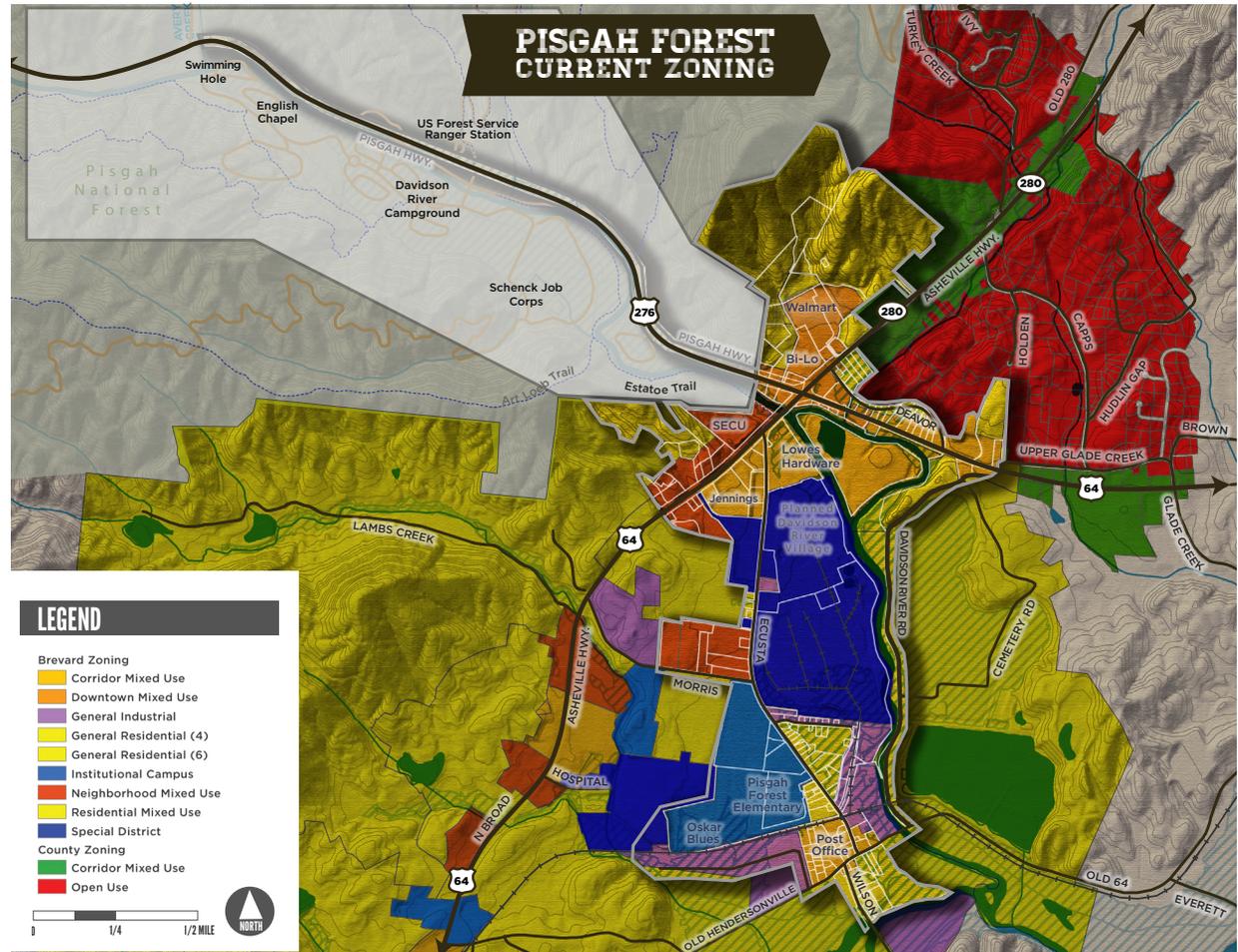
EXISTING CONDITIONS

CURRENT ZONING

The current zoning standards throughout the study area provide for a variety and range of land uses. Notably, the proposed Davidson River Village (DRV) is zoned as a Special District, which, if developed, would significantly increase traffic and growth pressure throughout the study area. Highlights of the DRV are further provided on page 11 of this chapter.

The Walmart shopping center is zoned Downtown Business, which establishes this area as a nonconforming use. This planning process explores opportunities for redevelopment of this district to analyze whether big box development or other major retail outlets are indeed feasible within this area.

The planning process explores how development might occur along the study area's major corridors and other key areas, such as the intersection of Old Hendersonville Road and Wilson Road. By visualizing potential development and engaging Brevard citizens, Brevard leaders hope to determine how best to improve current zoning standards.



DEMOGRAPHIC TRENDS

Transylvania County has an aging population and Pisgah Forest follows this trend. Although the National Forest will continue to attract visitors of all ages, the resident population of those age 60 and over is expected to continue to grow.

As populations age, different housing types rather than single-family are warranted. This plan recommends an emphasis on attracting different housing types in this area, such as multi-family housing and in-fill that provides a range of housing types and sizes, thus attracting a diverse income and age groups.

Mobility will be another key issue, as the population ages, other types of transportation besides just automobile transportation needs to be emphasized.

“ALONG WITH THE SLOW GROWTH OF THE POPULATION AND THE AGING POPULATION, MOST ECONOMIC INDICATORS SHOW THAT THE REGION FACES ADDITIONAL CHALLENGES COMPARED TO THE REST OF THE STATE, INCLUDING LOW WORKFORCE, LOW INCOME, AND HIGH POVERTY RATES.”

-WESTERN NORTH CAROLINA REGIONAL OUTLOOK REPORT

2014 TOTAL POP 60+ = 35.9%

County, 2014



0-19 ■ Ages 20-39 ■ Ages 40-59 ■ Ages 60+

County, 2035



■ Ages 0-19 ■ Ages 20-39 ■ Ages 40-59 ■ Ages 60+

Pisgah Forest, 2000



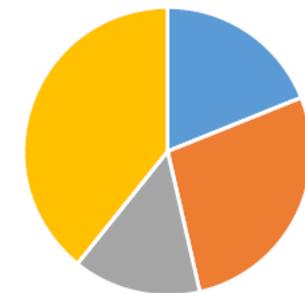
■ Ages 0-19 ■ Ages 20-39 ■ Ages 40-59 ■ Ages 60+

Pisgah Forest, 2010



■ Ages 0-19 ■ Ages 20-39 ■ Ages 40-59 ■ Ages 60+

Pisgah Forest, 2014



■ Ages 0-19 ■ Ages 20-39 ■ Ages 40-59 ■ Ages 60+

PREVIOUS PLANS

The City of Brevard has developed and approved several plans with significant implications for the future of the Pisgah Forest community. This section explores four (4) of these plans and highlights key policies and features found within these plans and documents.



CITY OF BREVARD 2015 COMPREHENSIVE PLAN

The City of Brevard 2015 Comprehensive Plan highlights five (5) key themes from which the City derives its policy direction: 1) Arts and Culture; 2) Economic Health; 3) Environmental Health; 4) Livable Community; and 5) Infrastructure.

Key highlights or directives:

- >> Create unique places and programs that support an array of cultural programs;
- >> Further support and develop the business community that fosters entrepreneurship and leverages Brevard's position as an attractive retirement and tourism destination;
- >> Protect the scenic beauty and natural environment that supports the City's exceptional quality of life;
- >> Proactively engage in place-making, the development of sense of place, and further develop Brevard's small-town charm; and
- >> Provide the public infrastructure investments necessary to generate private sector investment.



HWY. 280 CORRIDOR STUDY

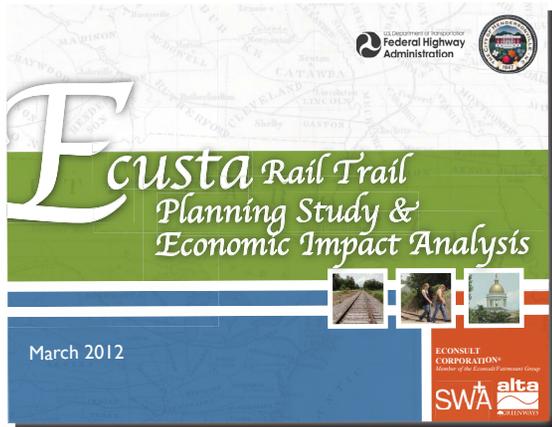
The NC 280 Corridor Study identified ways to improve and develop bicycle and pedestrian infrastructure along NC 280 between Mills River and the City of Brevard. The terminus of this planning effort includes portions of the study area for the Pisgah Forest Small Area Plan.

Key highlights or directives:

- >> Develop a multi-use path that connects to the Walmart shopping center and Allison-Deavor House; and
- >> Improve the Hwy. 280/ 64 intersection with improved markings for bicycle and pedestrian infrastructure. (Note: this plan calls for a more significant improvement for this intersection.)



Allison-Deavor House



ECUSTA TRAIL ECONOMIC IMPACT ASSESSMENT (EIA)

The Ecusta rail corridor ceased operation in 2002. This study looked at the impacts of establishing a multi-use rail-trail along this corridor to connect the City of Brevard and Hendersonville. The Ecusta Trail EIA revealed that such a trail would result in significant economic benefits to the region.

The Ecusta rail corridor crosses through the southern section of the Pisgah Forest Small Area Plan study area.

Key highlights or directives:

- >> The combined tourism impact to the area's economy was estimated to be over \$1.9 million in total expenditures.
- >> The increase to property tax values was estimated at \$22 million with up to \$160,000 per year in additional property tax revenues.
- >> Railbanking, which allows for a trail, but preserves the future possibility of reverting the land back to adjacent landowners was the recommended method of establishing the use of the railroad corridor.



DAVIDSON RIVER VILLAGE

Davidson River Village (DRV) is an approximately 536-acre proposed development that has been approved by the City of Brevard. Since the 2008 economic downturn, the future of this development has remained uncertain. For the purposes of the Pisgah Forest Small Area Plan, it is assumed that DRV, or a close variation thereof, will ultimately be developed.

Key highlights or directives:

- >> DRV will significantly increase retail and residential land uses;
- >> A multi-use trail is proposed along the Davidson River; and
- >> A major road connector --the Davidson River Connector -- is planned for construction in 2016 in association with the planned development.

OPPORTUNITIES AND CONSTRAINTS

LAND USE



OPPORTUNITIES

1. New Opportunities for Light Industrial Uses (50,000 sq. ft. facility)
2. New Development associated with outdoor activities related to users of Pisgah National Forest
3. Opportunity to re-imagine "big box" retail for more attractive and walkable land use
4. City owns right-of-way – opportunity exists to turn this into a vehicular connector and/or a greenway connector
5. Developable land outside of the floodway



CONSTRAINTS

1. Land lying in the floodplain presents limited opportunity for development
2. Automobile-oriented and marginal buildings along Highway 64
3. Steep slopes present constraints to dense development
4. Dilapidated building stock



BIKE AND PEDESTRIAN TRANSPORTATION



OPPORTUNITIES

1. Davidson River Connector will provide a bicycle/ pedestrian crossing of the Davidson River to the commercial district on Highway 64.
2. Trains do not currently operate along the rail line. The line has not been used for freight service since 2002. Opportunity exists for future Rail Trail (See Ecusta Rail Trail Planning Study 2012)
3. The Existing Brevard Greenway and the Estatee Trail connect major destinations throughout the study area.
4. The Proposed Davidson River Village plans incorporate bicycle and pedestrian trails that may be open to the public.
5. Opportunity to connect to Pisgah National Forest trail system from the commercial district with a multi-use trail.
6. Opportunity to develop a public river access with a bicycle/ pedestrian bridge over the Davidson River.
7. Public Right-of-Way could accommodate a multiple-use trail on the north side of Highway 64.



CONSTRAINTS

1. Currently a dangerous and congested roadway due to the mix of uses, narrow shoulder width and proximity to the Davidson River.
2. Intersections are not signalized and have no pedestrian infrastructure (crosswalks or bike lanes).
3. The existing vehicular bridge over the Davidson River lacks shoulders. Walking in automobile travel lanes is dangerous, but happens frequently due to lack of safe crossing over the Davidson River.
4. "Open frontage" and lack of sidewalks make this area unsafe and uncomfortable for non-motorized users.

TRANSPORTATION ANALYSIS

ABOUT THE STUDY

The transportation analysis portion of the Pisgah Forest Small Area Plan looked for ways to improve the safety and efficiency of motor vehicle traffic movement while improving and enhancing the quality of service for pedestrians and bicyclists.

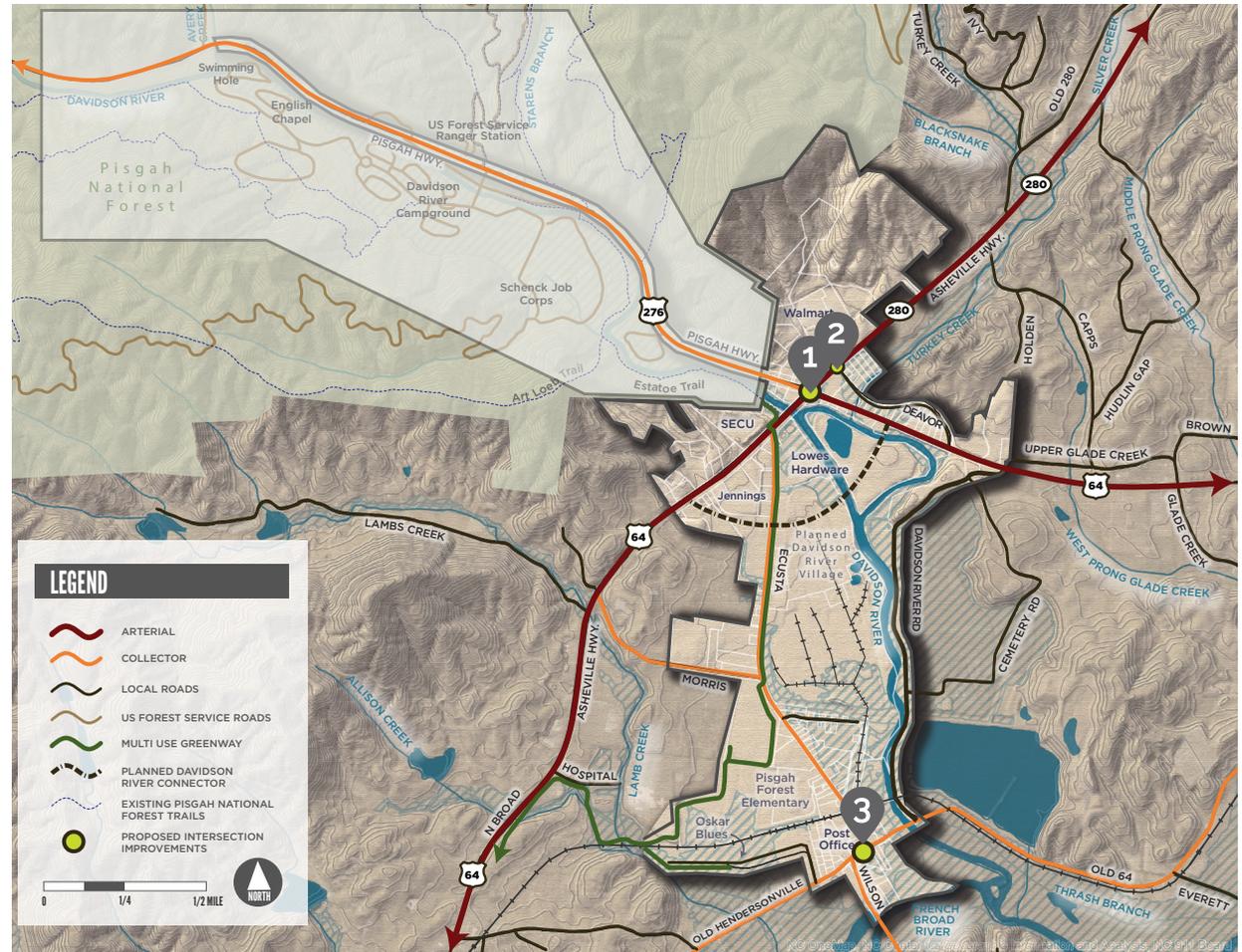
The study analyzed three intersections at peak times:

- 1 Pisgah Forest Gateway**
(Sat., Oct. 17, 2015 @ 2:00-3:00 p.m)
- 2 Forest Gate Shopping Center**
(Thurs., Oct. 15, 2015 @ 4:45-5:45 p.m)
- 3 Ecusta Rd. / Old USHwy 64 / Wilson Rd.**
(Thurs., Oct. 15, 2015 @ 4:45-5:45 p.m)

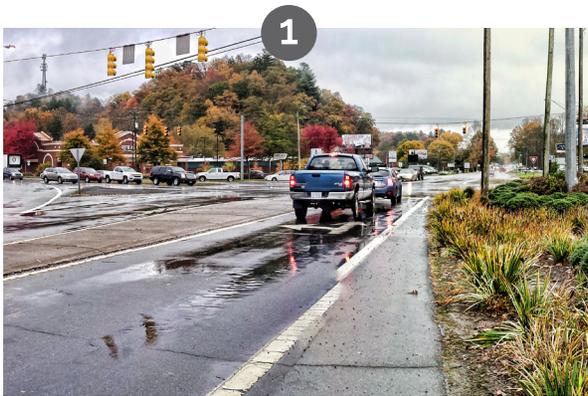
METHODOLOGY

The treatments chosen for analysis were evaluated to compare the delay and Level of Service (LOS) provided using Synchro modeling software. LOS assigns a qualitative letter grade (A-F) based on the quantitative measurement of average delay in average seconds per vehicle. Although a grade of "A" may be most efficient for motorists, "A" grades are not always the most desirable because it could be an indicator of a design favoring automobiles over pedestrians. The following lists the average car length spacing associated with each LOS grade:

- A: free flow ~ 27 car lengths
- B: reasonably free flow ~ 16 car lengths
- C: stable flow, at or near free flow ~11 car lengths
- D: approaching unstable flow ~8 car lengths
- E: unstable flow ~6 car lengths
- F: forced or breakdown flow.



TRAFFIC STUDY LOCATIONS



PISGAH FOREST GATEWAY (ASHEVILLE HWY/ US 276 / US64 / US 280)

This intersection serves as a major gateway to Pisgah National Forest, which receives significant use during peak seasons (summer and fall). It currently takes six movements to complete one cycle at this key intersection, resulting in substantial delay and a level of service "F". Revising the signal from a protected left turn to a flashing yellow turn would reduce the average delay by 11.6 seconds, whereas the roundabout alternative would reduce the delay by 66.4 seconds.

Existing Conditions:

Average Delay: 87.1 sec
Level of Service: "F"

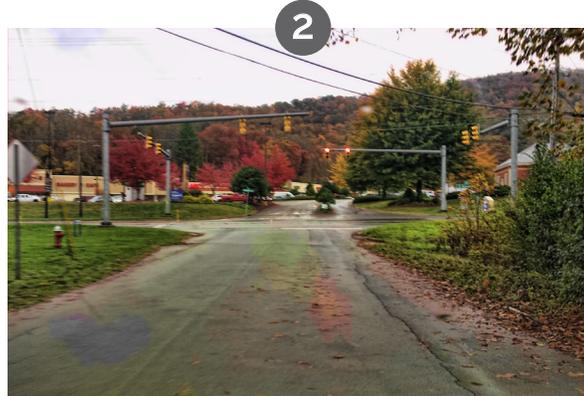
Alternative Treatments

>> Revised Signal

Average Delay: 75.5 sec
Level of Service: "F"

>> Roundabout

Average Delay: 20.7 sec
Level of Service: "C"



FOREST GATE SHOPPING CENTER / NC 280 / DEAVOR RD

As this intersection only has three phases to one cycle, it has a good level of service already, a "B". Modeling the same volumes as the Pisgah Forest Gateway intersection with a roundabout showed that the same volumes could be served with LOS "A", with about a one-third decrease in overall delay. Because of the close proximity of the Pisgah Forest Gateway intersection to the Forest Gate Shopping Center intersection, dual roundabouts would be required to keep traffic moving at a consistent pace.

Existing Conditions:

Average Delay: 14.0 sec
Level of Service: "B"

Alternative Treatments

>> Roundabout

Average Delay: 9.4 sec
Level of Service: "A"



ECUSTA ROAD / OLD 64 / WILSON RD

The intersection of Ecusta Road with Old US 64 is controlled with a three-phase traffic signal, while Wilson Road has a "STOP" sign at Old US 64. While the individual Levels of Service at each intersection are "B", an operational problem occurs because of the heavy dog-leg movement from and to Ecusta Road and Wilson Road. Substantial amounts of "open frontage", or lack of curbs, decreases motorist predictability in this area.

In a roundabout treatment, the model showed it would also provide a Level of Service "B", but the operational improvement of having one intersection rather than two would provide better service. This option is problematic due to the impacts to property and the floodplain, which would create major, but not insurmountable, construction issues. The NCDOT is currently studying a possible realignment of Wilson Road to intersect Old US 64 directly across from Ecusta Road.

Existing Conditions @ Ecusta Rd & Old 64:

Average Delay: 13.2 sec
Level of Service: "B"

Alternative Treatments

>> Realignment
Awaiting NCDOT study

>> Roundabout

Average Delay: none
Level of Service: "B"

PUBLIC ENGAGEMENT

@ PISGAH FOREST BAPTIST CHURCH

To garner a range of input, the planning team, on separate occasions, met with stakeholder groups, forest service staff and interested citizens. On February 25, approximately thirty (30) citizens gathered to review initial recommendations at the Pisgah Forest Community Church. In addition to planning staff advertising the public meeting, a project facebook page was established and "boosted" to reach a broad-range of citizens.



A The Facebook page garnered over 360 "likes."

COMMENTS RECORDED
DURING THE
PUBLIC MEETING & ON
FACEBOOK.

"Protect the River Quality while making room for a lot of forest users."

"Encourage smaller-scale manufacturing that is compatible with neighborhoods."

"I love the historical aspect of the recommended round-a-bout sculpture."

"I have] this vision of an attractive archway over one of the approaching intersections where bikers, hikers and walkers can safely cross the 4-lane highway to enter the pathway along the river into the forest."

"This is the Gateway. Let's make it nice. Input is imperative! I think this is smart planning."





ON FEBRUARY 25, 2016, CITIZENS OF THE PISGAH FOREST NEIGHBORHOOD CAME OUT TO SHARE THEIR IDEAS AND RESPOND TO INITIAL CONCEPTS.

PRELIMINARY CONCEPTS

PUBLIC MEETING EXHIBITS

Preliminary concepts were presented on large format boards at the public meeting. This allowed participants to view the initial recommendations, hear from the planning team about them and make their comments and feedback in “real time”.

A PISGAH FOREST GATEWAY



MOUNTAIN SIGNAGE



PROPOSED TRAILHEAD SITE PLAN



PROPOSED TRAILHEAD SITE RENDERING

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B₁ INFILL DEVELOPMENT



WAL-MART SITE RE-IMAGINED



TABLE OF PROPOSED LAND USE AND SIZE

USE TYPE	Stories	No. of Units	Units Size (sq ft)	Total Square Footage
Multi-Family Apartment	3	40	2000	80,000
City Office Building	1	1000	1000	1,000,000
Hotel/Res	2	20	2000	40,000
Hotel/Res	3	1000	1000	3,000,000
Hotel/Res/Commercial	1	1000	1000	1,000,000
Hotel	1	10	1000	10,000
Hotel/Res/Office/Hotel/Res/Hotel	10			



BIRD'S EYE VIEW SHOWING MASSING

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B₂ INFILL DEVELOPMENT



PROPOSED PISGAH CROSSROADS BIRD'S EYE

Land Use Type	Stories	No. of Units	Units Size (sq ft)	Total Square Footage
Hotel/Res	2 or 3	20	10,000	200,000
Office	5	5	800,000	4,000,000
Commercial	2	5	2,000	10,000
Multi-Family Apartment	2 or 3	20	800,000	16,000,000
Single-Family	1	10	1,000	10,000
Light Industrial	1	1	7,000	7,000

TABLE OF PROPOSED LAND USE AND SIZE



PROPOSED PISGAH CROSSROADS SITE PLAN

DESTINATION DESIGN
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CHAPTER THREE

>> recommendations

**THIS CHAPTER
SERVES AS THE
HEART OF THE
PISGAH FOREST
SMALL AREA
PLAN.**

This chapter serves as the heart of the Pisgah Forest Small Area Plan and provides specific recommendations for improving transportation facilities for motorists, cyclists, and pedestrians. Also, this chapter outlines growth management and land use policies to address new development and redevelopment throughout the study area.

IN THIS CHAPTER

- 1. Transportation Infrastructure*
- 2. Bicycle and Pedestrian Infrastructure*
- 3. Land Use and Growth Management*
- 4. Architectural Guidance*

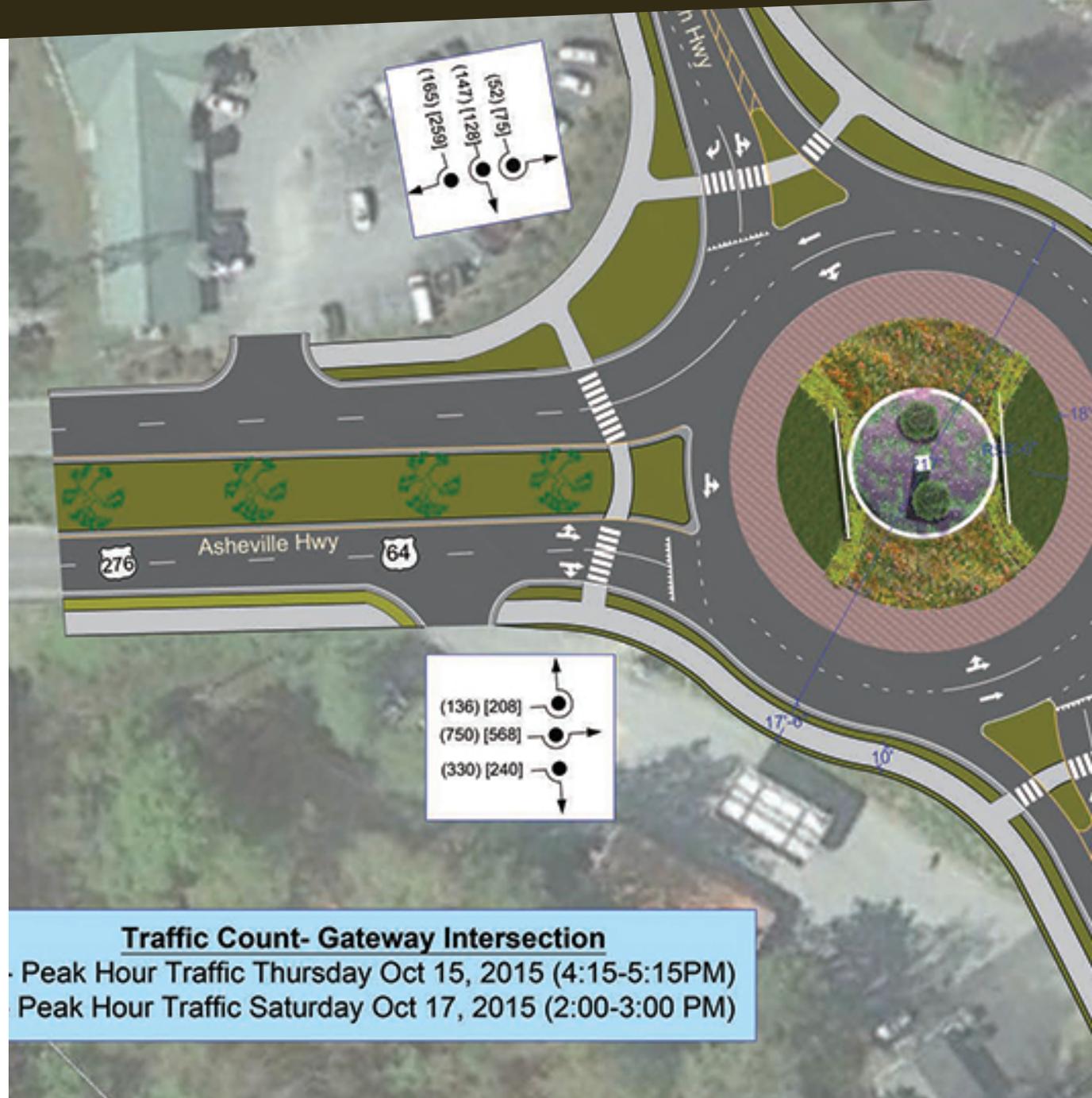
TRANSPORTATION RECOMMENDATIONS

ROUNDBABOUTS @ PISGAH FOREST GATEWAY & FOREST GATE SHOPPING CENTER

Of all the options studied to alleviate congestion at the 280 / 64 intersection, a roundabout was the most effective. The roundabout recommended here is a hybrid between a one and two-lane roundabout: the outside lane is solely for right turns, making it safer than a full two lane roundabout.

The conceptual plan, shown at right, also shows a roundabout at the next closest intersection, the Forest Gate Shopping Center. Having two roundabouts would further alleviate congestion by allowing a steady flow of traffic at low speeds instead of stop-and-go traffic.

The two intersections are entirely surrounded by 10-foot wide multiple-use trails.





Traffic Count - NC 280 at Deavor Road
 (XX) - Peak Hour Traffic
 Thursday Oct 15, 2015 (4:45-5:45PM)

TRANSPORTATION RECOMMENDATIONS

ROUNDBABOUTS @ PISGAH FOREST GATEWAY

CHARACTER RENDERING >>

This photorealistic rendering shows how the roundabout at the gateway intersection could look, with a sculpture reminiscent of the original national forest gateway. Also, see the off-road bike and walkways.





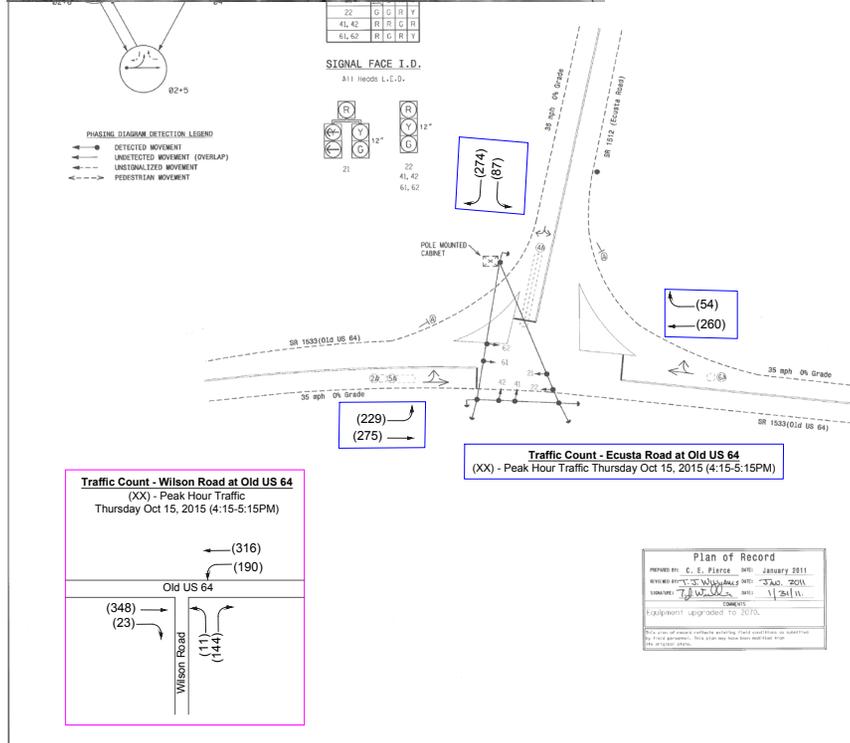
**INTEGRATING THE WHOLE [PISGAH FOREST] AREA BEGINS
WITH THIS INTERSECTION
-HEARD @ PUBLIC MEETING**

TRANSPORTATION RECOMMENDATIONS

WILSON ROAD, ECUSTA RD. & OLD 64

The southern portion of the study area doesn't experience the same kind of congestion as the national forest gateway, however, this area where Wilson Road, Old US 64 and Ecusta Road come together is configured awkwardly and is currently an unfriendly environment for pedestrians. No sidewalks exist and parking lots abut the road with continuous, open curbcuts.

A re-configuration of the two intersections was studied which resulted in a recommendation to align Wilson Road with Ecusta and have 1 intersection managed with a roundabout. Right-of-way would need to be purchased to make this happen. However, this treatment would help define this area as a neighborhood commercial node, creating a more walkable, attractive area with a better-flowing traffic pattern.



Option 1: Existing Signalized Intersection

The first option keeps the existing intersection configuration. With this option, the Level of Service will remain between a B & C.

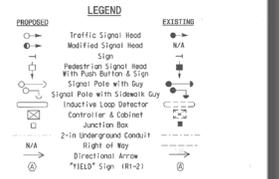
Pisgah Forest - Ecusta Rd at Old US 64 Option-1 Existing Signal

Pisgah Forest	Existing Signalized Intersection		Roundabout	
	Average Delay	Level of Service	Level of Service	95th percentile queue
SR 1503 (Old US 64) at SR 1512 (Ecusta Road)	19.2 sec	B	B	274
Approach:			Approach LOS	Approach 95th percentile queue
Eastbound 1503 Old US 64	11.0	B	C	161 ft
Westbound 1503 Old US 64	5.4	A	A	63 ft
Southbound 1512 Ecusta Rd	23.1	C	A	53 ft
Northbound 1540 Wilson Rd*			B	26 ft

*Roundabout, modeled with Wilson Road traffic as a fourth leg from the south.
Signalized: Queues from eastbound Old US 64 back up to and block Wilson Road.
Traffic volumes from the peak hour (4:45 - 5:45 p.m.) on Thursday, October 15, 2015.

Pisgah Forest	Average Delay	Level of Service
SR 1503 (Old US 64) at SR 1540 (Wilson Road)	4.5 sec	A
SR 1503 eastbound	0.0 sec	A
SR 1503 westbound	4.6 sec	A
SR 1540 northbound	14.9 sec	B

Traffic volumes from the peak hour (4:45 - 5:45 p.m.) on Thursday, October 15, 2015. Queues from westbound Old US 64 require Wilson Road left turns to wait and yield. Queues from eastbound Old US 64 back up from Ecusta Road and block Wilson Road.



CRASH DATA: 2010 - 2015

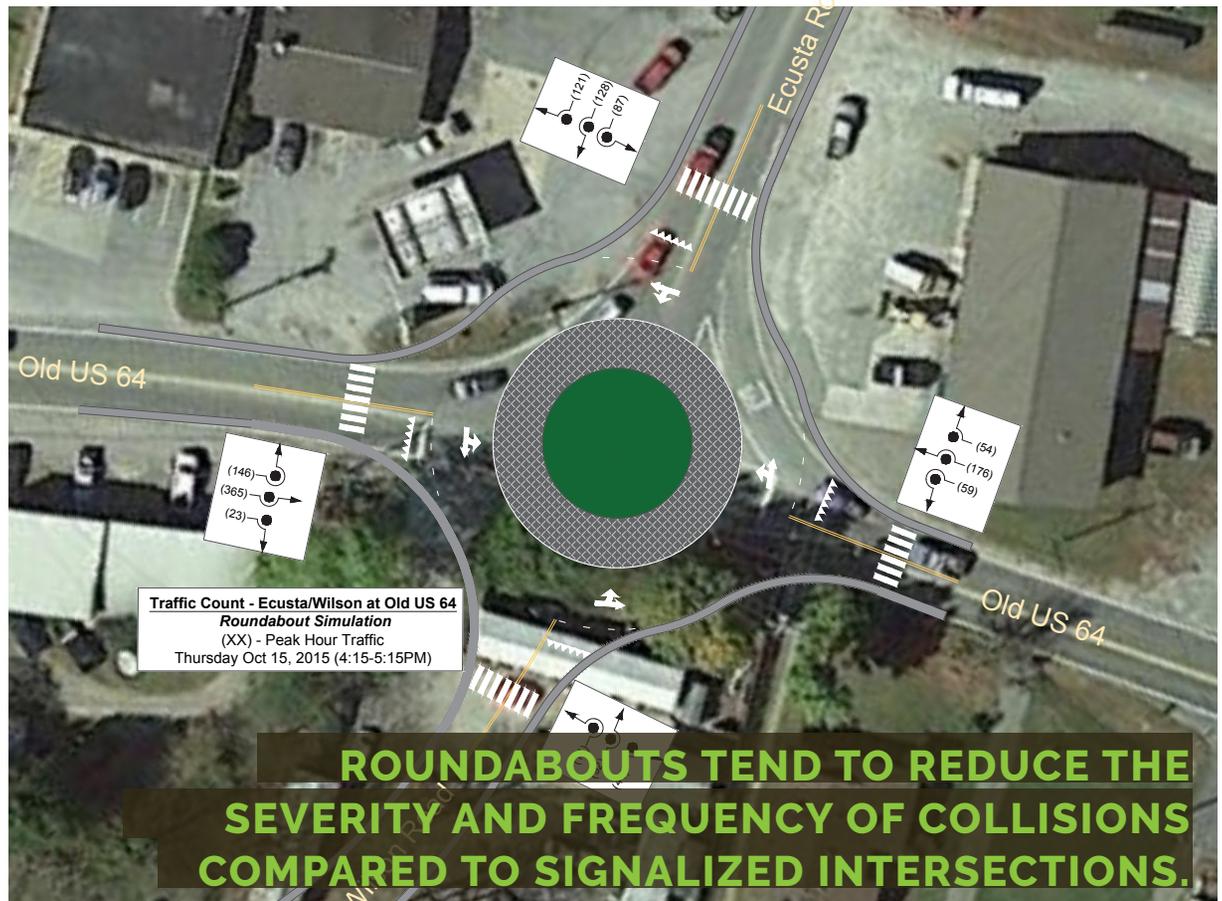
	Wilson and Old 64	Ecusta and Old 64	US 64/NC 280/276	Along Scenic Byway 276
Total Crashes	10	24	73	27
Fatal Injuries	0	0	0	1
Property Damage Only	6	18	50	12
Class A, B, or C Injury	4	6	23	15

Crash data from NCDOT was examined for the 3 subject intersections. All had fewer angle collisions and lower severity crashes than would be expected for the amount of traffic moving through them.

The number of crashes (10) through the old Pisgah Forest neighborhood at the post office including Wilson Road intersection and Ecusta Road intersection seems high and is likely due to the frequency of driveways, the amount of turning traffic and the speed approaching this short village-like section.

Option 2: Re-align & Round-a-bout >>

Although this option would require acquisition of right-of-way, a roundabout would establish a more coherent traffic pattern, keeping cars moving steadily at a relatively slow pace.



BICYCLE & PEDESTRIAN RECOMMENDATIONS

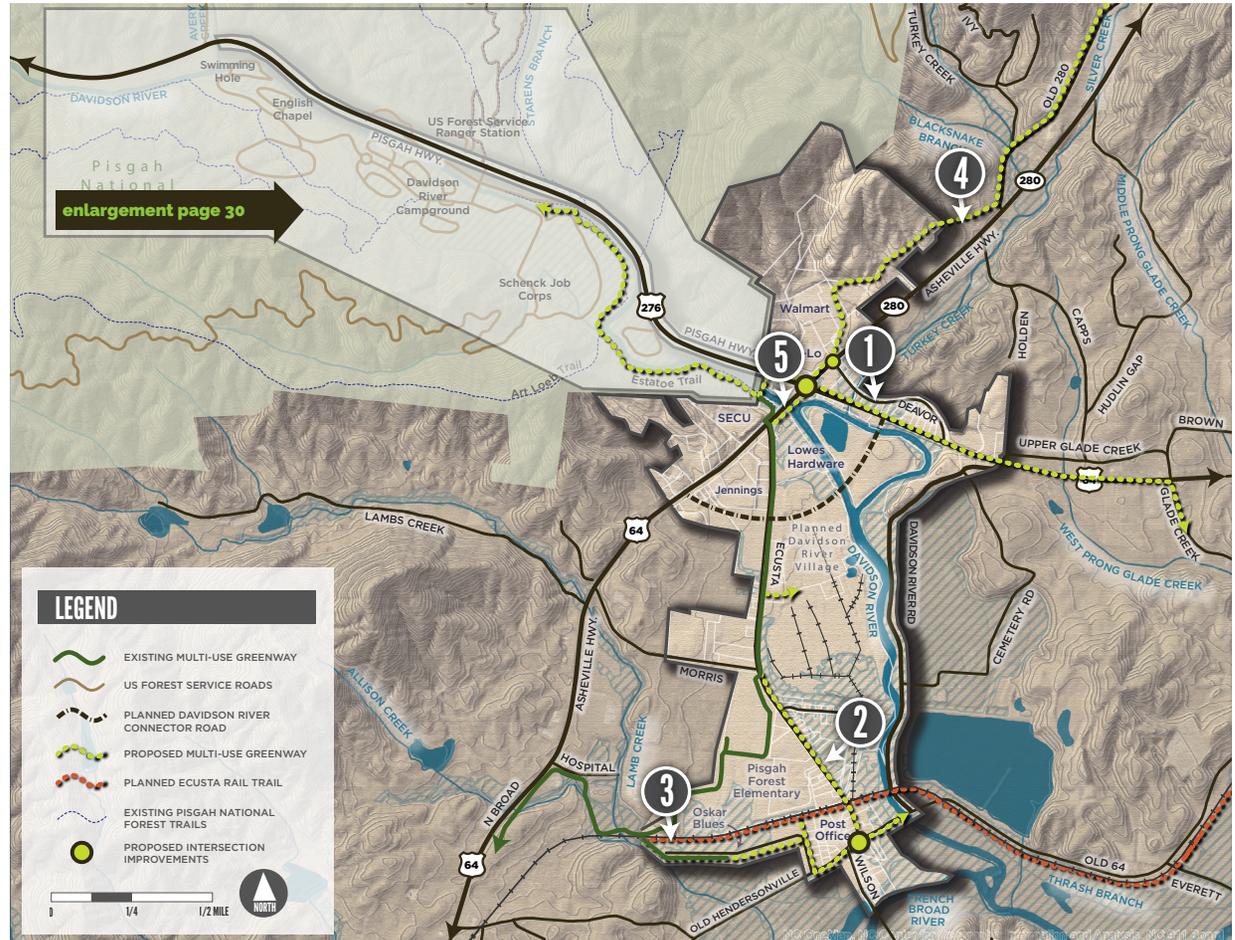
RECOMMENDATIONS

- 1 Develop a multiple-use trail along Highway 64, Hendersonville Highway to connect with Brevard Academy, (see rendering on opposite page.)
- 2 Create a connection along Ecusta Road from the existing greenway down to Old Highway 64 and connect back to Oskar Blues. This will provide needed pedestrian transportation in this corner.
- 3 Continue to support efforts to transition the rail-road track to the Ecusta Rail Trail.
- 4 Continue to support efforts of the multiple use trail along Highway 280 to Mills River.
- 5 Provide 2 pedestrian bridges over the Davidson River, one on the east side of existing vehicle bridge; the other at a proposed trailhead to the Estate Trail. (see page 30).



Several opportunities exist to expand upon Brevard's existing greenway system. A pedestrian bridge parallel to the Davidson River vehicular bridge on Asheville Highway would create an important connector and solve a pedestrian safety problem.

OVERALL STUDY AREA





SCENIC BYWAY 276

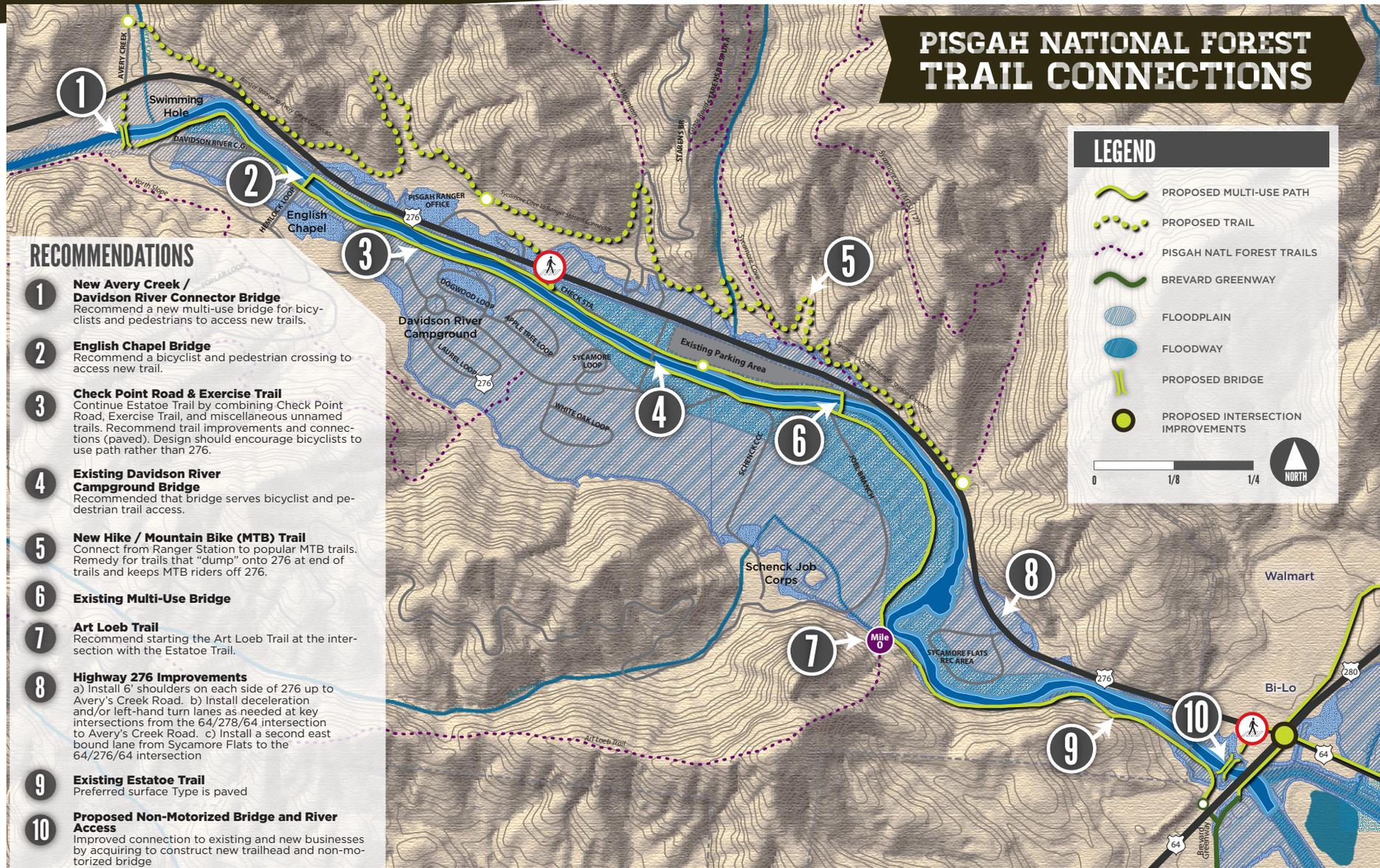
The gateway into the National Forest sees a tremendous amount of pedestrian, vehicle and bicycle traffic. Crosswalks with an alternative paving material, will signal drivers to slow down in this section. A recommended trailhead is shown on page 31.

ALONG HIGHWAY 64 >>

A multiple-use trail is recommended along Highway 64, Hendersonville Highway, which has a wide right-of-way. The image also shows how signage along the road could be kept lower to the ground for better visual appeal.



ALONG SCENIC BYWAY 276 TO AVERY CREEK



PROPOSED DAVIDSON RIVER TRAILHEAD

OPTION A



OPTION B



**Property would need to be acquired. Acquisition and bridge construction to be funded with Federal Lands Access Program grant.*

LAND USE

Land Use Transect methodology, which defines a series of zones that transition from protected areas such as the national forest to the more urban-feeling mixed-use nodes at main intersections. This model supports the land use priorities identified throughout the planning process, which include: protecting natural resources; encouraging pedestrian-friendly, mixed-use development; facilitating character-driven infill/redevelopment; and providing a broad range of housing opportunities. The Land Use Transect includes six (6) major "sectors" moving from preserved lands to urban areas. For this study area, the recommended transect categories include: Low density Growth Areas, Controlled Growth Areas and Mixed-Use Centers and Corridors. The corresponding land use framework shows the recommendations of use types. The area showing "Conserved Lands" corresponds with the floodplain boundary.

LAND USE FRAMEWORK PLAN >>

∨ TRANSECT MODEL

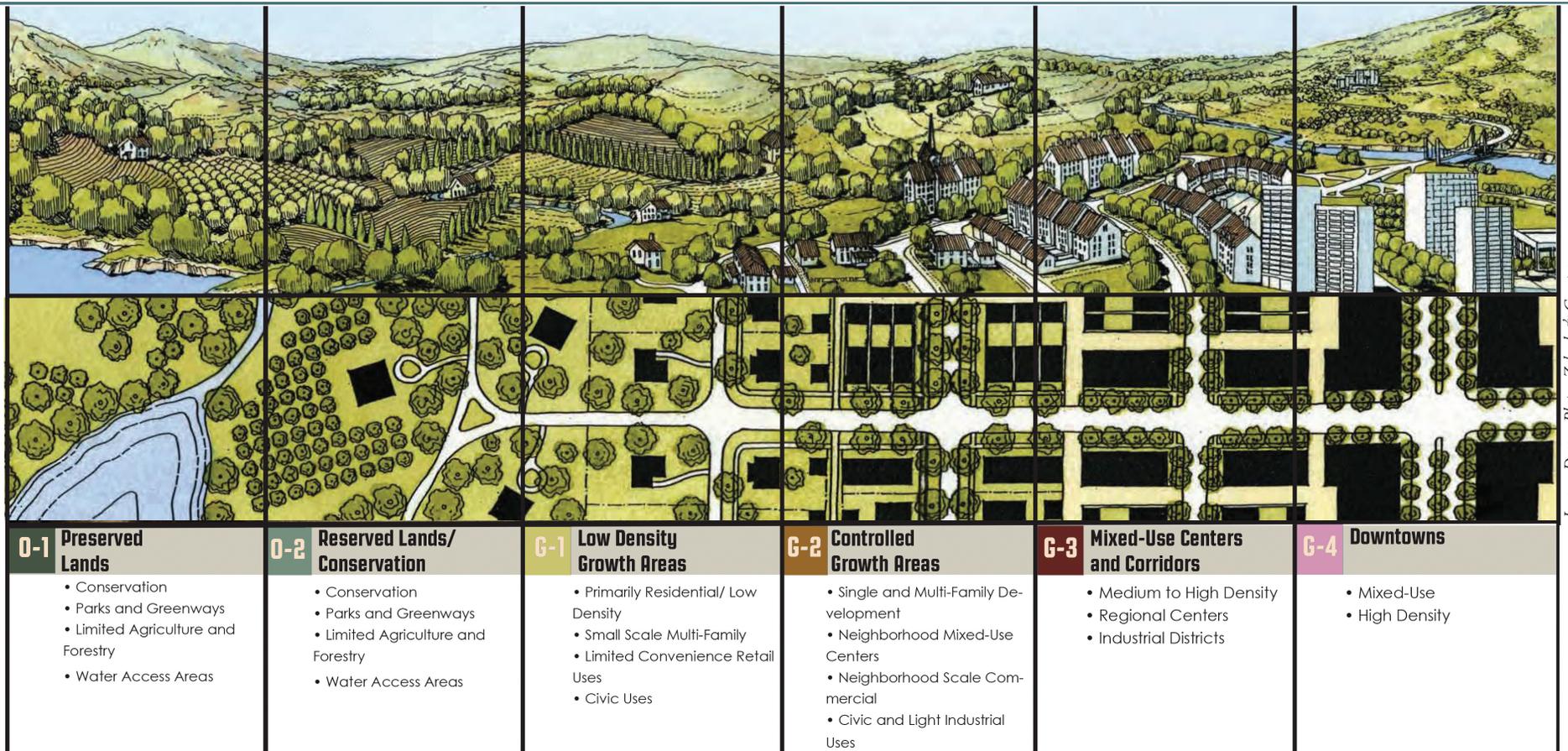
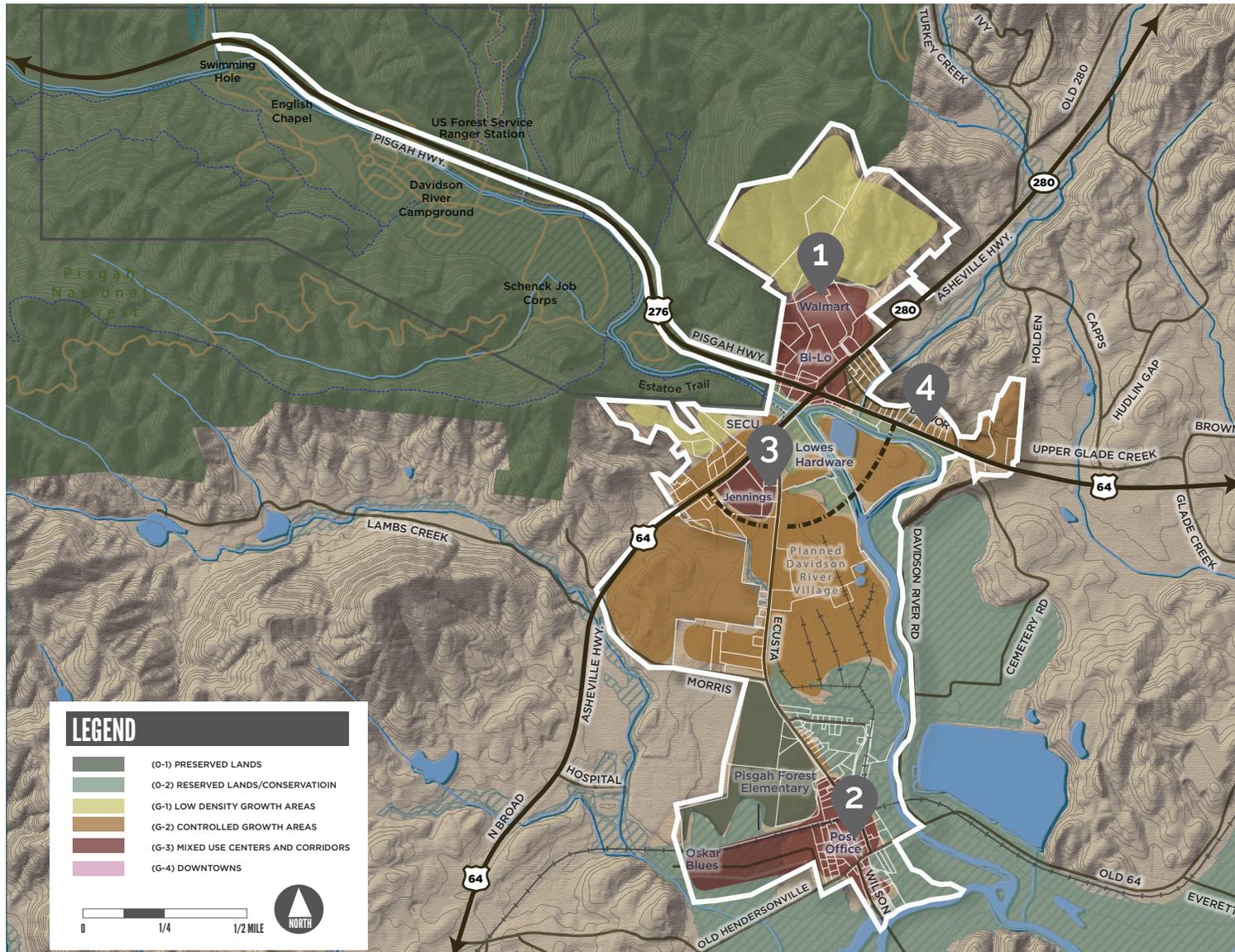


Image: Duany Plater-Zyberk & Company

LAND USE FRAMEWORK



DESIGNS

The following site designs are focused on infill and corridor development and can be found on the subsequent pages.

INFILL DEVELOPMENT

1

"BIG BOX" RE-IMAGINED
(SEE PAGE 38)

2

PISGAH CROSSROADS
(SEE PAGE 36)

CORRIDOR DEVELOPMENT

3

ECUSTA RD
(SEE PAGE 43)

INFILL DEVELOPMENT

This plan uses specific site plans to show the form of future development in key nodes in the study area. The two site plans on the following pages both incorporate the following principals.

The City's form-based code should be amended, as needed, to incorporate the design standards and enable the mixed-use development projects proposed in this chapter.

- 1 *Pedestrian-oriented which includes short blocks, destinations and a comfortable walking environment.*
- 2 *Varied size of housing so that people from a variety of income levels and generations have options.*
- 3 *Mixing housing, retail, office and even light manufacturing to create higher-density, active places.*
- 4 *Improved infrastructure to support existing businesses and new investors.*
- 5 *Common space --streets, plazas, parks--all contribute to the character of place.*



ECUSTA TRAIL VISION >>

A photorealistic rendering showing the future Ecusta Rail Trail along the railway corridor. The rendering shows how future development fronting the trail could look. A destination trail such as this could become could help spur neighborhood commercial development adjacent to the trail.





6

ecusta
TRAIL

← BZA/ACB

REUDERSVILLE →

INFILL DEVELOPMENT

ECUSTA CROSSROADS

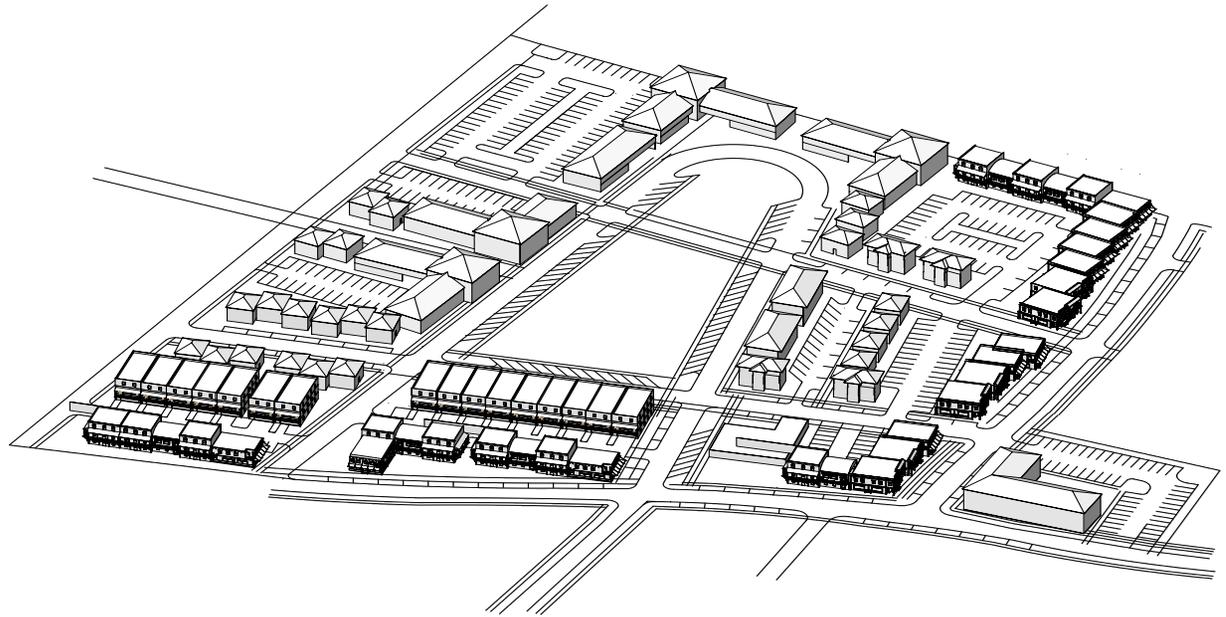
This site was chosen for a more in-depth study for several reasons: 1.) the land in this area is outside of the floodplain and relatively flat, therefore very "buildable"; 2.) currently the area is at the crossroads of two major roads in the study area: Ecusta and Old Highway 64; 3.) much of the building stock that currently exists is dilapidated; and 4.) the area is adjacent to the railroad corridor (past planning efforts have identified this as a desired rail trail.)

The Crossroads concept is centered around the Pisgah Forest post office. The post office provides an "anchor" around which a new mixed-use neighborhood could be developed. This concept combines multi-family housing, townhomes, office buildings and light manufacturing.

A new street network is recommended to create smaller, more walkable blocks encircling a large central green space. An extension of the Brevard Greenway could easily connect this neighborhood to Oskar Blue brewing company, which lies just a few blocks to the west.

Key highlights of the design are as follows:

1. Creates a walkable commercial district.
2. Responds to the need for additional multi-family housing.
3. Allows industry to coexist with commercial and residential.
4. Builds on Brevard's outdoor recreation brand with open space and the future Ecusta Trail.



SQUARE FOOTAGE BY LAND USE

Land Use Type	Stories	No. of Buildings	Unit Size (Approx.)	Total Square Footage
Large Mixed-Use	2	2	14,400	28,800
Mixed-Use	2 and 3	34	800-1,600 (Avg. 1,000)	68,000-102,000
Office	3	4	4,500	18,000
Townhome	2	8	2,000	16,000
Multi-Family Apartment	2 and 3	5	varies	39,990
Light Industrial	1	4	10,000-15,000	45,000
Total Acreage			~ 7.1 Acres	
Total Parking			617	
Approx. Density			~11 Dwelling Units/Ac	

INFILL DEVELOPMENT

“BIG BOX” RE-IMAGINED

Walmart and its associated parking occupies a 7 1/2 -acre site in the Forest Gate Shopping Center. Instead of one giant store, this same piece of land could support a lively mix of residential, commercial, office and recreation uses. The concept shown in plan view and a bird's eye model is one way to re-imagine this site.

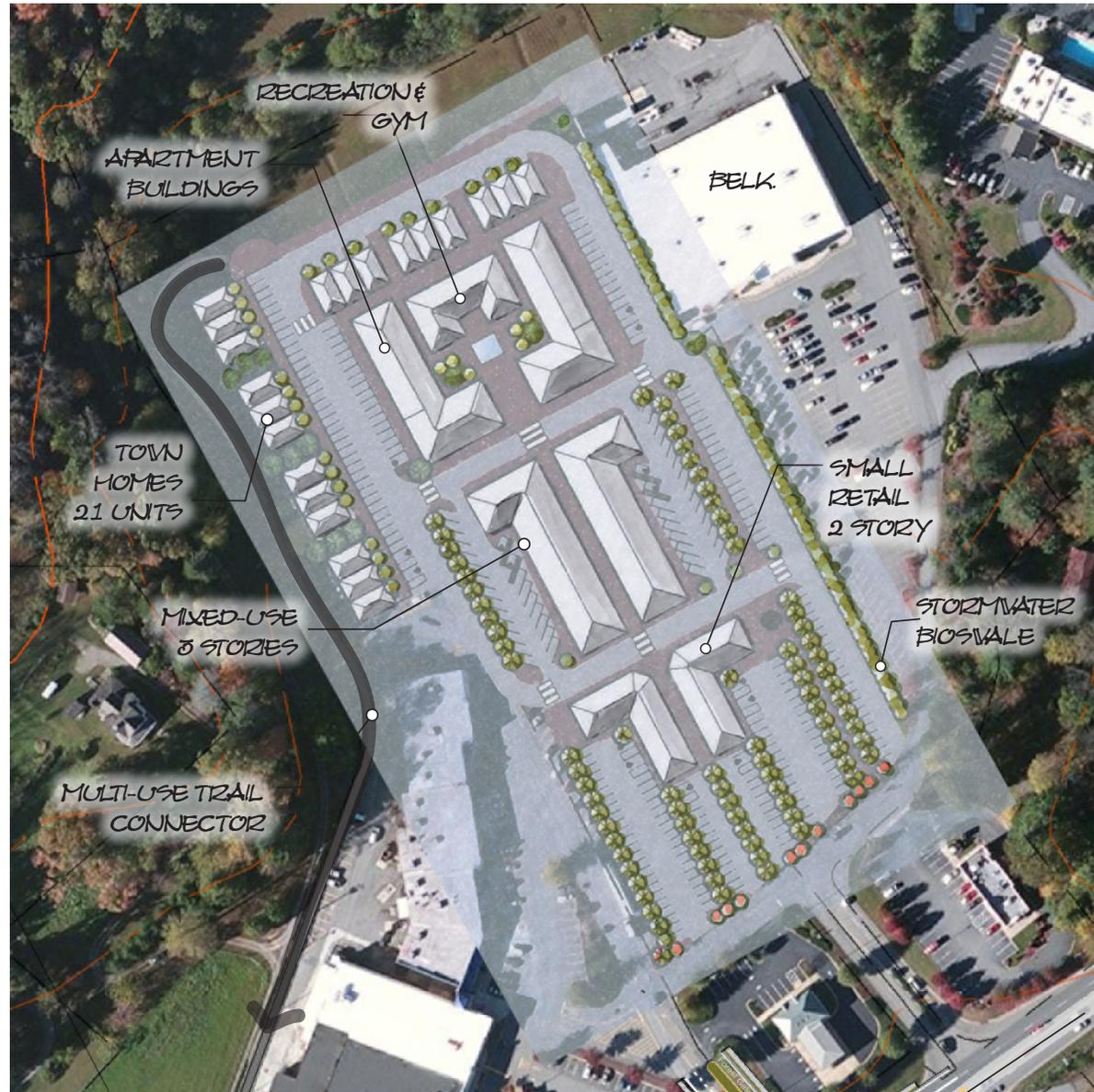
A mixture of townhomes and apartment units provide a range of housing to serve multiple families from various income-levels and generations.

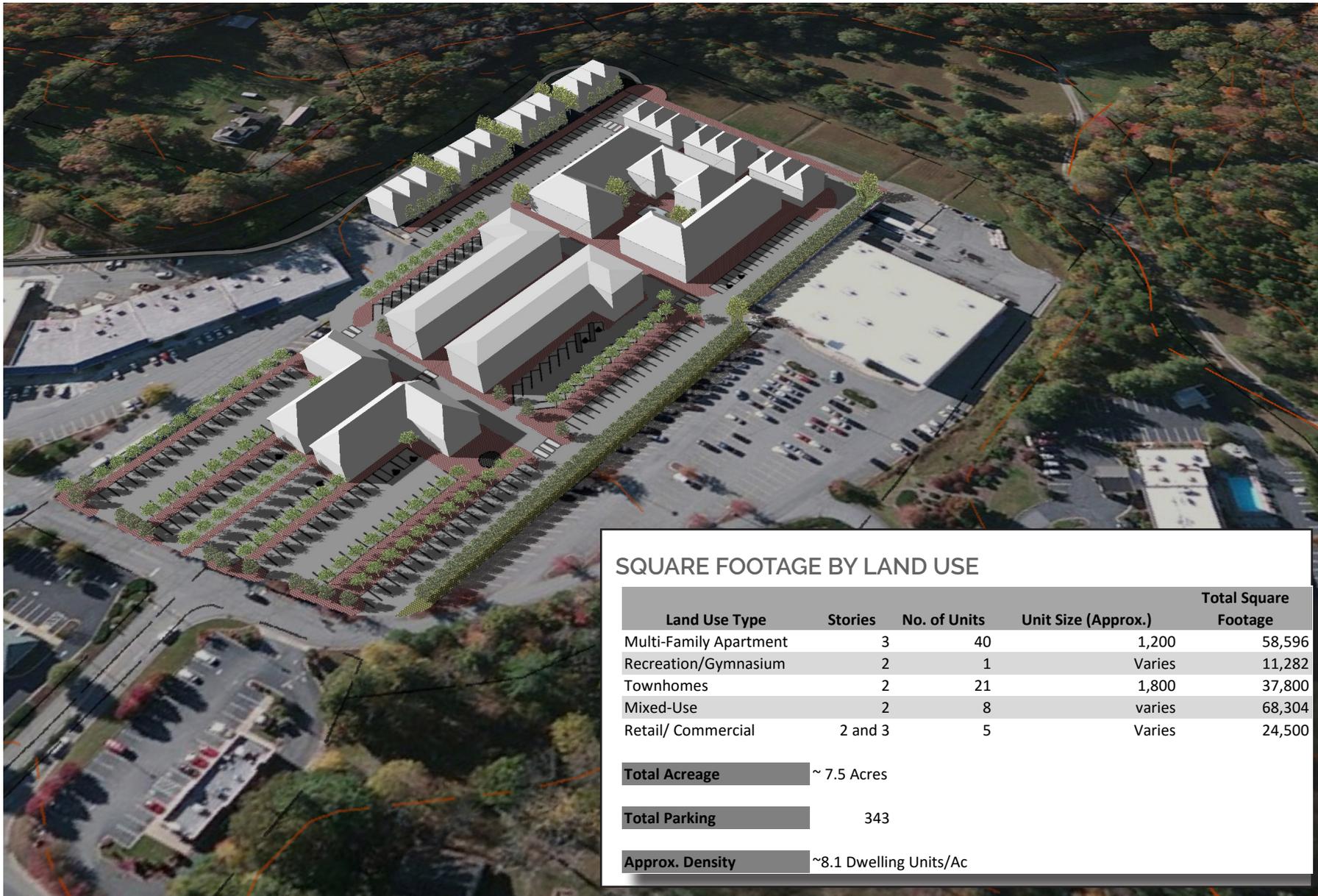
A proposed recreation center and greenway connector trail would provide high level of quality of life.

The commercial/retail spaces could provide a great variety of sizes allowing for small, start-up retail or larger commercial outlets.

A central pedestrian walkway connects all the main buildings to one another.

Stormwater bioswales --shown as landscape islands--could capture stormwater and filter pollutants prior to the water running into local creeks/ rivers.





SQUARE FOOTAGE BY LAND USE

Land Use Type	Stories	No. of Units	Unit Size (Approx.)	Total Square Footage
Multi-Family Apartment	3	40	1,200	58,596
Recreation/Gymnasium	2	1	Varies	11,282
Townhomes	2	21	1,800	37,800
Mixed-Use	2	8	varies	68,304
Retail/ Commercial	2 and 3	5	Varies	24,500
Total Acreage	~ 7.5 Acres			
Total Parking	343			
Approx. Density	~8.1 Dwelling Units/Ac			

CHARACTER DEVELOPMENT

A TOOL KIT

The Pisgah Forest Area requires a different form and character than downtown Brevard. This area is more automobile oriented, so needs to accommodate vehicles. However, new development doesn't have to be the conventional "strip" development that becomes a very uncomfortable environment for pedestrians and cyclist. New development can be encouraged to de-emphasize automobile-orientation, maximize buildable land, provide a comfortable and attractive outdoor environment and make the landscape elements serve those functions.

MAXIMIZE BUILDABLE LAND

With the presense of the Davidson River, a significant portion of land in this area is in the floodplain. At the same time, parts of this area have steep slopes and don't lend themselves to intense building development. The two factors make buildable land at a premium. For this reason, each parcel needs to maximize buildable land.

Encourage:

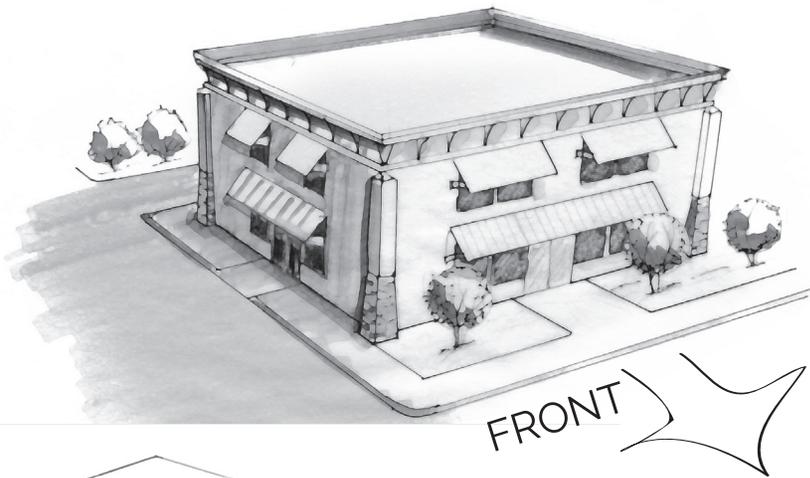
- > Multiple Stories
- > Mixed-use buildings that include uses such as restuarants that are traditionally single-story
- > Bring buildings closer to the street;
- > Combine vehicular circulation and parking



< *Multiple story buildings can be "scaled down" by breaking up the mass into varied articulation, such as an extended, covered entry.*

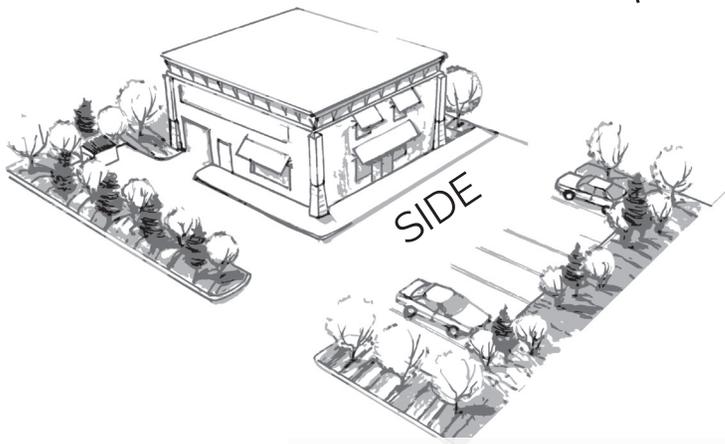


^ *Mixed-use buildings can accommodate a great variety of business types harmoniously. This example, called Boone Point, includes an urgent care unit, an insurance group and upper-story residential. The key for success is to be located in a desirable area to live that includes walkable destinations and nearby parks or greenways.*



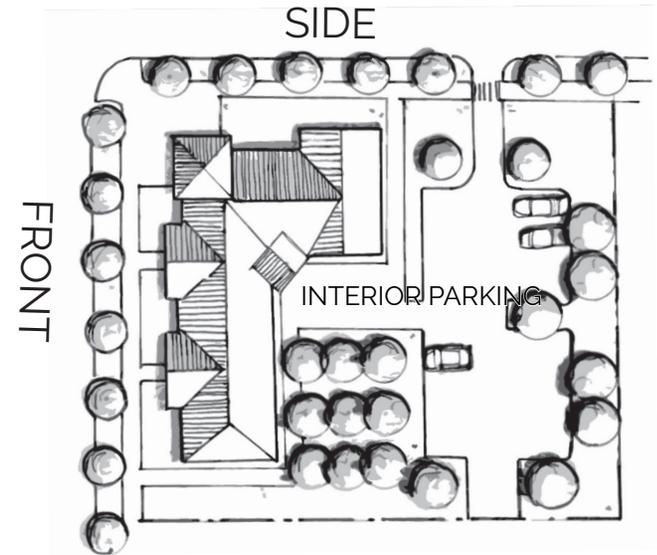
ACCOMMODATE, BUT DE-EMPHASIZE, AUTOMOBILES

- > Include parking beside, behind or below a building
- > Encourage shared driveways & even parking
- > Bring signage down to person-level, not towering overhead



MAKE THE OUTSIDE ENVIRONMENT COMFORTABLE FOR PEOPLE

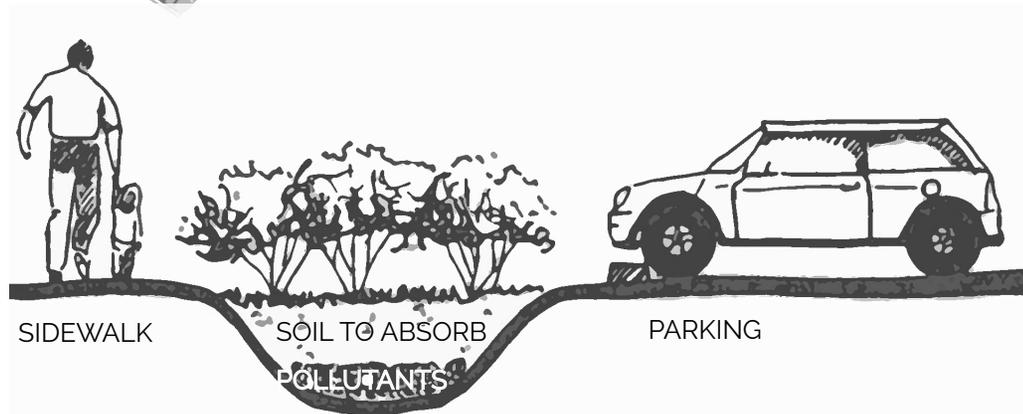
- > Incorporate entry features and awnings to "scale down" a large building
- > Incorporate sidewalks and greenway connectors
- > Use abundant windows in front and facing parking
- > Use appropriate lighting -pedestrian level and downlighting



LANDSCAPE FUNCTION

Landscape material isn't just to improve aesthetics and raise property values, but can aid in contributing to a sense of place, screening, and providing a comfortable environment. Landscaping and the correct soil mix can be used to filter stormwater before it goes into the Davidson River.

- > Use native materials in the landscape from stone to boulders to native trees and shrubs to create a sense of place and block parking.
- > Use landscape to increase water quality with the use of attractive bioswales, rain gardens and stormwater wetlands for larger projects.



CHARACTER DEVELOPMENT



TRADITIONAL & MODERN MOUNTAIN STYLE

Encouraging a "mountain" architectural style in this area can go a long way toward developing a sense of place in the Pisgah Forest area. This doesn't mean every building is uniform, but intentional. Encouraging both traditional "mountain" as well as modern will make for an attractive mix.

"MOUNTAIN MODERN" >>

Modern architecture incorporates a medley of glass, timber and steel. Stonework is de-emphasized. The form includes clean, bold lines with roof lines slanted but not peaked. The benefit of this type of architecture is the ample use of glass which provides a more comfortable pedestrian environment as well as a sense of "openness".

<< TRADITIONAL MOUNTAIN

Traditional mountain architecture makes heavy use of field stone or river rock in combination with timber and shingles. Roof lines are often peaked which serves the function of shedding snow quickly. Windows are carefully placed but not always prominent.



ECUSTA ROAD

Below is a vision of development on vacant land along Ecusta Road showing a bioswale which cleans water before infiltrating. Also proposed buildings are mixed use including restaurant, office and residential.





CHAPTER FOUR

>> implementation

THIS CHAPTER PROVIDES SHORT, MEDIUM AND LONG-TERM IMPLEMENTATION OBJECTIVES.

IN THIS CHAPTER
Implementation Matrix

IMPLEMENTATION

The Pisgah Forest neighborhood is poised for commercial activity supporting recreation opportunities. Over-time, Pisgah Forest should transition to provide for denser, more mixed-use development with strong architectural character. A multitude of bicycle and pedestrian connections will not only attract day or overnight visitors, but also new residents.

GOALS:



Phasing

- | | | |
|----------|---|--------------------------------------|
| 1 | <i>Encourage development that accommodates but de-emphasizes vehicles by prioritizing pedestrian-scale building and site design.</i> | <i>Short-term (3-5 years)</i> |
| 2 | <i>Reduce congestion & Improve Safety at Major Intersections in Pisgah Forest</i> | <i>Mid-term (5-10 years)</i> |
| 3 | <i>Expand and create safe bicycle and pedestrian connections.</i> | <i>Mid-term (5-10 years)</i> |
| 4 | <i>Encourage clusters of industry compatible in use and character with neighborhood development.</i> | <i>Mid to Long-term (5-15 years)</i> |
| 5 | <i>Encourage Mixed-use infill development that provides a range of commercial and housing types that caters to a mix of income-level and age groups.</i> | <i>Long-term (10-15 years)</i> |
| 6 | <i>Establish a bold gateway for Pisgah National Forest and the City of Brevard</i> | <i>Mid-term (5-10 years)</i> |
| 7 | <i>Create better connector trails & wayfinding from the commercial district to the Pisgah National Forest along the Davidson River & Scenic Byway 276</i> | <i>Short -term (3-5 years)</i> |

Key Considerations

Partners

Incorporate the design standards illustrated in Chapter 3 into the City's form-based code to facilitate a distinct character for the Pisgah Forest area that provides an attractive and comfortable outdoor environment.

Developers; Landowners

Prioritize Intersection Improvements; Finalize Intersection Designs; Seek STIP (State Transportation Improvement Program) listing: The Gateway intersection will likely score high due to cost/benefit of low relative construction cost and improved Level of Service.

*NC Department of Transportation
Land of Sky Regional Council*

Pedestrian connections over the Davidson River are a high priority for improved movement in the area. Also, consider requiring a 10' wide multiple-use trail on the north side of Hendersonville Highway instead of sidewalks as this area redevelops.

*NC Department of Transportation;
Local Businesses; Norfolk Southern Corporation*

Continue to negotiate with landowners of Davidson River Village to include some compatible light industry in the southern portion of the land holdings. Consider land banking and partnerships with landowners to reserve larger tracts for light industrial use.

Developers; Landowners

Rezone "Downtown Mixed-Use" and "Residential" to "Corridor Mixed-Use" zoning in the study area. Coordinate standards of the form-based code to enable the Ecusta Crossroads development concept, and the re-development of the Forest Gate Shopping Center.

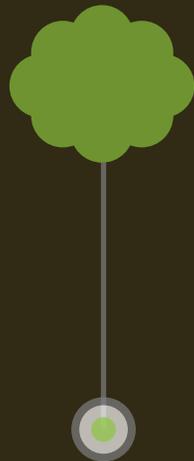
Developers; landowners; Transylvania County

Continue to work with local non-profit and the national forest partners and local businesses to develop and refine gateway options at the 280/64/276 Intersection. Consider investments in landscaping, lighting, banner signage and sidewalk improvements.

*Pisgah National Forest District;
Pisgah Forest Conservancy*

Develop a loop trail system that allow bicycles as well as pedestrians to connect to the Pisgah National Forest Campground on Scenic Byway 276. A series of wayfinding signs as well as a take-away map will help guide users from the Forest to the commercial district.

*Pisgah National Forest; NC Department of Transportation;
Local Business Owners*



DESTINATION BY DESIGN
planning | design | promotion

Remove Regulatory Barriers to Housing Options.

Promote infill and area re-development by adding specific zoning categories that enable neighborhood-scaled multi-family (duplex, triplex, quadruplexes), in-home rentals (boarders), co-housing and other forms of housing that are designed to be supportive of workforce development. These include:

- Allow accessory dwelling units in most zoning districts
- Allow duplexes and triplexes more widely
- Remove barriers for accessory apartments and duplexes
- Allow multi-family housing by-right in certain locations
- Consider allowing car-free housing
- Consider inclusionary housing requirements/incentives

Designate Gateway Corridor Enhancement

The City should consider a variety of strategies for these corridors including:

- Overlay zoning districts that set standards for signage, building design, and landscaping
- A grant program for building, landscaping, or signage improvements
- Additional entry monuments and landscaping
- Capital investments in landscaping, lighting, banner signage, and other streetscape improvements
- Development incentives for new development or redevelopment in the corridors

Create a Capital Improvement Prioritization Plan.

According to the Western North Carolina Regional Outlook Report (2014), "One of the most difficult challenges that the region has been facing is the slow growth of the population." Along with an aging population, most economic indicators show that the region faces additional challenges compared to the rest of the state, including low workforce, low income, and high poverty rates.

If this community embraces the different needs and preferences of many younger, older, diverse, and well-educated populations, it can be a place that helps to increase population density in the region.



Inclusionary Zoning

Inclusionary zoning is a local government requirement for home builders and developers to provide a certain percentage of units in every new market-rate development at an affordable level for people identified as having low or moderate incomes. More than 200 local governments across the country are using inclusionary housing strategies, including Dare County and the Town of Davidson in North Carolina. Programs can be mandatory or voluntary, and most programs contain cost offsets (e.g., density bonuses, expedited permitting processes, or fee waivers) for developers. Payment-in-lieu alternatives, if used properly, can be an excellent method for ensuring some flexibility for developers, while also generating land and dollars that can be used to meet a range of affordable housing needs in a community.

