Welcome

Welcome to the Public Meeting

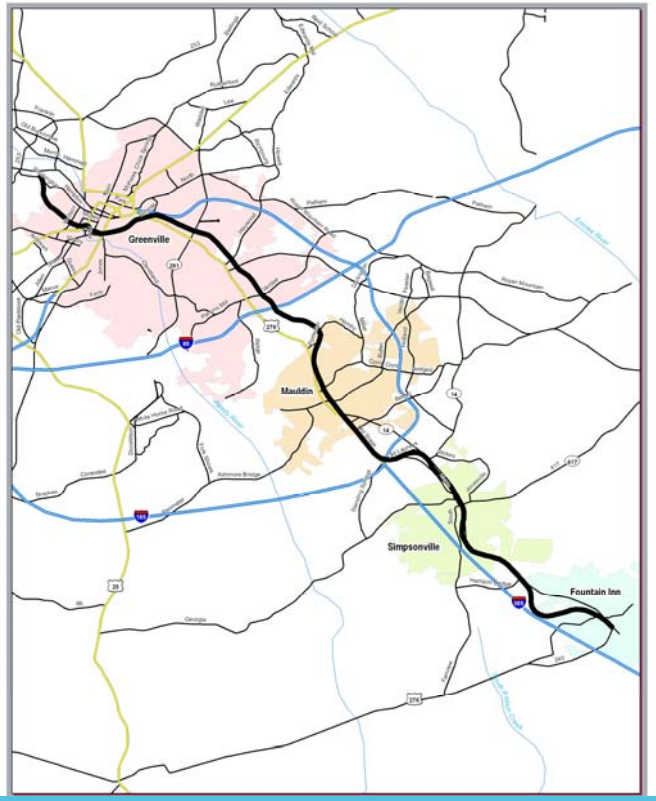
Tonight, you will learn more about the feasibility study for a future high capacity transit (HCT) system between the cities of Greenville, Mauldin, Simpsonville, and Fountain Inn.

Please Sign In

Introduction

Project Description

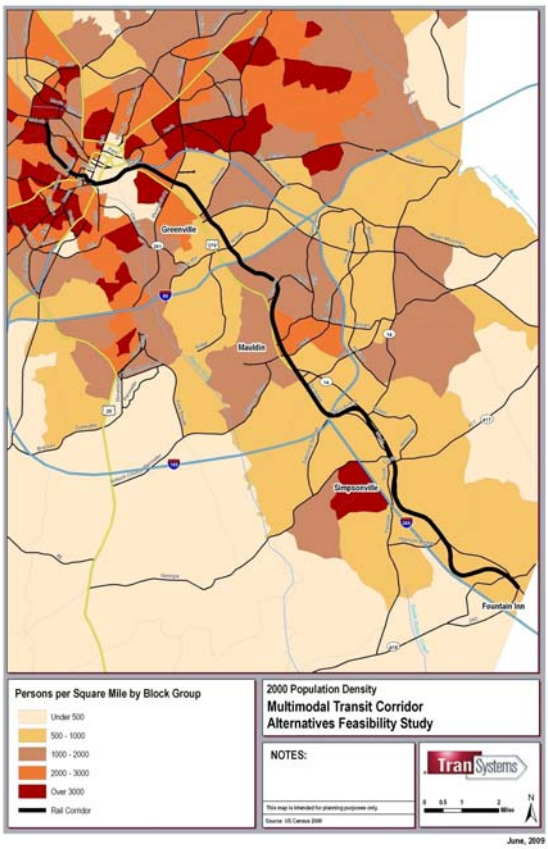
- A feasibility study of a High Capacity Transit (HCT) system between Greenville and Fountain Inn is underway (approximately 18 miles in length)
- The primary study area is a 3 ½ mile discontinued freight rail corridor owned by the Greenville County Economic Development Corporation (GCEDC)
- Various transit and bikeway modes are being considered
- The location of stations, park n' ride locations, and transit oriented development land uses are part of the study
- Connections to Amtrak, proposed Southeast High Speed Rail and to the Swamp Rabbit Trail are also being examined








Population/Employment



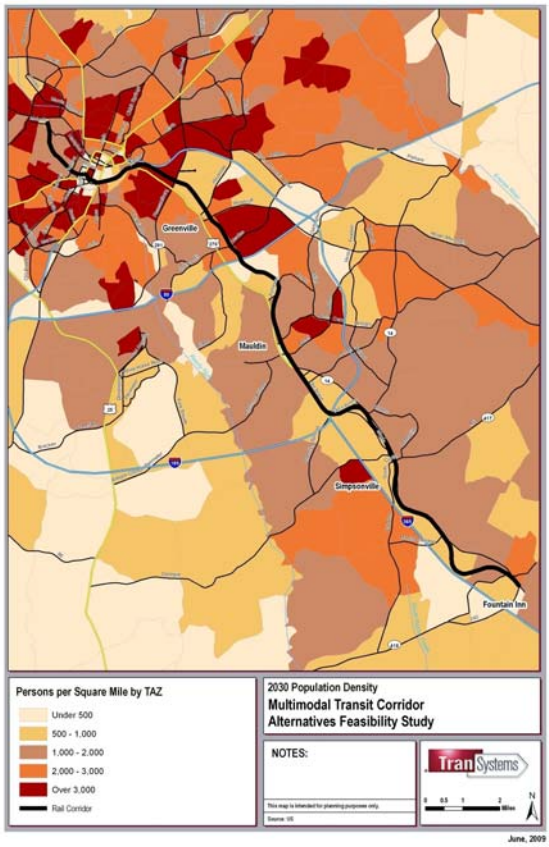
POPULATION

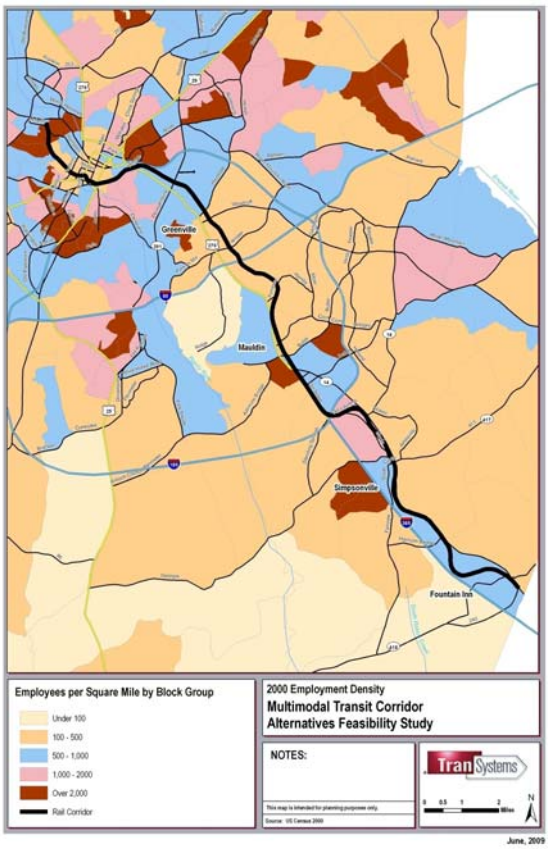
Existing population is greatest surrounding Greenville, east of I-385 in Mauldin, and west of I-385 in Simpsonville

Population projections indicate that there will be continued growth along the corridor

The City of Greenville's population is expected to increase from 56,002 (2000) to 77,600 (2030)

Greenville County's population is expected to increase from 428,243 (2007) to 451,398 (2012), a 5.4% increase

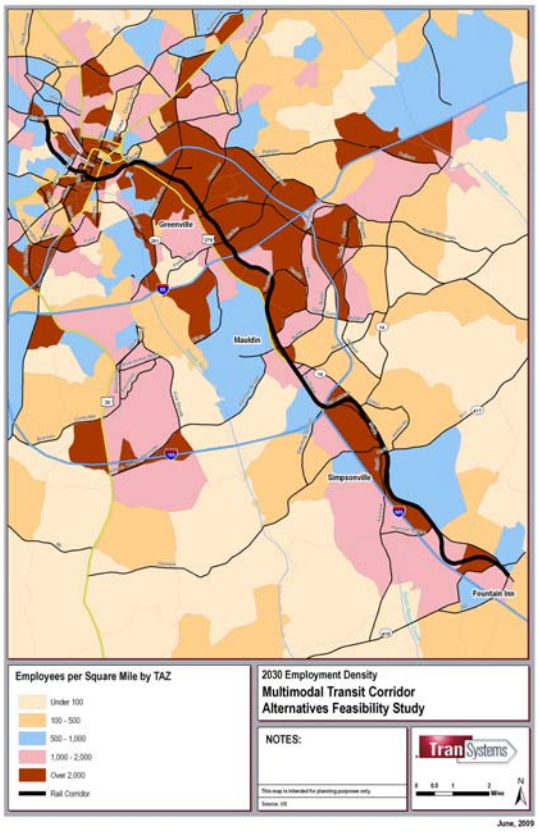




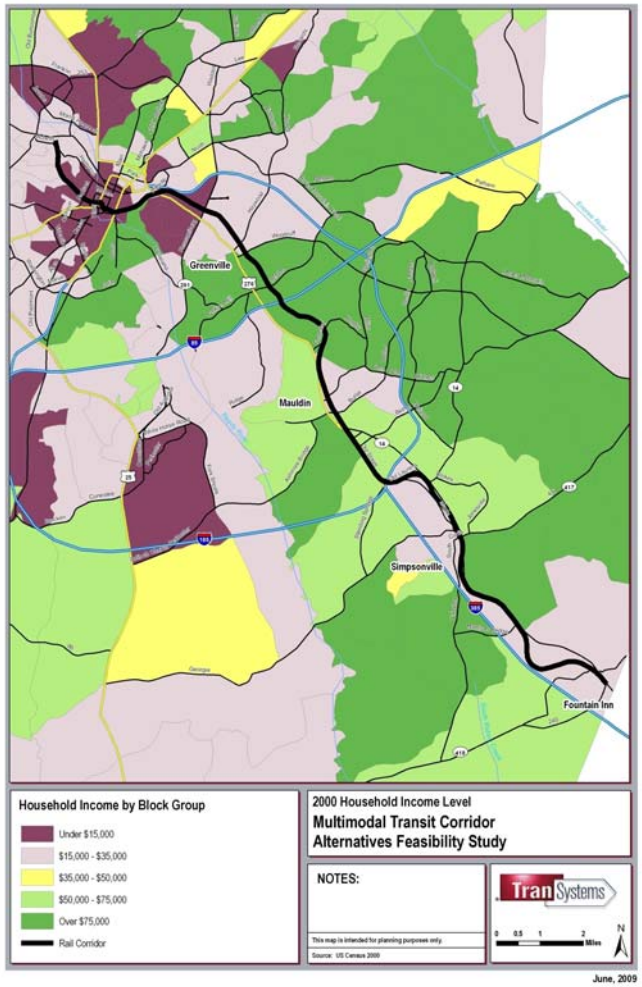
EMPLOYMENT

Existing employment density is greatest within Greenville and on the west side of I-385 in Simpsonville

Projected employment is expected to significantly increase on the east side of the corridor



Household Income and Major Employers



INCOME

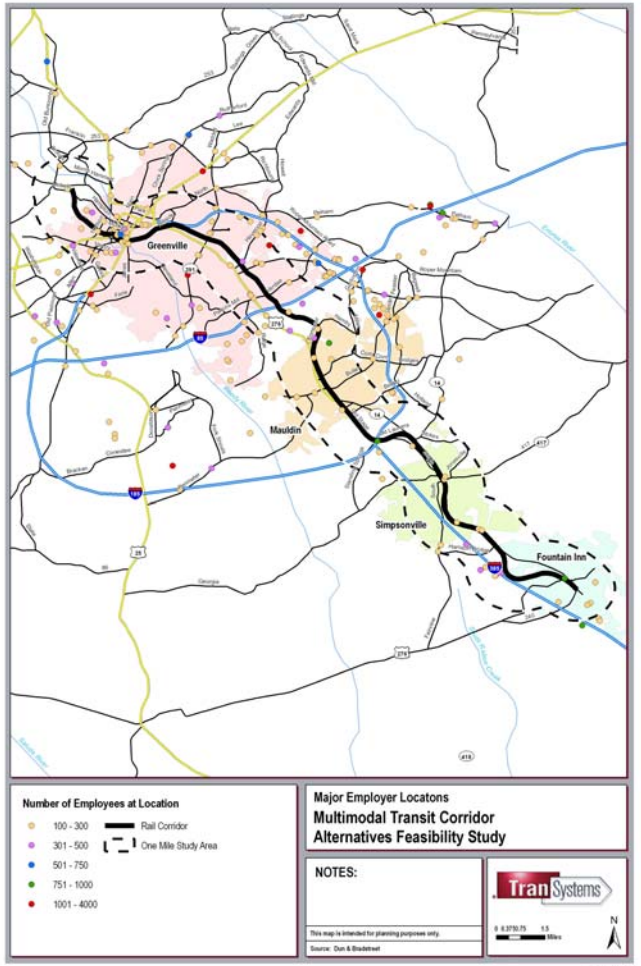
Household income (2000) is lowest in neighborhoods surrounding downtown Greenville

Household income is greatest along the rail corridor in south Greenville, in Mauldin, and in Simpsonville

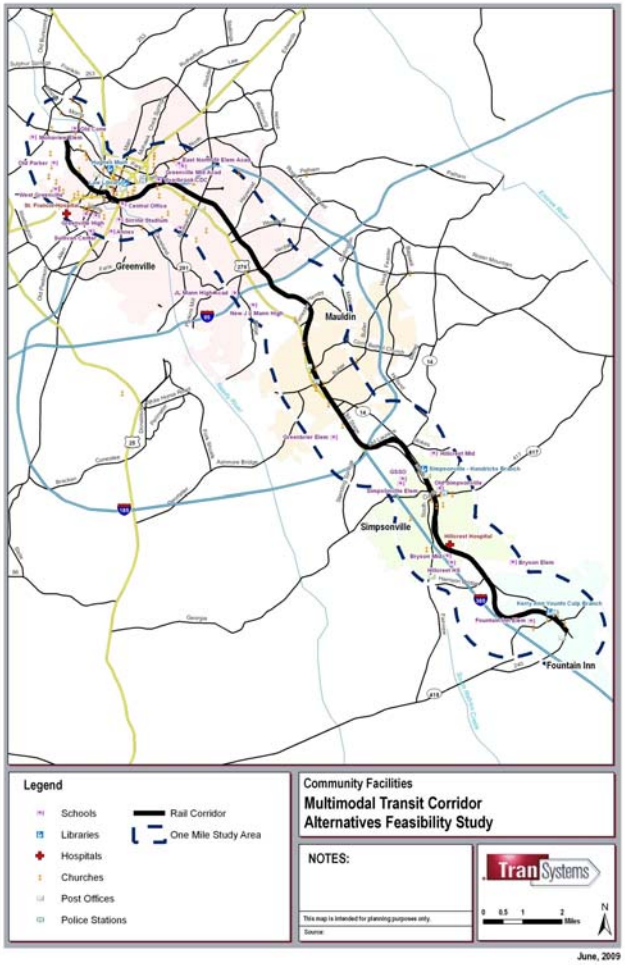
MAJOR EMPLOYERS

There are four significant employers with over 750 employees each located near the corridor: Space Services LLC, Greenville Technical College, Bi-Lo LLC and Kemet Corporation

There are also numerous larger employers located in downtown Greenville and along Laurens Road



Community Facilities and Environmental Conditions



COMMUNITY FACILITIES

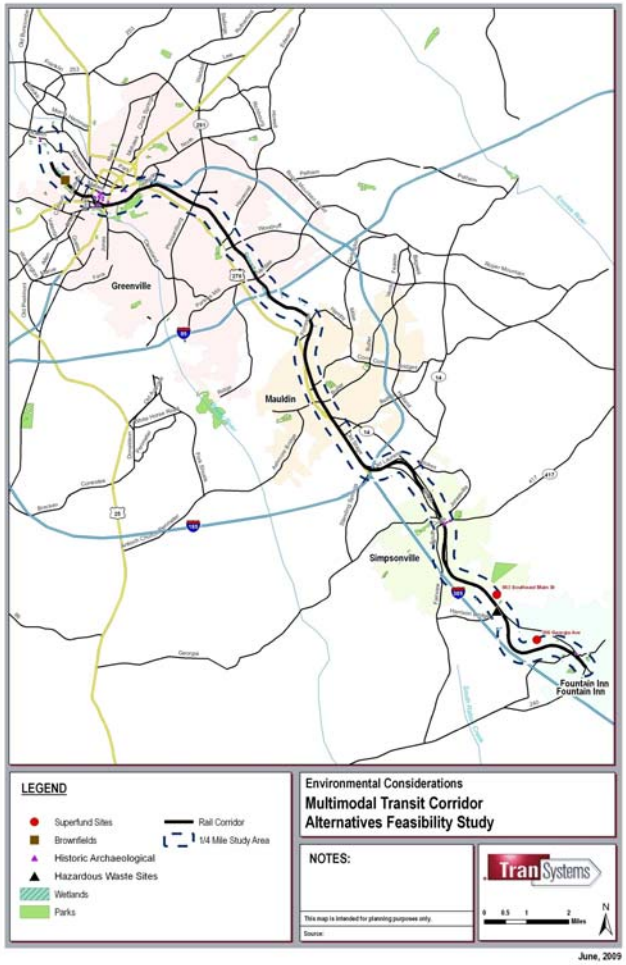
There are numerous community facilities along the rail corridor including two hospitals, schools, several churches and community facilities

ENVIRONMENTAL FEATURES

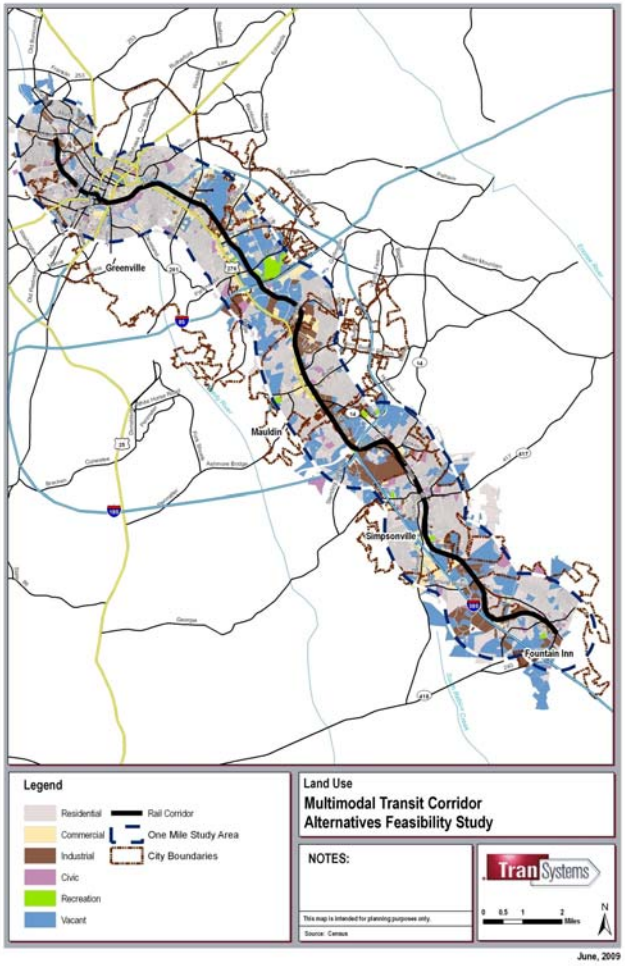
There are several historical/archeological sites along the corridor in downtown Greenville

Recorded wetlands are located near Verdae Boulevard

Two Superfund sites are located near the south end of the corridor



Land Use and Transit Potential Index



LAND USE

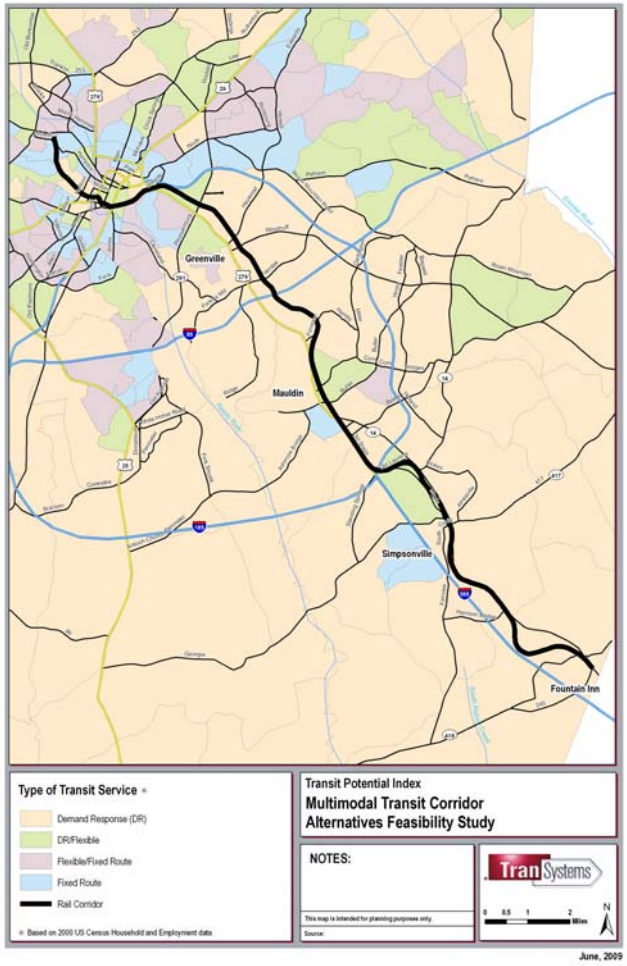
Land use along corridor is primarily residential or vacant

Industrial land uses are located along corridor south of Greenville

TRANSIT POTENTIAL INDEX

The Transit Potential Index indicates that fixed route transit service is most appropriate in downtown Greenville as well as in areas of Mauldin and Simpsonville given existing household and population numbers (2000)

Population and household projections (2030) are expected to expand the need for fixed route services in the corridor



Transit Mode Technology

Commuter Rail

Commuter Rail is operated on tracks typically shared with freight traffic. It is oriented to the peak period and typically serves suburban commuters to downtown employment areas. Usually, trains consist of one locomotive and several passenger cars, which accommodate 140+ riders per car. Stations are typically spaced 3-5 miles apart. Train speed is relatively high (e.g. 75 mph).This mode is not suited for operating in the street.

Vehicle Costs: $1.9 million (car); $2.4 million (locomotive)

Heavy Rail

Heavy Rail, also called Metro, typically operates grade separated and is electrically powered. It provides more frequent service than commuter rail, and is appropriate for denser urban areas. Stations are spaced 1-2 miles apart. Trains usually operate with several passenger cars which accommodate 65+ riders per car. This mode operates on a frequent (10-20 minute) basis. Train speed is relatively high. Heavy Rail is not suited for operating in the street.

Vehicle Costs: $1.4 million each

Light Rail Transit (LRT)

Light Rail Transit is an electrically or diesel powered rail passenger system used for urban transportation, typically used on shorter routes than those covered by commuter rail. LRT typically operates at grade within a dedicated right-of-way. LRT is capable of high speed (55 mph) when in an exclusive right-of-way. Stations are generally spaced a minimum of half mile intervals to allow the vehicles to reach higher speeds. LRT typically operates with at least two car consists; each car can accommodate 64+ riders.

Vehicle Costs: $4 million - $5 million each

Transit Mode Technology

Streetcar

Streetcars are electrically or diesel powered vehicles designed to travel in urban cores and serve a wide variety of trip types over shorter distances. The cars are “light weight” and maneuverable. They have fast acceleration and can travel quickly between shorter spaced stations, typically within mixed traffic in the street. They accommodate a lower ridership because each train only has one car; each car can accommodate 50+ riders. The vehicles can be modern or historic replicas.

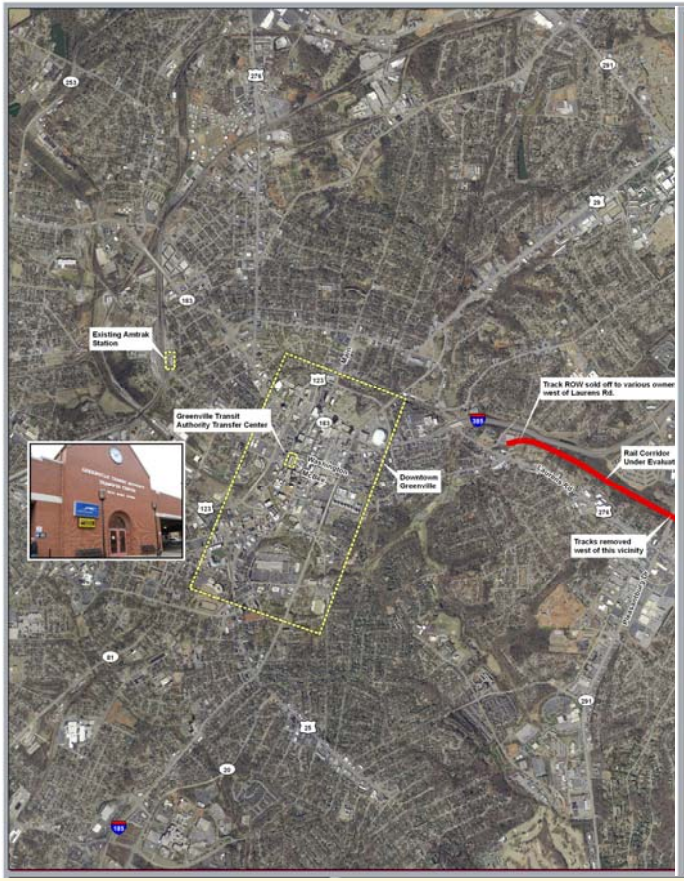
Vehicle Costs: $3 – $3.5 million each

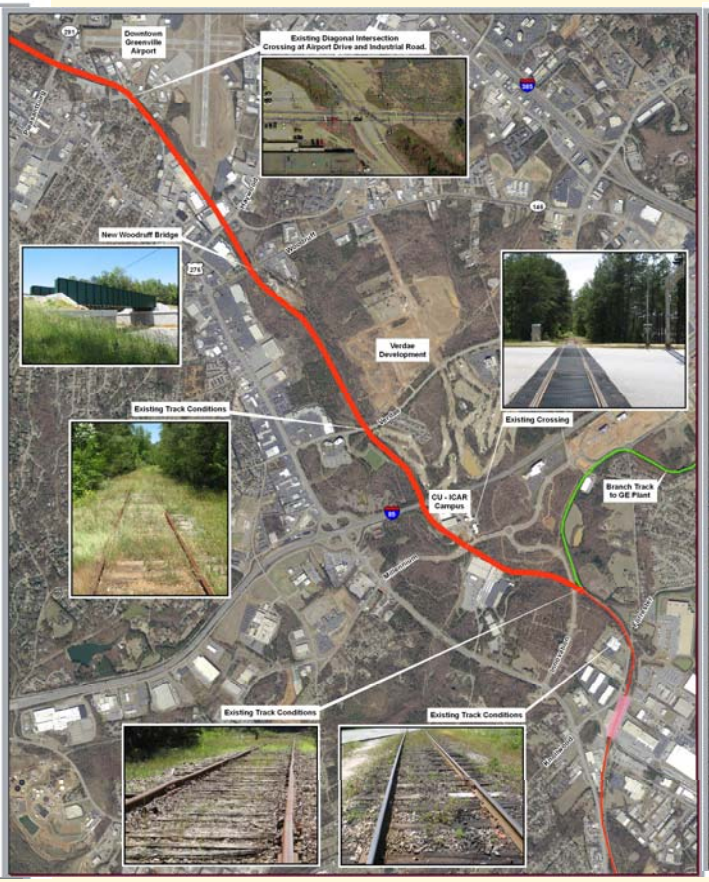
Bus Rapid Transit (BRT)

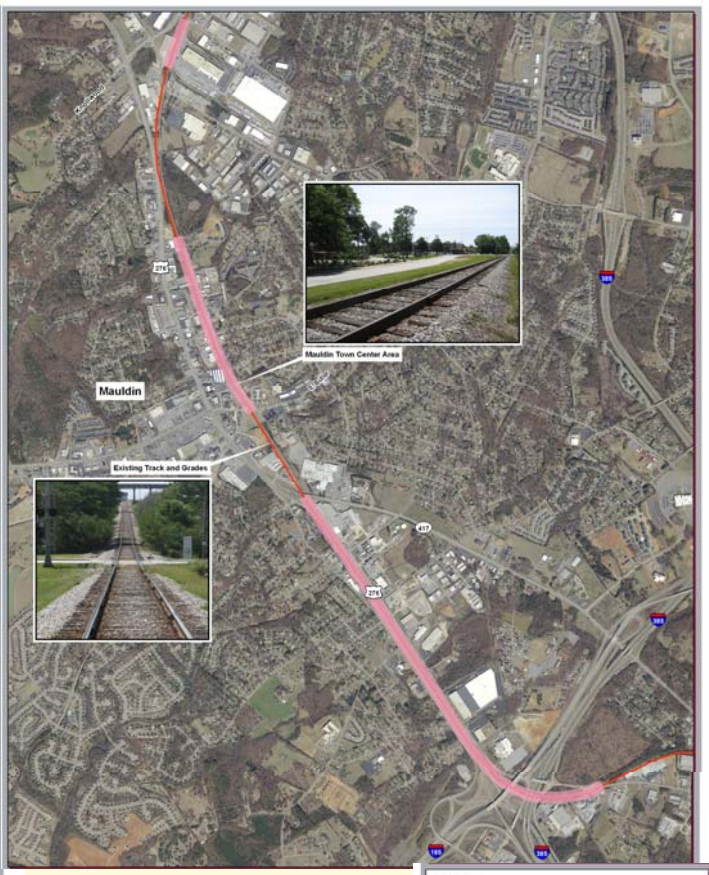
Bus Rapid Transit is a bus operating strategy that uses reserved transitways or lanes, express operations, special vehicles, enhanced passenger facilities and other means for buses to emulate the reliability and convenience of rail transit. The goal of using BRT technology is to combine the flexibility of buses with the speed and reliability of rail transit at a lower cost. Ridership is lower as buses accommodate 40-60+ riders. Typical station spacing is 1-2 miles apart. Buses operate via shorter headways, 5-10 minutes apart.

Vehicle Costs: $1 million – $1.2 million each

Existing Conditions



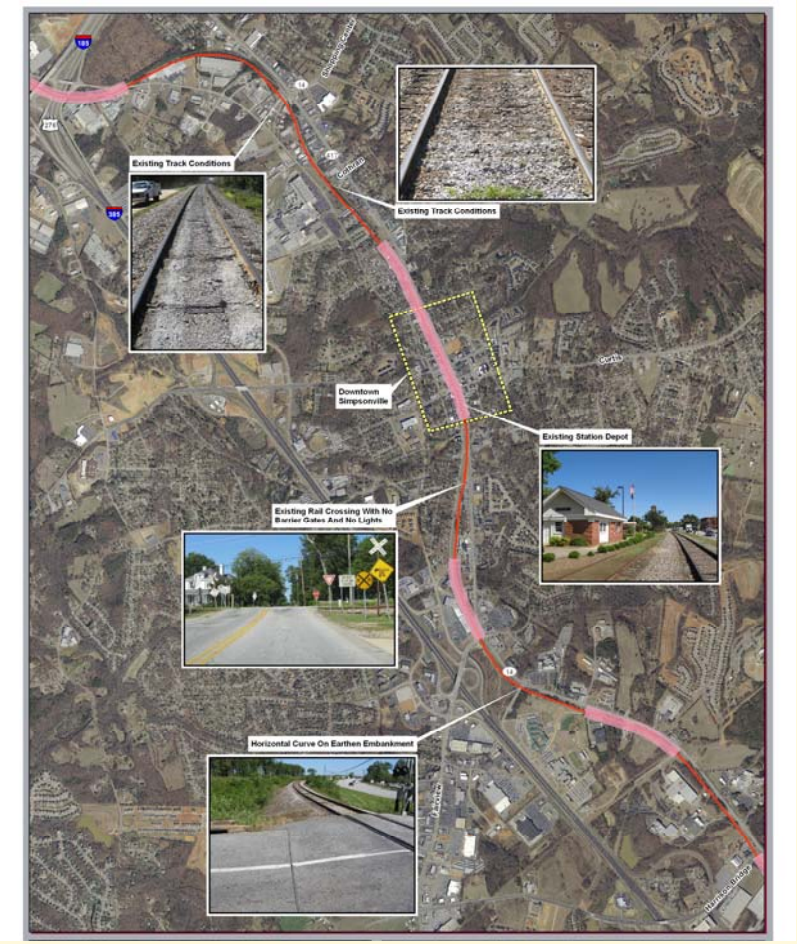


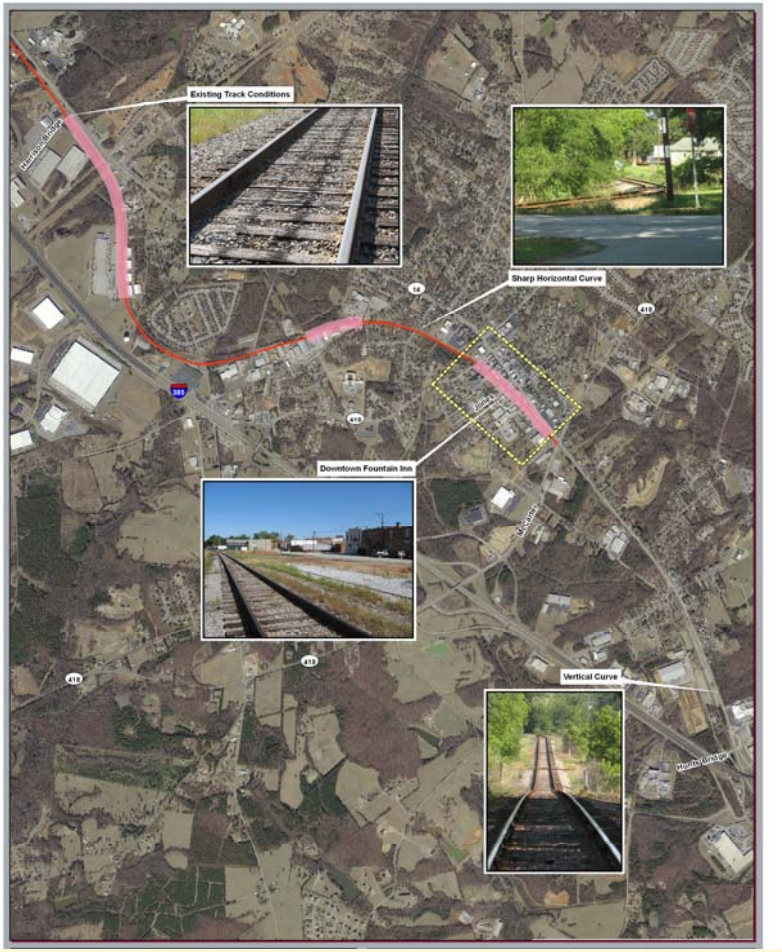


LEGEND

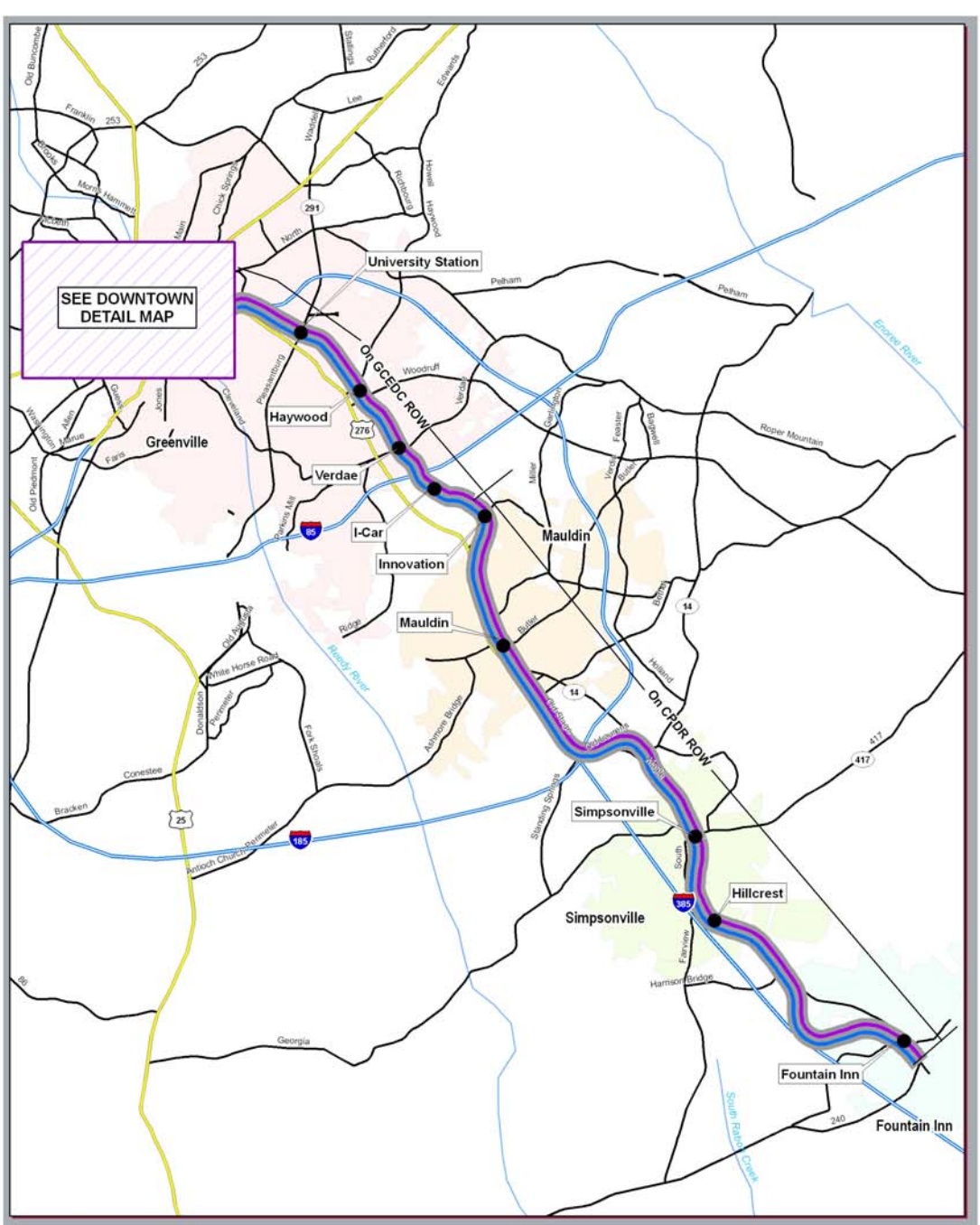
- ROW Unable to Accomodate Dedicated Bikeway
- Rail Corridor Under Evaluation (GCEDC Owned)
- Rail Corridor Under Evaluation (Carolina Piedmont Division Railroad)

Existing Conditions





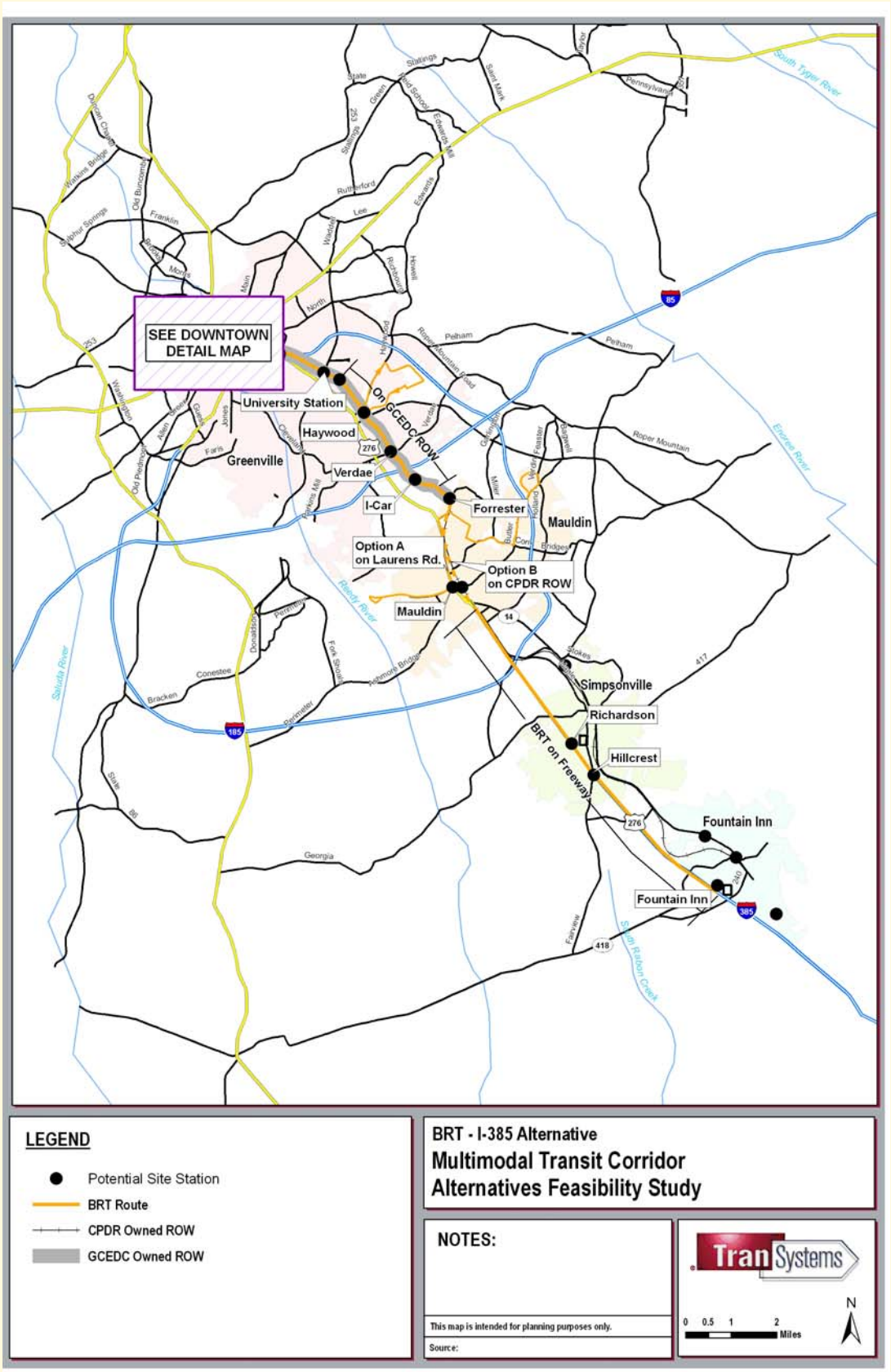
Rail Alternatives







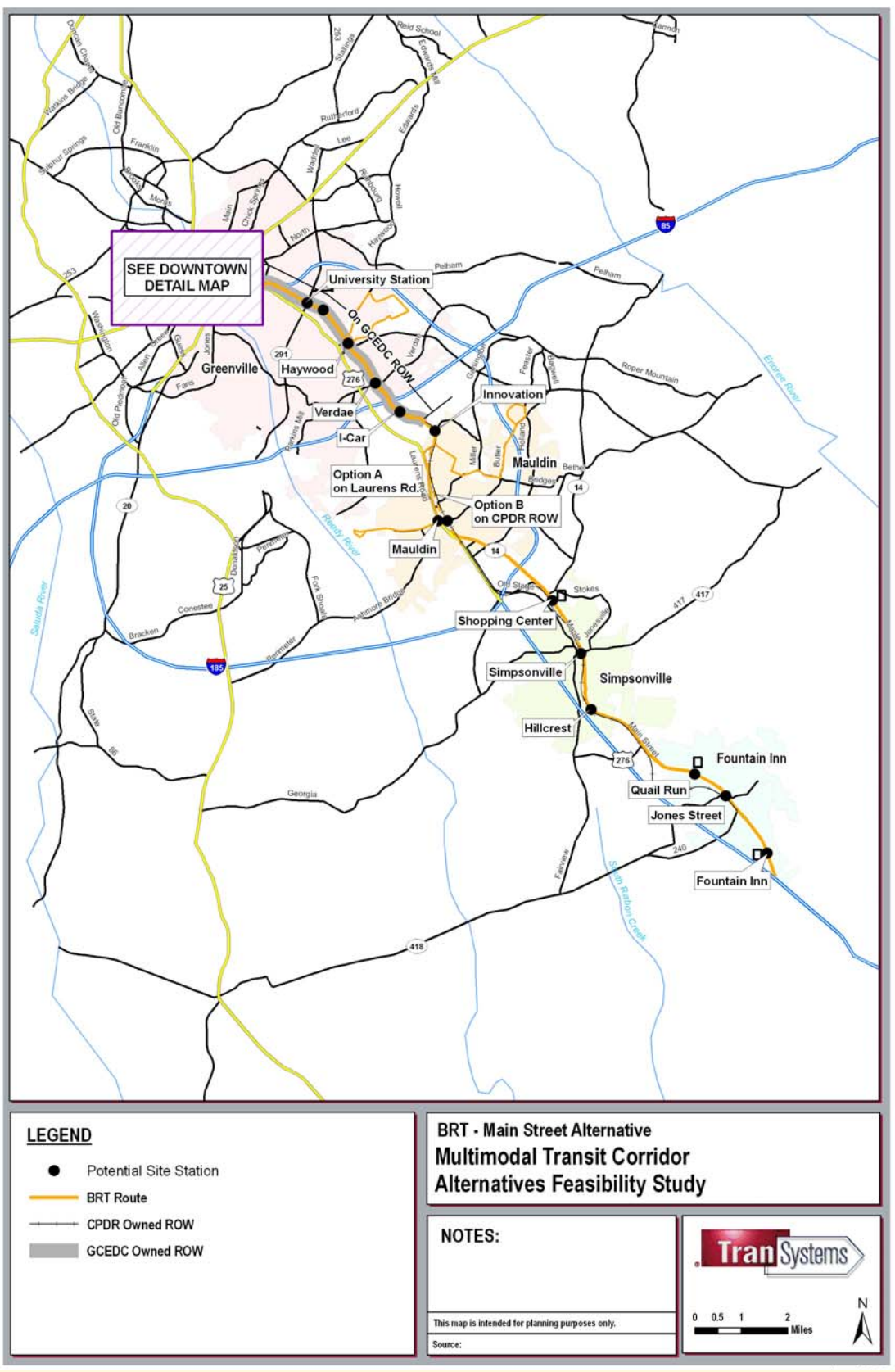

BRT – I-385 Alternative







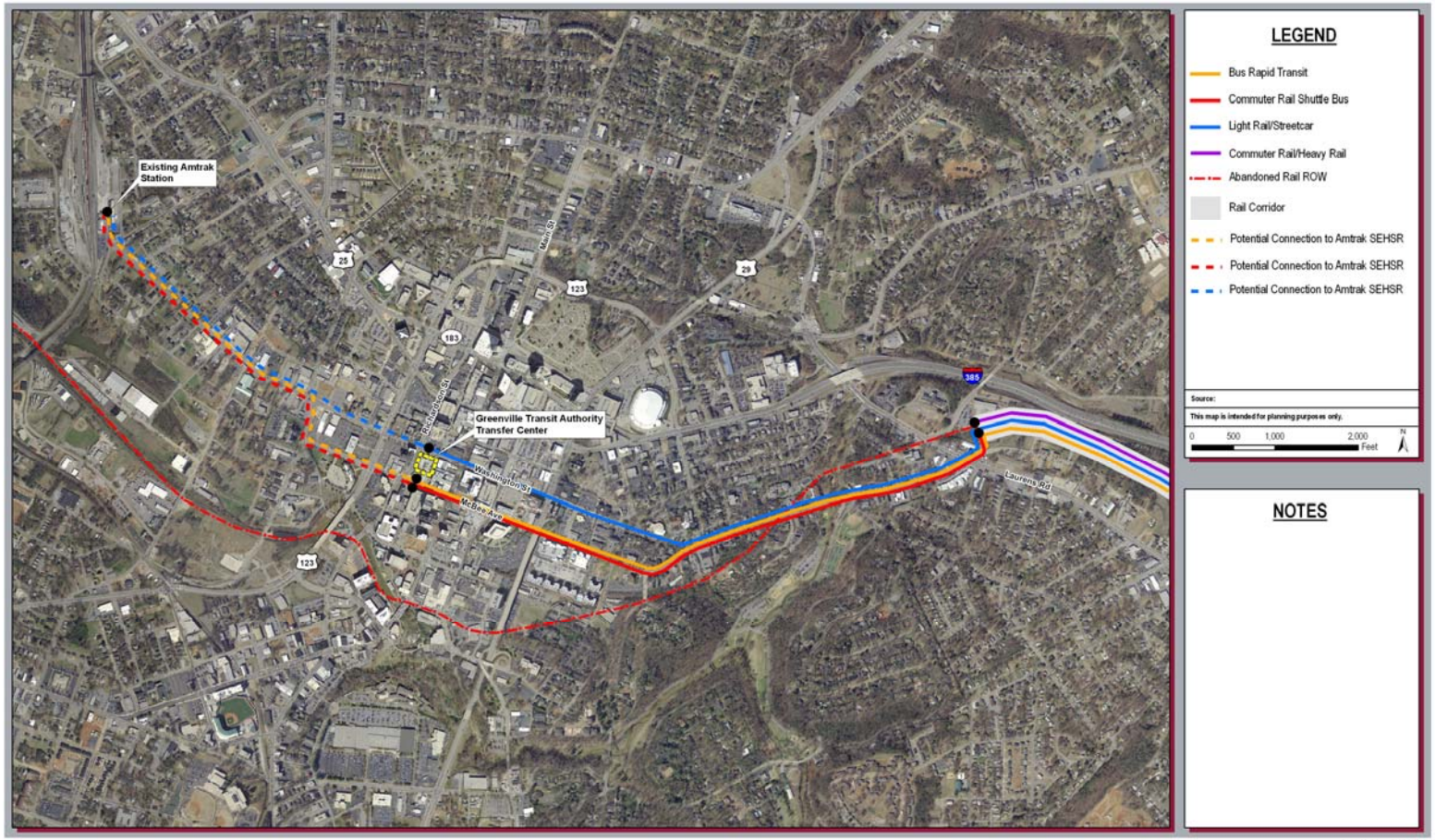

BRT- Main Street Alternative








Downtown Transit Alternatives

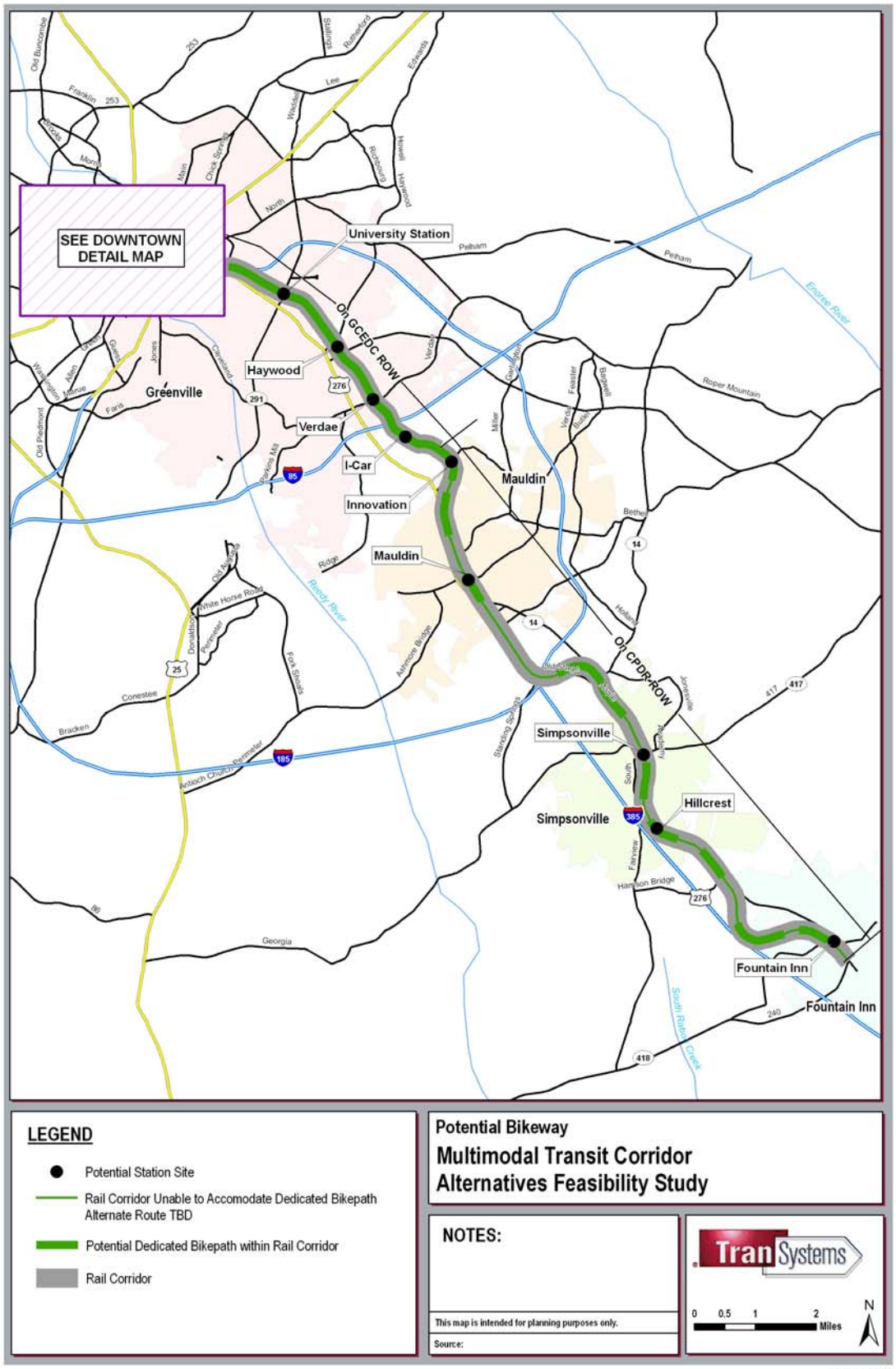


Downtown Transit Alternatives
Multimodal Transit Corridor Alternatives Feasibility Study

June, 2009

TranSystems

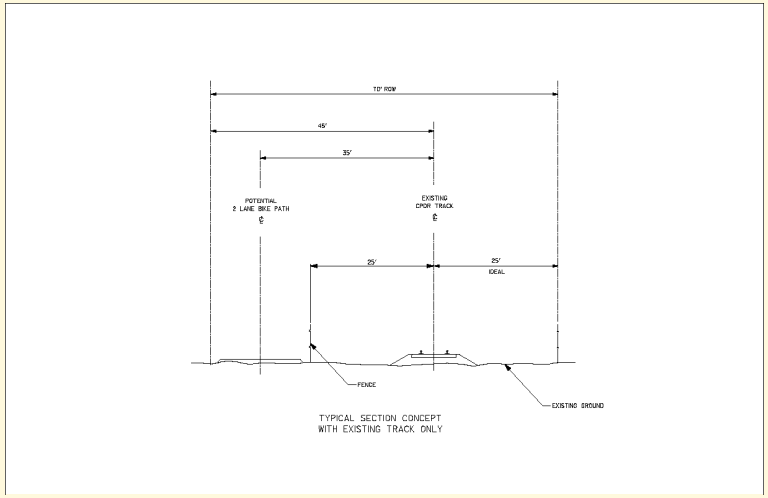
Potential Bikeway



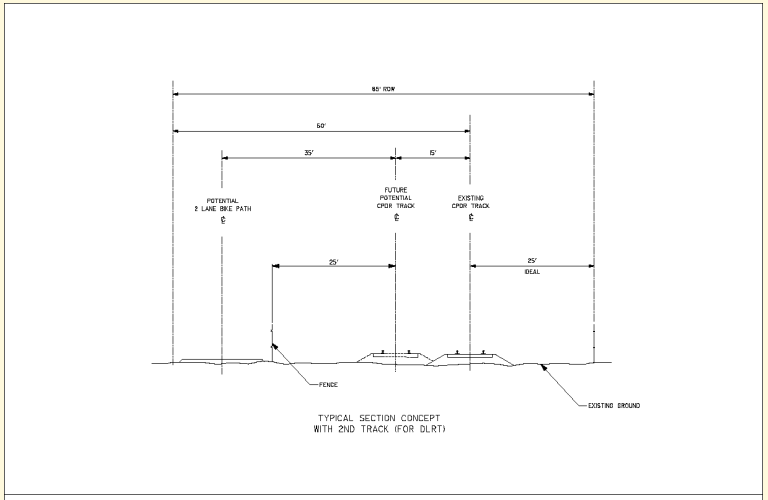




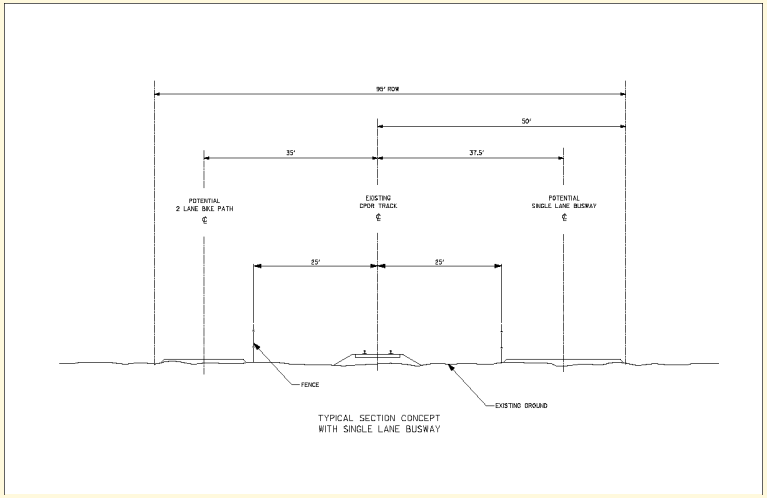

Cross Sections



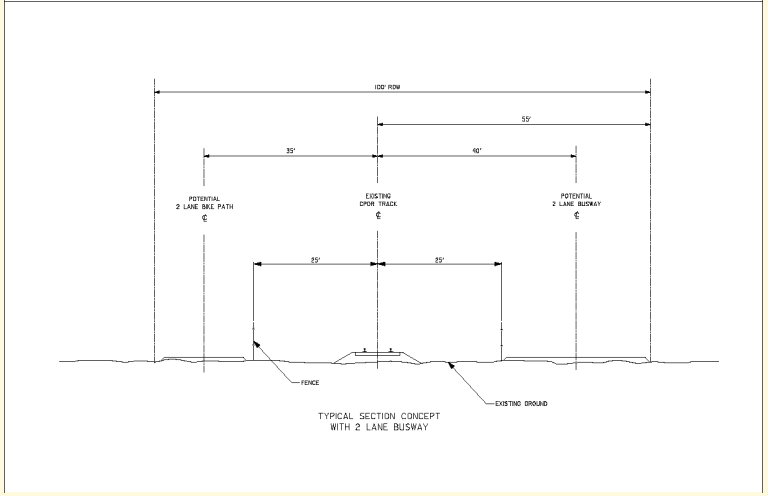
TYPICAL SECTION CONCEPT
WITH EXISTING TRACK ONLY



TYPICAL SECTION CONCEPT
WITH 2ND TRACK (FOR DLRT)



TYPICAL SECTION CONCEPT
WITH SINGLE LANE BUSWAY



TYPICAL SECTION CONCEPT
WITH 2 LANE BUSWAY

Service Levels

Streetcar– Service Levels			
Frequency		Hours of Operation	Days
AM / PM Rush	Mid Day	6:00am - 7:00pm	M-F (no holidays)
30 Min.	60 Min.		

Commuter Rail – Service Levels			
Frequency		Hours of Operation	Days
AM / PM Rush	Mid Day	6:00am - 7:00pm	M-F (no holidays)
60 Min.	n/a		

LRT/DLRT – Service Levels			
Frequency		Hours of Operation	Days
AM / PM Rush	Mid Day	6:00am - 7:00pm	M-F (no holidays)
30 Min.	60 Min.		

BRT – Both Alternatives				
Route (s)	**Frequency**		**Hours of Operation**	**Days**
	AM/PM Rush	Midday		Mon-Fri (except holidays**)**
Greenville-Fountain Inn (mainline)	30 min.	60 min.	6:00am-7:00pm	
Mauldin branches	30 min	-----	6:00-9:00am, 3:00-7:00pm	

Ridership and Costs

ALTERNATIVE	BUS RAPID TRANSIT- MAIN STREET	BUS RAPID TRANSIT- I - 385	DIESEL LIGHT RAIL TRANSIT	LIGHT RAIL TRANSIT	COMMUTER RAIL	STREETCAR
CAPITAL COST	$45.2 million	$47.7 million	$173.7 million	$224.3 million	$142.2 million	$214.1 million
COST PER MILE+	$2.4 million	$2.6 million	$9.3 million	$12.0 million	$7.6 million	$11.5 million
OPERATING COST/YEAR	$1.2 million	$975,600	$1.7 million	$1.6 million	$754,000	$1.4 million
DAILY RIDERSHIP^	1,925 to 2,475	1,650 to 2,175	1,650 to 2,175	1,650 to 2,175	700 to 1,125	1,200 to 1,575
ONE WAY TRAVEL TIME#	38 minutes	29 minutes	30 minutes	30 minutes	38 minutes~	57 minutes

* Assumes on street operations south of GCEDC right-of-way

+18.7 mile corridor, downtown Greenville to Fountain Inn

^ Shows the low and high ridership estimate potential

Fountain Inn to downtown Greenville

~ Includes travel time on shuttle bus

Summary Matrix

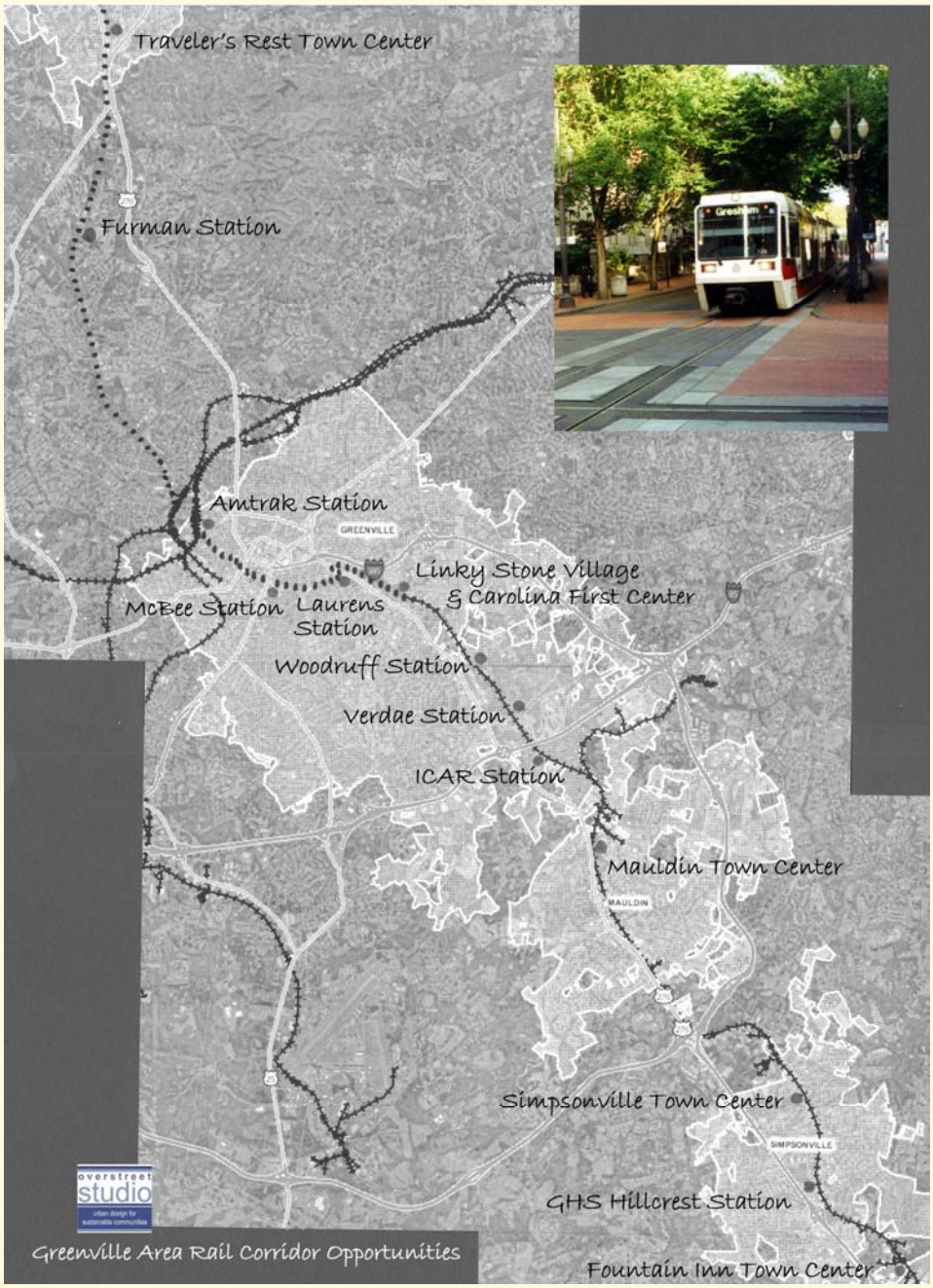
CRITERIA	MAIN STREET ALTERNATIVE	I-385 ALTERNATIVE	LIGHT RAIL TRANSIT	LIGHT RAIL TRANSIT	COMMUTER RAIL	STREETCAR
CRITERIA	MAIN STREET ALTERNATIVE	I-385 ALTERNATIVE	LIGHT RAIL TRANSIT	LIGHT RAIL TRANSIT	COMMUTER RAIL	STREETCAR
Capital Cost	●	●	◒	○	◒	○
Operating Cost	◒	●	○	○	●	◒
Ridership	●	◒	◒	◒	○	○
Travel Time	◒	●	●	●	◒	○
Frequency	●	●	●	●	◒	●
Convenience of Trip	●	◒	●	●	○	●
Access to Activity Centers	●	◒	●	●	●	●
SUMMARY (No. of Points)	19	18	17	16	14	14

● This symbol indicates an alternative fully addresses the measure or is the “best” relative to the consideration (3 points)

◒ This symbol indicates an alternative somewhat or partially addresses the measure, or is “second best.”(2 points)

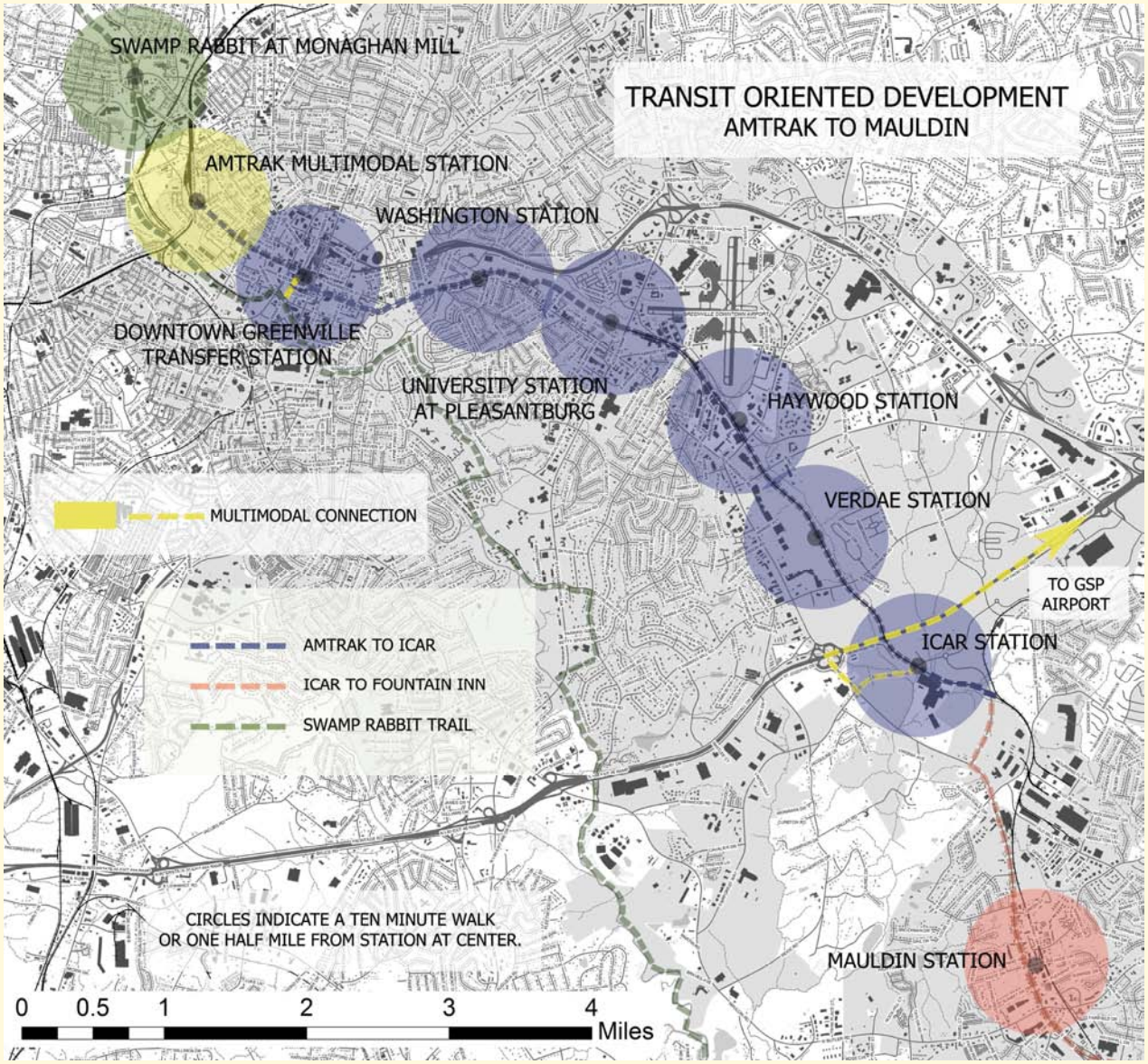
○ This symbol indicates an alternative fails to address the measure, or is the lowest ranked criteria in comparison to the other alternatives (1 point)

Corridor History



Historically, the rail corridor began just north of Traveler's Rest, and ran through Furman University, past textile mills, through downtown Greenville and on to Mauldin, Simpsonville, Fountain Inn, and beyond. Today the northern part of this corridor is being converted from rails to trails, with plans for a future tram. Plans for this corridor should be made in careful consideration of future needs and connections.

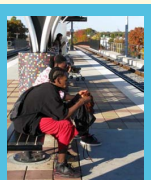
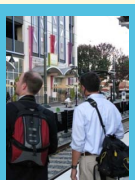
Economic Development
Transit Villages ~ North



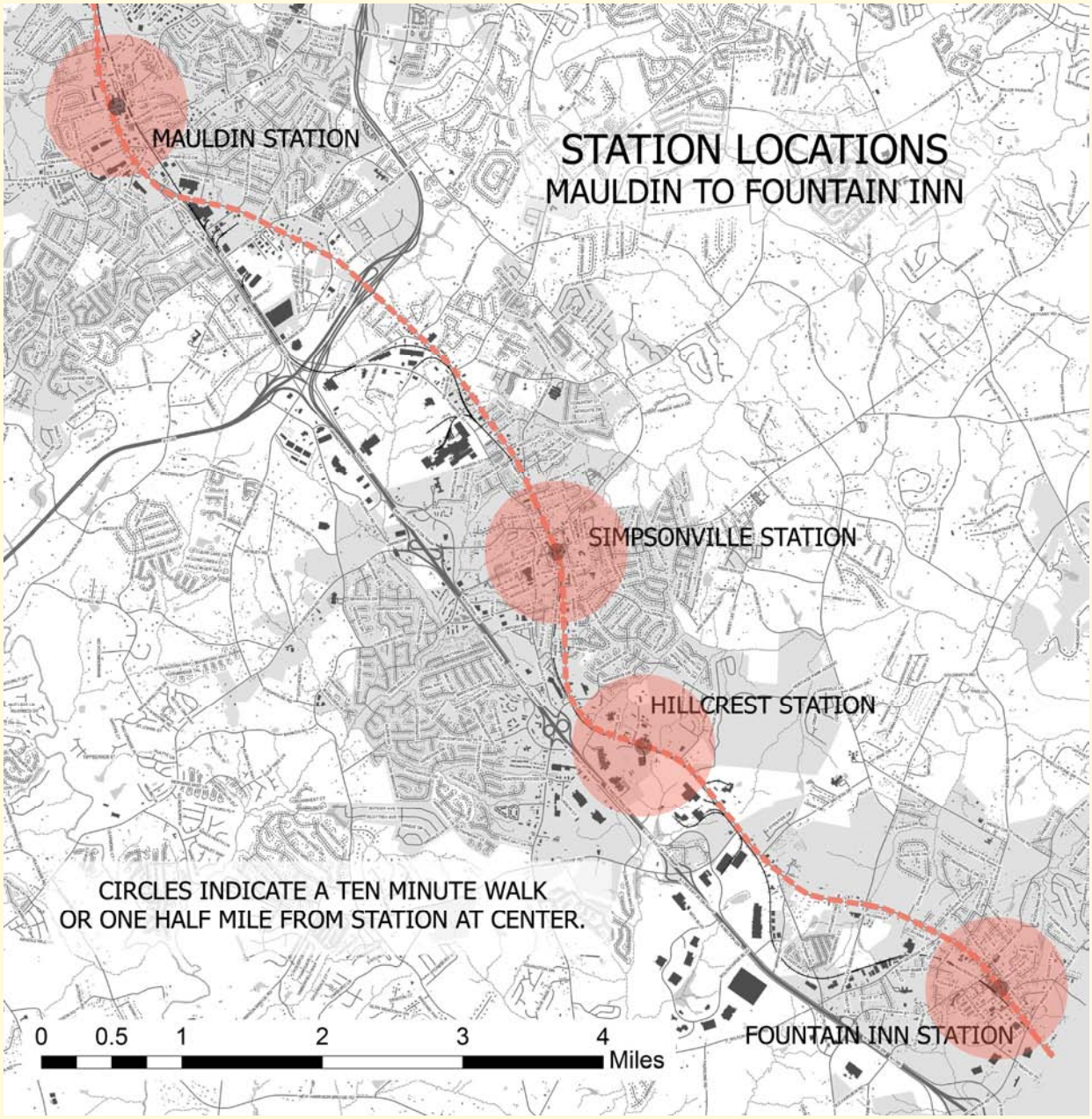
One of the great advantages of running public transit along a dedicated corridor is its capacity to focus economic growth and to help revitalize aging suburbs and historic downtowns. This map shows the dedicated GCEDC Corridor, street corridors, and a portion of the Swamp Rabbit Trail, offering a variety of opportunities to spur economic development in Transit Villages. This new growth model has been named **Transit Oriented Economic Development** by a member of our county council.





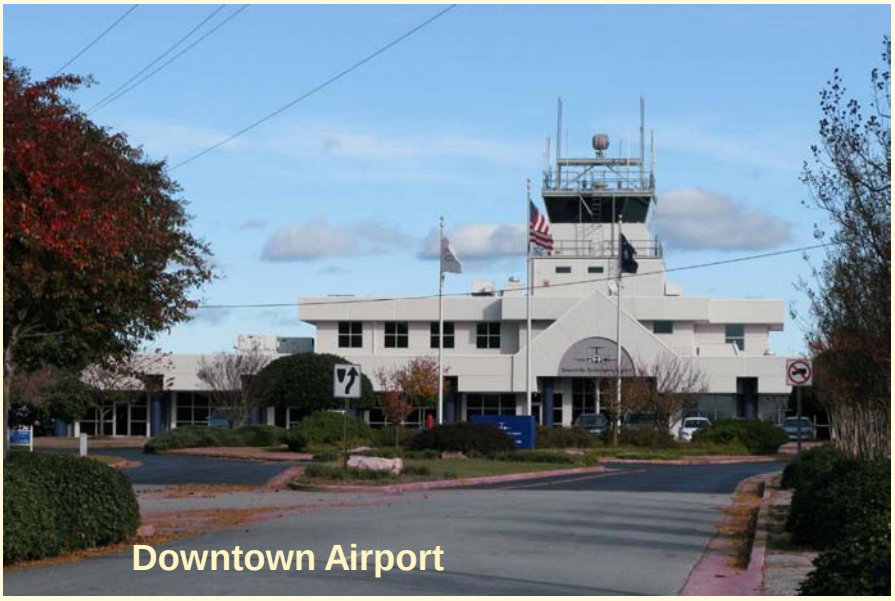




Economic Development
Transit Villages ~ South



A BRT system would run along Laurens Road from ICAR to Fountain Inn. Laurens parallels the rail line, creating the opportunity to revitalize the historic town centers while offering a smooth transition to possible future light rail along the rail corridor. An interstate option was considered, but interstate width and the existing commercial pattern significantly restrict potential transit oriented economic development.

Multi-modal Connections


Downtown Airport

Pedestrian and Bicycle Connection: All Stations and Transit Villages should provide a pedestrian friendly environment and easy access to bikeways and greenway systems.

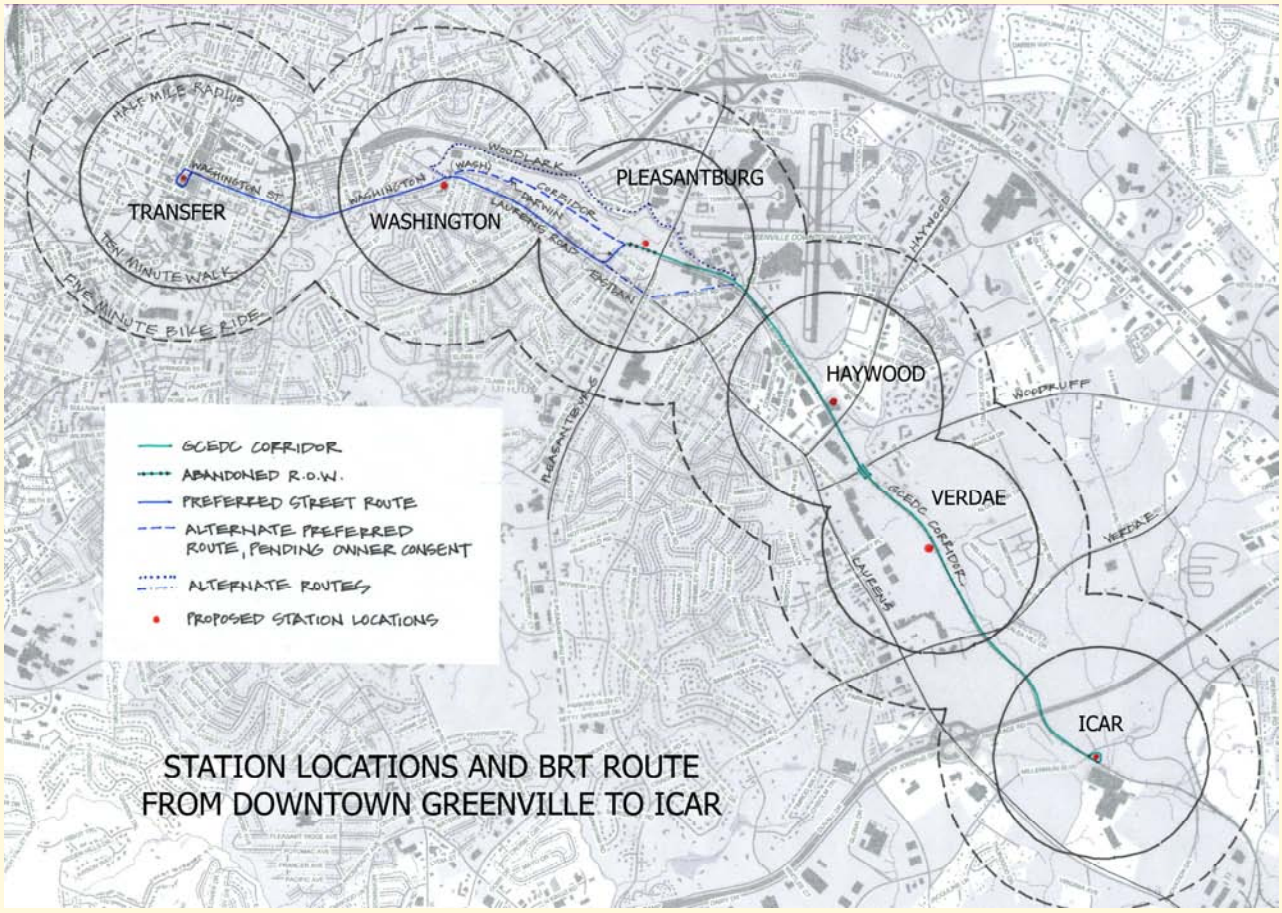
Integration with Bus System: All stations in the City of Greenville should have easy access to bus service. All other stations should be designed to accommodate future bus service.

Access to Airports and Passenger Rail: The downtown airport is located a short walk or shuttle from the University Station at Pleasantburg. A shuttle from ICAR would provide easy access to GSP. The Amtrak Multimodal Station provides corridor access to passenger rail.

Kiss and Ride Access: All stations should offer easy drop off zones for autos and taxis. **Park and Ride Access:** ICAR Station provides easy access to I-85 and Hillcrest Station provides easy access to I-385. Park and Ride garages should be considered for these station locations.

Destination and Employer Shuttles: Major employers should consider shuttles from the Transit Corridor as a benefit to employees. Shuttles to public venues such as the Drive Stadium should be considered.

Transit Station Location

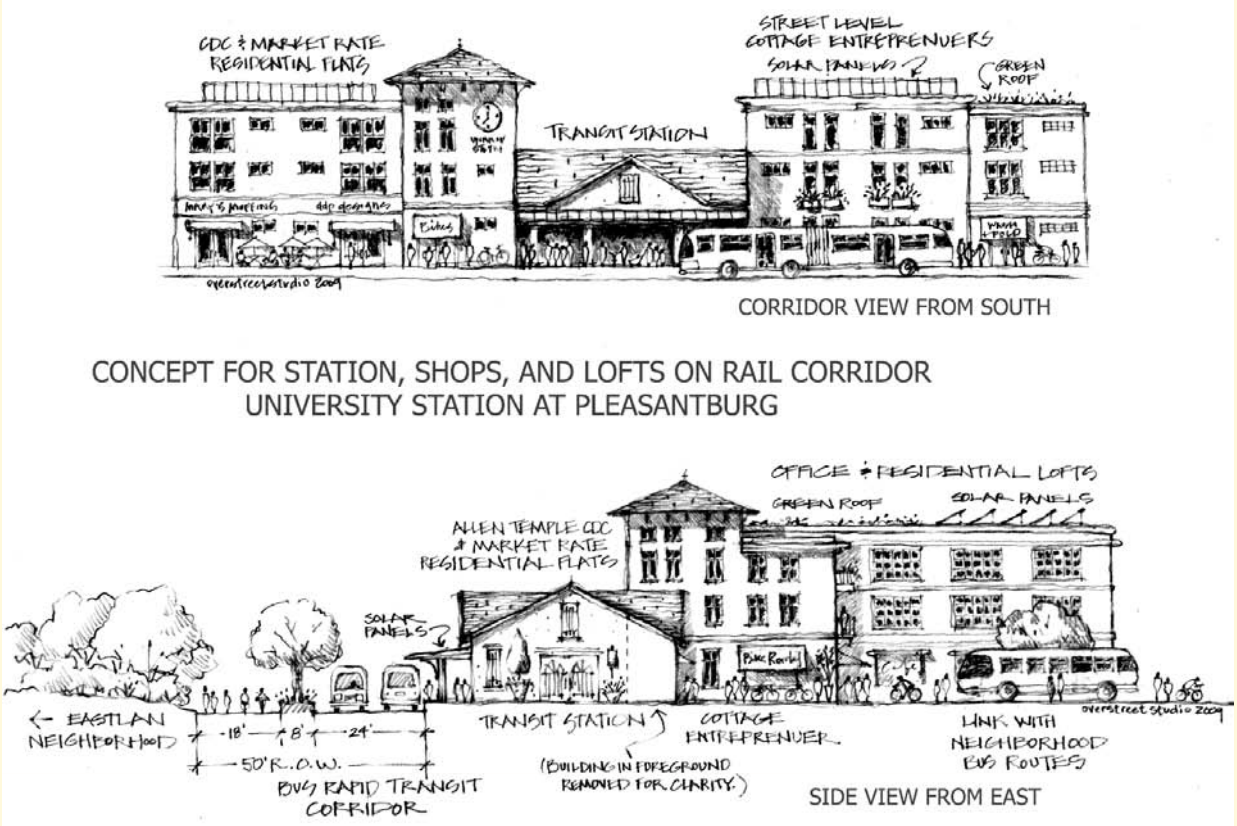


Station locations have been chosen to offer convenient transit access to existing neighborhoods, employment centers, entertainment destinations, commercial nodes, and multimodal connections, as well as to stimulate the economic growth of new homes and businesses within the surrounding Transit Village.

The ten minute walk radius (one half mile) from the Transit Station at the center creates a 500 acre Transit Village. As these walkable villages grow, each one will develop its own character offering a special sense of community, reducing reliance on the automobile, and increasing ridership for the transit system.

A five minute bike ride from the station at the center extends the Transit Village boundary to include another 630 acres as shown.

Transit Station Design



Thoughtful Transit Station design can stimulate growth of neighboring business and homes. Development around the station location should provide a mix of uses including a diverse choice of homes and businesses, a comfortable pedestrian environment, and easy access to other modes including auto, taxi, bus, bikeways, and trails. Character of the Station Design will vary from one station to another.

The sketch above illustrates a typical station block serving as a catalyst for the development of an aging suburban neighborhood into a thriving village. The initial phase of this 20 acre project could integrate affordable and market rate lofts and offer an opportunity for entrepreneurs to serve transit riders with bike rental, convenience shop, and sidewalk café.

Green building technology could complete the process for transforming this neighborhood into a model for the future.

Station Designs

Typical Light Rail Transit Station

Typical Bus Rapid Transit Station on a Transitway

Typical Bus Rapid Transit Station on a Highway

Transit Village Typology

Urban Village

Downtown Greenville provides a Transit Village model and a hub, encompassing the BiLo Center, Peace Center, Falls Park, neighborhoods, lofts, offices, shops, theatres, hotels and restaurants.

Revitalized Suburban Village

Stations at Pleasantburg, Haywood, and Washington could spur revitalization of aging suburban strips. Mauldin could develop a town center around a transit stop within walking distance of its cultural center, providing a model for revitalizing Laurens Road.

Old Town

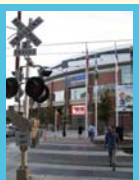
Simpsonville and Fountain Inn could enjoy further revitalization with transit stations located in the heart of their historic downtowns. Monaghan Mill, Furman University and Travelers Rest, located along the Swamp Rabbit Trail, could evolve into transit-ready villages, anticipating future tram service.

New Town

Verdae and ICAR offer an opportunity to create new walkable villages providing homes, shopping, and entertainment along with employment and destination centers at St. Francis Hospital and ICAR Research Park.

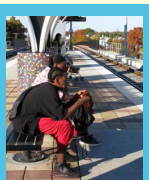
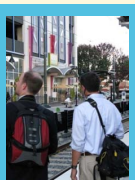
Destination Village

Hillcrest Station in Simpsonville provides access to Hillcrest Hospital and Heritage Amphitheater. This station also offers the opportunity for Transit Magnet Schools with its close proximity to Hillcrest High and Bryson Middle. A mixed use village with a diversity of homes could evolve to serve these destinations.

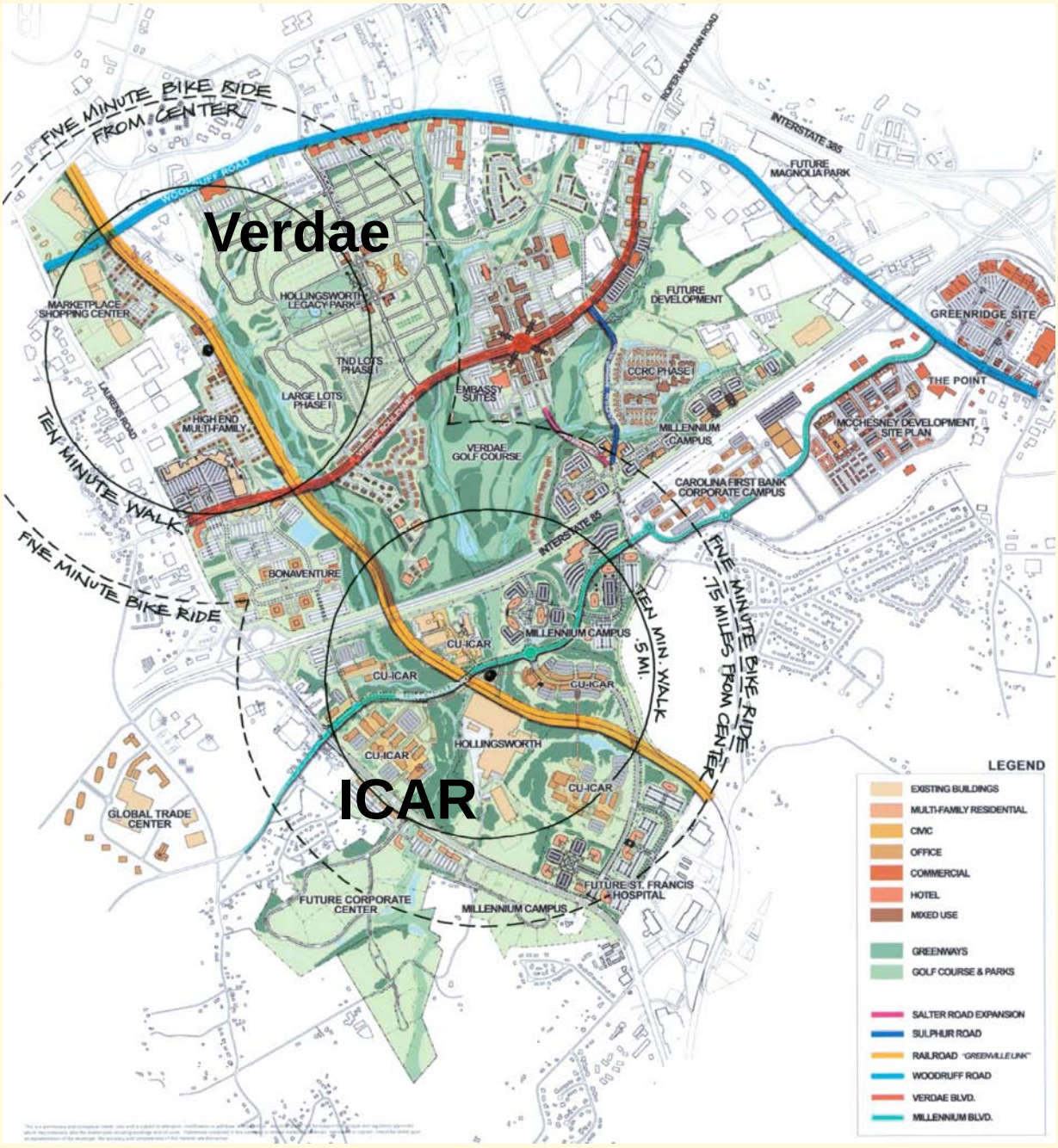






New Town Transit Villages



ICAR Station offers access to a new Research and Development Park, a future site for St. Francis Hospital expansion, and a future residential neighborhood. Verdae will offer a variety of homes and business destinations in a traditional neighborhood setting. Shuttle service could link nearby Greenridge Shops and the GE manufacturing plant.

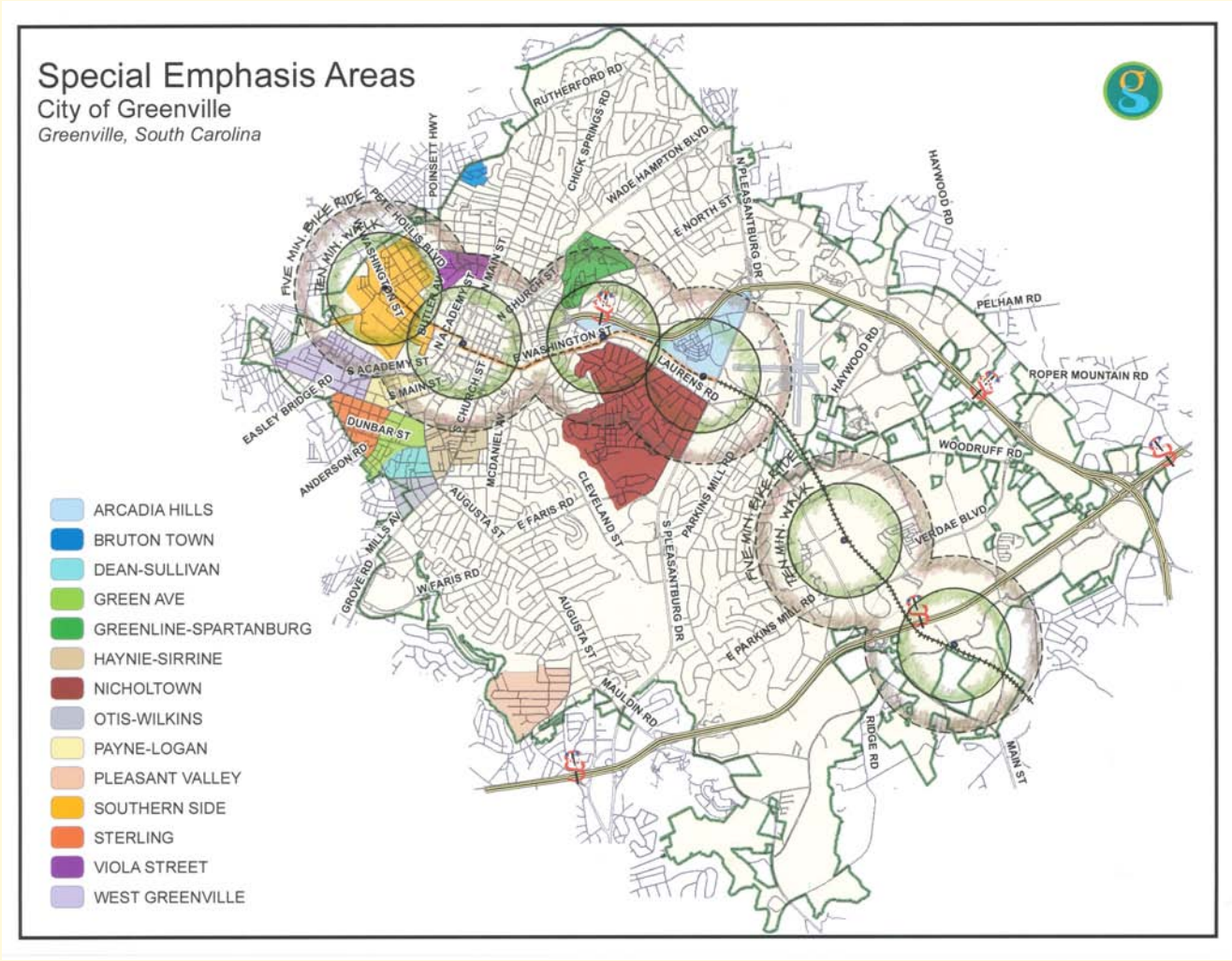
(Background map courtesy of Verdae Development.)







Special Emphasis Neighborhoods



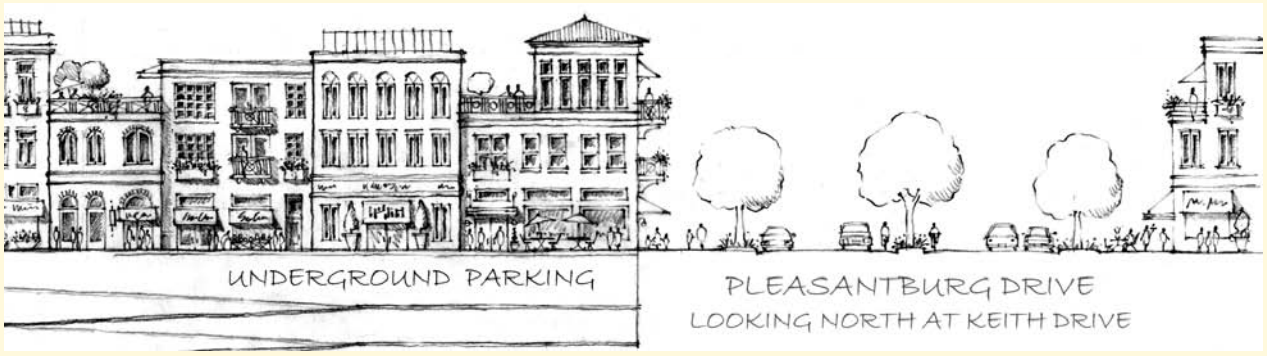
Potential Transit Villages are superimposed on a map of Special Emphasis Neighborhoods, illustrating pedestrian connection to several neighborhoods presently served by the bus system.

The transit corridor could serve as a backbone to existing and new bus, shuttle, and trolley routes, extending service to many neighborhoods which depend on public transportation as a sole means of transportation. In addition, Transit Oriented Economic Development can act as a catalyst for revitalization of neighborhoods in need of renewal.

(Background map courtesy of the City of Greenville.)

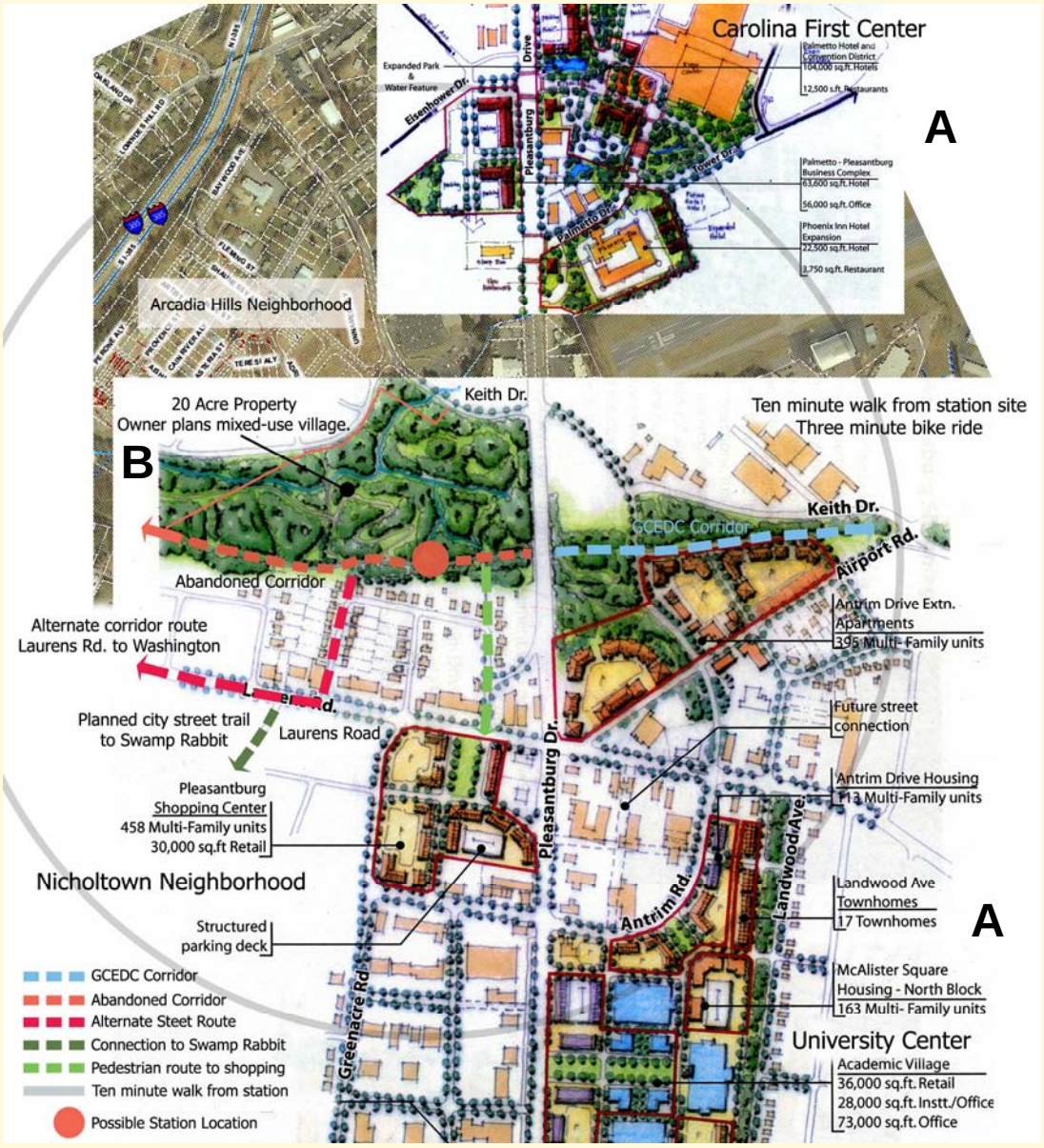
Community Revitalization

Pleasantburg Drive looking north to Keith Drive



Transit Oriented Economic Development can soften the character of our automobile oriented commercial strips. This sketch shows how mixed use buildings, landscaping, and pedestrian friendly sidewalks can frame the street, transforming a sterile highway into an attractive parkway. In this example, Pleasantburg Parkway could extend from the Carolina First Center at the north of this Transit Village to University Center at the southern edge, providing a model for suburban strip revitalization throughout our county.

Economic Development Impact



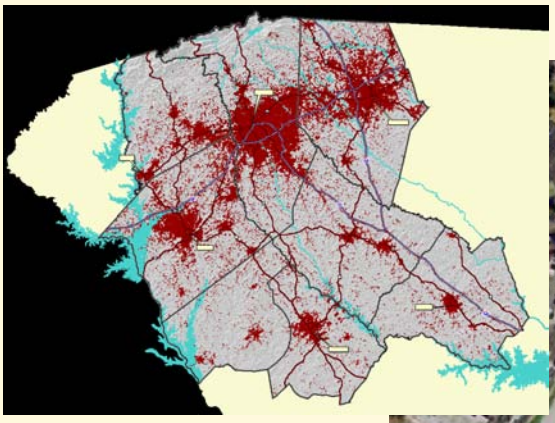
Transit Villages can stimulate economic growth by expanding our county tax base and by creating new jobs. Transit Village property potential based on City of Greenville Pleasantburg Master Plan **(A)**:

64 Townhomes
1705 Multifamily
193,000sf New Office
28,000sf New University Center
127,000sf New Hotel
83,000sf New Retail & Restaurant

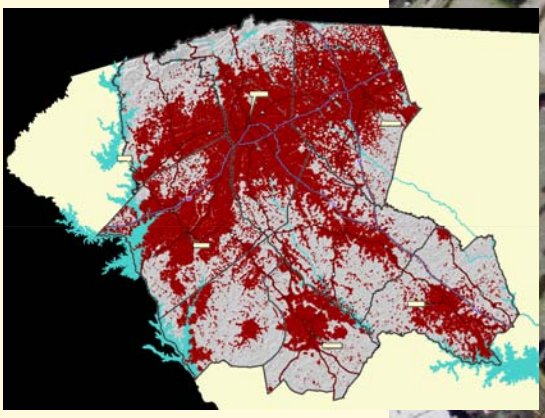
Twenty acres adjacent to the station **(B)** could produce an additional:

176 Multifamily
134,000sf commercial
67,000sf Research facility
8 acre Park and Gardens

Environmental Impact



2005 Growth Limits



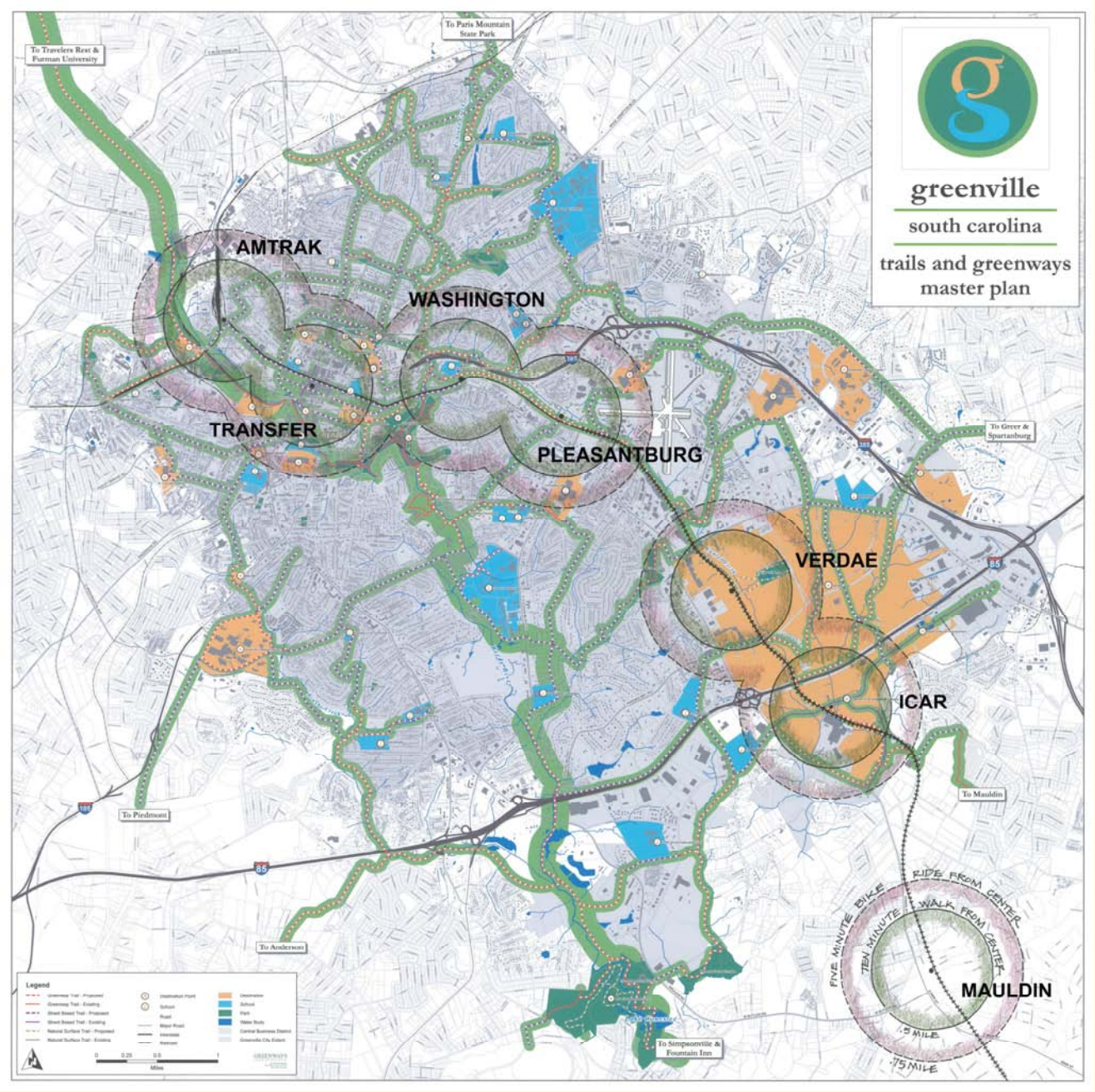
2030 Projection at current growth rate

2007 Development Rate equal to the area of one Haywood Mall per day, outpacing our population growth rate by a factor of 5.

Transit Oriented Economic Development can help revitalize aging suburbs, like Laurens Road and Pleasantburg Drive. Creating walkable villages within our existing development footprint can help protect the natural beauty of our county, relieve congestion on our highways, reduce our carbon footprint, protect our air and water quality, and reduce asthma and obesity, while creating economic growth where we need it most.

(**Growth Maps courtesy of Upstate Forever and Clemson University.**)

Greenway Connections



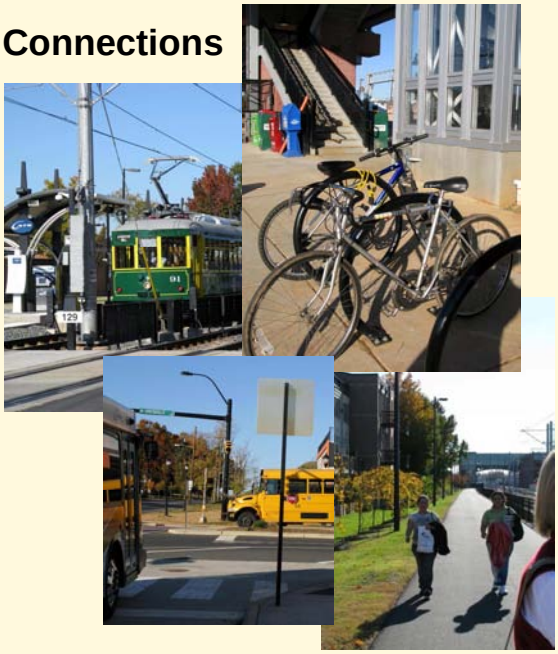
Transit Villages are superimposed on a map of planned greenways, illustrating future pedestrian and bike connections as well as destinations throughout the area. Inner circles outline an easy ten minute walk from a station at the center, creating an opportunity for economic development at each of these sites. Outer circles outline a five minute bike ride from the village center.

(Greenway map by Greenways, Inc. and the City of Greenville.)

Case Study: Charlotte Lynx

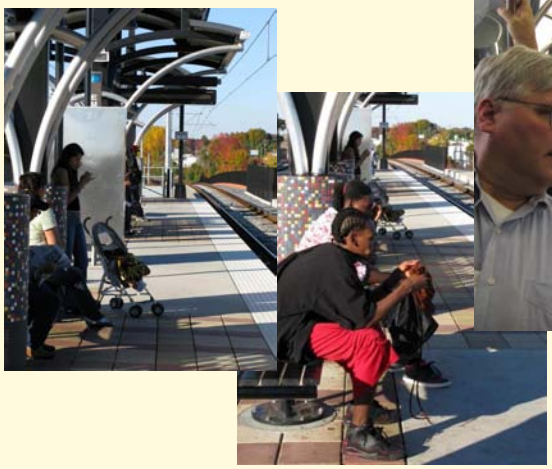
Charlotte's Bold New Move towards Sustainability

Multimodal Connections



Economic Growth… A new CCC?

Embracing the Suburbs



A Diverse Market

First year ridership doubles expectations

Community Support

Imagine Greenville County's public input for the future… Largest fonts indicate most common requests.

Public participation in **Imagine Greenville County**, Greenville County's Comprehensive Planning Process, documented enthusiastic support for Sustainable, Green, Affordable, Vibrant, and Planned communities. The Transportation Committee proposed multimodal connections integrated with public transit, along with an education program to help the public understand the economic, environmental, and quality of life advantages to investment in transit. GPATS, Greenville 2025, and comprehensive plans from local municipalities all support public transportation and walkable village design.

Next Steps

- Public Meeting No. 2 – November 19, 2009
- Preferred Alternative(s) to Carry Forward
- Implementation Strategies – Funding, Partnerships
- Final Report and Documentation – January 2010
- Determine Future Steps

Thank You

- **Thank you for attending today's Public Meeting**
- **Fill out a comment card if you would like**
- **Please make sure you sign in if you haven’t already done so**