

7

Transportation and Circulation

- 1. Purpose 7.2
- 2. Issues and
Opportunities 7.2
- 3. Goals and Strategies 7.7



Section 7.1. Purpose

The Transportation and Circulation Element classifies and analyzes performance of existing roadways, bicycle routes and other modes of transportation, while providing direction for future improvements in all modes of travel. Analysis and recommendations reflect coordination with the Land Use and Development Element, ensuring that transportation and land use decisions are not made in isolation.

The main components of this element include:

1. Classification and analysis of existing roadways and traffic patterns
2. Identification and analysis of bicycle, pedestrian, and mass transit infrastructure
3. Recommendations to maintain and improve roadway level of service in order to strengthen the region's economy by moving people and goods efficiently
4. Recommendations for creating a balanced and connected multi-modal transportation system that provides a range of affordable transportation options
5. Recommendations to minimize the adverse impacts of transportation on the environment
6. Recommendations to enhance the appearance of the City's main thoroughfares and gateways

Vision Statement

Hendersonville will strive for a balanced and integrated multi-modal transportation system that is interconnected with the regional transportation system. Hendersonville's streets will be designed to provide an acceptable level of service for local traffic and commerce while providing a comfortable environment for pedestrians, bicycles and transit. Greenways will provide off-street pedestrian connections to local and regional destinations in addition to providing recreational amenities. This multi-modal approach will meet vehicular transportation needs without compromising other goals of this Comprehensive Plan.

Section 7.2. Issues and Opportunities

Regional Planning

The French Broad River Metropolitan Planning Organization (MPO) serves Henderson County as well as Buncombe and Haywood Counties. An MPO is the designated local entity in determining how federal transportation funds are used.

Automobile Mobility

- Map 7.2a is Hendersonville's Powell Bill Allocation Map, which identifies roadways that are maintained by the North Carolina Department of Transportation (NCDOT) and local City-maintained roadways. The Powell Bill is a collection of state statutes that allocate funding for the maintenance and construction of local streets, sidewalks and bikeways.
- Steering Committee members and the general public voiced concerns about increasing traffic congestion and the need for alternative modes and routes.
- The lack of a bypass around the City creates traffic congestion in the Downtown, including a significant amount of truck traffic. Citizens identified cut-through truck traffic as

a significant challenge facing the Downtown.

- Topography along the City's perimeter, particularly to the west, makes the construction of a bypass difficult.
- The French Broad River MPO's Comprehensive Transportation Plan recommends improvements to I-26 as well as several major thoroughfares in Hendersonville. Additionally the plan recommends an east-west bypass north of the City called the Balfour Parkway.
- A high density of curb cuts along the City's commercial thoroughfares impedes safe and efficient traffic flow.
- The Southside Transportation Study, which the City adopted in 2006, recommended a series of improvements near the intersection of Spartanburg Highway, Greenville Highway and South Main Street, in conjunction with the Southside Development Plan. The recommendations of these plans have been incorporated into the Comprehensive Plan.

Appearance of Main Roadways

- Citizens at public meetings expressed the need to enhance the appearance of the City's thoroughfares and gateways. Of particular concern was Four Seasons Boulevard, which suffers from uncoordinated development and signage.

Non-Motorized Transportation

- Hendersonville citizens expressed a strong desire throughout the planning process for improved walkability and bikeability throughout the City. Expanded sidewalks, greenways, traffic calming and a bicycle plan were all topics of discussion.
- Citizens desire a bike path system that connects to a regional bike path network.
- Public meeting attendees cited a lack of safe pedestrian crossings along major thoroughfares such as US-25, US-64, and NC-191.



High density of curb cuts along US-64



Sidewalk obstruction (top), lack of sidewalk continuity (bottom)

- The City's Comprehensive Pedestrian Plan, adopted in 2007, recommends and prioritizes sidewalk improvements and greenway connections.

Pedestrian Plan recommendations primarily focus on the following issues:

- Sidewalk gaps on thoroughfares and in the Downtown
- Providing sidewalks on through residential streets

- Improving connections to parks and schools
- Connecting to regional greenways

The recommendations of the Pedestrian Plan have been incorporated into this Comprehensive Plan.

Mass Transit

- Transit services are provided by Apple Country Transit, which is funded jointly by the City of Hendersonville, Henderson County, and the Town of Fletcher.
- Three bus routes provide access from downtown Hendersonville to Asheville Regional Airport, Blue Ridge Community College, the Laurel Park Shopping Center, Pardee Memorial Hospital, and various shopping and employment destinations along US-64.
- During the planning process, citizens perceived the bus system as underutilized, although several expressed a desire for improved local and regional mass transit.
- Many bus stops in Hendersonville are placed in poorly accessible, unsafe locations with no sidewalks.

Airports

- Henderson County is served by two airports, Asheville Regional Airport and Greenville-Spartanburg Jetport.
- Asheville Regional Airport is located 15 minutes north of downtown Hendersonville, while the Greenville-Spartanburg Jetport is located 40 miles south of Hendersonville.
- The Hendersonville Airport is privately owned, but open to the public. It is located two miles east of downtown and has been active since 1937.

Railroads

- Norfolk Southern Railroad bisects Hendersonville east of Main Street. Passenger service on this railroad was terminated in 1968, but the main rail line east of the downtown area is still utilized



Examples of poorly accessible bus stops in Hendersonville




as a through line for occasional freight traffic.

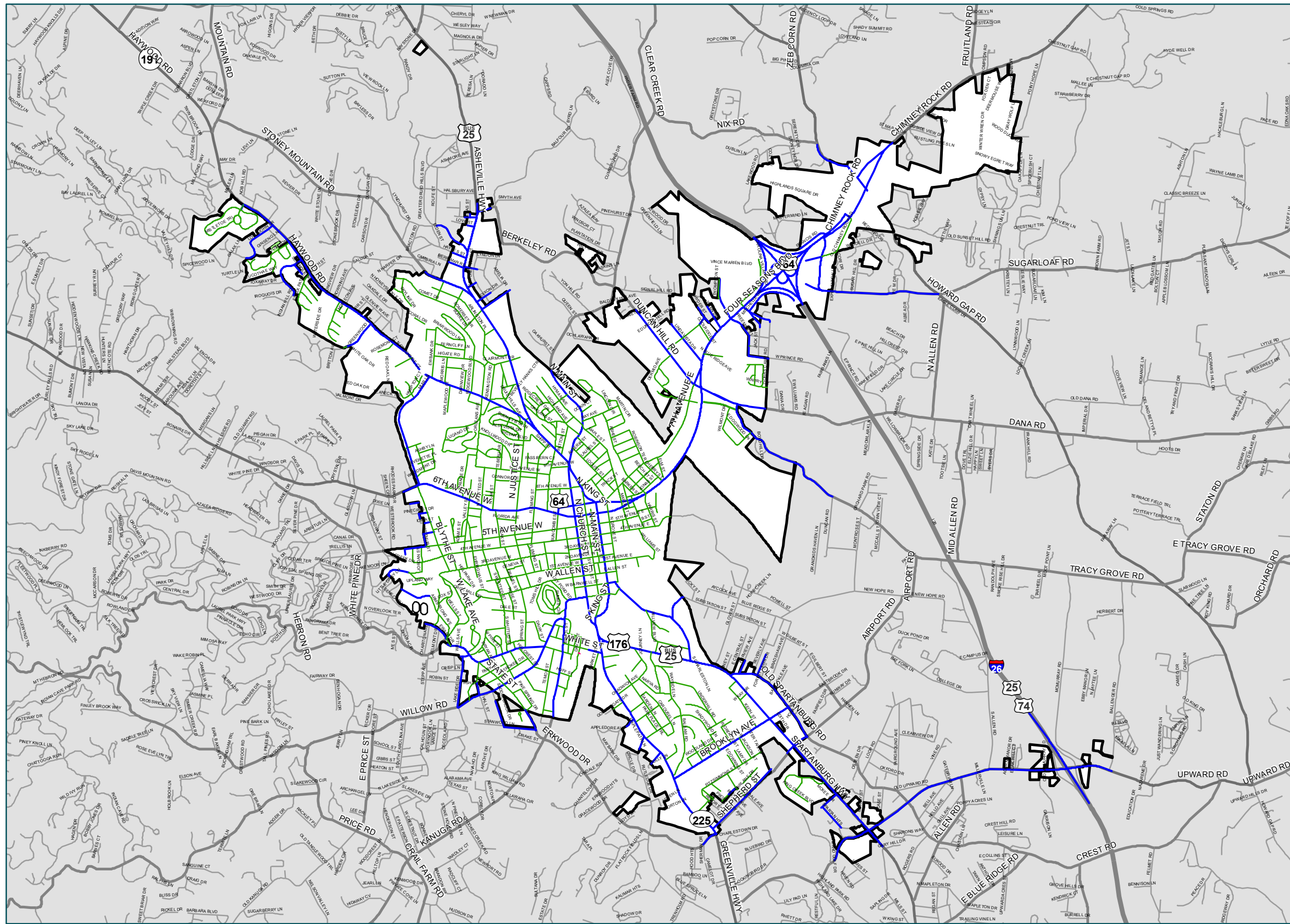
- An existing rail line connects Hendersonville with Brevard to the west. While this section is inactive, there has been discussion about using this rail section for a future dinner train or rails-to-trails uses. Additional opportunities include using the line to connect Brevard area residents to business and education opportunities in Hendersonville, and to provide a linkage to a planned mixed-use development at the former Ecusta plant near Brevard, where the line terminates.



Map 7.2a:
Powell Bill Allocation Map

Legend







-  City Limits
-  State-Maintained Roads
-  City Maintained Streets
(private streets not shown)

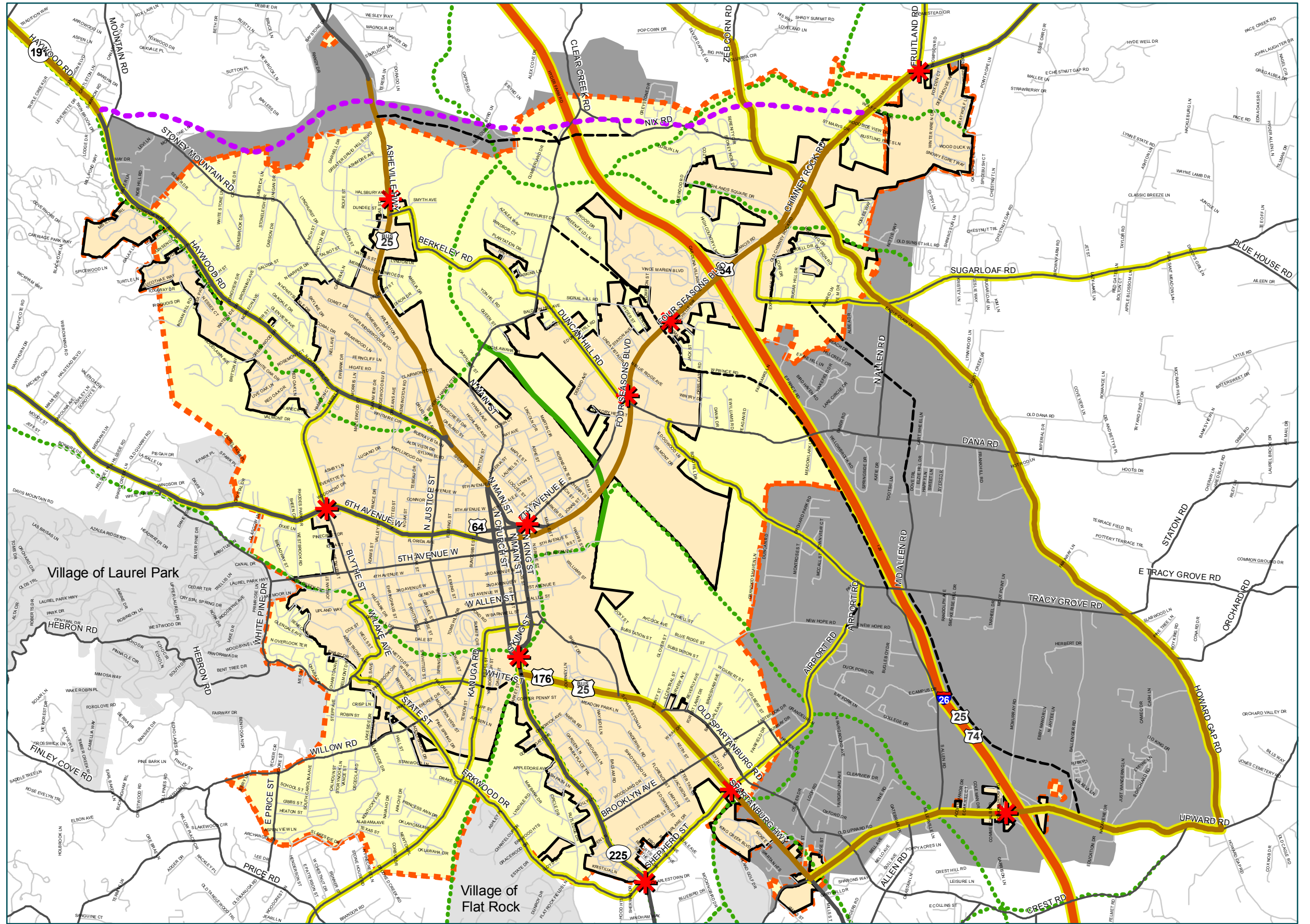


March 2009

Source:
City of Hendersonville
Hendersonville County

Map 7.3a: Transportation Plan Legend

-  Proposed Gateways
-  Proposed Expressway
-  Potential Minor Thoroughfare
-  Freeway
-  Boulevard
-  Major Thoroughfare
-  Minor Thoroughfare
-  Proposed Improvement
-  Local Street
-  Existing Greenway
-  Potential Greenway
-  City Limits
-  Extra Territorial Jurisdiction
-  Proposed ETJ Expansion



Source: City of Hendersonville Henderson County March 2009

Source: City of Hendersonville Henderson County

Section 7.3. Goals and Strategies

Goal TC-1.

Develop a multi-modal transportation system that encourages pedestrian and bicycle usage in order to promote pedestrian safety, reduce vehicle miles travelled and encourage community interaction.

Strategy TC-1.1.

Encourage mixed-use, pedestrian-friendly development that reduces the need to drive between land uses.

Action TC-1.1.1

Promote mixed uses throughout the City, as described in Chapter 8.

Action TC-1.1.2

Promote intense mixed-use “activity centers” that concentrate development at key intersections, as described in Chapter 8.

Action TC-1.1.3

Encourage walkable site design, as described under Goal PH-3

Strategy TC-1.2.

Identify and prioritize needed pedestrian connections within the community.

Several areas of the City have developed without sidewalks. The 2007 Pedestrian Plan inventoried the sidewalk system and prioritized improvements.

Action TC-1.2.1

Continue to implement the adopted Pedestrian Plan.

Action TC-1.2.2

Periodically review and update the Pedestrian Plan in order to continue the goal of providing safe pedestrian connections citywide.

Strategy TC-1.3.

Incorporate Complete Streets concepts into future roadway improvements in order to create multi-modal streets. See Figure 7.3a for descriptions of Complete Streets concepts.

Figure 7.3a: Complete Streets

A Complete Street is a road that is designed to be safe for drivers; bicyclists; transit vehicles and users; and pedestrians of all ages and abilities. Below are several examples of Complete Streets design concepts.



Narrowed Streets slow down traffic while retaining functionality.

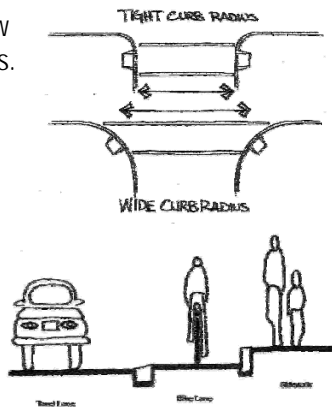


Shorter block lengths discourage speeding and help to improve street and sidewalk connectivity.

Improved street and/or sidewalk connectivity helps to prevent arterial congestion, disperses cut-through traffic, and shortens pedestrian routes.

Figure 7.3a: Complete Streets, continued

Tightened curb radii slow vehicle turning movements.



Bike lanes provide bicycle mobility, help to calm traffic, provide protection from traffic for on-street parking and provide additional spaces for buses to stop without impeding traffic.

Landscaped medians and Pedestrian refuge islands (Asheville example shown here) help to visually narrow the roadway, provide a pedestrian crossing refuge, and improve access management.



On-street parking provides access to businesses while narrowing the travelled way and calming traffic. Often seen in combination with on-street parking, **Curb bulb-outs** (as illustrated in the conceptual drawing and Main Street photo below) narrow the roadway, shorten pedestrian crossings and improve vehicle sight lines.



Action TC-1.3.1

Develop a Master Transportation Plan that incorporates bike and pedestrian facilities into recommended roadway cross sections.

Action TC-1.3.2

Explore reduced lane width requirements on roadway types where low speeds are appropriate.

Action TC-1.3.3

Implement traffic calming techniques in existing or planned mixed-use, high-density locations including the Downtown Core, Downtown Support, Urban Institutional, Neighborhood Activity Center, and Regional Activity Center categories on the Future Land Use Map (Map 8.3b in Chapter 8).

Action TC-1.3.4

Incorporate maximum-block-length requirements in zoning and subdivision regulations. Require shorter block lengths where lower speeds are appropriate.

Strategy TC-1.4.

Encourage pedestrian connections between dead end streets and adjacent neighborhoods.

Action TC-1.4.1

Incorporate dead-end street sidewalk connection requirements into the Zoning and Subdivision Codes.

Strategy TC-1.5.

Maintain existing pedestrian facilities throughout the City and ETJ.

Action TC-1.5.1

Complete an inventory of existing sidewalks including sidewalk conditions and obstructions and conformance with the Americans with Disabilities Act (ADA) standards.

Action TC-1.5.2

Establish a systematic maintenance program for existing sidewalks.

Strategy TC-1.6.

Support community-based initiatives that build support for and awareness of the need for a walkable community.

Action TC-1.6.1

Continue to support the Walk Wise Drive Smart program.



Neighborhood pedestrian connection

Goal TC-2.

Develop a bicycle infrastructure that encourages bicycling as a form of transportation and recreation. *A robust bicycle infrastructure provides a viable transportation alternative for short to moderate distances as well as a popular recreational amenity that can attract visitors and residents.*

Strategy TC-2.1.

Develop a citywide Bicycle Plan that directs efforts to create Hendersonville’s bicycle infrastructure. The Bicycle Plan should identify and prioritize recommendations for bike lanes, paths, and routes in Hendersonville. The plan should be a component of (or at least coordinate with) the Master Transportation Plan.

Action TC-2.1.1

Pursue grants from NCDOT to prepare a bicycle plan.

Strategy TC-2.2.

Preserve and expand the public greenway system as a core component of the bicycle and pedestrian transportation system.

Action TC-2.2.1

Pursue opportunities for greenway expansion along stream corridors and rail lines, as described in detail under Strategy CF-7.2 in Chapter 5.

Action TC-2.2.2

Design and locate new greenways so that the greenways provide a logical link to neighborhoods, businesses, schools, parks, and future regional greenways.

Action TC-2.2.3

Promote existing greenways through park literature, school outreach programs, environmental educational programs and guided nature walks.

Strategy TC-2.3.

Incorporate bicycle lanes into future roadway improvements where appropriate. As described in Strategy TC-13 and Figure 7.3a, bike lanes are a component of the Complete Streets philosophy and should be a component of a Bicycle Master Plan and/or a Master Transportation Plan.

Strategy TC-2.4.

Encourage bicycle parking facilities at key destinations. Providing secure parking facilities for bicycles is an important component in creating a convenient bicycling infrastructure and promoting bicycle usage.

Action TC-2.4.1

Incorporate bicycle racks into streetscape improvements in pedestrian-friendly business districts such as downtown and Neighborhood/Regional Activity Centers.

Action TC-2.4.2

Install bicycle racks at City offices in order to set an example for other institutions and businesses.

Action TC-2.4.3

Work with the School District and Henderson County to ensure that bicycle racks are installed at schools and County and School office buildings.

Action TC-2.4.4

Work with Apple Country Transit to explore bike rack installation at transit stops and on buses.

Strategy TC-2.5.

Promote bicycling as a form of transportation and recreation.

Action TC-2.5.1

Develop brochures that communicate the benefits of bicycling and include maps of local and regional bicycle routes.

Strategy TC-2.6.

Achieve designation as a “Bicycle-Friendly Community” as provided by the League of American Bicyclists.

Action TC-2.6.1

Work toward becoming a Bicycle-Friendly Community, as described in Figure 7.3b.

Action TC-2.6.2

Apply for designation.

Figure 7.3b: Bicycle Friendly Community

The Bicycle Friendly Communities Campaign (www.bicyclefriendlycommunity.org) is an awards program that recognizes municipalities that actively support bicycling. A Bicycle-Friendly Community provides safe accommodation for cycling and encourages its residents to bike for transportation and recreation.

Prospective communities complete an application that provides a general community profile, as well as a detailed audit of the community's engineering, education, encouragement, enforcement, and evaluation efforts. A committee reviews and scores the application and consults with local cyclists in your community. An award of platinum, gold, silver or bronze status is designated for four years.

Newly designated Bicycle Friendly Communities receive an awards ceremony, a Bicycle-Friendly Community road sign, and a formal press announcement.

Current Bicycle Friendly Communities in North Carolina include:

- Carrboro
- Cary
- Charlotte



Goal TC-3.

Provide a safe and efficient roadway system that meets adequate vehicular level-of-service requirements in order to support business activity and residential quality of life.

Strategy TC-3.1.

Continue to develop and require a connected street grid.

Action TC-3.1.1

Require stub streets and connections to existing stubs in new subdivisions.

Strategy TC-3.2.

Coordinate with the NC Department of Transportation and French Broad River Metropolitan Planning Organization (MPO) on localized transportation planning.

Action TC-3.2.1

Work with the French Broad River MPO on updates to the Comprehensive Transportation Plan to reflect the map classifications depicted on Map 7.3a.

Action TC-3.2.2

Ensure that the French Broad River MPO Comprehensive Transportation Plan, along with future revisions and additions, align with the City's Master Transportation Plan.

Strategy TC-3.3.

Implement local policies and practices that complement and expand upon the State's access management standards.

The City can encourage development practices conducive to access management through zoning and subdivision regulations and the planned development review process. New development and redevelopment along thoroughfares are opportunities to utilize these policies and practices.

Action TC-3.3.1

Adopt local access management regulations and roadway classifications that mirror the State standards, as described in Table 7.3a.

Action TC-3.3.2

Incorporate zoning regulations that encourage shared parking and cross-access easements.

Action TC-3.3.3

Encourage the use of shared service drives to consolidate access points.

Action TC-3.3.4

Utilize redevelopment projects as opportunities to correct access management problems.

Strategy TC-3.4.

Improve roadways as needed to implement the land use vision and meet level-of-service requirements, as illustrated on Map 7.3a.

Action TC-3.4.1

Support the construction of the Balfour Parkway as a means of improving east-west movement near north Hendersonville, alleviating Downtown congestion, and improving pedestrian safety in Downtown and adjacent areas.

Action TC-3.4.2

Construct an access road parallel to the Balfour Parkway to provide access to neighboring properties and create opportunities for Business Park uses.

Table 7.3a: Functional Classifications and Access Management Standards
(derived from North Carolina Department of Transportation facility types descriptions)

	Freeways	Expressways	Boulevards	Thoroughfares
Functional Purpose	<ul style="list-style-type: none"> • High mobility, low access 	<ul style="list-style-type: none"> • High mobility, low to moderate access 	<ul style="list-style-type: none"> • Moderate mobility, low to moderate access 	<ul style="list-style-type: none"> • Moderate to low mobility, high access
Control of Access	<ul style="list-style-type: none"> • Driveways not allowed 	<ul style="list-style-type: none"> • Driveways not allowed 	<ul style="list-style-type: none"> • One driveway connection per parcel • Consolidate and/or share driveways and limit access to connecting streets or service roads • Restrict driveways to right-in/right-out 	<ul style="list-style-type: none"> • Driveways allowed with full movements • Consolidate or share connections if possible
Traffic Signals	<ul style="list-style-type: none"> • Not Allowed 	<ul style="list-style-type: none"> • Not Allowed 	<ul style="list-style-type: none"> • Allowed 	<ul style="list-style-type: none"> • Allowed
Cross-Section	<ul style="list-style-type: none"> • Minimum 4 lanes with a median 	<ul style="list-style-type: none"> • Minimum 4 lanes with a median 	<ul style="list-style-type: none"> • Minimum 2 lanes with a median 	<ul style="list-style-type: none"> • Minimum 2 lanes; no median • Includes facilities with two-way left turn lane
Connections	<ul style="list-style-type: none"> • Provided only at interchanges • All cross streets are grade-separated 	<ul style="list-style-type: none"> • Provided only at interchanges for major cross streets and at-grade intersections for minor cross streets • Use of acceleration and deceleration lanes for at-grade intersections 	<ul style="list-style-type: none"> • At-grade intersections for most major and minor cross streets • Occasional interchanges at major crossings • Use of acceleration and deceleration lanes 	<ul style="list-style-type: none"> • Primarily at-grade intersections
Median Crossovers	<ul style="list-style-type: none"> • Public-use crossovers not allowed • U-turn median openings for use by authorized vehicles only 	<ul style="list-style-type: none"> • Allowed, though alternatives to all-movement crossovers are encouraged; • Minimum spacing between all-movement crossovers is 2000 feet (posted speed limit of greater than 45 mph) or 1200 feet (posted speed limit of 45 mph or less) 	<ul style="list-style-type: none"> • Allowed • Minimum spacing between all-movement crossovers is the same as Expressways 	<ul style="list-style-type: none"> • Not applicable

Action TC-3.4.3

Include in the French Broad River MPO future Comprehensive Transportation Plan new minor arterials parallel to I-26 in order to provide alternatives to I-26 for local traffic, improve movement between Hendersonville’s radial streets, and improve access to areas planned as Business Park on the Future Land Use Map (Map 8.3b in Chapter 8).

Action TC-3.4.4

Connect Spartanburg Highway with Hebron Road in order to improve east-west circulation south of Downtown.

Action TC-3.4.5

Widen and improve existing roadways as indicated on Map 7.3a, based on studies of existing and projected traffic volume as compared to current capacity.

Goal TC-4.

Promote an integrated mass transit system that addresses local and regional needs. *Mass transit helps to reduce traffic congestion and pollution, improve community connectivity and improve mobility for elderly and low-income individuals and persons with disabilities.*

Strategy TC-4.1.

Continue to collaborate with the County, other municipalities and regional governments to maintain and enhance the transit system.

Action TC-4.1.1

Continue to provide financial support for a regional mass transit system. Consider increasing transit service levels to make the system more user-friendly.

Action TC-4.1.2

Coordinate the transit component of the Master Transportation Plan with other governments in the region.

Strategy TC-4.2.

Ensure that all bus stops are in locations that can be accessed safely and conveniently by pedestrians.

Action TC-4.2.1

Make bus routes a priority for sidewalk improvements.

Action TC-4.2.2

Provide sidewalk connections from bus stops to neighborhoods and destinations.

Strategy TC-4.3.

Include mass transit as a component of a Master Transportation Plan.

Action TC-4.3.1

Analyze ridership levels and needs.



Example of an accessible bus stop and shelter

Action TC-4.3.2

Identify necessary changes to routes, stops and facilities.

Goal TC-5.

Enhance key gateways to the community in order to present a positive first impression and increase civic pride. *The appearance of a community's roadways affects the perception of that community by visitors as well as citizens. Enhanced entrances and roadways help to make the community more attractive to visitors and prospective residents and businesses, while increasing pride in the community among existing citizens.*

Strategy TC-5.1.

Incorporate aesthetic improvements such as landscaped medians and street trees along roadways.

Action TC-5.1.1

Include aesthetic improvements in the required roadway cross sections for each roadway type in the Master Transportation Plan (see also Strategies TC-1.4 and TC-2.2).

Action TC-5.1.2

Utilize landscaped medians on Boulevards and Major Thoroughfares.

Action TC-5.1.3

Continue to provide new street tree plantings on major thoroughfares.

Action TC-5.1.4

Continue to provide landscape and infrastructure improvements in the Main Street and 7th Avenue Municipal Service Districts.

Action TC-5.1.5

Support Tree Board recommendations for improvements to rights-of ways in the City.

Strategy TC-5.2.

Enhance key entrances within the City, as indicated on Map 7.3a.

Attractive gateways will visually reinforce Hendersonville's identity and image. Downtown gateways will emphasize the importance of downtown as the cultural and historic center of the community.

Action TC-5.2.1

Encourage key entrances to downtown Hendersonville.

Action TC-5.2.2

Create attractive and recognizable community gateways at key entrances to Hendersonville, as indicated on Map 7.3a.

Action TC-5.2.3

Enhance the southern entrance to downtown with enhancements at the intersection of South Main, Church and King Streets.