



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

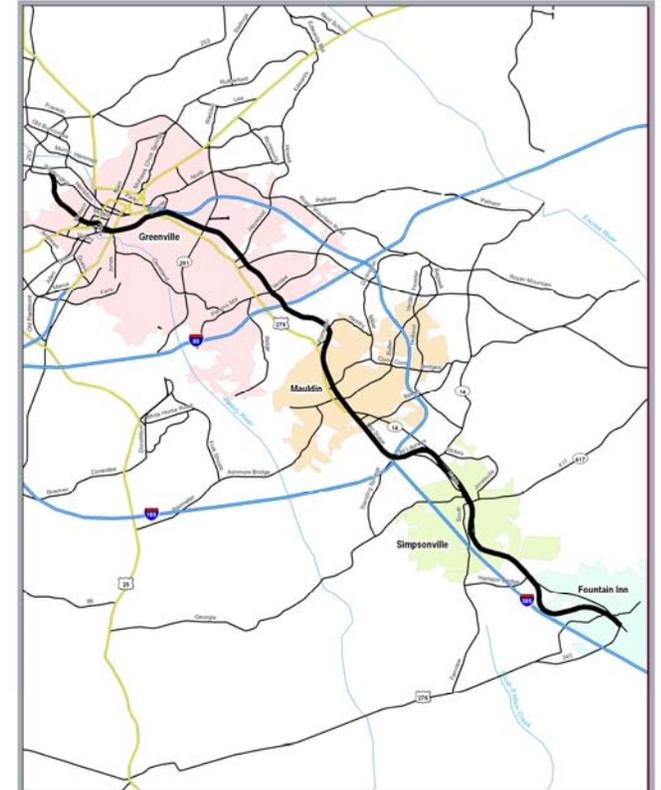




Introduction

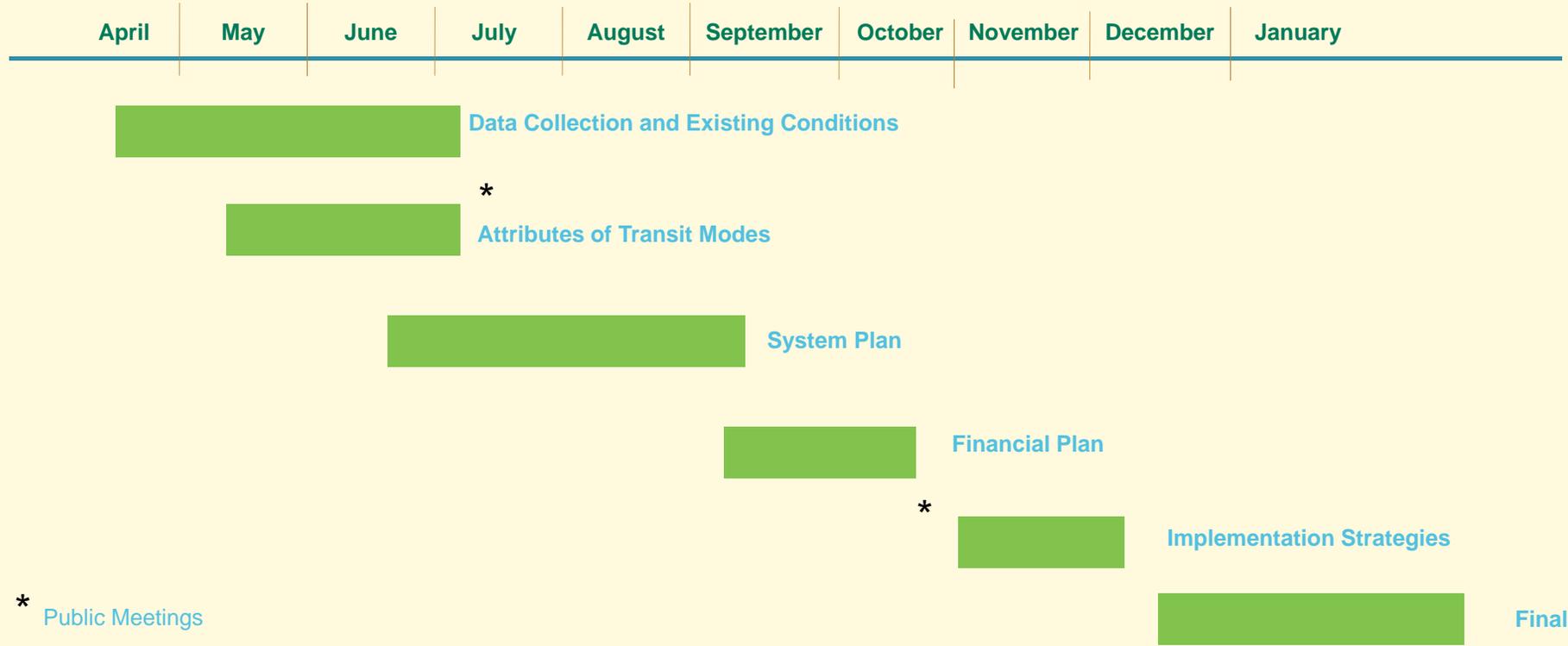
Project Description

- 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





Project Schedule





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



Light Rail Characteristics



Characteristics of Light Rail in USA, Canada											
NAME OF SERVICE/ AGENCY	DOWN-TOWN SERVED	ROUTE MILES OF RAIL (one-way)	NO. OF OPERATIONAL VEHICLES	SEATING/ CRUSH CAPACITY OF VEHICLES	MINIMUM SCHEDULED HEADWAY IN PEAK (min.)	WEEK-DAY PASSENGER VOLUME	MAXIMUM OPERATING SPEED (mph)	YEAR LRT SERVICE STARTED	BASE FARE (\$'s)	TOTAL ANNUAL OPERATING BUDGET FOR LRT (\$, millions)	TOTAL CAPITAL COST EXPENDED THUS FAR (\$, millions) [year(s) dollars were expended]
Green Line, and Mattapan-Ashmont Line (Massachusetts Bay Transportation Authority)	Boston	26	204	44/101	2	237000	40	1897	1.7	\$50m	N/A
MetroRail (Niagara Frontier Transportation Authority)	Buffalo	6.4	27	54/210	7	21000	50	1984	1.5	\$22m	\$750m (1980)
C-Train (Calgary Transit)	Calgary	27.9	156	64/256	2	261000	50	1981	\$2.50 CDN	\$27m CDN	N/A
LYNX Blue Line (Charlotte Area Transit System)	Charlotte	9.6	16	68/236	7.5	14000	55	2007	1.3	\$12m	\$460m
DART Light Rail(Dallas Area Rapid Transit)	Dallas, Garland, Plano	45	115	75/150	5	65000	65	1996	1.5	\$76m (FY 2008)	N/A
Light Rail Transit (Regional Transportation District)	Denver	36	83	64/155+	3	61000	55	1994	1.75	\$29m	\$879m (2006)
Edmonton Transit LRT (Edmonton Transit)	Edmonton	15.6	37	64/224	6	50000	44	1978	\$2.50 CDN	\$28m CDN	\$465m CDN (dollars in year of expenditure)
METROrail (Houston Metropolitan Transit Authority)	Houston	7.5	18	76/200	6	43000	40	2004	1	\$15m	\$324m (2004)
Main Street Trolley(Memphis Area Transit Authority)	Memphis	10	19	50/70	10	20000	25	1993	1	4.9	\$103m
Hiawatha Light Rail System (Metro Transit/Minneapolis)	Minneapolis	12	27	66/200	7.5	25000	55	2004	1.5	\$25m	\$733m
Canal, Riverfront, and St. Charles Streetcar Lines (New Orleans Regional Transit Authority)	New Orleans	26.3	66	40/72	10	16000	33	1835	1.25	\$17m	\$185m (2004)
O-Train (OC Transpo)	Ottawa	5	3	135/285	15	9000	55	2001	\$2.25 CDN	\$5m	\$16m (2001) \$2.7m (2003)
Subway-Surface/ "Suburban Trolleys" (Routes 100/101/102)/ "Route 15 Trolley" (Southeastern Pennsylvania Transportation Authority) *	Philadelphia	68	68	51/75	<1	107000	70	1905	2	\$54m	N/A
The Port Authority of Allegheny County (The Port Authority of Allegheny County)	Pittsburgh	48.9	83	62/170	6	24000	35	1984	2	\$7m	\$937m (1987-2004)
MAX (TriMet)	Portland	43.9	105	64/217	3	110000	55	1986	2.05	N/A	N/A
San Diego Trolley, Inc.(Metropolitan Transit System)	San Diego	53.5	134	64/200	7.5	111000	55	1981	2.5	\$55m	\$1,378m (1981-2004)
MetroLink	St. Louis	46	87	72/284	5	74000	55	1993	2	N/A	N/A
Streetcars (Toronto Transit Commission)	Toronto	189	248	61/205	1min 53sec	262000	37	1921	\$2.25 CDN	N/A (integrated bus, subway and light rail system)	N/A



Commuter Rail Characteristics

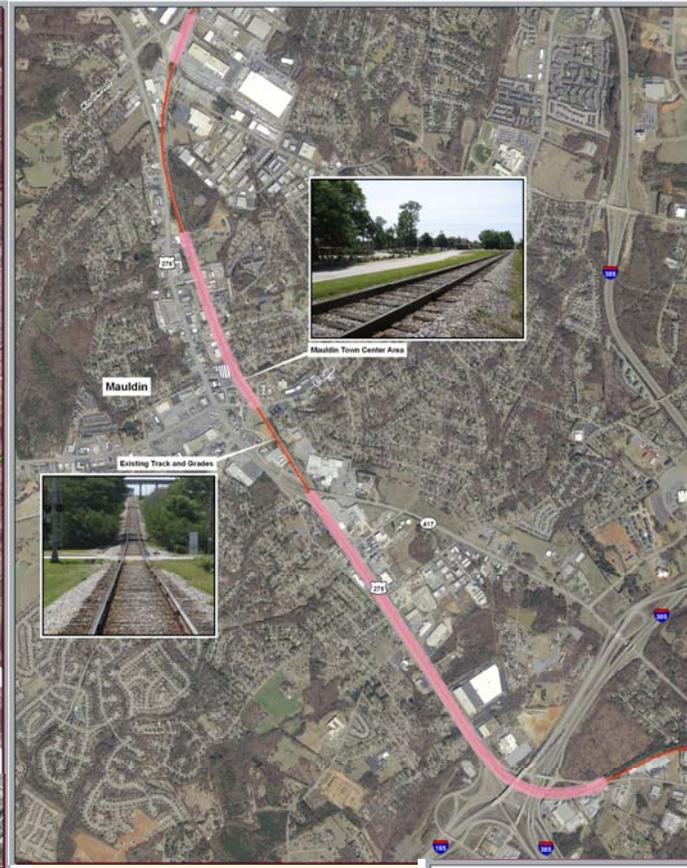
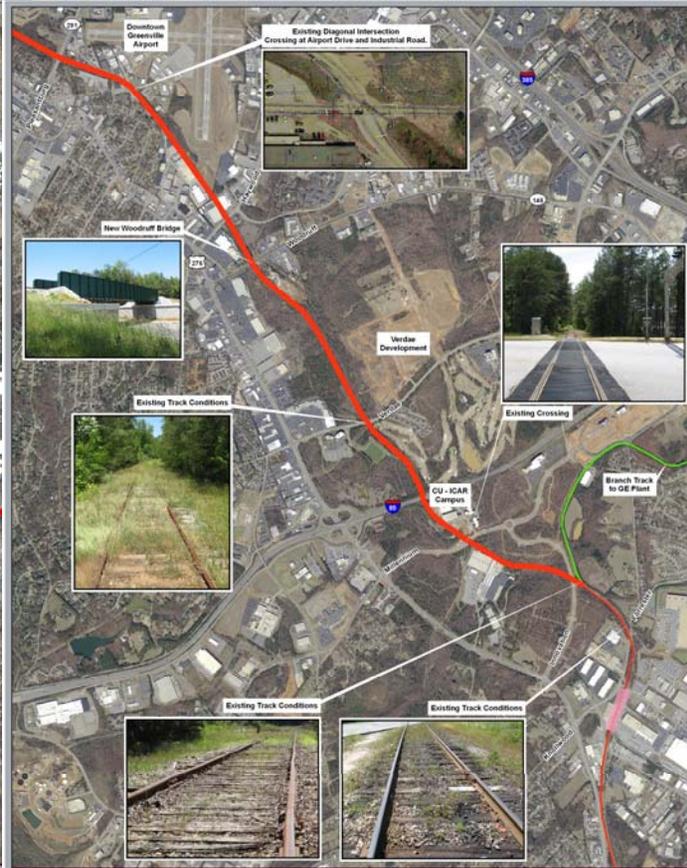
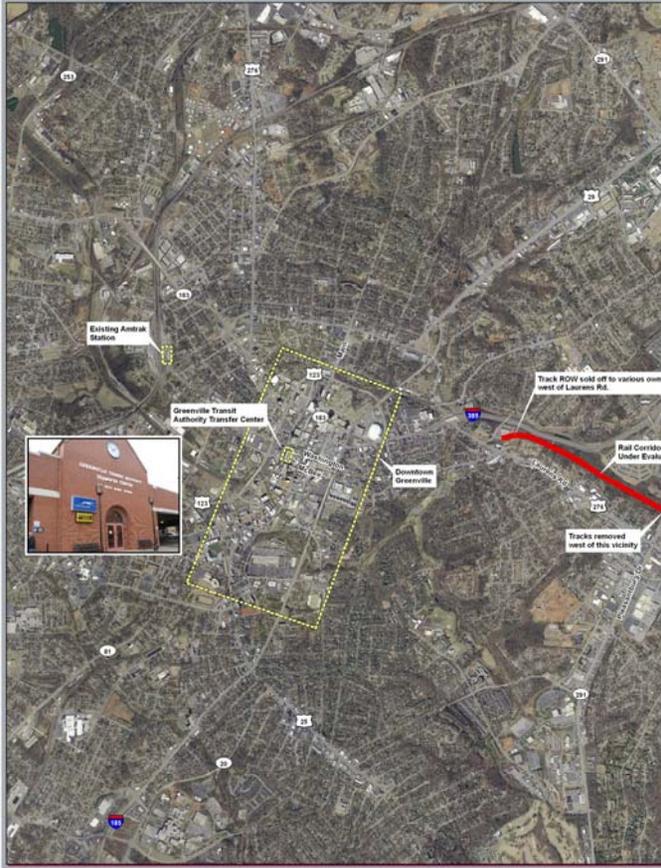
Characteristics of Commuter Rail in North America

NAME OF SERVICE/AGENCY	Caltrain	Trinity Railway Express	METROLINK	MARC	Souther Commuter Rail	MBTA Commuter Rail	METRA	Tri-Rail (South Florida Regional Transportation Authority)	Shore Line East	SEPTA Regional Rail	Virginia Railway Express
DOWNTOWN SERVED	San Francisco, San Bruno, Millbrae, Burlingame, San Mateo, Belmont, San Carlos, Redwood City, Menlo Park, Palo Alto, Mountain View, Sunnyvale, San Jose, CA	Dallas, Fort Worth, Irving	Los Angeles, CA	Baltimore, MD	Tacoma, Fuyallup, Sumner, Auburn, Kent, Tukwila (but not downtown), Seattle, Everett, Edmonds, WA	Boston, MA	Chicago, IL	Miami, Ft. Lauderdale and West Palm Beach, FL; three international airports.	New Haven, CT	Philadelphia, PA Wilmington, DE Trenton, NJ	Washington, D.C.
ROUTE MILES	77 mi.	34 mi.	512 mi. (inc. all shared mi.)	202 mi.	75 mi.	377 mi.	565 mi.	72 mi.	50.7 mi.	280 mi.	161.5 mi.
SEATING CAPACITY AND CRUSH CAPACITY	Seating: 175 Crush: 250	Seating: 150	Seating: 140 Crush: 260	Seating: 112-134 Crush: N/A	Seating: 145 Crush: 365	Seating: 86-185 Crush: N/A	Seating: 140-150 Crush: N/A	Seating: 155 Crush: 438	Seating: 111 Crush: N/A	Seating 115-131 Crush: 165-181	Seating: 160 Crush: 180
SCHEDULED HEADWAY DURING PEAK PERIODS	10 minutes	25-45 minutes	20-60 minutes	20-30 minutes	30 minutes	15-30 minutes	20 minutes	60 minutes	30 minutes	10-36 minutes	30 minutes
AVERAGE WEEKDAY PASSENGER VOLUME/DAY (BOARDINGS)	Presently: 36,000 2006: 34,000 2005: 32,400 2004: 28,100	Presently: 8,500 2006: 8,500 2005: 7,600 2004: 7,600	Presently: 42,100 2006: 41,200 2005: 38,400 2004: 35,400	Presently: 29,000 2006: 28,800 2005: 27,100 2004: 26,500	Presently: 7,600 2006: 6,300 2005: 4,600 2004: 3,500	Presently: 142,000 2006: 136,805 2005: 135,923 2004: 143,092	Presently: 317,000 2006: 311,000 2005: 300,000 2004: 297,000	Presently: 12,300 2002: 11,000 2001: 9,500 2000: 8,700	Presently: 1,830 2006: 1,805 2005: 1,661 2004: 1,578	Presently: 106,400 2006: N/A 2005: N/A 2004: N/A	Presently: 13,900 2006: 14,700 2005: 15,100 2004: 14,500
MAXIMUM OPERATING SPEED	79 mph	60 mph	90 mph	125 mph	79 mph	80 mph	79 mph	79 mph	80 mph	90 mph	79 mph
NUMBER OF STATIONS	31	9	54	42	9	127	250	18	9	153	18
YEAR OPERATION STARTED	1992	1996	1992	1984	2000	1964	1981	1989	1990	1983	1992
FACILITIES AT STATION	Lighting, covered waiting area, telephone, ticket vending machines, park and ride, bicycle lockers, visual messaging signs, PA system.	Lighting, covered waiting areas, restrooms, telephones, park and ride, bike racks.	Lighting, covered waiting area, telephones, ticket vending machines, park and ride, bicycle lockers, security guard.	Lighting, covered waiting area, restrooms, telephone, park and ride, other vending machines, bicycle lockers.	Lighting, covered waiting area, restrooms, telephone, vending machines, park and ride, bicycle lockers, security guard.	Lighting, covered waiting area, telephone, park and ride.	Lighting, covered waiting area, restrooms, telephone, ticket vending machines, park and ride, bicycle lockers.	Lighting, covered waiting areas, telephone, ticket vending machines, other vending machines.	Lighting, covered waiting area, telephone, park and ride.	Lighting, covered waiting area, restrooms, telephone, park and ride, other vending machines, permit parking.	Lighting, covered waiting area, telephone, ticket vending machines, park and ride, bicycle lockers.
ANNUAL OPERATING BUDGET	N/A	\$16.8 million	\$134.8 million	N/A	\$28.8 million	\$223.7 million	\$554 million	\$48.4 million	\$9.9 million	\$222.8 million	\$54.5 million
ANNUAL TOTAL REVENUE	N/A	\$6.8 million	\$73.3 million	\$27 million	\$6.6 million	\$119.8 million	\$270 million	\$6.8 million	\$1.4 million	\$110.1 million	\$20.3 million





Existing Conditions

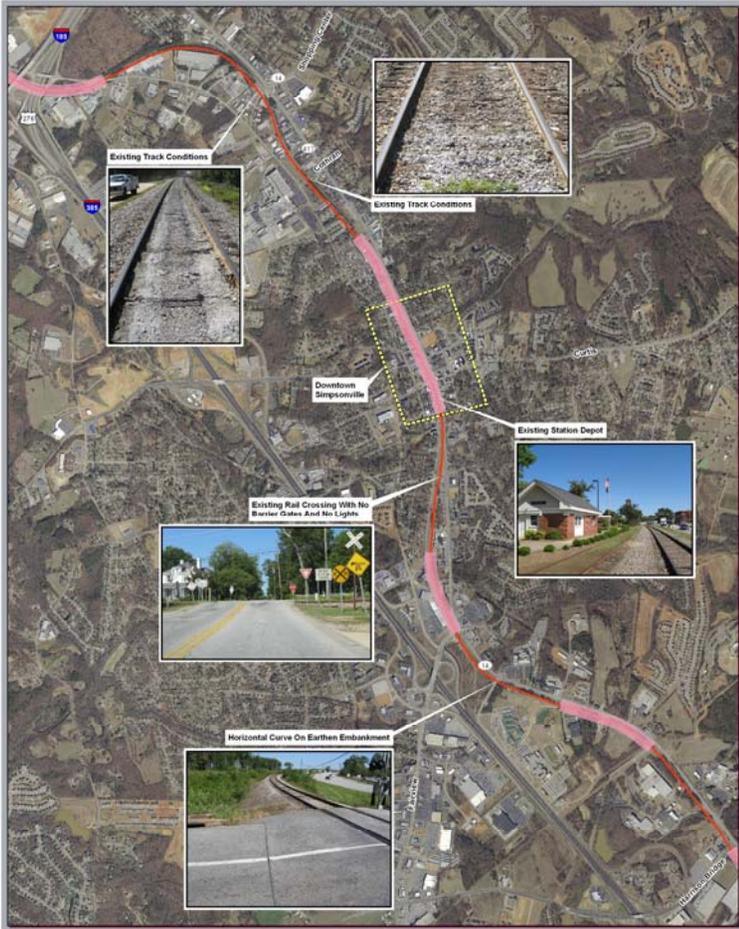


LEGEND

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



Existing Conditions

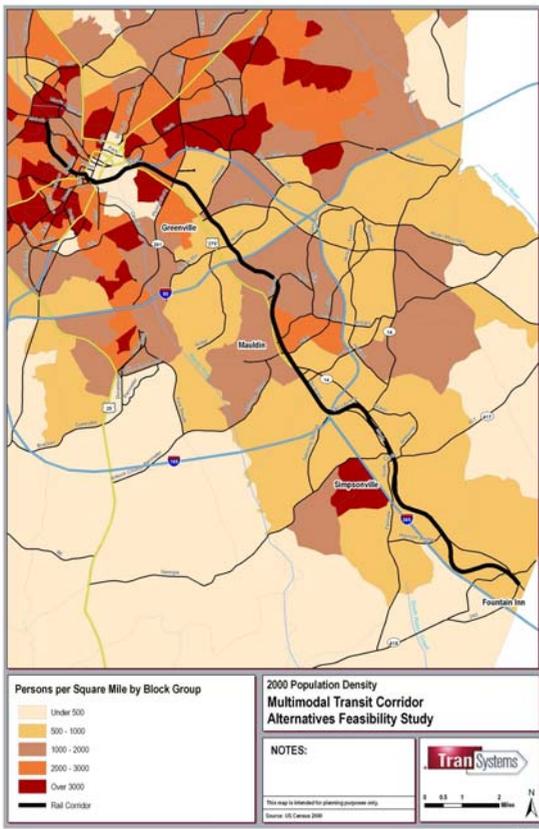


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Population/Employment



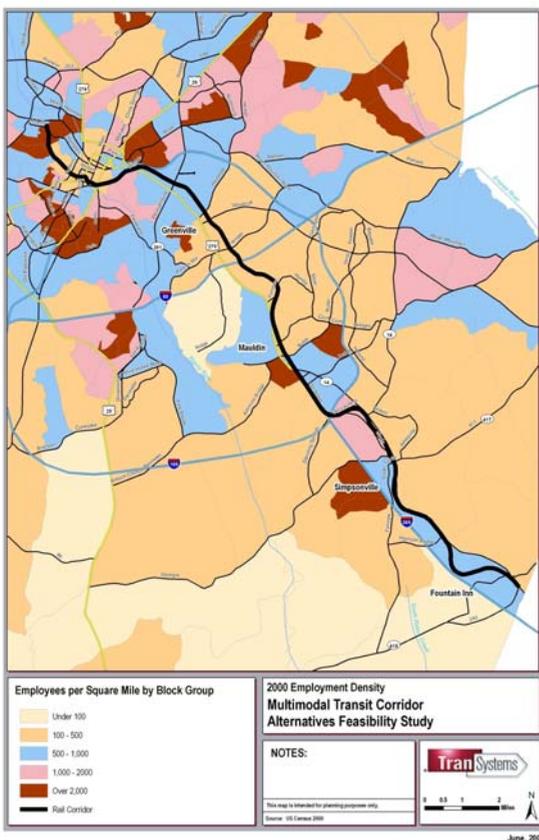
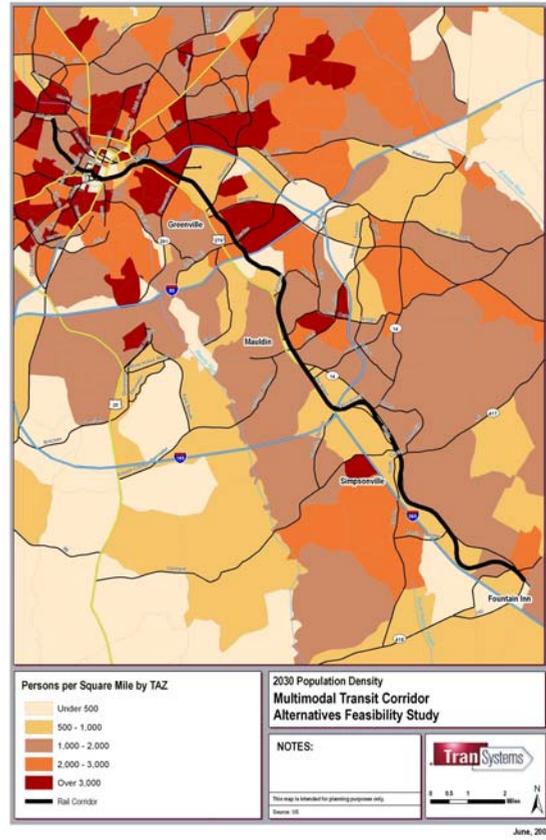
POPULATION

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)

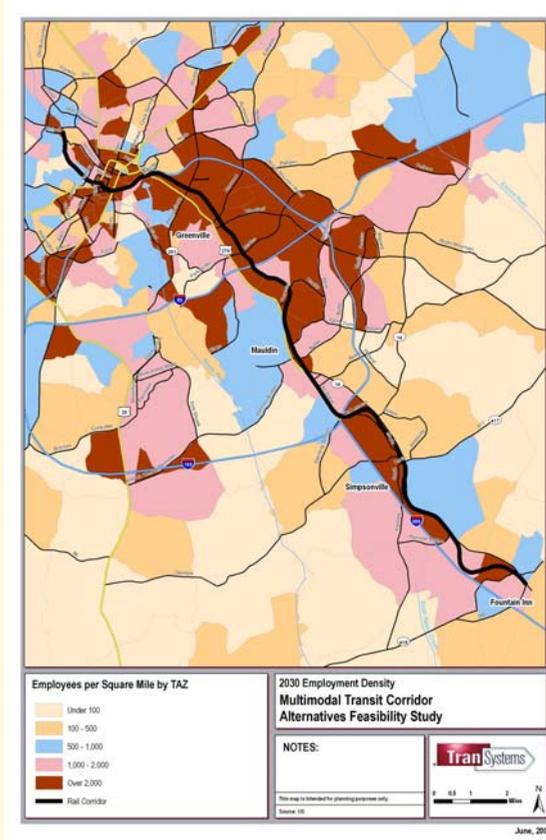
Greenville County's population is expected to increase from 428,243 (2007) to 451,398 (2012), a 5.4% increase



EMPLOYMENT

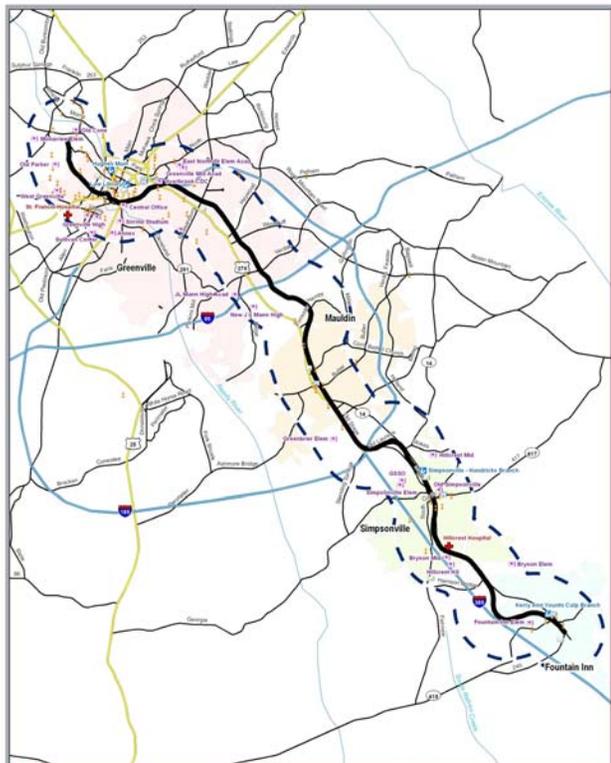
Existing employment density is greatest within Greenville and on the west side of I-385 in Simpsonville

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





Community Facilities and Environmental Conditions



Legend <ul style="list-style-type: none"> ■ Schools ■ Libraries + Hospitals ■ Churches ■ Post Offices ■ Police Stations 	<ul style="list-style-type: none"> Rail Corridor One Mile Study Area
Community Facilities Multimodal Transit Corridor Alternatives Feasibility Study	
NOTES: <small>This map is intended for planning purposes only.</small> <small>Source:</small>	
  	

June, 2009

COMMUNITY FACILITIES

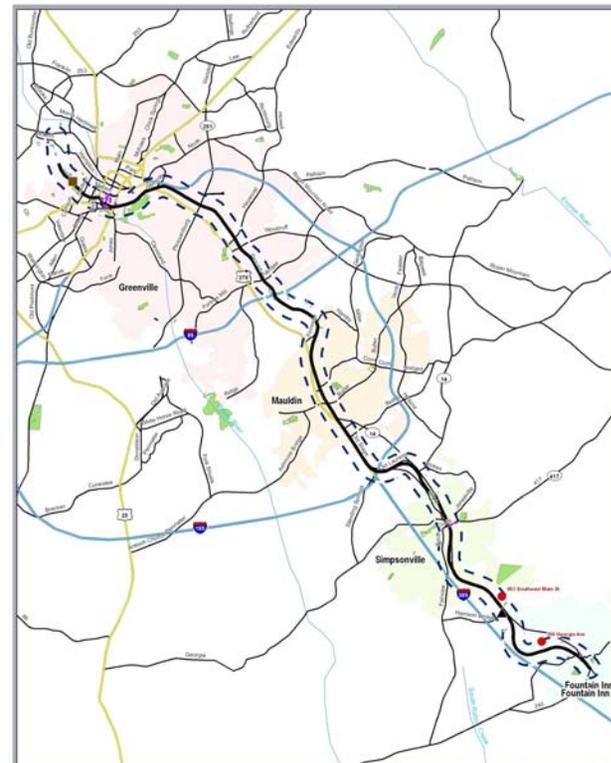
There are numerous community facilities along the rail corridor including two hospitals, schools, several churches and community facilities

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

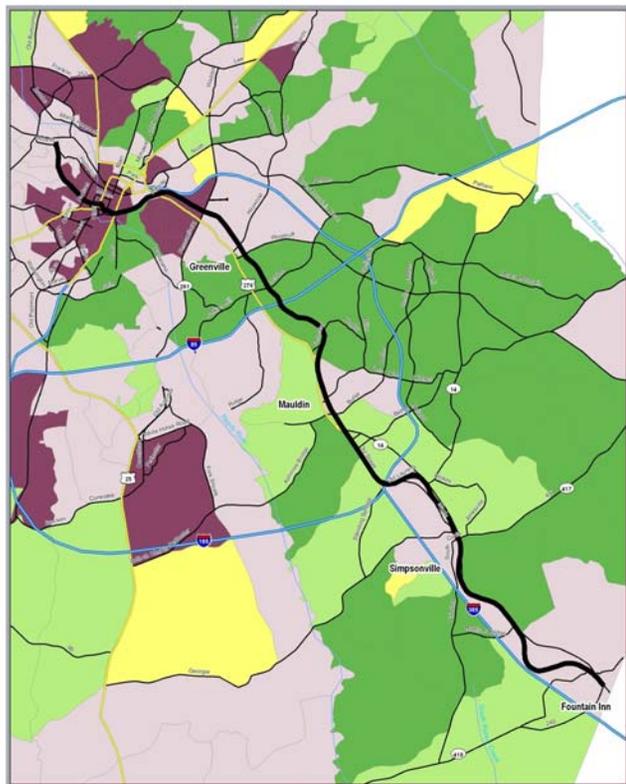


LEGEND <ul style="list-style-type: none"> ● Superfund Sites ■ Brownfields ▲ Historic Archeological ▲ Hazardous Waste Sites ▨ Wetlands ■ Parks 	<ul style="list-style-type: none"> Rail Corridor 1/4 Mile Study Area
Environmental Considerations Multimodal Transit Corridor Alternatives Feasibility Study	
NOTES: <small>This map is intended for planning purposes only.</small> <small>Source:</small>	
  	

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Household Income and Major Employers



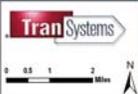
Household Income by Block Group

- Under \$15,000
- \$15,000 - \$35,000
- \$35,000 - \$50,000
- \$50,000 - \$75,000
- Over \$75,000

2000 Household Income Level
Multimodal Transit Corridor
Alternatives Feasibility Study

NOTES:

This map is intended for planning purposes only.
Source: US Census 2000



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INCOME

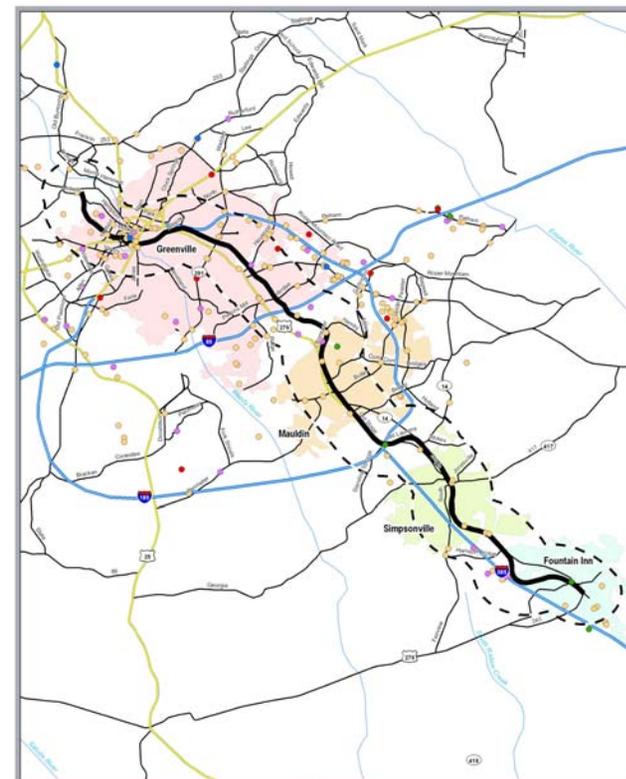
Household income (2000) is lowest in neighborhoods surrounding downtown Greenville

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



Number of Employees at Location

- 100 - 300
- 301 - 500
- 501 - 750
- 751 - 1000
- 1001 - 4000

Major Employer Locations
Multimodal Transit Corridor
Alternatives Feasibility Study

NOTES:

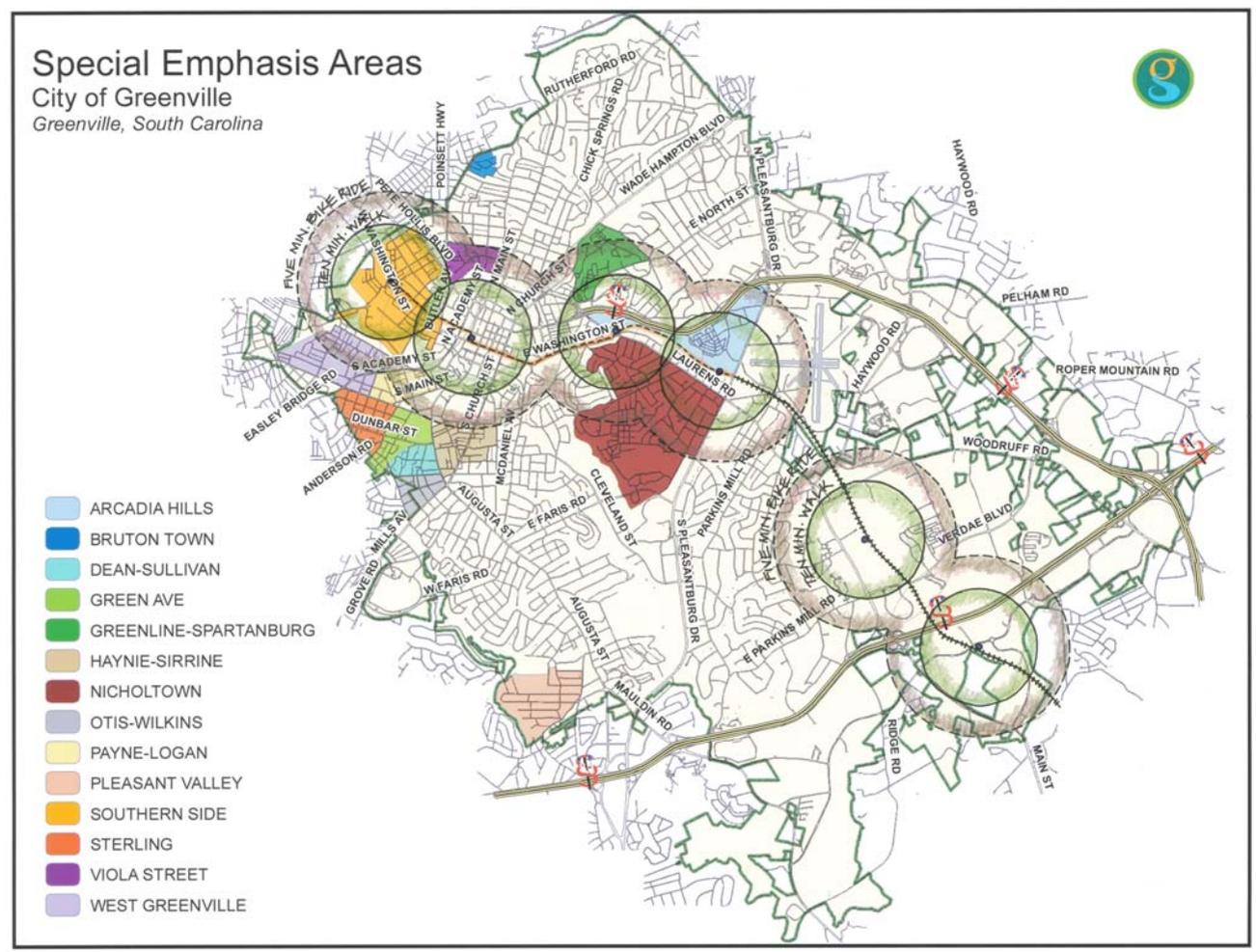
This map is intended for planning purposes only.
Source: On & Bradstreet



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Special Emphasis Neighborhoods



Potential Transit Oriented Developments 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 and trolley routes, extending service to many neighborhoods which depend on public transportation as a sole means of transit. In addition, Transit Oriented Development can act as a catalyst for revitalization of urban neighborhoods in need of renewal.

(Background map courtesy of the City of Greenville.)





Land Use and Transit Potential Index

LAND USE

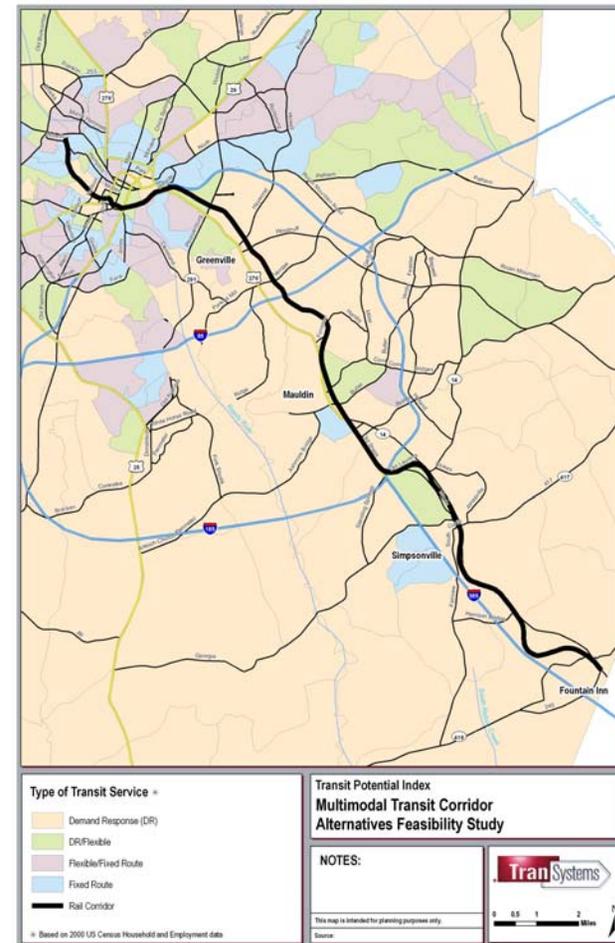
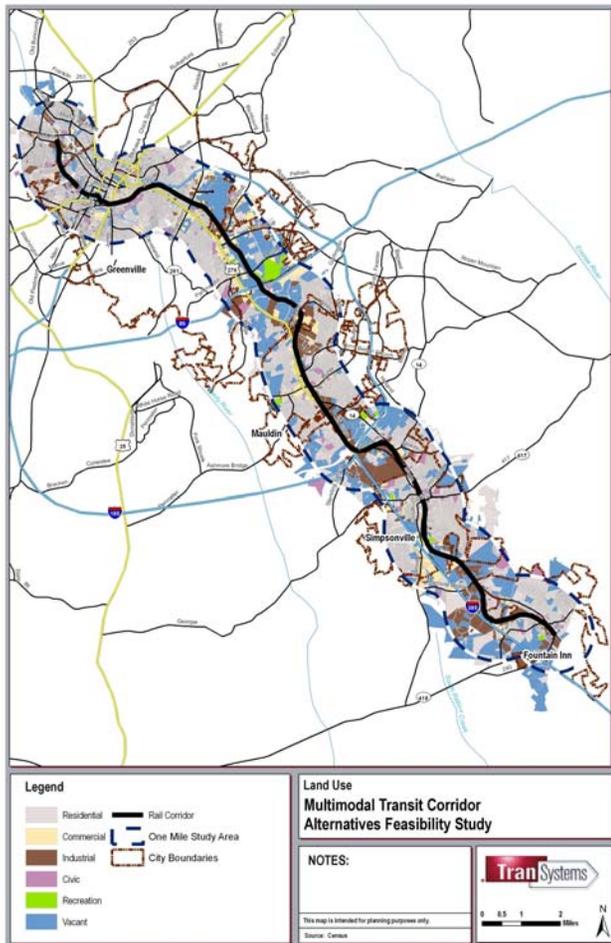
Land use along corridor is primarily residential or vacant

Industrial land uses are located along corridor south of Greenville

TRANSIT POTENTIAL INDEX

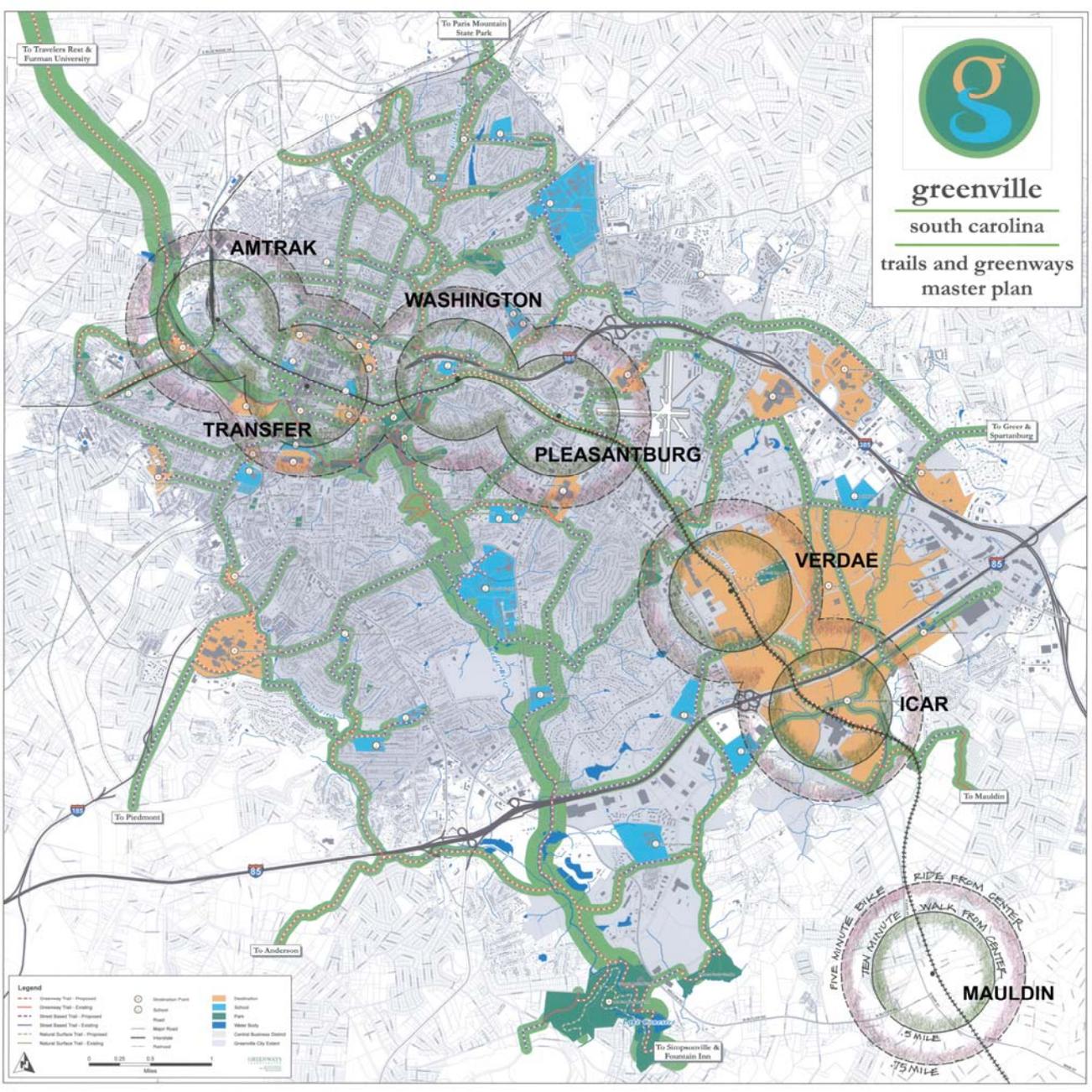
The Transit Potential Index indicates that fixed route transit service is most appropriate in downtown Greenville as well as in areas of Mauldin and Simpsonville given existing household and population numbers (2000)

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





Transit Oriented Development



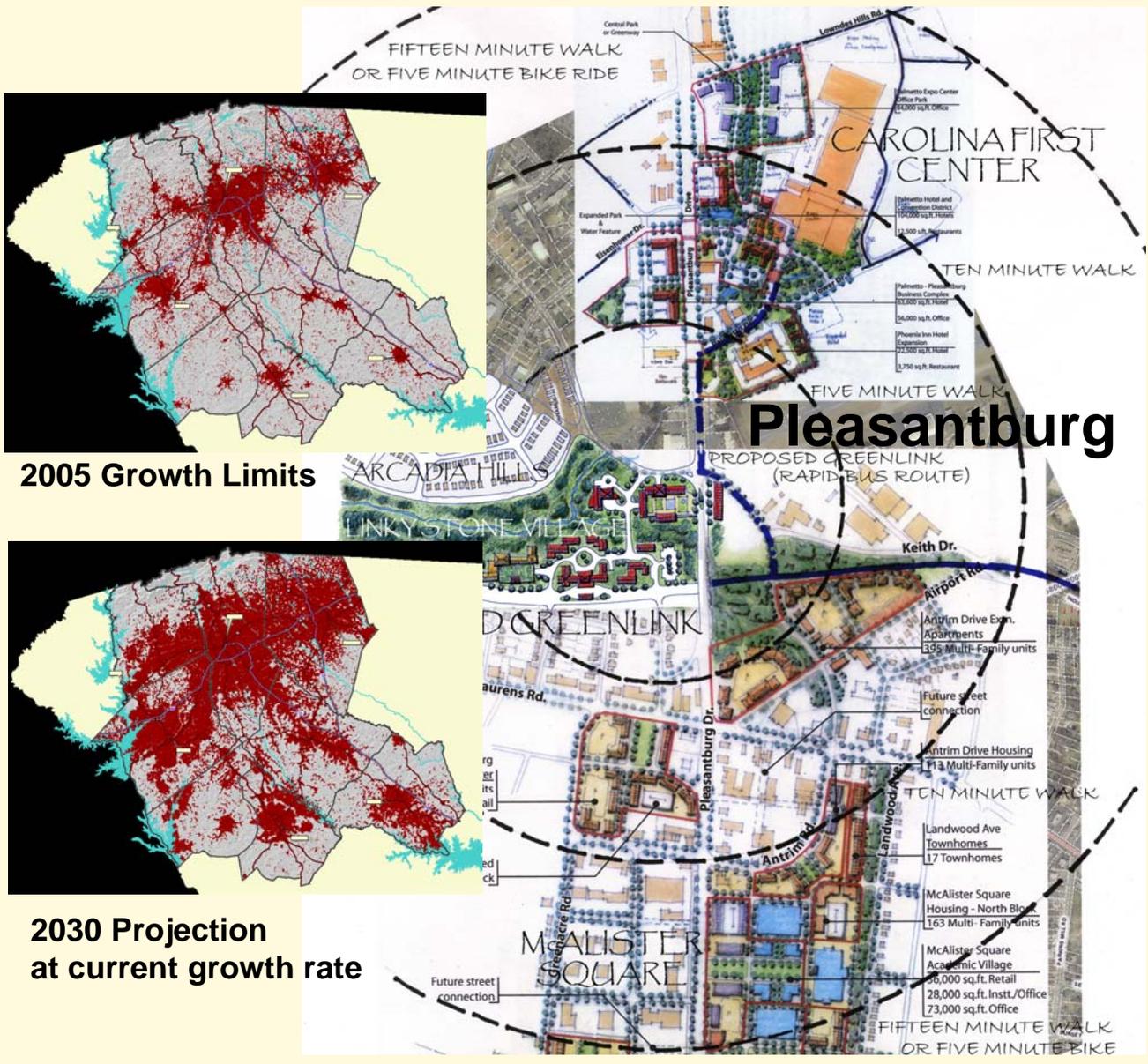
Potential Transit Oriented Developments are superimposed on a map of planned greenways, illustrating future pedestrian and bike connections as well as destinations throughout the area. Inner circles outline an easy ten minute walk from a station at the center, creating an opportunity for economic development 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.)





Environmental Impact



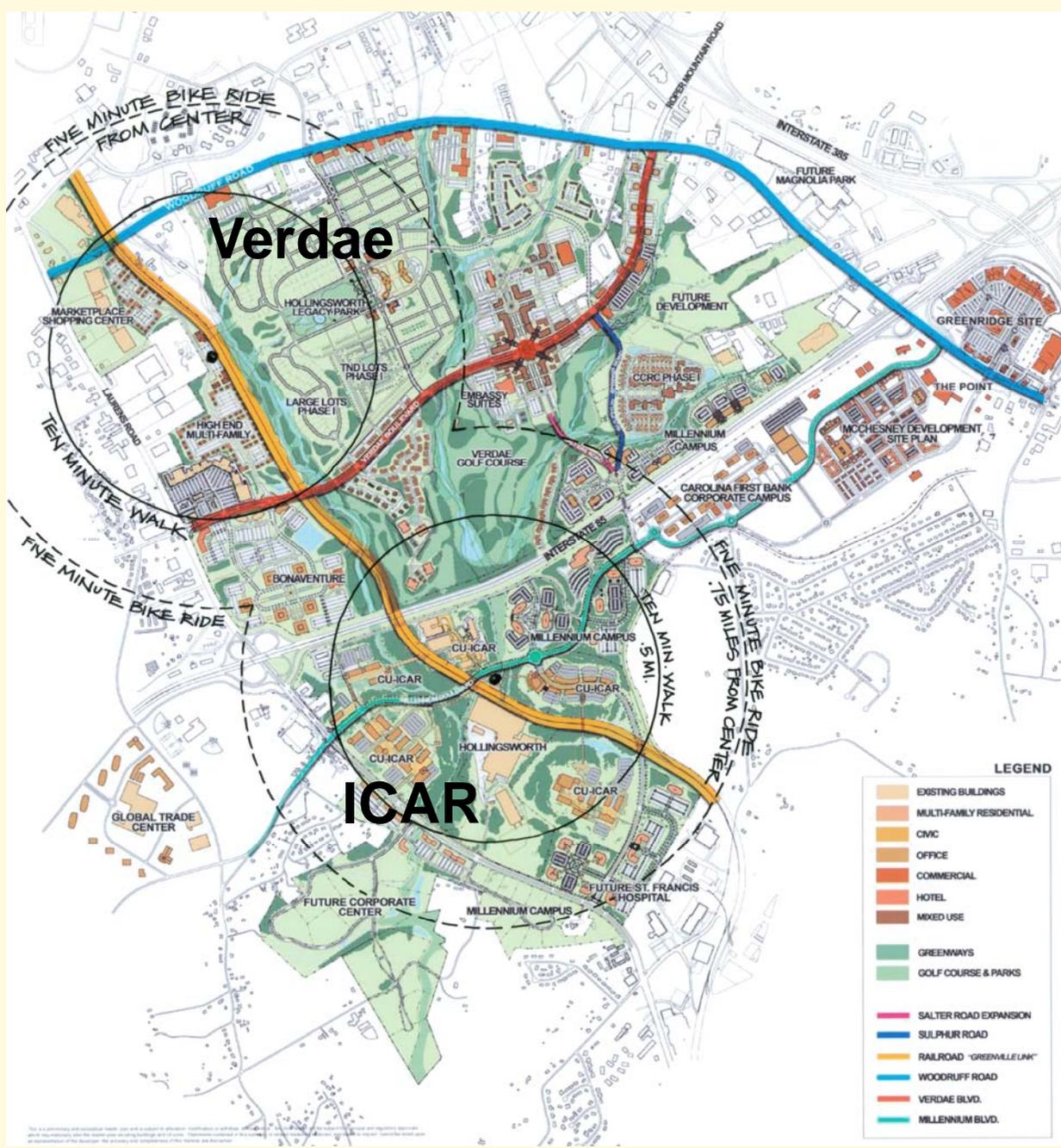
Transit Oriented Development (TOD) can help revitalize aging suburbs, like Pleasantburg Drive. Creating walkable villages within our existing development footprint will help protect the natural beauty of our county, relieve congestion on our highways, reduce our carbon footprint, protect our air and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

Background map courtesy of City of Greenville and Stone International.
Growth Maps courtesy of Upstate Forever and Clemson University.





Economic Development



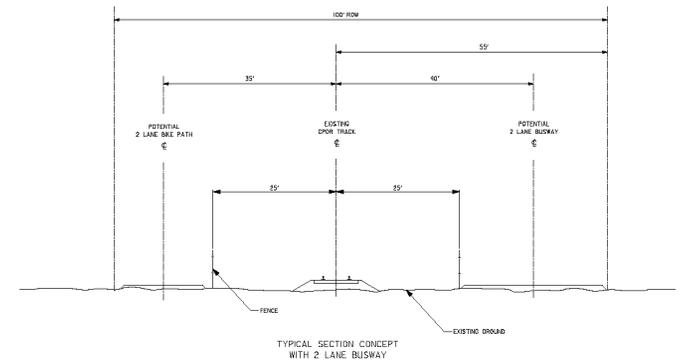
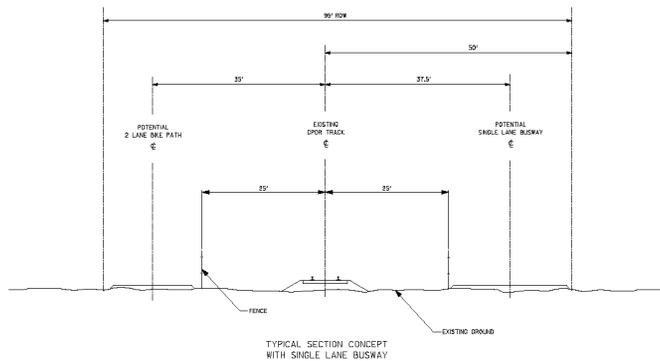
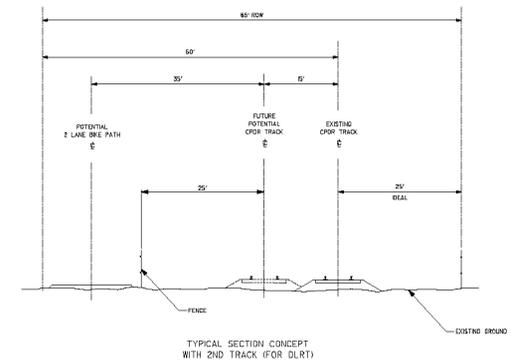
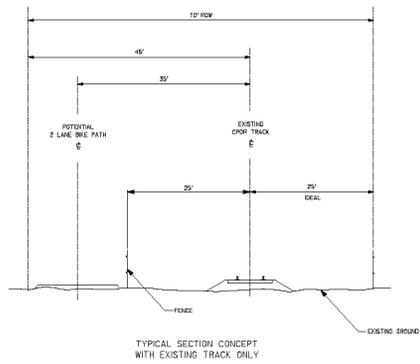
Transit Oriented Development can stimulate economic growth by expanding our county tax base and by creating new jobs. Street buses follow growth, but a dedicated corridor provides the predictability and value that encourages developers to invest within our existing infrastructure.

(Background map courtesy of Verdae Development.)



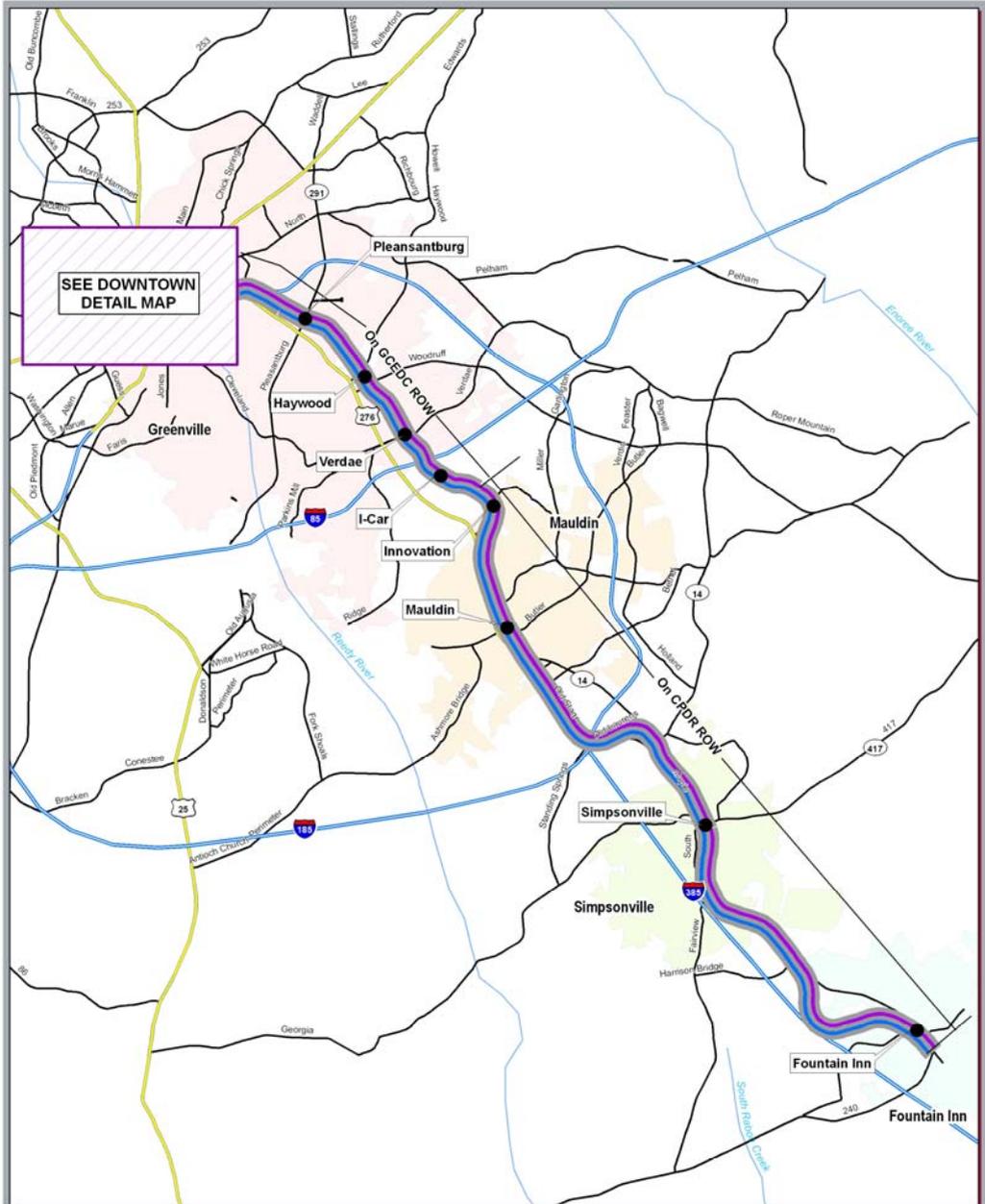


Cross Sections





Rail Alternatives



LEGEND

- Potential Station Site
- Commuter Rail/Heavy Rail
- Light Rail/Streetcar
- Rail Corridor

Rail Transit Alternatives Multimodal Transit Corridor Alternatives Feasibility Study

NOTES:

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Source:

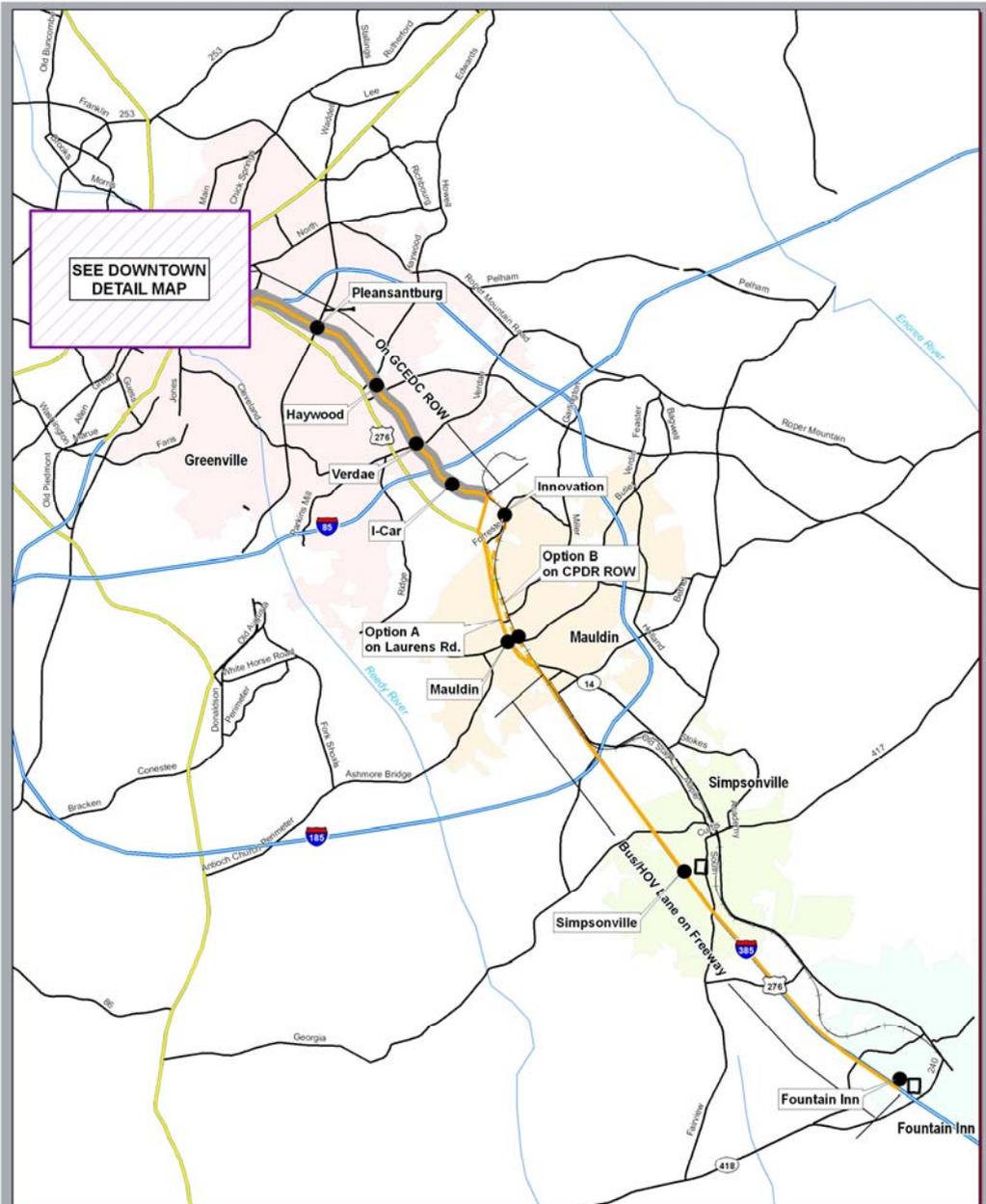


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BRT Alternative 1

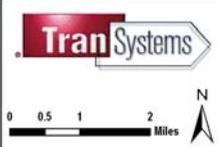


- LEGEND**
- Potential Station Site
 - Park N' Ride
 - BRT Freeway Based Alternative
 - CPDR Owned ROW
 - GCEDC Owned ROW

**BRT Using Freeway HOV Lane Alternative
Multimodal Transit Corridor
Alternatives Feasibility Study**

NOTES:

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Source:

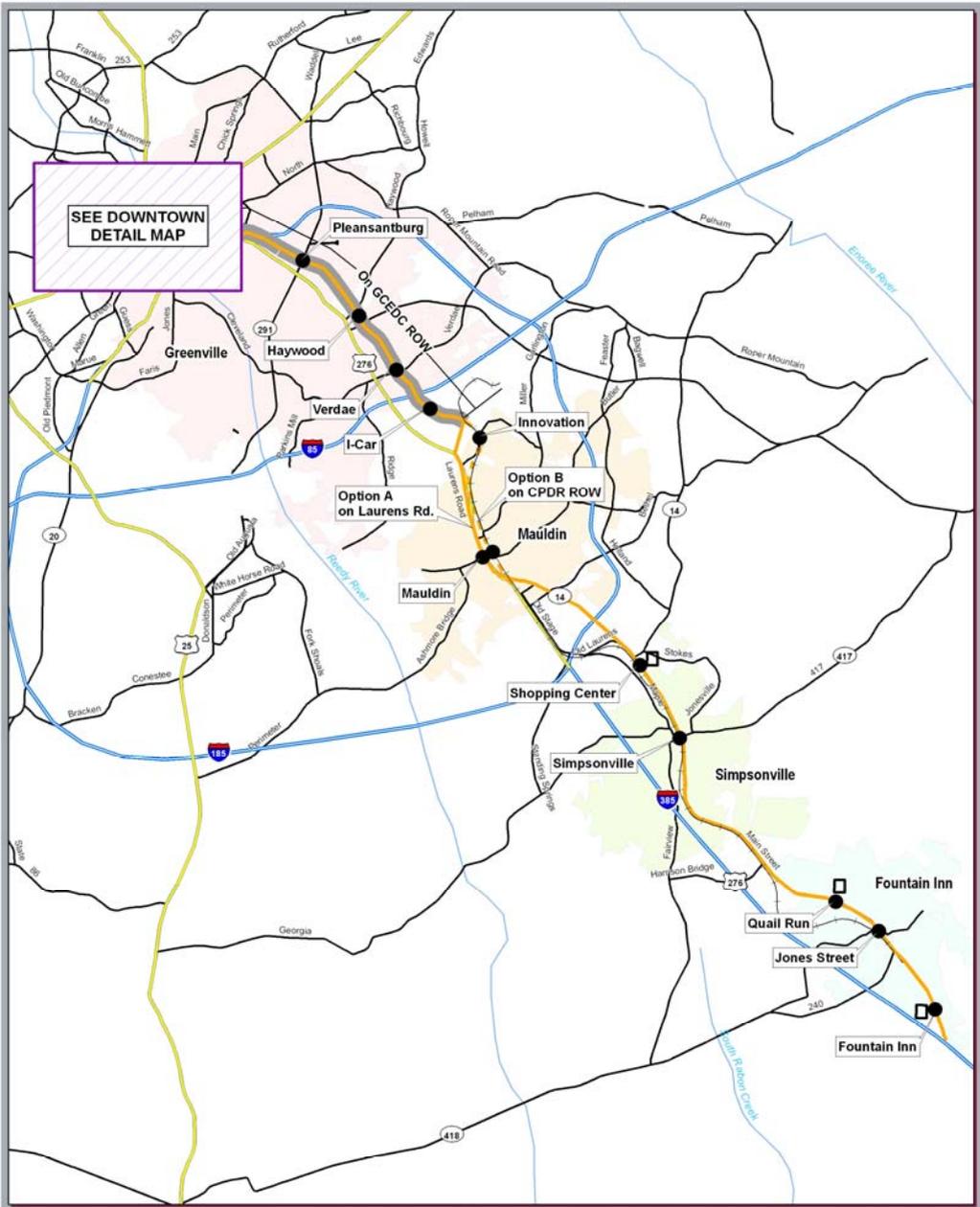


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BRT Alternative 2



LEGEND

- Potential Station Site
- Park 'N' Ride
- BRT Main Street Alternative
- CPDR Owned ROW
- GCEDC Owned ROW

**BRT on Main Street Alternative
Multimodal Transit Corridor
Alternatives Feasibility Study**

NOTES:

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Source:

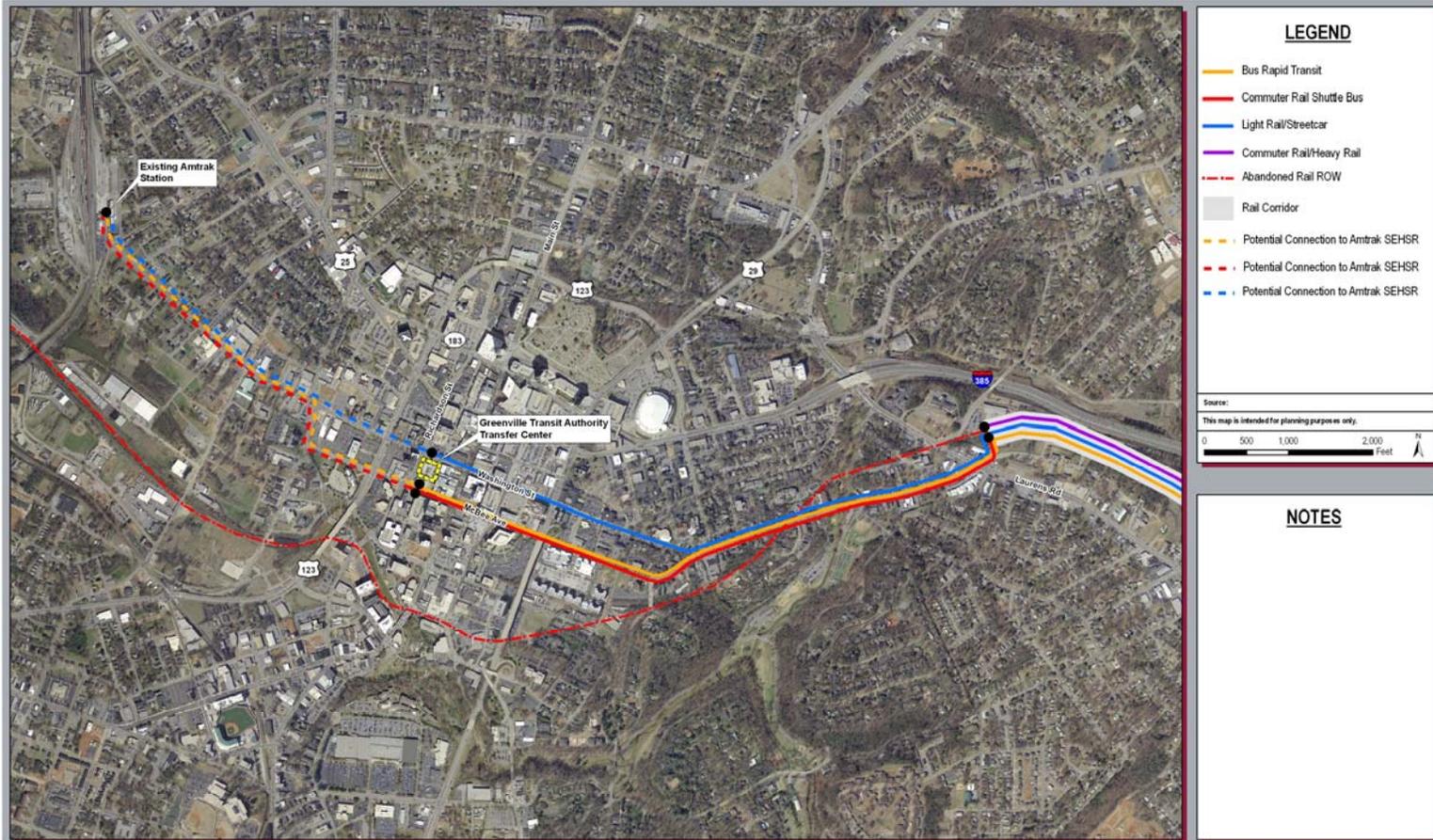


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Downtown Transit Alternatives



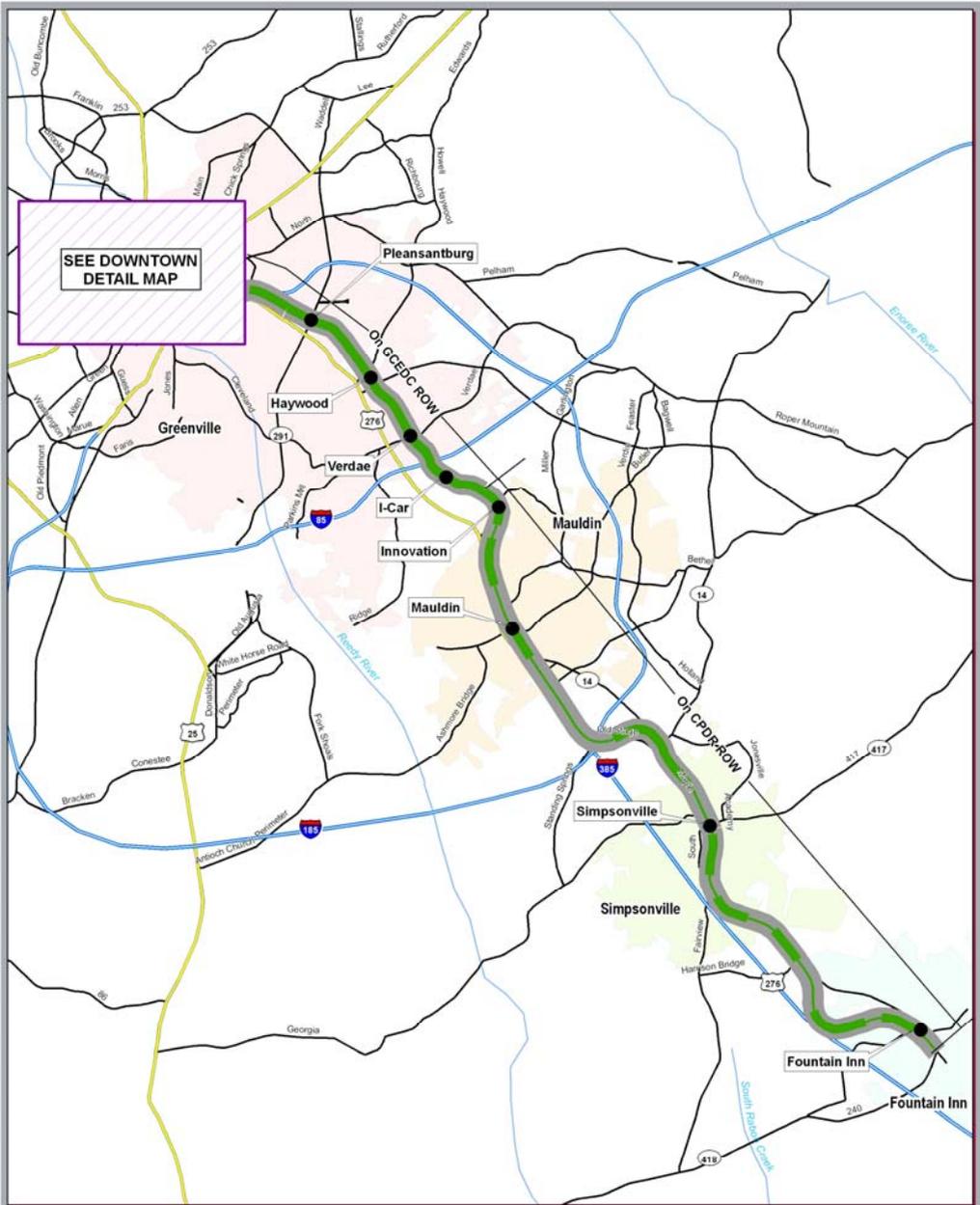
Downtown Transit Alternatives
Multimodal Transit Corridor Alternatives Feasibility Study

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Potential Bikeway



LEGEND

- Potential Station Site
- Rail Corridor Unable to Accomodate Dedicated Bikeway
Alternate Route TBD
- Potential Dedicated Bikeway within Rail Corridor
- Rail Corridor

**Potential Bikeway
Multimodal Transit Corridor
Alternatives Feasibility Study**

NOTES:

This map is intended for planning purposes only.

Source:

0 0.5 1 2 Miles

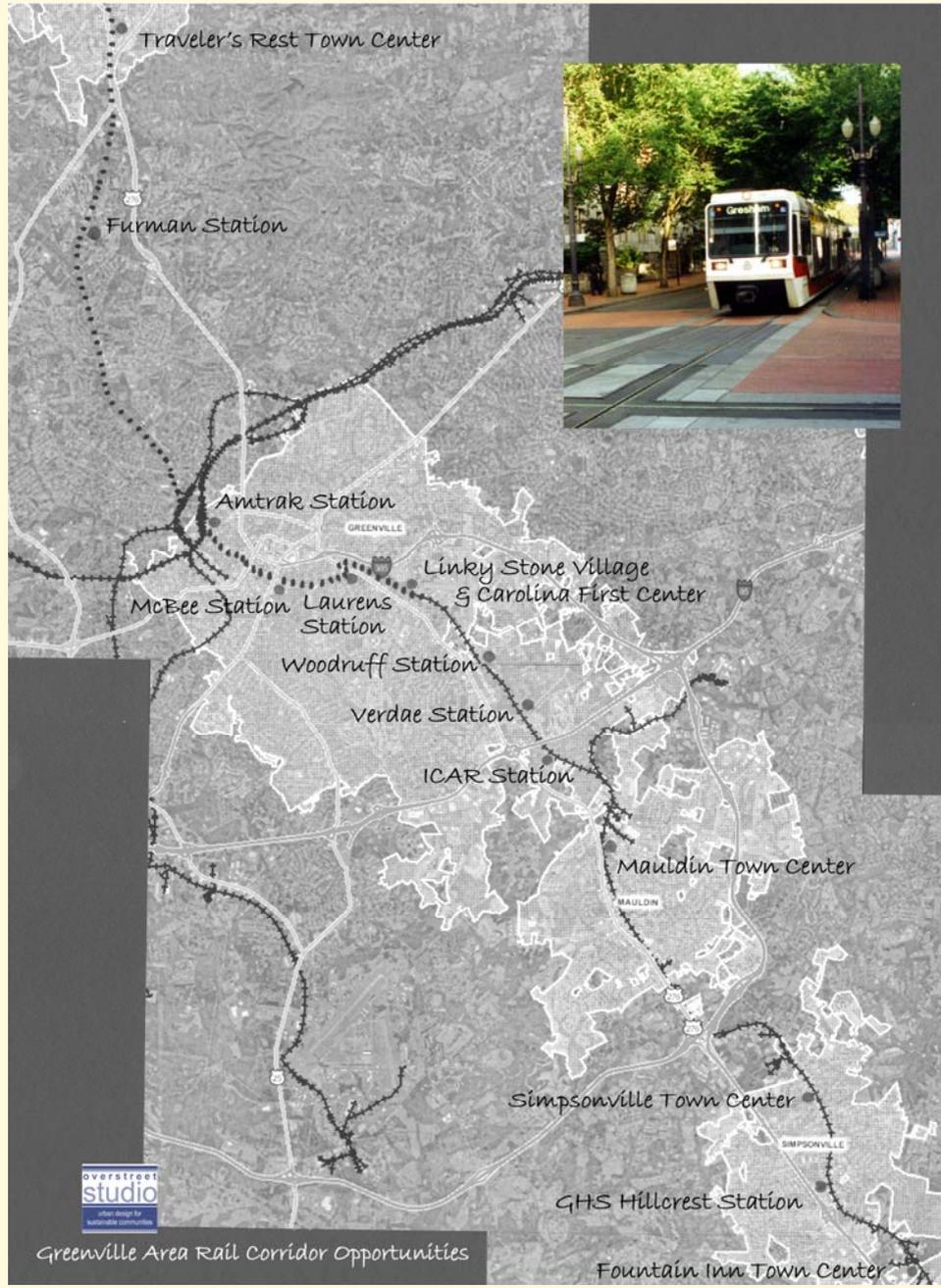
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Corridor Connections



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.





Next Steps

**Integrated HCT System Plan – Facilities,
Land Use**

Financial Plan – Costs, Ridership

Public Meeting No. 2 – October 2009

**Implementation Strategies – Funding,
Partnerships**

**Final Report and Documentation – January
2010**



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**

