



# *Elizabeth Area Plan*

Part III: APPENDIX

## Part III: Appendix

The information contained in this Appendix was gathered throughout the planning process and was used to produce the *Elizabeth Area Plan*.

### Existing Conditions, Trends, and Forecasts

A thorough review and understanding of existing conditions – physical, economic, and social – was needed to identify the opportunities and constraints facing the plan area, and to develop the plan vision, goals, and policies. The following discussion highlights the existing conditions, trends, and forecasts most significant to the plan area.

#### Demographics

The 2010 U.S. Census indicated that 3,401 people reside in the Elizabeth plan area; of those, the majority (88%) are Caucasian, with about 8% being African-American. Hispanic residents comprise just two percent of the area's population. As of the 2000 Census, there are more females (55%) than males. Twelve percent of the population is under age 18, and senior citizens (65+) comprise 10% of the total.

The Elizabeth plan area has seen a slight decrease in population since the 2000 Census. The 2010 population for the area is 3,401, which is an average annual decrease of less than one quarter of one percent.

The 2000 Census also provides the following information:

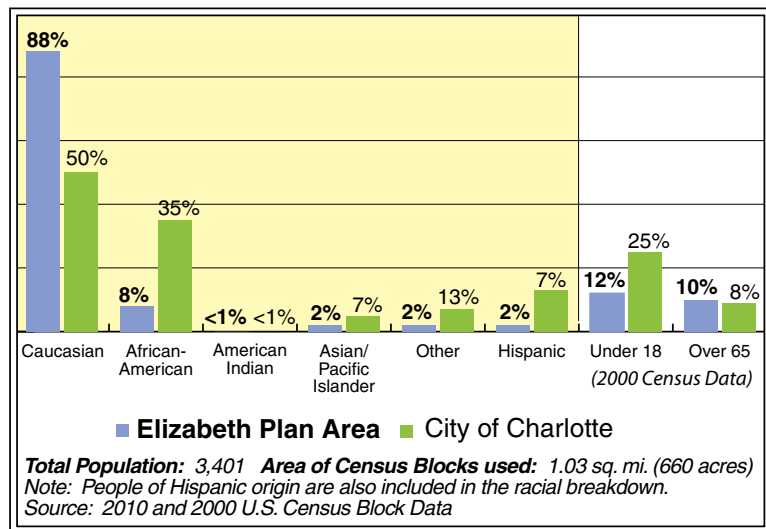
- The median household income of the plan area was \$46,281 (1999 income data). This was slightly less than the median household income for the City of Charlotte as a whole, \$46,975.
- A majority (53%) of the households in the area were single-person households.
- The average household size in the plan area was 1.71 persons.
- About 66% of area homes were valued at more than \$200,000 dollars. The median home value was \$230,100; this was

#### Population Trends

Geographic Area	1980 Census data	1990 Census data	2000 Census data	2010 Census data
Elizabeth Plan Area	3,594	3,789 +5.4%	3,484 -8.0%	3,401 -2.38%
City of Charlotte	314,447	395,934 +25.9%	540,828 +36.6%	731,424 +35.24%
Mecklenburg County	404,270	511,433 +26.5%	695,454 +36.0%	919,628 +32.23%

Source: U.S. Census Data

#### Population

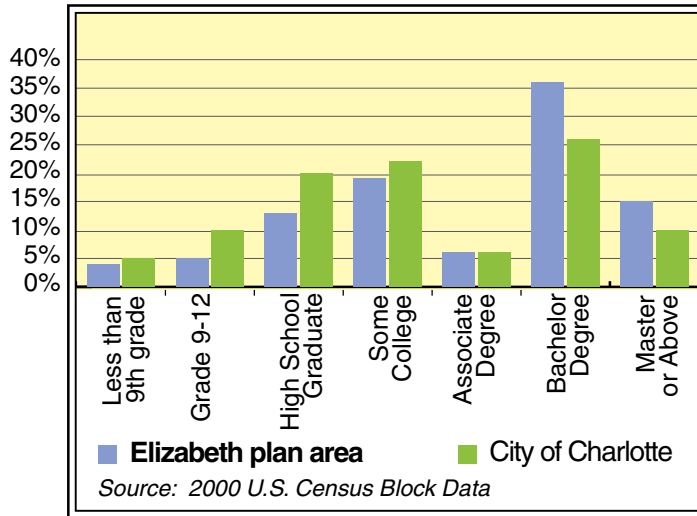


significantly greater than the median home value for the City which stood at \$134,300.

- Residents of the plan area were generally more well-educated than residents city-wide, as illustrated in the following table.

- More area residents worked in the management/professional category (49%) than in any other. This was followed by residents employed in sales/office work (30%) and the service sector (11%). The total number of jobs held by study area residents was 2,601.

**Highest Attained Educational Level**



**Employment**

Occupational Group	Elizabeth Plan Area		City of Charlotte
	Pop.	%	%
Management/Professional	1,286	49%	38%
Service	275	11%	13%
Sales/Office	771	30%	29%
Construction/Maintenance	158	6%	8%
Production	111	4%	12%
<b>TOTAL</b>	<b>2,601</b>	<b>100%</b>	<b>100%</b>

Source: 2000 U.S. Census

## Residential Building Permits

Nineteen new residential permits were issued in the plan area for single family detached dwellings from 2000 to 2010, whereas 332 multi-family units were permitted in the same period. Most of the new multifamily residential units are condominiums, the permits for which were issued in years 2006 and 2007. No residential apartment units have been constructed in the plan area in the past two decades.

There were 1,808 households in the plan area as of the 2000 U.S. Census. Of these, 65% were renters and 35% homeowners. Of the total households in the plan area, 69% were in multi-family housing and 31% in single family.

- As of 2008, there were 2,095 housing units in the plan area (see table on the following page).
- Of the 604 single family detached homes in the plan area, 569 (94%) were built prior to 1980.
- Of the 719 condominium units in the plan area, all but 251 (65%) were built after 1980.

**Residential Building Permits 2000 - 2010**

Year	Single Family Detached	All Attached Units	TOTAL
2000	0	2	2
2001	0	30	30
2002	2	0	2
2003	1	0	1
2004	2	33	35
2005	3	8	11
2006	2	183	185
2007	1	76	77
2008	5	0	5
2009	0	0	0
2010	3	0	3
<b>TOTAL</b>	<b>19</b>	<b>332</b>	<b>351</b>

Source: Charlotte-Mecklenburg Planning Department



## *Elizabeth Area Plan*



*Single Family Detached*



*Single Family Attached*



*Condominiums*



*Apartments*

### Existing Residential Units in Plan Area Through 2009

Year Built	Single Family Detached	Single Family Attached	Condo	Apartment	Grand Total
Before 1980	569	281	251	407	1,508
1980 - 1989	1	3	208	32	244
1990 - 1999	8	2	63	0	73
2000	30	16	18	0	37
2001	1	0	2	0	3
2002	0	208	8	0	28
2003	1	7	0	0	8
2004	8	3	33	0	44
2005	6	0	0	0	6
2006	0	0	8	0	8
2007	3	0	98	0	101
2008	4	1	30	0	35
2009	0	0	0	0	0
<b>TOTAL</b>	<b>604</b>	<b>333</b>	<b>719</b>	<b>439</b>	<b>2,095</b>

*Source: Charlotte-Mecklenburg Planning Department*

## Existing Zoning

There are a total of 629.55 zoned acres in the study area. This land area is larger than the land use inventory because zoning calculations include all roads, railroads, and utility rights-of-way. Land zoned for single family residential uses dominates the plan area with over 180 acres, or 28.72% (see **Map 10**). Multi-family and office are the next most frequent zoning categories as show in the table below.

### Existing Zoning for the Plan Area

Zoning Category	Acres	% of Total
Single Family	180.79	28.72%
Multi-family	134.80	21.41%
Urban Residential	6.19	0.98%
Retail	54.80	8.71%
Office	149.83	23.80%
Mixed Use	98.93	15.71%
Industrial	4.21	.67%
<b>TOTAL</b>	<b>629.55</b>	<b>100%</b>

*Source: Charlotte-Mecklenburg Planning Department*



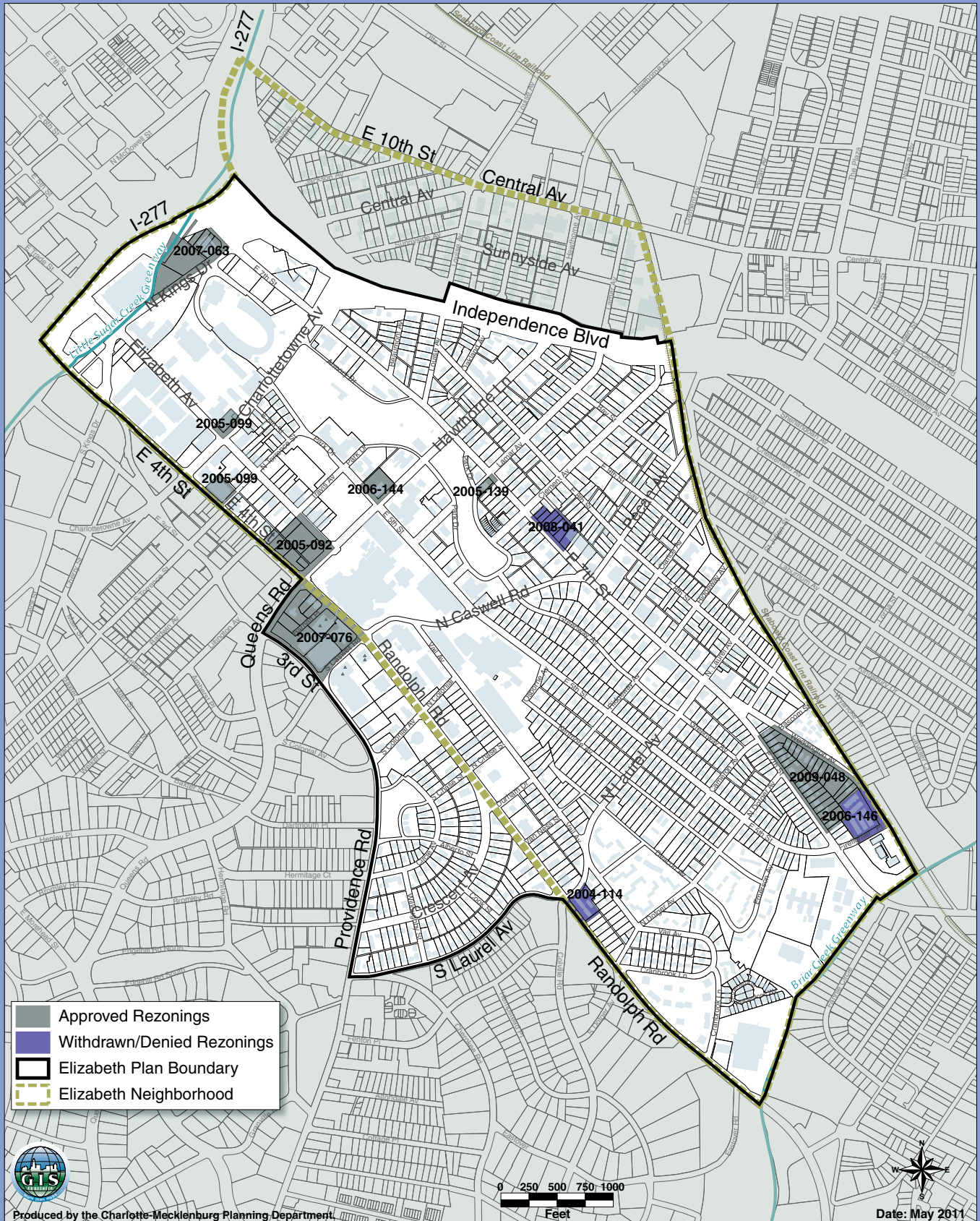
## Map 10





# Elizabeth Area Plan

## Rezoning Petitions: 2004 - 2010



## Rezoning

Several rezoning petitions were filed from 2004 through 2010. (See **Map 11**)

### Approved (2004-2010)

Petition Number/ Name	Acres	Former Zoning	Requested Zoning	Action	Development Proposed
<b>2005-92</b> Providence Road Land Partners, LLC	3.07	B-2	MUDD-O	Approved 2-19-07	188,000 SF of commercial floor space plus 300 residential units
<b>2005-99</b> Central Piedmont Community College	1.86	B-2	MUDD-O	Approved 7-18-05	194,545 SF of expansion comprising two buildings on separate parcels
<b>2005-139</b> Rob Gottfried	0.25	B-1	MUDD-O	Approved 12-19-05	863 SF expansion of restaurant and reduction in parking ratio
<b>2006-144</b> B & E Properties	0.90	O-2	MUDD-(CD)	Approved 12-18-06	New 20,000 SF medical office building
<b>2007-63</b> Central Piedmont Community College	4.00	B-2 & O-2	MUDD	Approved 6-18-07	To accommodate future expansion and maintain consistency in zoning for campus
<b>2007-76</b> Novant Health, Inc.	6.40	O-2	MUDD-O	Approved 4-21-08	Up to 775,000 SF of additional hospital expansion plus parking deck
<b>2009-48</b> Winter Elizabeth, LLC	6.87	R-22MF	MUDD-(CD)	Approved 1-19-10	Up to 366 units of new residential development in two structures

### Denied or Withdrawn (2004-2010)

<b>2004-114</b> The Boulevard 2000, LLC	0.97	R-22MF	UR-3 (CD)	Denied 3-19-05	48 new residential units
<b>2006-146</b> Gateway Homes, LLC	2.10	R-22MF	UR-2 (CD)	Withdrawn	45 new residential units
<b>2008-041</b> The Boulevard Company	1.48	B-1	MUDD	Withdrawn	Mixed-use development

### Zoning Classifications in the Table

**B-1 & B-2** Business

**O-2** Office

**R-22MF** Multi-Family Residential zoning with a maximum of 22 dwelling units per acre

**MUDD** Mixed Use Development District - can have one or more land use types on the same site (retail, office, residential)

**UR** Urban Residential

**O** Optional (petitioner requests to opt out of one or more zoning requirements). Site plan submission required.

**CD** Conditional Zoning District (allows particular uses to be established only in accordance with specific standards and conditions pertaining to each individual development project). Site plan submission required.



## Land Development and Community Design

Elizabeth has a diversity of land uses including established residential areas, large institutions including Presbyterian and CMC-Mercy hospitals and Central Piedmont Community College (CPCC), and concentrations of commercial and office uses.

### Residential

Elizabeth is primarily an older residential neighborhood. There are several established single and multi-family residential units in the plan area. Much of the housing stock dates to the early 1900s, and there is a preponderance of historic homes throughout. Many of the single family homes in the neighborhood are in the bungalow style, single story and of a modest size and scale. The area also has some Victorian, Colonial Revival, and Tudor Revival style houses, especially in the southeast (Crescent Heights) part of the plan area.

There are almost as many multi-family units in the neighborhood as single family, and these are interspersed with the single family homes resulting in a vibrant yet cohesive residential fabric. The multi-family units typically comprise two and three story townhouse-style brick and/or stucco dwellings, and generally blend well with their surroundings. Infill and redevelopment has occurred throughout the neighborhood over the years, contributing to the variety and mix of housing types and architecture. Most of the new development has respected the scale and style of the existing residences.

The area's residential neighborhoods are characterized by a mature tree canopy. Typically, streets and public paths are tree-lined and well-landscaped. Most of the area's single family housing stock is within walking distance of public transit, shops, restaurants, and parks.

### Non-Residential

#### Retail

Retail development within the plan area is concentrated along East Seventh Street



*This newer multi-family development is compatible in scale and massing with surrounding buildings on Hawthorne Lane.*



*This East Fifth Street home is typical of many residential areas in Elizabeth. The streetscape features a planting strip with mature trees and a sidewalk.*



*An example of a commercial use, in this case a restaurant on East Seventh Street, being housed in a former residential building.*

## Elizabeth Area Plan



*Suburban style retail in a single-story building with surface parking between the street and the front of the store.*



*Elizabeth Traditional Elementary School.*



*One of the many houses of worship in the Elizabeth area.*

and Elizabeth Avenue. East Seventh Street, between Hawthorne Lane and Laurel Avenue, is characterized by a mix of offices, restaurants, and neighborhood-serving retail uses. Many of these are housed in residential structures that have been adapted for retail and office use, which creates a unique “Main Street” urban feel and helps preserve Elizabeth’s historic character. Most other retail uses along Seventh are located in suburban-style single-story buildings and shopping plazas. Elizabeth Avenue between Charlottetowne Avenue and Hawthorne Lane links Central Piedmont Community College (CPCC) and Presbyterian Hospital with a mixture of retail and office uses in one- to three-story buildings. Medical offices and other office uses dominate the Randolph Road area. A smaller concentration of retail uses is found along Providence Road.

### Office

Medical offices are the predominant office type in the plan area, many of which are associated with nearby hospitals. These medical office uses are primarily found along Third Street/Providence Road and Fourth Street/Randolph Road. There are also other professional office uses on Elizabeth Avenue and East Seventh Street.

### Industrial

The sole industrial/warehouse use in the Elizabeth area is the Queen City Lumber yard, at the intersection of Bascom Street and Weddington Avenue, adjacent to the railroad tracks.

### Civic

The Elizabeth plan area consists of several large regional-scale civic and institutional uses such as schools, hospitals, and churches. Presbyterian Hospital and Carolinas Medical Center-Mercy occupy significant tracts of land within the plan area between East Third and East Fifth Street, south of Hawthorne Lane. There are also several churches in the Independence Park and Hawthorne Lane areas. Central Piedmont Community College (CPCC), Kings College, and the Queens University/Presbyterian School of Nursing are the primary post-secondary educational institutions located within the plan area’s boundary. Elizabeth Traditional Elementary School is located at 1601 Park Drive.



## Public Facilities

### Public Services

There are no fire stations, police stations, or post offices located within the plan boundary. Elizabeth is served by the following:

#### **Charlotte Fire Department -**

- Fire Station 1, in Uptown Charlotte at 221 North Myers Street, houses Engine 1 and Ladder 1.
- Fire Station 6 is located at 249 South Laurel Avenue. Housing Engine Company 6, it opened in 1929 and is listed in the National Register of Historical Places.
- Fire Station 8, opened in 1948, is located at Commonwealth Avenue and The Plaza and houses Engines 8 and 64.

**Charlotte-Mecklenburg Police Department** - The Elizabeth plan area is protected by two separate patrol divisions of the Charlotte-Mecklenburg Police Department. The northern third of the area is covered by the Central Division, with offices at East Seventh Street and North College Street. The southern two-thirds of the plan area is within the CMPD's Providence patrol division, headquartered off North Wendover Road near Monroe Road.

**Post Offices** - Elizabeth is in close proximity to the Downtown Charlotte Post Office on North McDowell Street, the Midwood Post Office on The Plaza, and the Central Avenue Post Office.

### Institutions

**Presbyterian Hospital** is a private, non-profit regional medical center, one of the largest health care institutions in the Carolinas. It is the flagship hospital of Presbyterian Healthcare.

Located at 2001 Vail Avenue, **CMC-Mercy Hospital** is an adult acute care facility that provides a full-range of services, including emergency room care, surgery, and rehabilitation.

The **Central Piedmont Community College (CPCC)** Central Campus is located at 1201 Elizabeth Avenue. It is the oldest and largest campus in the CPCC system. CPCC's enrollment at the central campus is approximately 13,000, all



*Fire Station 6*



*Fire Station 8*



*Presbyterian Hospital*



## Elizabeth Area Plan



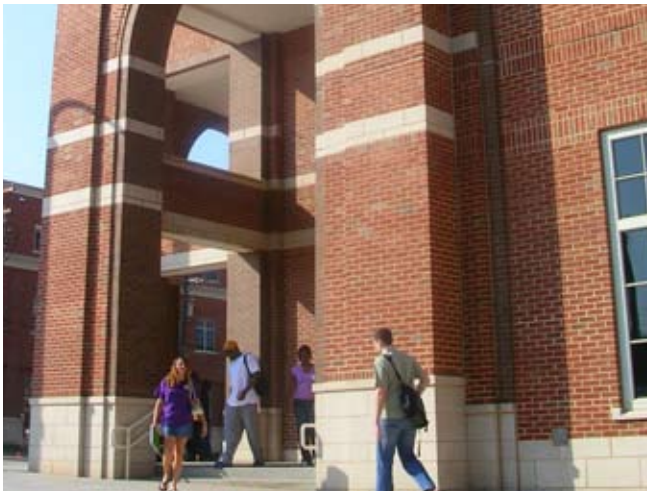
*Carolinas Medical Center - Mercy Hospital*

non-resident, and the school is in the process of adding new buildings to its expanding campus to meet projected needs.

**Kings College** is a private career college located at 322 Lamar Avenue. It offers diplomas and associate degrees in ten major areas of study. About 135 of its 500 enrolled students live in the college's on-campus housing.

**Queens University/Presbyterian School of Nursing** is the largest private producer of new RNs in North Carolina. Operated in partnership with Presbyterian Hospital, the school has 22 full-time faculty and 500 students.

### Parks and Greenways



*Central Piedmont Community College*

**Independence Park** was developed in 1907 and was the first public park built in Charlotte. It is a 24-acre facility that features a baseball field, two basketball courts, two tennis courts, a volleyball court, walking trails, a playground, two picnic shelters and a stone shelter that includes a reflecting pond and rose garden wedding site. Pedestrian connectivity and usability on the eastern end of the park has been lacking for some time and will be addressed as part of a 10 year vision for future projects, which Mecklenburg County Park and Recreation is developing. The resulting plan will evaluate historical context, current and future needs of the surrounding neighborhood, and ways to improve the overall appearance of the park.

**Colonial Park** is a 3-acre park located on Providence Road in the Crescent Heights section of the plan area. It is a neighborhood-serving park that features a multi-purpose field, basketball court, two tennis courts, a playground, and a walking trail.



*Independence Park's amenities include walking paths and picnic shelters.*

The Elizabeth section of the **Little Sugar Creek Greenway** is currently under construction from East Seventh Street to Morehead Street. At a length of 1.1 miles, the greenway features a linear park and stream restoration. The design will provide space for events, passive recreation and educational opportunities, public art, fountains and water features. The full length of the Little Sugar Creek Greenway is expected to open by the end of 2011.

## Existing Land Use

There are a total of 500.12 acres (excluding streets and rights-of-way) within the plan area. Single family residential land uses comprise over 26% of the total acreage. Another 19% of the plan area is used for multi-family residential land uses and over 20% for institutional land uses. Existing land uses are shown on Map 12.



Single Family



Multi-Family



Institutional



Vacant

### Existing Land Use for the Plan Area

Land Use	Acres	% of Total
Single Family	129.40	26%
Multi-family	92.37	19%
Institutional <sup>1</sup>	52.72	20%
Office <sup>2</sup>	34.45	14%
Park/ Open Space	34.77	6%
Retail	18.33	4%
Utility	4.47	1%
Warehouse/ Distribution	4.51	1%
Vacant	16.32	3%
Parking	29.82	6%
<b>TOTAL</b>	<b>500.12</b>	<b>100%</b>
<sup>1</sup> Institutional includes Hospital <sup>2</sup> Office includes Medical Office Source: Charlotte-Mecklenburg Planning Department		



Office



Park/Open Space



Medical Office



Warehouse/Distribution



Hospital



Parking



Utility

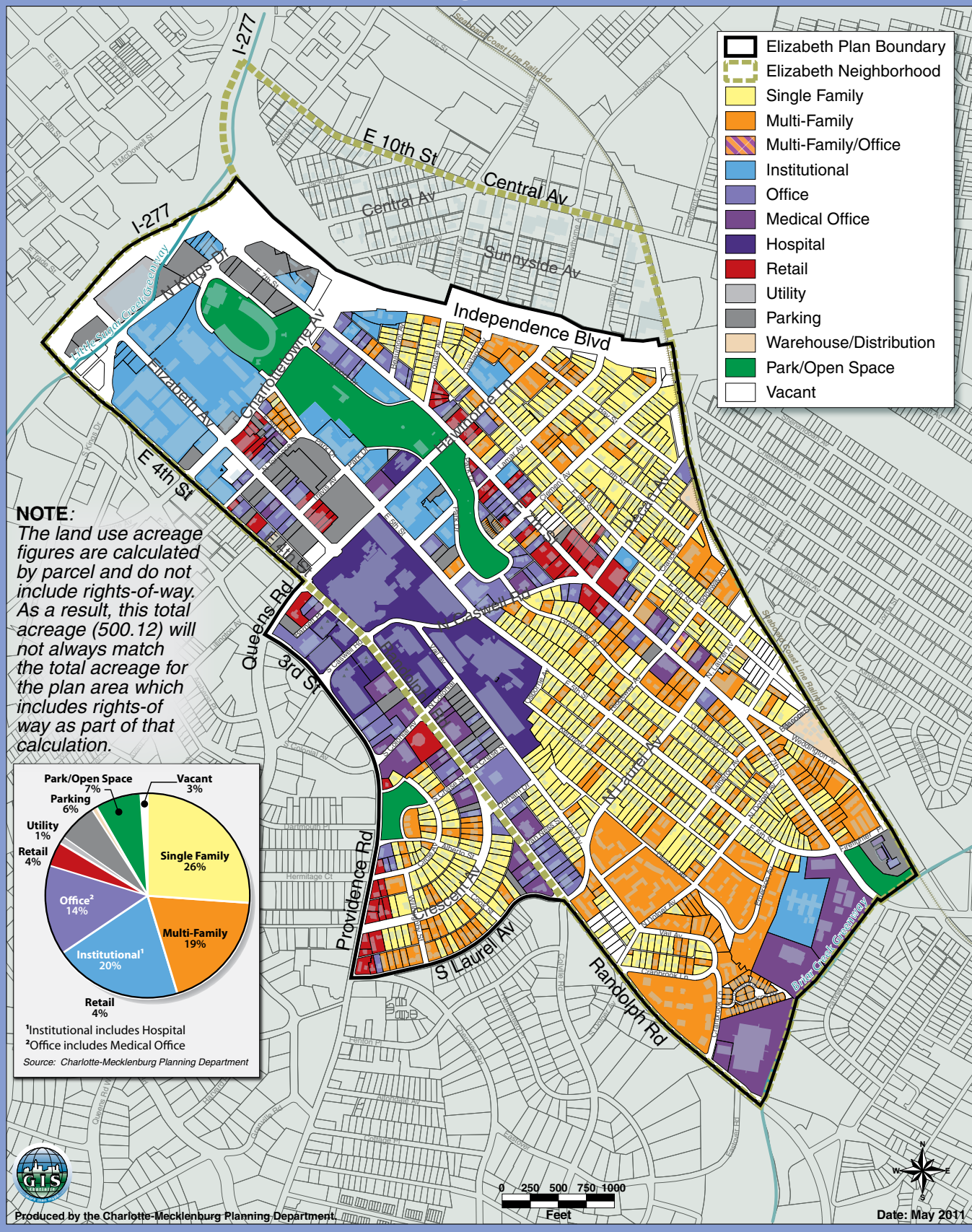


Retail



# Elizabeth Area Plan Existing Land Use

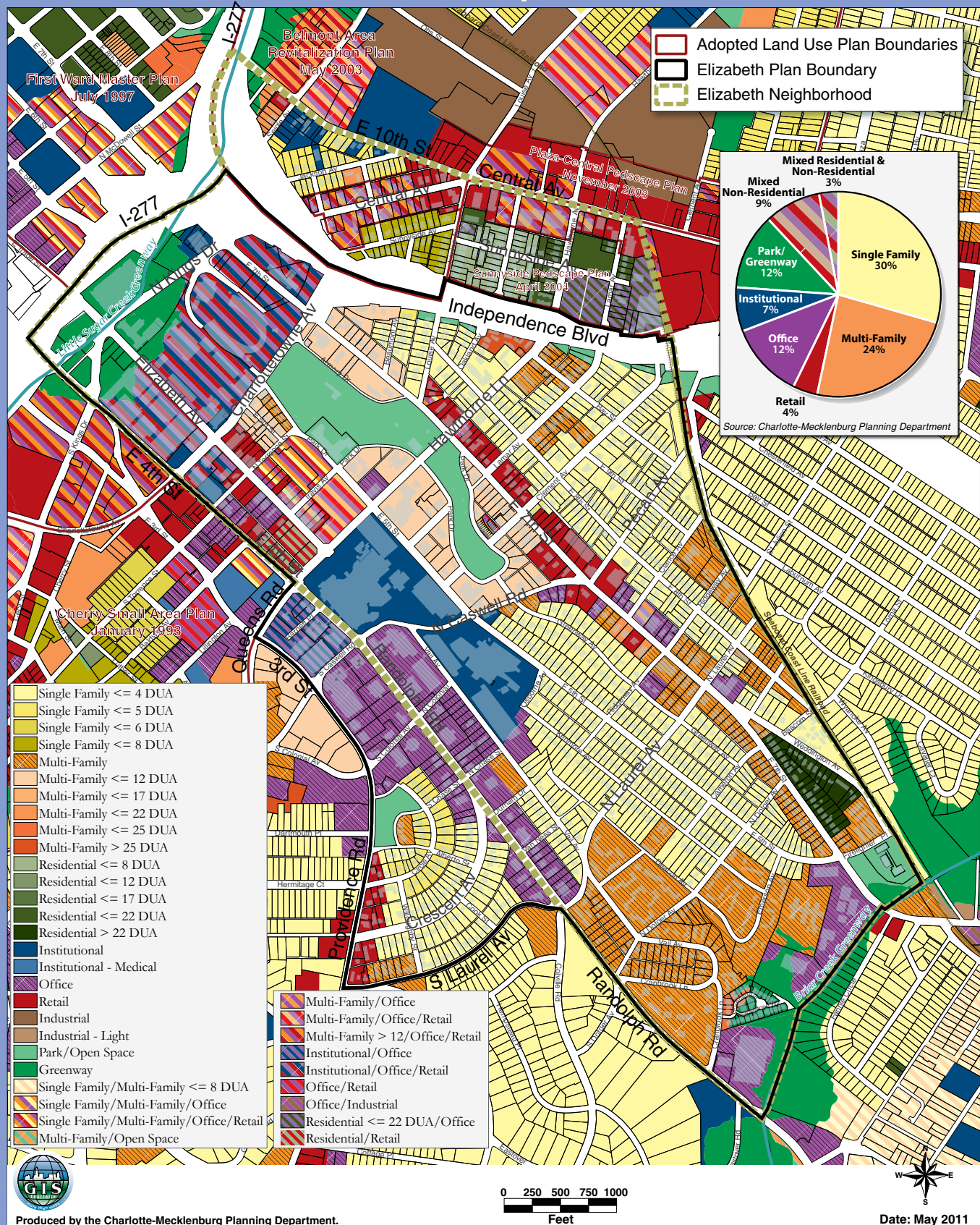
Map 12





# Elizabeth Area Plan

## Central District Plan Adopted Future Land Use



## Adopted Future Land Use

The Central District Plan, adopted in 1993 and updated by subsequent approved rezonings and area plans, provides the land use guidance for the study area (**Map 13**). In that plan, a majority of the area is recommended to remain single family residential, with retail and office uses concentrated along Randolph Road and Seventh Street. Multi-family residential uses are also recommended along Seventh Street. Presbyterian and Mercy hospitals are institutional uses that predominate in the Hawthorne Lane/Caswell Road area. Central Piedmont Community College is the predominant institutional use in the area around Elizabeth Avenue between North Kings Drive and Charlottetowne Avenue. Independence Park is recognized as a park use between Charlottetowne Avenue, East Seventh Street, North Caswell Road, and Park Drive.

**Adopted Land Use for the Plan Area**

Land Use	Acres	% of Total
Single Family	148.80	29.74%
Multi-family	111.68	22.32%
Mixed Residential	9.43	1.89%
Retail	19.84	3.97%
Office	59.27	11.85%
Institutional	33.53	6.70%
Park/Greenway	59.58	11.91%
Mixed Non-Residential	44.25	8.84%
Mixed Residential and Non-Residential	13.93	2.78%
<b>TOTAL</b>	<b>500.32</b>	<b>100%</b>
<i>Source: Charlotte-Mecklenburg Planning Department (2010)</i>		

**Non-Residential Square Footage in the Plan Area Through 2009**

Non-Residential Category	Heated Sq Ft	% of Total
Industrial	16,151	0.20%
Institutional	3,354,759	42.51%
Office	1,633,696	20.70%
Retail	209,741	2.66%
Parking Garages/Decks	2,575,998	32.64%
Utility	2,044	0.03%
Warehouse	99,706	1.26%
<b>TOTAL</b>	<b>7,892,095</b>	<b>100%</b>
<i>Source: Mecklenburg County Tax Parcel Data</i>		



## Designated Historic Landmarks



**5** Hawthorne Lane United Methodist Church



**7** Jane J. (Jennie) Alexander Duplex



**9** John Baxter & Mary Mott Alexander House



**12** Thaddeus Awasaw & Emma Ford Adams House



**17** Myers Park Streetcar Waiting Station

★ Key, Original Owner's Name & Location of Property		Year Built
1	Rev. George H. & Mattie Griffin Detwiler House 801 Sunnyside Avenue	1911
2	Jake F. & Frances Black Newell House 819 Sunnyside Avenue	1911
3	Independence Park Armory and Park Drives	1906
4	John Paul and Alice Craft Lucas House 1601 East Seventh Street	1913
5	Hawthorne Lane United Methodist Church 501 Hawthorne Lane	1916
6	Dr. Baxter & Caroline Brevard-Golden Moore House 1701 East Eight Street	1910
7	Jane J. (Jennie) Alexander Duplex 1801-1803 East Eight Street	1922
8	Harry Arthur & Nancy Dilling Ziem House 1812 East Eighth Street	1910
9	John Baxter & Mary Mott Alexander House 509 Clement Avenue	1913
10	Walter Lamar & Ernestine Bridges Alexander House 523 Clement Ave. (one of 2 homes on property)	1915
11	Walter Lamar & Ernestine Bridges Alexander House 521 Clement Ave. (one of 2 homes on property)	1915
12	Thaddeus Awasaw & Emma Ford Adams House 604 Clement Avenue	1908
13	S. Bryce McLaughlin House 2027 Greenway Avenue	1911
14	Trolley Walk corner of Clarice Avenue and East Seventh Street	1913
15	American Legion Memorial Stadium Sam Ryburn Walk & East Seventh Street	1936
16	Richard C. & Laura Eisfeld Biberstein House 1600 Elizbeth Avenue	1906
17	Myers Park Streetcar Waiting Station corner of East Fourth Street & Queens Road	1912
18	William Henry & Mary Irwin Belk House 200 Hawthorne Lane	1924
19	Ratcliffe-Otterbourg House 2100 Randolph Road	1925
20	Palmer Fire School 2601 East Seventh Street	1940
21	Charles Walter & Louise Anthony Parker House 901 Central Avenue	1903

Source: Historic Landmarks Commission



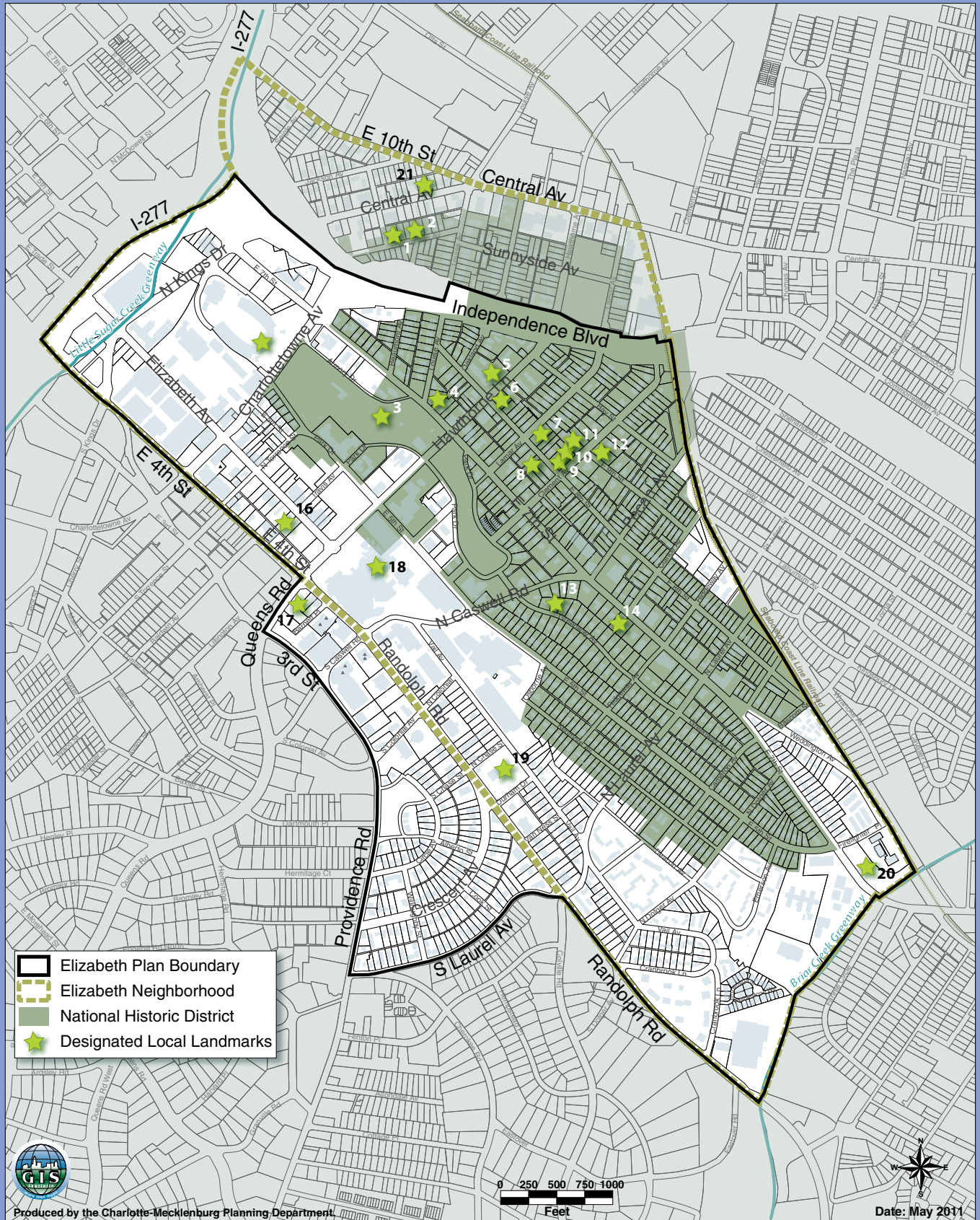
**18** William Henry & Mary Irwin Belk House



**20** Palmer Fire School



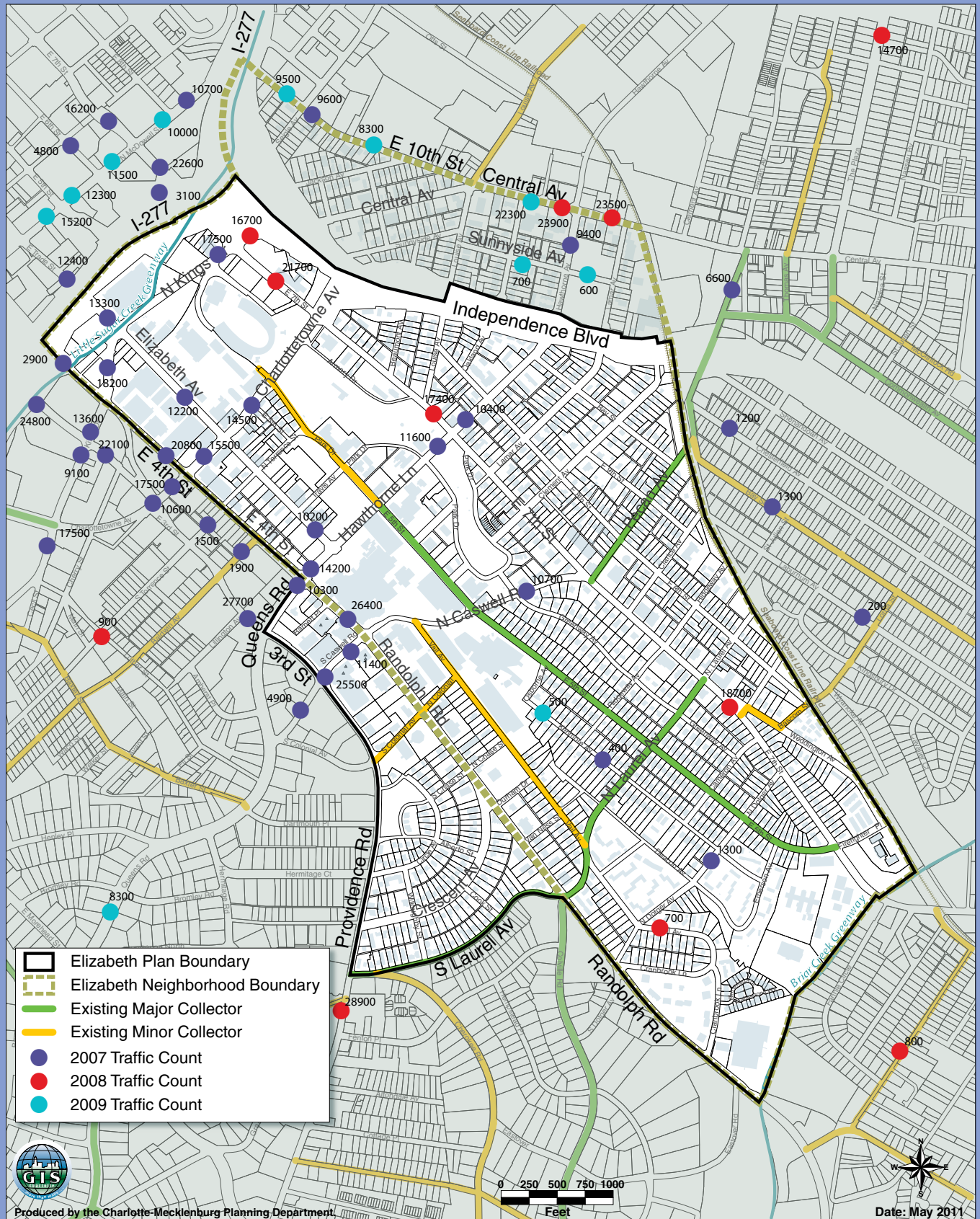
# National Historic District & Designated Local Landmarks





# Elizabeth Area Plan

## Existing Traffic Counts and Street Classifications





## Transportation

### Street Network

The Elizabeth Area has strong land use accessibility and a relatively high degree of connectivity. Elizabeth area residents benefit from being in close proximity to a mixture of land uses that enable them to live, work, play, socialize, and shop within a short distance of home. In addition, the relatively well-connected street network shortens travel distances for all transportation users and improves overall transportation system capacity by providing area residents and visitors with more route choices.

Route choices are measured by the number of lane-miles of streets, number of intersections (nodes), number of blocks (links), and the connectivity index. A lane-mile is one mile of a single roadway lane. The more lane-miles of streets there are, the greater the overall traffic carrying capacity. The connectivity index quantifies how well a roadway network connects destinations and is calculated by dividing the number of roadway links by the number of roadway nodes. A connectivity index of 1.45 or more is desirable for transit station areas and in-town neighborhoods, such as Elizabeth.

Key measures of the Elizabeth plan area include:

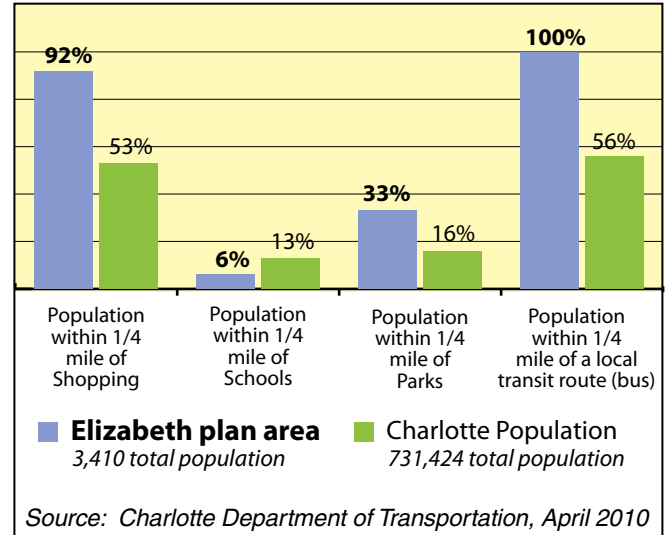
Miles of streets:	23
Lane-mile of streets:	62
Connectivity Index:	1.46

As shown in the table at right, the Elizabeth Area currently receives high marks relating to land use accessibility relative to the city average, with the major exception being accessibility to schools.

### Thoroughfare Plan

The *Mecklenburg-Union Thoroughfare Plan* is the adopted major roadway plan for Mecklenburg and Union counties and is used to assure that the most appropriate street system is developed to meet existing and future travel needs. Streets are classified and designed according to their intended functions so that land use and traffic conflicts are

### Land Use Accessibility



minimized. The street classifications applicable to the Elizabeth Area Plan are as follows:

**Thoroughfares:** Providence Road, Randolph Road, East Third Street, East Fourth Street, Kings Drive, Hawthorne Lane, Elizabeth Avenue, and East Seventh Street are major thoroughfares serving the Elizabeth area. As major thoroughfares, these streets are designed to accommodate large volumes of traffic at moderate speeds and provide access to major commercial, employment, and residential land uses. Charlottetowne Avenue and Caswell Road are minor thoroughfares that collect traffic from the local collector streets and carry it to the major thoroughfares. Minor thoroughfares are designed to carry moderate traffic volumes at moderate speeds and provide access to residential, commercial, and institutional land uses.

**Collectors and Locals:** Pecan Avenue, East Fifth Street, Laurel Avenue, Colonial Avenue, Vail Avenue, and Park Drive are major collectors. Bascom Street, Colonial Avenue, and Vail Avenue are minor collectors. Collectors are designed to carry traffic between the thoroughfares and local streets at moderate volumes and speeds and provide access to adjacent land uses. The remaining roadways are local streets that carry low traffic volumes, have slow operating speeds, and provide access to individual properties.

## Level of Service

Level of Service (LOS) measures the quality of service provided by a transportation facility to its users. The City of Charlotte evaluates LOS for pedestrians, bicyclists, and motorists and uses the results to help balance their competing needs when planning and designing streets. LOS ranges from A through F, with desirable levels of service based on the street typologies of the *Urban Street Design Guidelines*.

Pedestrian and bicycle LOS is rated according to the level of comfort and safety offered by the design features at signalized intersections, while motor vehicle LOS is based on motorist delays. Motor vehicle quality of service is also measured by the Volume to Capacity ratio (V/C), which describes an intersection's ability to process traffic within peak time periods. Values greater than .95 suggest an intersection is near its capacity during this time period and that motorists may experience substantial congestion.

**Pedestrian System:** Of the 23 miles of streets within the Elizabeth Area, 66% have sidewalks on both sides of the street, 8% have sidewalk on one side, and 14% have no sidewalk at all. There are 20 signalized intersections in the area, six of which have a desirable LOS for pedestrians (A or B).

**Bicycle System:** Bicycle lanes exist on Elizabeth Avenue and Hawthorne Lane. Of the 20 signalized intersections within the plan area, none have desirable LOS for cyclists.

**Motor Vehicle Network:** The Elizabeth area is currently experiencing moderate levels of congestion as indicated by the number of signalized intersections in the plan area with an undesirable LOS (E or F), as shown in the table. Congestion levels are expected to remain the same or slightly increase as the area and its greater surroundings grow in travel demand.

**Existing Level of Service (LOS)**

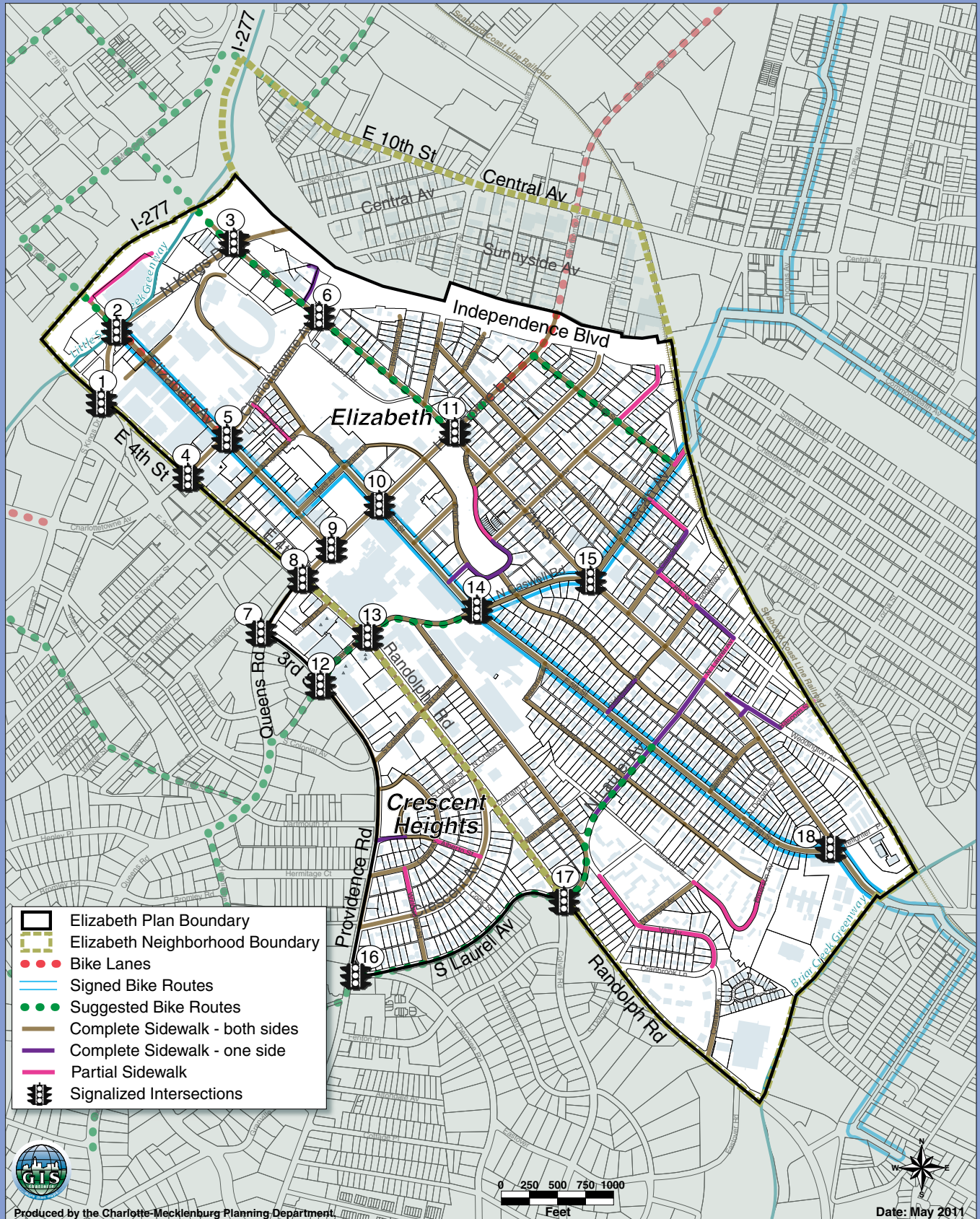
No.	Signalized Intersection	Pedestrian	Bicyclist	Motorist			
		LOS <sup>1</sup>	LOS <sup>1</sup>	V/C <sup>2</sup> (AM)	LOS <sup>1</sup> (AM)	V/C <sup>2</sup> (PM)	LOS <sup>1</sup> (PM)
1	Fourth Street & Kings Drive	C+	D+	1.30	F	0.92	F
2	Elizabeth Avenue & Kings Drive	D+	E	0.69	C	0.66	C
3	Seventh Street & Kings Drive/Central Avenue	D	D	0.93	D	0.97	D
4	Fourth Street & Charlottetowne Avenue	C	D	0.82	B	0.55	B
5	Elizabeth Avenue & Charlottetowne Avenue	C+	D	0.47	B	0.50	B
6	Seventh Street & Charlottetowne Avenue	D	E	0.81	C	0.83	C
7	Third Street & Queens Road	D+	E	0.82	B	0.80	D
8	Fourth Street & Queens Road/Hawthorne Lane	C	D-	0.97	D	0.96	D
9	Elizabeth Avenue & Hawthorne Lane	C	D-	0.77	B	0.67	B
10	Fifth Street & Hawthorne Lane	B	D	0.45	B	0.35	B
11	Seventh Street & Hawthorne Lane	B	E	0.60	B	0.76	C
12	Third Street/Providence Road & Caswell Road	B-	E	0.67	B	1.00	C
13	Fourth Street/Randolph Road & Caswell Road	C+	E	0.73	B	0.64	B
14	Fifth Street & Caswell Road	B	E	0.81	D	0.44	B
15	Seventh Street & Pecan Avenue/Caswell Road	B	D	0.95	D	1.06	D
16	Providence Road & Cherokee Road/South Laurel	C+	D	0.85	C	0.95	C
17	Randolph Road & Laurel Avenue/Colville Road	B	E	1.05	F	0.98	E
18	Seventh Street & Fifth Street/Firefighter Place	C	D+	0.60	B	0.87	D
<sup>1</sup> LOS - Level of Service <sup>2</sup> V/C - Volume/Capacity		Source: Charlotte Department of Transportation, 2010					



# Elizabeth Area Plan

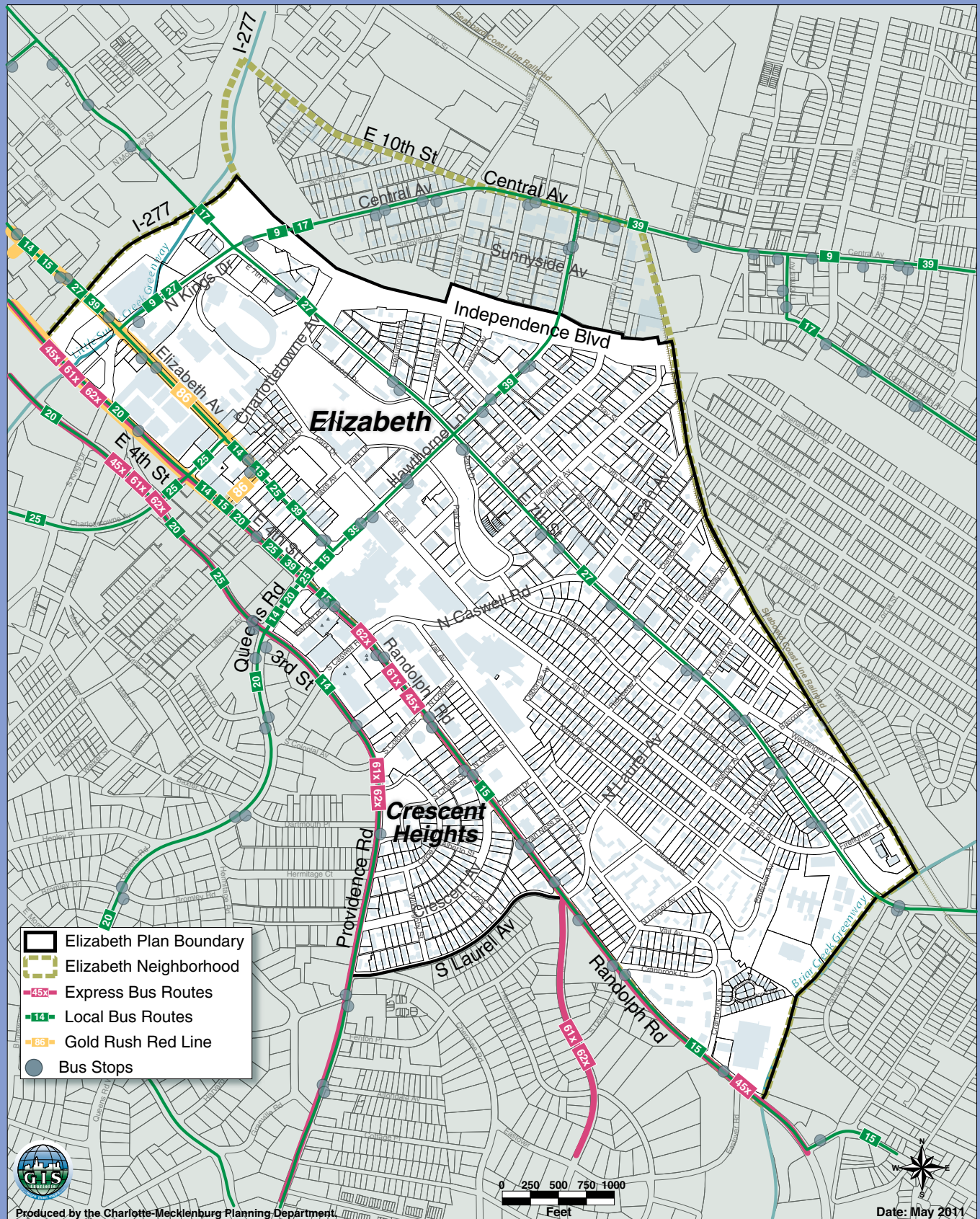
Map 16

## Existing Pedestrian & Bicycle Facilities & Signalized Intersection LOS





# Elizabeth Area Plan Existing Transit





## Existing Transit Services

### Fixed-Route Bus Services

The Charlotte Area Transit System (CATS) currently provides the following fixed-route bus service in the Elizabeth Area Community. All routes have at least one active bus stop within the plan area. See **Map 17, Existing Transit**, page 104.

- **Route 9:** Central Avenue operates to/from Uptown primarily along Central Avenue.
- **Route 14:** Providence Road operates to/from Uptown primarily along Providence Road. This route serves CPCC and Presbyterian Hospital.
- **Route 15:** Randolph Road operates to/from Uptown primarily along Randolph Road. The route serves CPCC, Presbyterian Hospital, and Mercy Hospital.
- **Route 17:** Commonwealth operates to/from Uptown along Trade Street, Kings Drive, Central Avenue, Commonwealth Avenue, and Independence Boulevard.
- **Route 20:** Sharon Road operates to/from Uptown along Trade Street, Queens Road, Sharon Road and Park Road.
- **Route 25:** Clanton Road/Midtown operates bi-directionally along West Boulevard, Clanton Road, Manchester Drive, Barringer Drive, East Boulevard, Scott and Kenilworth Avenue, Charlottetowne Avenue, Third and Fourth Streets, and Hawthorne Lane.
- **Route 27:** Monroe Road operates to/from Uptown along Trade Street, Seventh Street and Monroe Road.
- **Route 39:** Eastway Drive operates to/from Uptown along Trade Street, Elizabeth Avenue, Hawthorne Lane, Central Avenue, Eastway Drive, and North Tryon Street.
- **Route 45x:** Carmel Road Express operates to/from Uptown primarily along Randolph and Carmel Roads.
- **Route 61x:** Arboretum Express operates to/from Uptown primarily along Providence Road.
- **Route 62x:** Rea Road Express operates to/from Uptown primarily along Providence Road, Old Providence Road, and Rea Road.

### Fixed Route Ridership:

In FY 2009, the routes serving the Elizabeth Area community carried an average of 404,703 passengers per month.

### **CATS Fiscal Year 2010 Average Monthly Ridership within the Elizabeth Plan Area**

Route	Route Name	Monthly Ridership <sup>1</sup>
9	Central Avenue	127,551
14	Providence Road	27,911
15	Randolph Road	47,774
17	Randolph Road	45,119
20	Sharon Road	14,158
25	Clanton Road	5,287
27	Monroe Road	66,963
39	UNCC / Uptown	35,492
45x	Carmel Road Express	2,448
61x	Arboretum Express	6,274
62x	Rea Road Express	3,596
<b>TOTALS</b>		<b>382,573</b>
<sup>1</sup> 12-Month Average Calculated with CATS Monthly Ridership Data Reports for FY2010. Source: Charlotte Area Transit System, 2010		

## East Seventh Street Conversion Analysis

### Overview

During development of the *Elizabeth Area Plan*, there was extensive discussion with the Citizens Advisory Group (CAG) about a “road-diet” concept (similar to East Boulevard) that would convert the center reversible lane to a formal two-way left-turn lane with pedestrian refuge islands. In response, CDOT analyzed various scenarios, trying to find a road-diet option that remained true to the community-supported concept of pedestrian islands, yet balanced corridor travel needs.

### Traffic Analysis

#### East Seventh Street

Alternate scenarios were developed that could convert the center reversible lane on East Seventh Street to a two-way left turn lane with intermittent pedestrian refuge islands. The graphic on page 107 illustrates the basic concept.



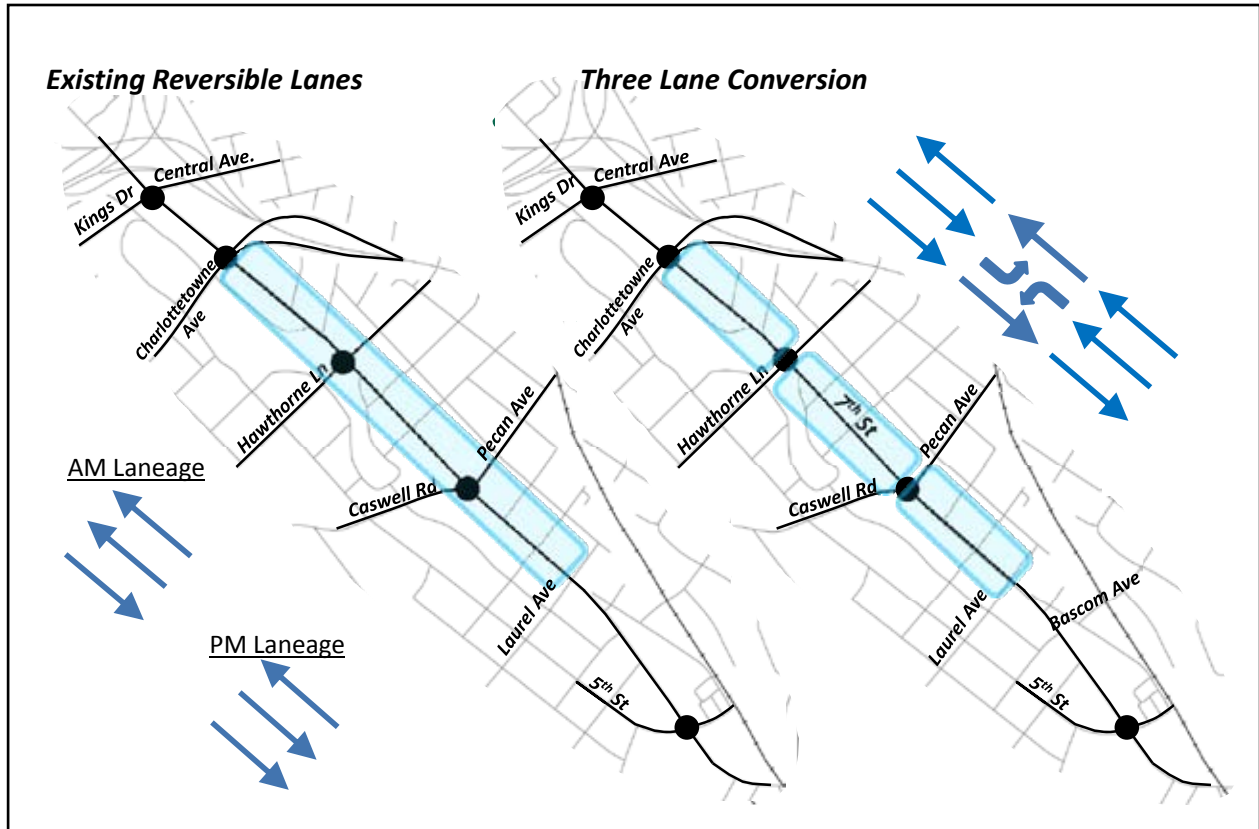
*As pedestrians stroll nearby, a car crosses East Seventh Street from North Caswell Road to Pecan Avenue. Split phase signal timing results in less green light time for vehicular traffic.*

Based on CDOT’s traffic analysis, an abrupt transition from two lanes to one lane in each direction at Charlottetowne Avenue or East Fifth Street appeared to cause traffic problems. At Charlottetowne Avenue, two lanes appear to be needed to process traffic through the signal, similar to how there are two lanes in each direction on East Boulevard across South Boulevard. At the other end of the corridor, a left-



lane drop to North Caswell Road appeared to be the more logical transition point than East Fifth Street, given existing traffic volumes and operations. Today, there is a heavy left-turn movement (one in three cars) from East Seventh Street to North Casewell Road.

### East Seventh Street: Alternate Scenarios



### Pecan/Caswell Intersection

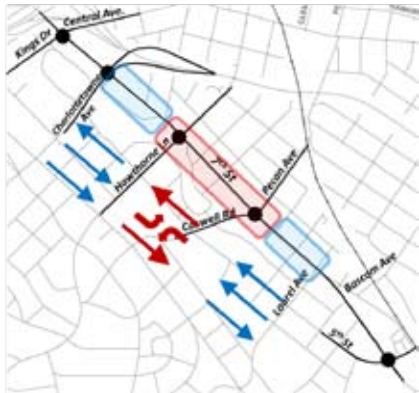
Upon addressing transitions into and out of the “road-diet” segment, further traffic simulation showed the Pecan/Caswell intersection as the key chokepoint on the corridor. The unusual geometry of the intersection requires split-phase signal timing, where Pecan Avenue and Caswell Road each require exclusive green lights, thereby reducing the potential green time for East Seventh Street.

To address this challenging intersection, CDOT developed three new alternatives.

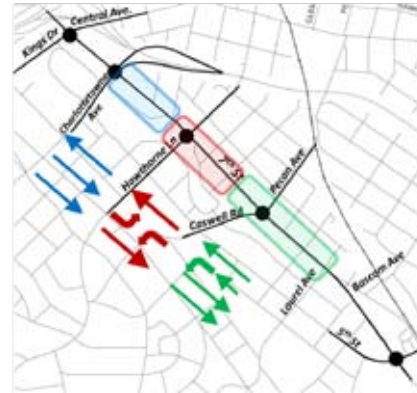
- **Alternative A** Eliminate left turns from Pecan and Caswell in order to eliminate split-phasing and thereby re-allocate savings in “green time” to East Seventh Street and process a single lane of outbound Seventh Street.
- **Alternative B** Partially widen East Seventh Street between Pecan and Laurel Avenues in order to process two outbound lanes of East Seventh Street (Note: This was shown to be possible asymmetrically on the northeast side of the street, where there are fewer existing mature trees, and outer lanes could be used outside of peak periods for parking).
- **Alternative C** Retain reversible lanes but focus on adding more crosswalks within the corridor.

# Elizabeth Area Plan

**Alternative A**  
Eliminate Lefts on Pecan/Caswell



**Alternative B**  
Partial Widening of 7th Street



**Alternative C**  
Add Signalized Crosswalk



Consensus among the CAG was to move forward with Alternative A, but as two variations (“A-1” and “A-2”).

- **A-1** Change left-turn signal phase for inbound East Seventh Street to North Caswell Road from protected to permissive during PM peak period (eliminate green left arrow from East Seventh to Caswell, with left turn yield on flashing yellow arrow from 4-6 pm).
- **A-2** Change signal phasing of Caswell and Pecan from separate split-phasing to a single phase by restricting left turns onto East Seventh from Caswell and Pecan (prohibit lefts from side streets onto East Seventh).



The unusual geometry of the intersection of East Seventh Street, North Caswell Road, and Pecan Avenue.



Alternative A-2 would have restricted left turns from Pecan onto East Seventh, a maneuver which the vehicles in the Pecan Avenue left lane are preparing to make.



### **Key PM-Peak Performance Measures**

Below are tables summarizing the key afternoon peak-period congestion measures observed in traffic simulations of refined alternatives. *Essentially, any scenario processing a single lane of outbound East Seventh Street in the PM peak appears to result in increased congestion.*

**East Seventh Street: Corridor Travel Time (min : sec)**

Corridor Direction	Baseline	3-Lane Alt. Road-Diet	Alt. A-1	Alt. A-2
Outbound Seventh Street	4:18	5:43 (+1:25)	4:45 (+0:27)	4:09 (-0:09)
Inbound Seventh Street	5:44	3:53 (-1:51)	3:55 (-1:49)	3:52 (-1:52)
<i>Source: Charlotte Area Transit System</i>				

**East Seventh at Pecan/Caswell: Average Queue (feet)**

Intersection Approach	Baseline	Road-Diet	Alt. A-1	Alt. A-2
Outbound Seventh Street	101	892 (+791)	791 (+690)	671 (+570)
Inbound Seventh Street	559	47 (-512)	225 (-334)	125 (-434)
North Caswell Road	580	992 (+412)	1024 (+444)	996 (+416)
Pecan Avenue	245	295 (+50)	319 (+74)	45 (-200)
<i>Source: Charlotte Area Transit System</i>				

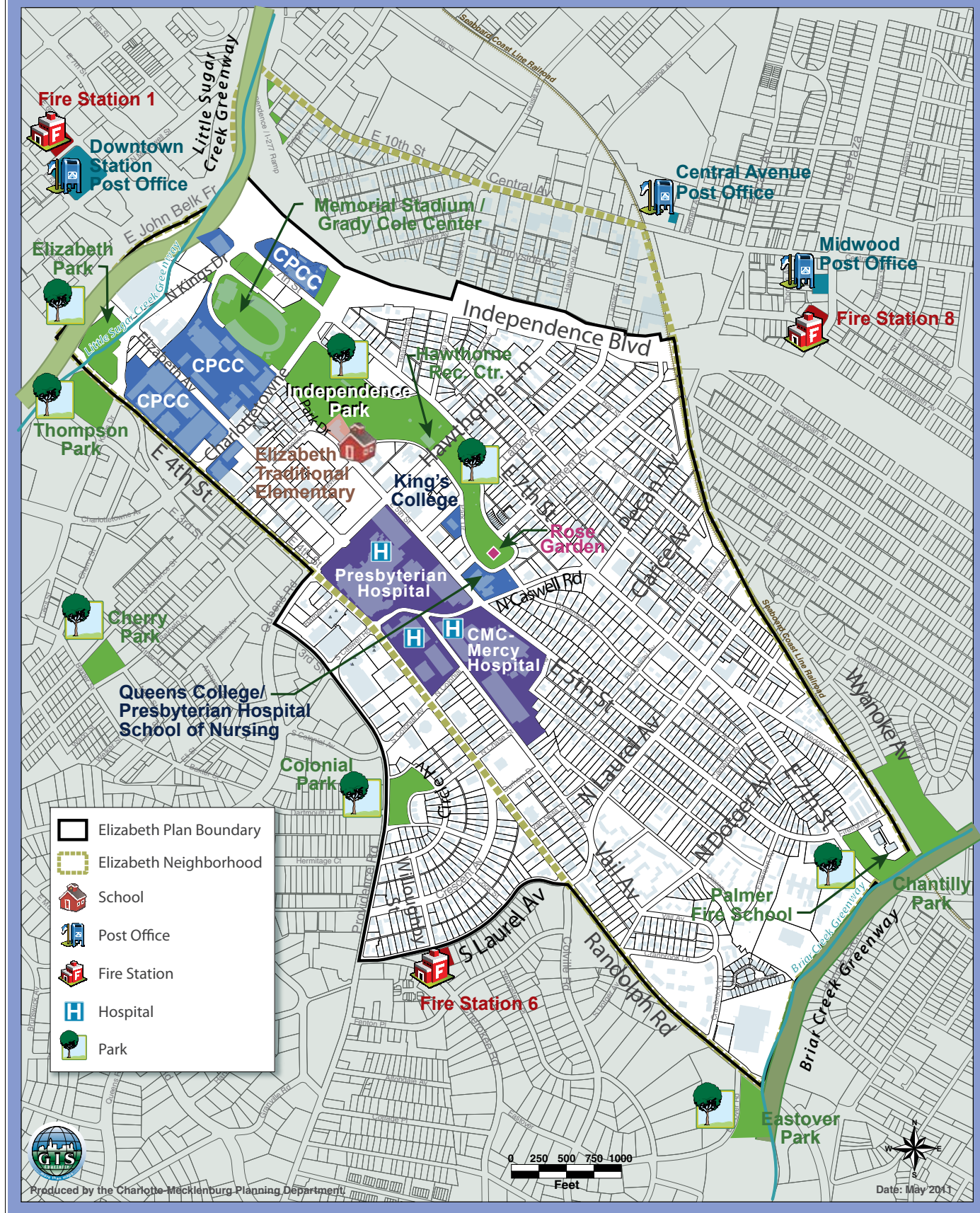
**East Seventh at Pecan/Caswell: Intersection Delay (seconds)**

Intersection Approach	Baseline	Road-Diet	Alt. A-1	Alt. A-2
Outbound Seventh Street	24.4	181.7	211.7	179.3
Inbound Seventh Street	60.7	67.9	66.3	53.9
North Caswell Road	81.3	206.0	222.2	35.6
Pecan Avenue	180.6	16.8	46.0	25.6
<b>Total</b>	66.2	86.3	97.3	62.8
<i>Source: Charlotte Area Transit System</i>				

Based on this analysis revealing significant degradation to peak period travel for motorists, a street conversion project cannot be supported at this time. However, the City remains open to re-evaluating whether East Seventh Street could undergo a street conversion to allow for crosswalks with pedestrian islands, should conditions change in the future that may make such a project more feasible.

# Elizabeth Area Plan

## Existing Public Facilities





## Infrastructure

### Public Utilities

#### Water/Sewer

The water distribution and sanitary sewer systems within the plan area consist of water and sewer mains of varying sizes. Charlotte-Mecklenburg Utilities (CMU) does not anticipate any water or sewer capacity issues. As changes occur and as densities increase, CMU will evaluate its system models to monitor any additional needs.

A sewer line replacement is proposed at Deacon Avenue, as are improvements to the trunk sewer along Briar Creek at the edge of the study area. Water main replacements are planned on Hawthorne Lane between Seventh and Eighth Streets, on Eighth Street between Clement Avenue and Hawthorne Lane, and at Seventh Street and Laurel Avenue.



*Tributary of Briar Creek as seen from North Dotger Avenue.*

## Environmental

### Topography

The topography of the Elizabeth plan area ranges from gently-sloping to relatively flat. The highest point in the area is near the intersection of Caswell Road and Vail Avenue, with an elevation of about 740' above sea level. From there, the northern and western sections of the plan area gradually slope toward Little Sugar Creek while the eastern and southern sections slope toward Briar Creek, following the general topography of the land from a "spine" running northeast-southwest at about the mid-point of the plan area. Little Sugar Creek and Briar Creek are the low points of the plan area at about 630' and 620' above sea level, respectively.

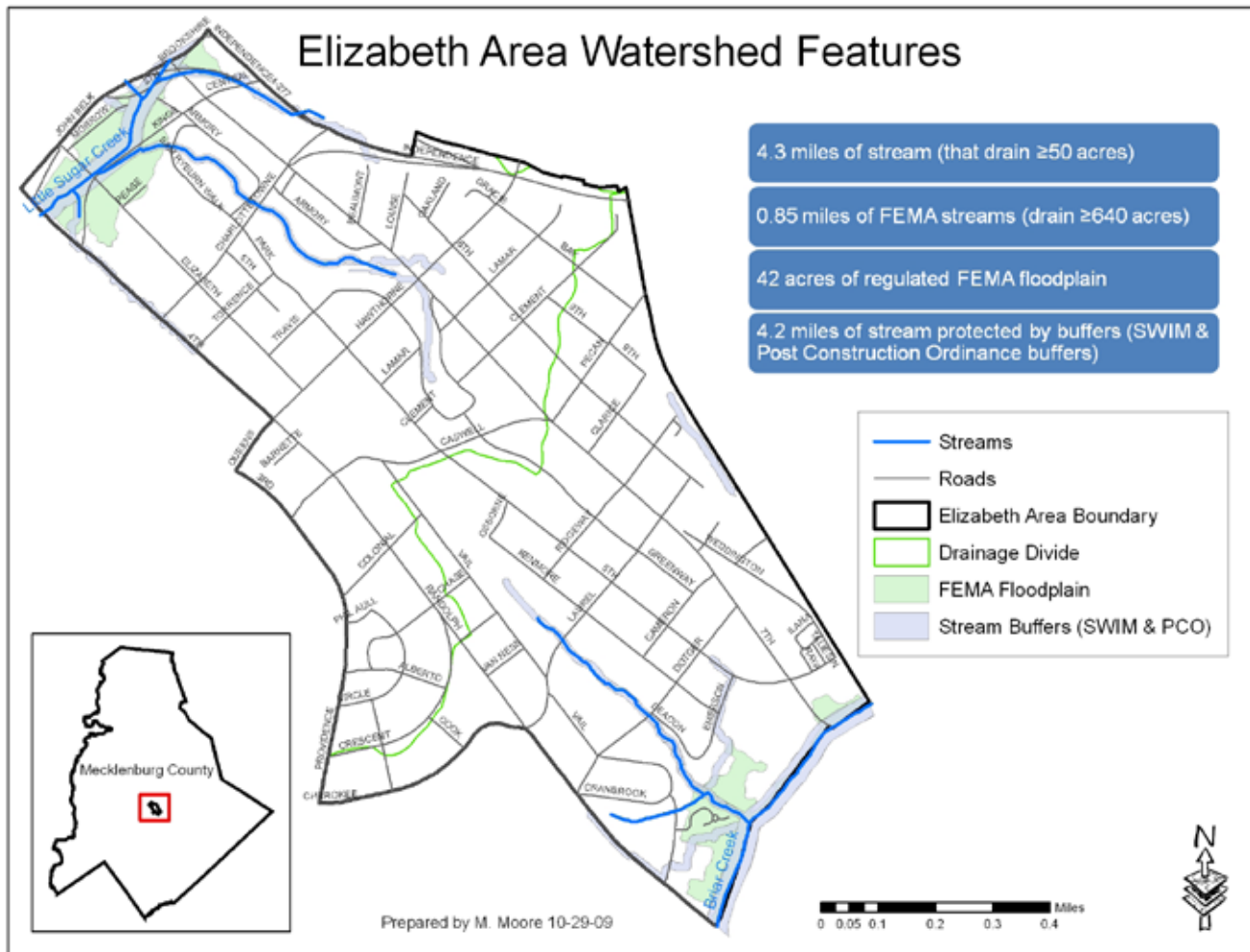
### Watershed and Creeks

The Elizabeth plan area is located in the Catawba River watershed. Storm water from the Elizabeth area drains into Little Sugar Creek and Briar Creek, both listed as Class C waters. This classification denotes freshwaters protected for secondary recreation, fishing, wildlife, fish and aquatic life propagation and survival, and other uses, as defined by the State of North Carolina. Little Sugar Creek is listed as impaired by the State.

Important water features located in the Elizabeth area include: 4.3 miles of stream, 0.85 miles of FEMA streams, 42 acres of regulated FEMA floodplain, and 4.2 miles of protected stream buffers. These stream buffers include both Surface Water Improvement and Management (S.W.I.M.) and Post Construction Ordinance (PCO) buffers. Stream buffers are naturally vegetated areas of land along lakes and streams whose main function is to protect water quality.

### Groundwater

The plan area has had some reported groundwater contamination incidents, all of them associated with petroleum releases from either heating oil tanks or former gas stations. Most of them are centered around the East Seventh/Pecan/Caswell intersection and the Elizabeth Avenue corridor between Hawthorne Lane and Charlottetown Avenue.



### Tree Canopy

Approximately 263 acres, or about 40% of the plan area, has trees as its most prominent land cover, as shown in **Map 19**. This is a lower percentage than the city of Charlotte as a whole (50%), and also lower than Mecklenburg County (46%). The greatest concentration of tree cover is in the predominantly residential portions in the eastern and southern areas of the plan area, and less in the institutional and commercial areas in the north and west.

In addition to their aesthetic value, trees provide other environmental benefits such as reducing air pollution, storing and sequestering carbon, reducing stormwater runoff, and improving water quality.

### Heritage Sites

There are no heritage sites within the plan boundary.

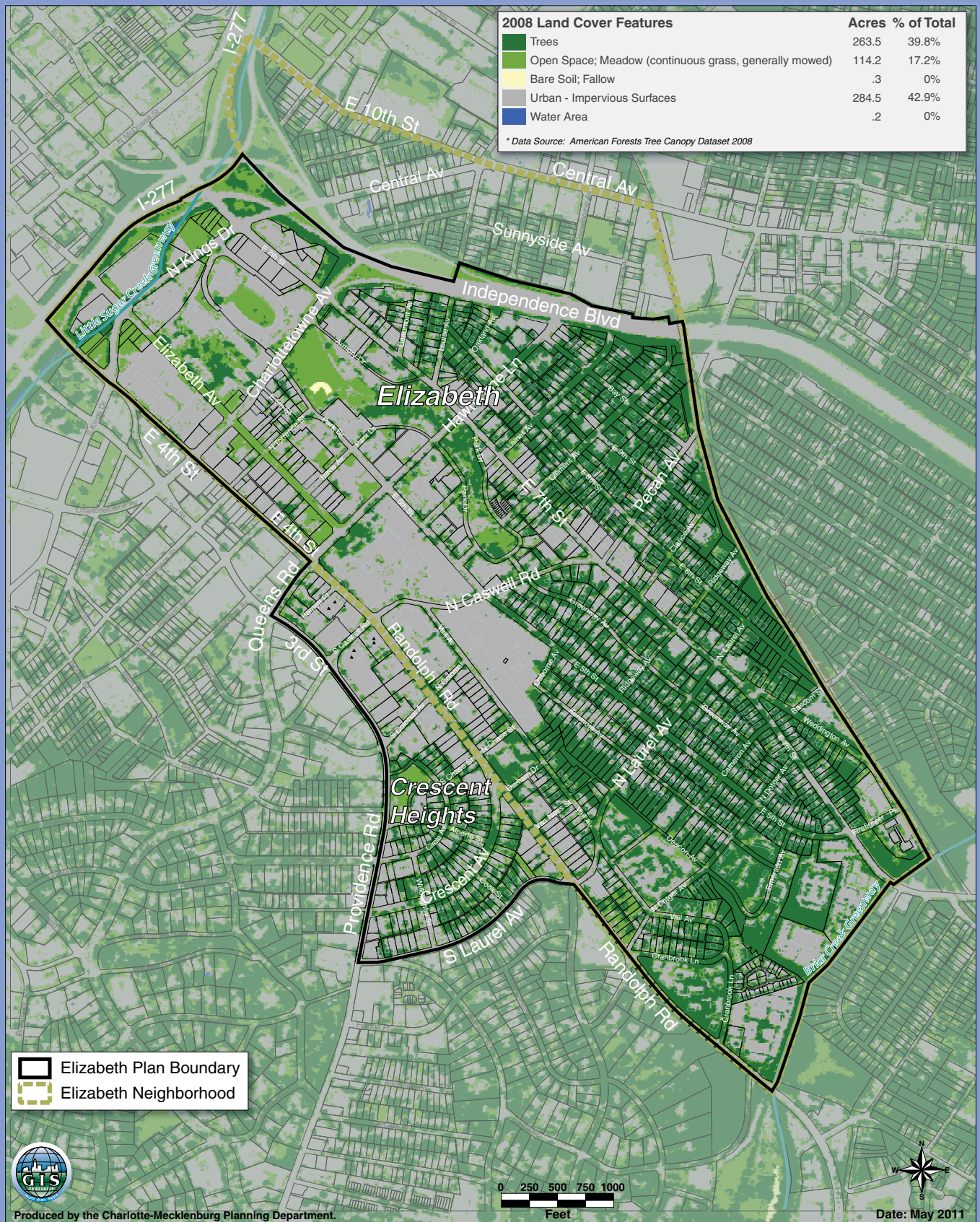


*Elizabeth's trees provide many benefits to the area.*



# Elizabeth Area Plan Land Cover

Map 19





[www.charlotteplanning.org](http://www.charlotteplanning.org)

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