



2011 SOUTH CITY SECTOR PLAN



KNOXVILLE • KNOX COUNTY METROPOLITAN PLANNING COMMISSION



South City Sector Plan

This plan was adopted by:

Knoxville Knox County Metropolitan Planning Commission on August 11, 2011

Knoxville City Council on October 18, 2011

Knox County Commission on November 21, 2011

This plan is the result of a team effort, including the following MPC staff:

Project Leader: Jeff Archer, AICP, Senior Planner
Liz Albertson, Planner II
Nathan Benditz, EIT, Transportation Engineer
Ann Bennett, Senior Planner
Bryan Berry, AICP, Research Associate
Amy Brooks, Senior Transportation Planner
Michael Brusseau, AICP, Senior Planner
Doug Burton, AICP, Principal Planner
Michael Carberry, AICP, Comprehensive Planning Manager
Michael Conger, PE, Senior Transportation Engineer
Mark Donaldson, Executive Director
Ewing (Buz) Johnson, AICP, Deputy Executive Director
Ryan Justice, GIS Specialist
Tim Kuhn, Geographic Information Systems Manager
Debbie Mitchell, Administrative Assistant I
Sarah Powell, Webmaster
Mike Reynolds, Planner II
Kelley Segars, AICP, Senior Transportation Planner
Laura Stout, Communications Specialist
Jo Ella Washburn, Graphic Designer
Jeff Welch, AICP, Knoxville Area Transportation Planning Organization Director
Matthew Wiggins, Intern
Ellen Zavisca, Senior Transportation Planner
Alex Zendel, GIS Analyst

Also, thanks to Rogers, Doughty (City of Knoxville), Carol Evans (Legacy Parks Foundation), Dave Hill (City of Knoxville), Suzanne McGee (Studio Four Design), Amanda Snowden (TDOT), Jack Stout (Thompson Engineering)

Table of Contents

SECTION 1: BACKGROUND REPORT	1	Proposed Land Use Policies	21	LIST OF BACKGROUND MAPS	
Overview of the Comprehensive Planning Process	1	Special Land Use Districts	23	Existing Wastewater Service	4
The General Plan	1	SC-1: South Waterfront District	23	Road Classification, Traffic Volume, and Conflict Points	6
The Growth Policy Plan	1	SC-2: Potential Addition to the		Existing Transit, Pedestrian and	
Sector Plans	1	South Waterfront District	24	Parental Responsibility Zones	7
Corridor Plans	1	SC-3: Log Haven District	24	Environmental Resources and Development Constraints	9
Small Area Plans	2	SC-4: Chapman Highway District		Agricultural Soils and Greenbelt Program Parcels	10
System-wide Plans	2	(Downtown to Martin Mill Pike)	24	Existing Land Use	12
The Community Profile	2	SC-5: Chapman Highway District		Residential and Non-Residential	
Community Facilities	3	(Taliwa Court to Fronda Lane)	24	Development Activity, 2000-2009	13
Schools	3	SC-6: Chapman Highway District		Housing Conditions	14
Libraries	3	(Lakeview Drive to Lindy Drive)	25	Commercial-Industrial-Office Building Conditions	15
Public Safety	3	SC-7: Downtown Vestal District	26	Growth Policy Plan	16
Parks	3	Maryville Pike Corridor	27	Historic and Related Resources	19
Public Utilities	3	Neighborhood Commercial on South Haven Road			
Electrical Service	3	(between Price and Minnis Avenues)	27	LIST OF PLAN MAPS	
Wastewater Service	3	South Haven Neighborhood	27	Proposed Land Use Plan	22
Transportation	5	Community Facilities Plan	28	Park, Greenway and Community Facilities Plan	29
Public Transportation	5	Schools and Libraries	28	Green Infrastructure Plan	30
Sidewalks and Bike Lanes	5	Parks, Greenways and Recreation Facilities	28	Planned Roadway Improvements	32
Roadway Designation	5	Close-to-Home Parks	28		
Scenic Highway	5	New Parks, Squares and Additions	28	LIST OF TABLES	
Tennessee Parkway	5	Park and Recreation Center Improvements	28	Table 1. Population by Age and Sex	2
Chapman Highway Corridor Study	8	Greenways and Greenway Connectors	28	Table 2. Knox county Population	2
Chapman Highway Corridor Improvement Study	8	Green Infrastructure Plan	28	Table 3. City Sector Populations	2
Environmental Resources and Constraints	8	Transportation Plan	31	Table 4. School Enrollment	3
Environmental Constraints	8	Complete Streets	31	Table 5. South City Sector Park Acreage	3
Land Use and Development Trends	11	Potential Corridor Plan Study Area	31	Table 6. Existing Land Use	11
Existing Land Use	11	SECTION 3: THE FIVE AND FIFTEEN YEAR		Table 7. Residential Subdivision Permits, 2000-2009	11
Housing	11	IMPROVEMENT PLANS	33	Table 8. Non-Residential Permits, 2000-2009	11
Recent Land Use Plan Recommendations	11	Appendix A: Land Use Classifications	35	Table 9. Housing Units	11
Historic Resources	17	Appendix B: Form-based Code Guidelines from the		Table 10. Knoxville South Waterfront	
Public Participation	20	<i>Vestal Site Improvement Plan</i>	44	Growth Strategy for the Next 20 Years	17
SECTION 2: LAND USE, COMMUNITY FACILITIES		Appendix C: Town Center Concept from the			
AND TRANSPORTATION PLANS	21	<i>Chapman Highway Corridor Study</i>	47		
Land Use Plan	21	Appendix D: South City Sector from the			
		<i>Knoxville Street Tree Master Plan</i>	48		

Section 1:

Background Report

OVERVIEW OF THE COMPREHENSIVE PLANNING PROCESS

The *South City Sector Plan* is a significant component of the Metropolitan Planning Commission's comprehensive plan. Sector plans are interrelated to several laws, processes and plans, which are described below.

The Metropolitan Planning Commission (MPC) is directed to create a comprehensive plan to provide recommendations for:

- public ways, including roads, and other transportation systems;
- public grounds, such as parks and other public property;
- the general location and extent of public utilities, including sanitation and water;
- the general character, location, and extent of community centers, town sites, and housing development;
- the location and extent of forests, agricultural areas, and open space,
- uses of land for trade, industry, habitation, recreation, agriculture, forestry, soil and water conservation, and other purposes; and
- the appropriate zoning relating to the land use plan, outlining permitted uses and the intensity of those uses, such as height, bulk, and locations of buildings on their parcels.

The General Plan is the official 30-year comprehensive plan for Knoxville and Knox County that outlines a long-range vision and policy framework for physical and economic development. The plan includes the *Growth Policy Plan*, twelve sector plans, corridor and small area plans, and system-wide plans.



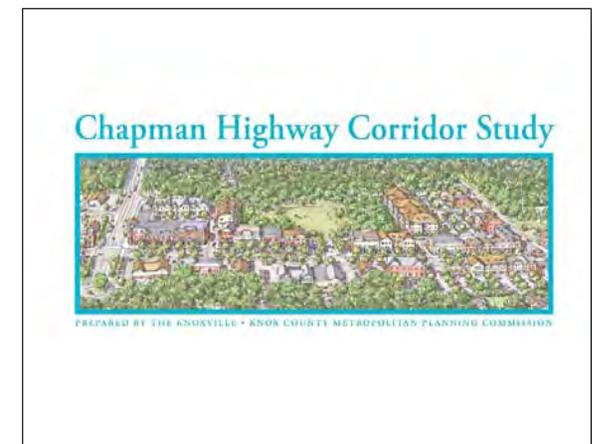
Creation of the greenway system in south Knoxville has been a major accomplishment.

The Growth Policy Plan was mandated under the Tennessee Growth Policy Act (Public Chapter 1101), and requires that city and county governments prepare a 20-year growth policy plan for each county. At a minimum, a growth policy plan must identify three classifications of land:

- *Rural Areas* are to include land to be preserved for farming, recreation, and other non-urban uses.
- *Urban Growth Boundaries (UGB)* must be drawn for all cities and towns. The land within the UGB must be reasonably compact, but adequate to accommodate all of the city's expected growth for the next 20 years.
- *Planned Growth Areas (PGA)* must be reasonably compact, but large enough to accommodate growth expected to occur in unincorporated areas over the next 20 years.

Sector Plans provide a detailed analysis of land use, community facilities, and transportation for 12 geographical divisions in Knox County. The focus is to take goals contained in the *General Plan* and draft a sector plan that is to guide land use and development over a 15-year period. Also included is a five-year plan with recommended capital improvements and other implementation programs.

Corridor Plans primarily cover land use and transportation recommendations along existing transportation corridors. These plans are more detailed than sector plans because they have a smaller geographical area. Recommendations often deal with economic development, aesthetics, and public safety.



The Chapman Highway Corridor Study included recommendations for economic development, aesthetics, and public safety.



Facade improvements were one focus of the Vestal Small Area Plan, like this building on Martin Mill Pike.

Small Area Plans are neighborhood-based and address more detailed concerns like revitalization or special environmental considerations. These plans are developed as a result of some immediate development pressure on the area and are usually requested by the elected bodies.

System-Wide Plans cover specific systems such as greenways and parks or hillside and ridge top protection.

All plans are developed through citizen participation, including workshops, surveys, and public meetings. Plans are adopted by the Metropolitan Planning Commission, Knoxville City Council, and Knox County Commission and serve as a basis for zoning and land use decisions.

THE COMMUNITY PROFILE

The South City Sector is 11.6 square miles and bounded by the Tennessee River to the north, and an unincorporated area of Knox County to the east, west and south.



From 1990 to 2000, the total population grew 4.5 percent. The largest growth occurred among those aged 20 to 64 years from a 59 percent share of the sector's total population in 1990, to a 63 percent share in 2000. Those 20 to 34 years old and 35 to 44 years old had the largest increase from 1990 to 2000 with 10.5 percent and 12.8 percent, respectively. The population 65 years and over decreased 13.3 percent.

Table 1. Population by Age and Sex

	1990	2000	% Change
Under 5 years	1,187	1,153	-2.9
5-19 years	3,119	3,226	3.4
20-34 years	4,926	5,441	10.5
35-44 years	2,374	2,677	12.8
45-64 years	3,172	3,469	9.4
65+ years	2,941	2,550	-13.3
TOTAL	17,719	18,516	4.5
Male	8,186	9,007	10.0
Female	9,533	9,509	-0.3

At the Knox County level, total population increased 13.8 percent from 1990 to 2000, while Knoxville's population grew only 2.4 percent. Since 1990, Knox County's population shifted from 50.6 percent found in Knoxville to only 42.5 percent in 2009, signifying the city grew at a much slower rate than the county.

Table 2. Knox County Population

	1990	% Share	2000	% Share	2009	% Share
Knox County	335,749		382,032		435,725	
Knoxville	169,761	50.6	173,890	45.5	185,100	42.5
County Balance	165,988	49.4	208,142	54.5	250,625	57.5

From 1990 to 2009, the South City Sector grew 11.8 percent, while the North and Northwest City sectors increased 27.4 percent and 21.0 percent respectively. Since 1990, the South City Sector's population has comprised around 11 percent of the total population for all six city sectors.

Table 3. City Sector Populations

MPC City Sectors	1990	% Share	2000	% Share	2009	% Share
South	17,719	10.7	18,618	11.2	19,814	10.9
North	23,344	14.1	25,343	15.3	29,748	16.4
Northwest	25,270	15.3	27,974	16.9	30,502	16.8
East	25,878	15.7	25,478	15.4	26,973	14.8
Central	52,881	32.1	48,162	29.0	53,671	29.5
West	19,901	12.1	20,354	12.3	21,211	11.7
TOTAL	164,993		165,929		181,919	

COMMUNITY FACILITIES

Schools

Total enrollment numbers for elementary, middle, and high school reveal a decline from 2005 to 2009. South Doyle Middle showed the greatest decline, while Mooreland Heights Elementary was the only school to register growth in student enrollment. While there is modest available capacity, the Knox County School Board staff foresees that all the schools will be operational during the longer range planning horizon.

Table 4. School Enrollment

School Name	2005	2006	2007	2008	2009
Dogwood Elementary	755	725	665	633	646
Mooreland Heights Elem.	280	252	261	297	305
Mount Olive Elementary	329	286	278	301	299
South Knoxville Elem.	143	133	125	123	142
South Doyle Middle	1,231	1,195	987	963	975
South Doyle High	1,455	1,449	1,309	1,247	1,215
TOTAL	4,193	4,040	3,625	3,564	3,582

The Knox County School Board makes decisions regarding school construction and maintenance. Currently, the capital improvement program for almost all Knox County's schools revolves around maintenance and upgrading of existing facilities, such as a school's electrical, heating, and cooling systems.

Libraries

Two branch libraries serve residents in the South City Sector: the South Knoxville Branch at 4500 Chapman Highway, and the Howard Pinkston Branch on Martin Mill Pike next to Bonny Kate Elementary. Lawson McGhee, the main library of Knox County, also serves a large portion of South City Sector residents.

Public Safety

Police protection is primarily provided by the Knoxville Police Department (within city limits), while

the Knox County Sheriff's Department serves residents in the small portions of the sector that lie beyond the city limits. Fire protection service is largely provided by Knoxville's Fire Department – the exception is Rural Metro in the unincorporated areas.

Parks

The South City Sector has some of the largest park and recreation resources in Knox County, including Ijams Nature Center, Meads Quarry, the State Wildlife Management Area, William Hastie Park, and Fort Dickerson Park. A goal in future development is to establish an unbroken connection in the area's recreational, environmental, educational, and historic assets along the Tennessee River, called the Urban Wilderness and Historic Corridor.



Ijams Nature Center is one of the gems of the sector's open spaces.

Several large parks and open space areas have been acquired over the last ten years. Ijams Nature Center added the Mead's Quarry property, transitioning from a local nature center to a large-scale environmental educational facility. The 150-acre park contains trails, a waterfront boardwalk and nature exhibits. South City Sector residents enjoy the greatest amount of park and open space of any city sector, with almost 23 acres per 1,000 people.

Table 5. South City Sector Park Acreage

Classification	Acreage
Neighborhood	42.5
Community	38.2
District/Regional	0.0
Sports Complex	12.3
Open Space/Natural Area	244.9
Special Use Park (including Middle Schools)	118.7
Total Acreage	456.5
Total Acreage of Close-to-Home-Parks	98.9

The City of Knoxville and Knox County collaborated in developing the *Knoxville-Knox County Park, Recreation, and Greenways Plan*. For the recommended park and greenway improvements from that document, please see the Park, Greenway and Community Facilities Plan on page 29.

PUBLIC UTILITIES

The Knoxville Utilities Board (KUB) provides water, sanitary wastewater, natural gas, and electrical utility services to the South City Sector. There are two relatively small locations on the southern edge of the sector where Knox Chapman Utility supplies water – the McNutt Road and Dick Ford Lane areas.

Electrical Service

The regional power transmission system is the responsibility of the Tennessee Valley Authority. TVA provides power to KUB, which has its own substations to distribute power to local residents. KUB may foresee the need to develop another substation in the sector to meet future electrical needs of continual growth.

Wastewater Service

More than 90 percent of the sector is served by conventional sanitary wastewater systems, which are dependent on the location of treatment plants, gravity lines, and pump stations to create the system. KUB is authorized to make facility improvements for the

collection, pumping, and treatment of wastewater to meet needs for development (see map on page 5). However, KUB is not obligated to provide wastewater services if the city annexes parts of the Urban Growth Area. KUB ratepayers are not asked to fund wastewater extensions for the benefit of private developments or entities; in other words, line extensions and other needed facilities are completed at the cost of the developer or the local government.

TRANSPORTATION

The *Major Road Plan* was adopted by MPC, City Council, and County Commission in 2004. The plan contains proposals for an overall transportation system, identifying a functional classification for each road (for example, showing future arterial highways). Rights-of-way requirements are identified based on the purpose and function of the road, future road and pedestrian improvements, traffic counts, anticipated development, and policies and goals contained in adopted plans (see page 6).

Public Transportation

Knoxville Area Transit (KAT) runs four bus routes in the South City Sector; routes 40A/B (South Knoxville), 41 (Chapman Highway), 43 (University Heights Apartments) and 44 (Gateway Apartments). Bus route 40 A/B is routed along the perimeter of the sector. Bus line 41 travels the length of Chapman Highway through the sector. Routes 43 and 44 serve two large South Knoxville apartment complexes with high University student populations. Each route provides non-stop service from its respective complex to the UT Transfer Center located on Phillip Fulmer Drive.

Sidewalks and Bike Lanes

There are not many sidewalks in the sector. This shortcoming is the result of two primary factors: (1) some areas, like Vestal, were created outside the city limits in the early 20th century and the developer saw



The new Blount Avenue sidewalk is an ideal prototype for pedestrian connections.

little need in providing sidewalks, and (2) much of the sector was developed in the “automobile age,” the era after World War II, when there was little emphasis on sidewalk construction.

Additionally there are no general requirements to provide sidewalks with new development. The only exception is in school areas, where sidewalks may be required under the Parental Responsibility Zone (PRZ) with new subdivisions. The PRZ is a one-mile radius around elementary schools and 1.5-mile radius around middle and high schools where parents are responsible for providing transportation to and from school as these zones are not serviced by school buses. As a result, these areas should be targeted for sidewalk creation or improvement (see page 7).

There are currently no bike lanes in the sector. Bicyclists and motorists share all roadways. The *Knoxville Regional Bicycle Plan* was adopted by City Council in 2010, and requires all new road projects to accommodate bicyclists. Bike lanes should be added to arterial and major collector streets.

Roadway Designation

MPC occasionally gets asked: “What’s so scenic about the South City Sector’s portion of Sevierville Pike that is designated a Tennessee Parkway?” It is a fair question because billboards happen to be allowed

along some Tennessee Parkways, like Sevierville Pike. The following summary outlines the difference between the two designations.

Scenic Highway: Under State law, several roads in Knox County are designated Scenic Highways, like portions of Sevierville Pike. The provisions of this 1971 act prohibit junkyards and billboards within 2,000 feet of the designated highway. With few exceptions, the act also limits building height to 35 feet within 1,000 feet of a designated route. If a local government has adopted or adopts a more stringent standard, such as design standards for signs, buildings and landscaping, the local provision shall guide scenic highway protection.

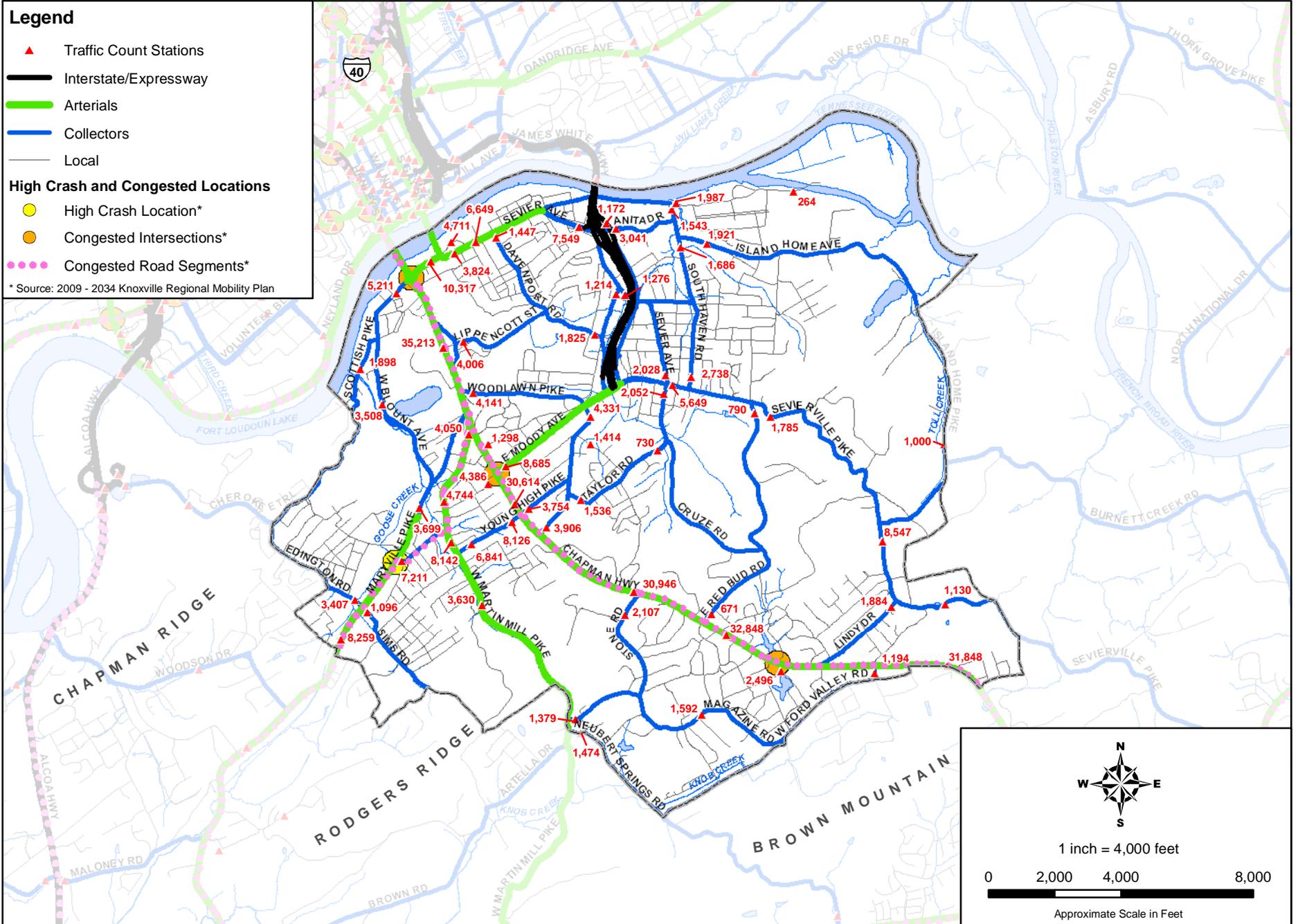
Tennessee Parkway: There is also a provision for Tennessee Parkways, which has the same restriction on junkyards and trash dumping as the Scenic Highway (see above). However, billboards are not regulated in such areas as the South City Sector, which is comprehensively zoned. The Parkway designation, which does affect building height, is made by the Tennessee Department of Transportation (TDOT) Commissioner. A change to the zoning ordinance creating local standards protecting or enhancing scenic qualities is an alternative that could improve scenic quality.

Local measures such as the *Knoxville Street Tree Master Plan* (see Appendix D) call for conservation and enhancement of the road network throughout the sector.



An example of the city's tree planting program along Moody Avenue

South City Sector: Road Classification, Traffic Volume, and Conflict Points

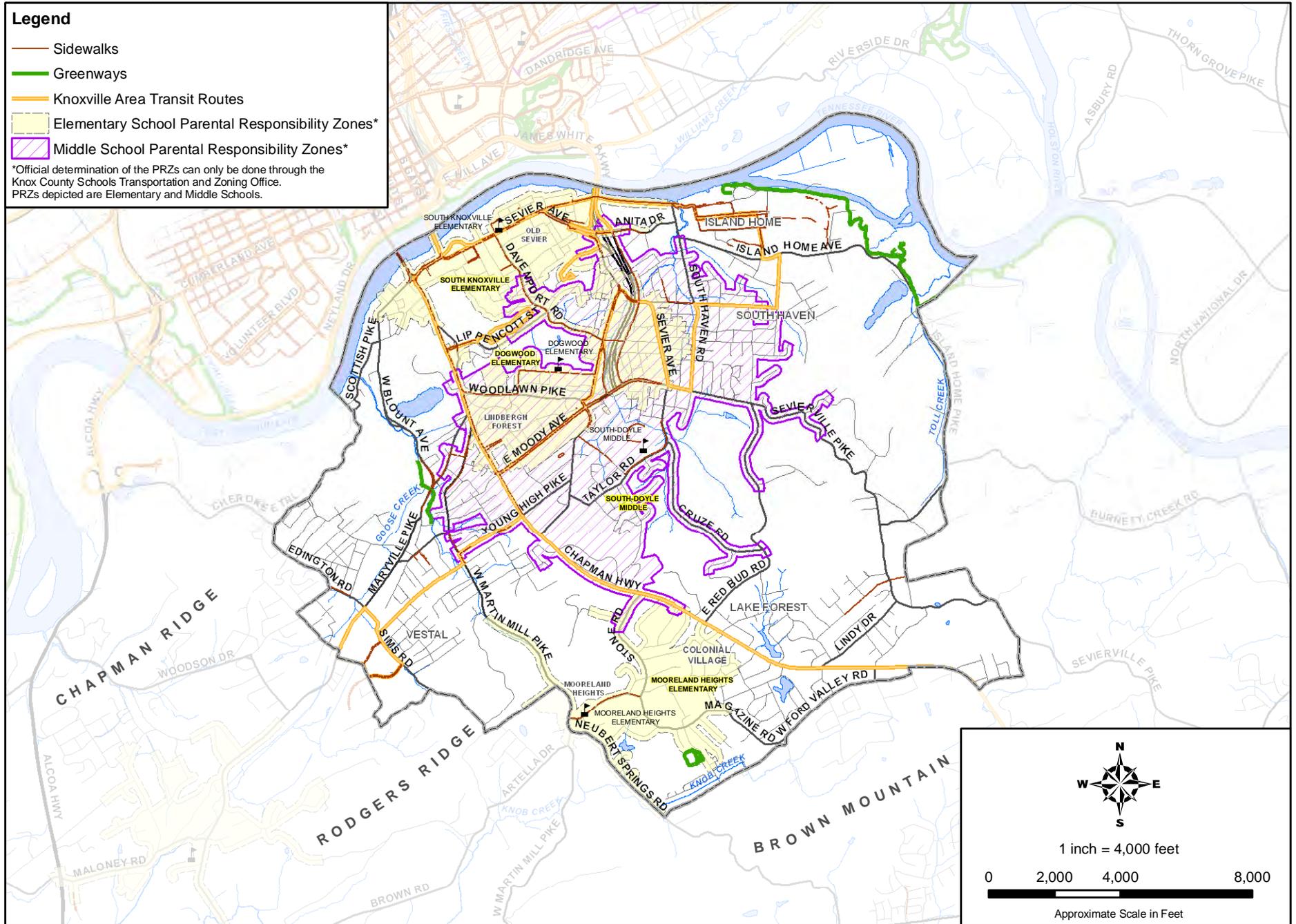


South City Sector: Existing Transit, Pedestrian, and Parental Responsibility Zones

Legend

-  Sidewalks
-  Greenways
-  Knoxville Area Transit Routes
-  Elementary School Parental Responsibility Zones*
-  Middle School Parental Responsibility Zones*

*Official determination of the PRZs can only be done through the Knox County Schools Transportation and Zoning Office. PRZs depicted are Elementary and Middle Schools.



1 inch = 4,000 feet

0 2,000 4,000 8,000

Approximate Scale in Feet

CHAPMAN HIGHWAY CORRIDOR STUDY

In 2006, MPC prepared the *Chapman Highway Corridor Study* in cooperation with the City of Knoxville. It focuses on the Knoxville to Seymour section of Chapman Highway and includes recommendations for transportation, land use, and aesthetic improvements. Examples of suggested improvements along the corridor are the extension of James White Parkway and the South Waterfront development. The study has recommendations concerning safety, beautification, parks and greenways, urban design, and economic development.

CHAPMAN HIGHWAY CORRIDOR IMPROVEMENT STUDY

The Tennessee Department of Transportation (TDOT) undertook a corridor study along Chapman Highway that looked at “quick-fix” solutions to safety and traffic problems. The improvements are considered a short-term and low-cost program to be made primarily in the existing right of way. The study proposes several types of improvements: reducing the number of severely angled intersections (where there are turning and visibility concerns), aligning side roads to reduce the number of offset intersections, installing turn-lanes (especially where many vehicles are turning and causing conflict points), improving sight distance at existing intersections, and consolidating driveway to minimize access points onto the highway. The study emphasizes that these are short-term improvements and Chapman Highway should be re-evaluated after a decision on the South Knox Boulevard extension has been made.

ENVIRONMENTAL RESOURCES AND CONSTRAINTS

Environmental Constraints

The geology of the South City Sector contains ridges and hillsides that uniquely define the sector. The *General Plan* defines the Slope Protection Area as 15 percent or greater, restricting the density of development to preserve and protect ridges and hillsides within Knox County. By protecting these areas, the amount of run-off is reduced and riparian areas are maintained.

The Joint City-County Task Force on Ridge, Slope, and Hillside Development and Protection was formed in early 2008 to address areas in the City and County that have a slope of 15% or greater. The primary concern of the task force is to protect hillsides and ridges. Sixty percent of the remaining forested land in Knox County has a slope greater than 15%.

Public safety is also a concern in restricting the density of development. Sloped areas have greater susceptibility for soil slippage and failure. Many of the soils along slopes are considered unstable, and removal of vegetation that secures the soil promotes further slope failure.

The *General Plan* policies (as of 2010) regarding steep slopes, hillsides and floodplains are to restrict development on slopes greater than 15 percent and along streams and rivers by:

- Housing densities on 15 to 25 percent slopes: 2 dwelling units per acre
- Housing densities on slopes greater than 25 percent: 1 dwelling unit per 2 acres
- Non-residential uses on slopes over 15 percent: via a planned development zone
- Floodplains: Limit uses to 50 percent of flood fringe area

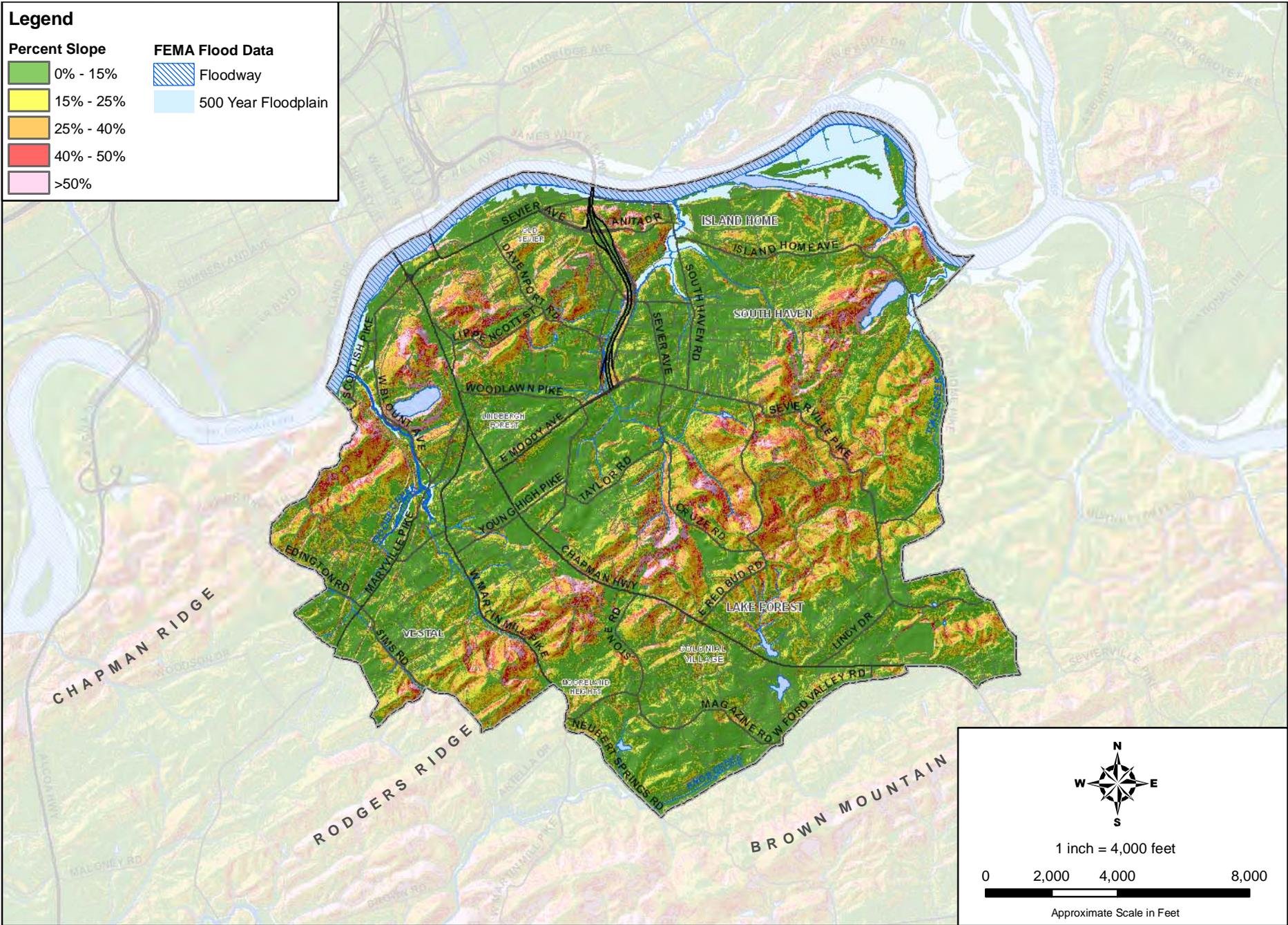
Flooding is a concern in the South City Sector as rivers and creeks bound the northern and eastern portions, while sink holes are found in the southern portions of the sector. The United States Geological Survey (USGS) identified floodplains along the Tennessee, Holston, and French Broad Rivers, and major creeks throughout Knox County. The southern half of the sector contains numerous sinkholes areas surrounding the Vestal community. Sinkholes are natural water collection points and can flood under heavy rain conditions.

Several parcels are currently part of Tennessee’s and Knox County’s “greenbelt” program under which property taxes can be reduced when the land is used for agricultural, forestry or open space purposes. One of the greenbelt parcels contains Stanley’s Greenhouse and Plant Farm, which has been in business for 72 years and is considered the most productive agricultural operation in Knox County.



The former WalMart shopping center was noted in the Chapman Highway Corridor Study as a revitalization site, allowing mixed use development.

South City Sector: Environmental Resources and Development Constraints

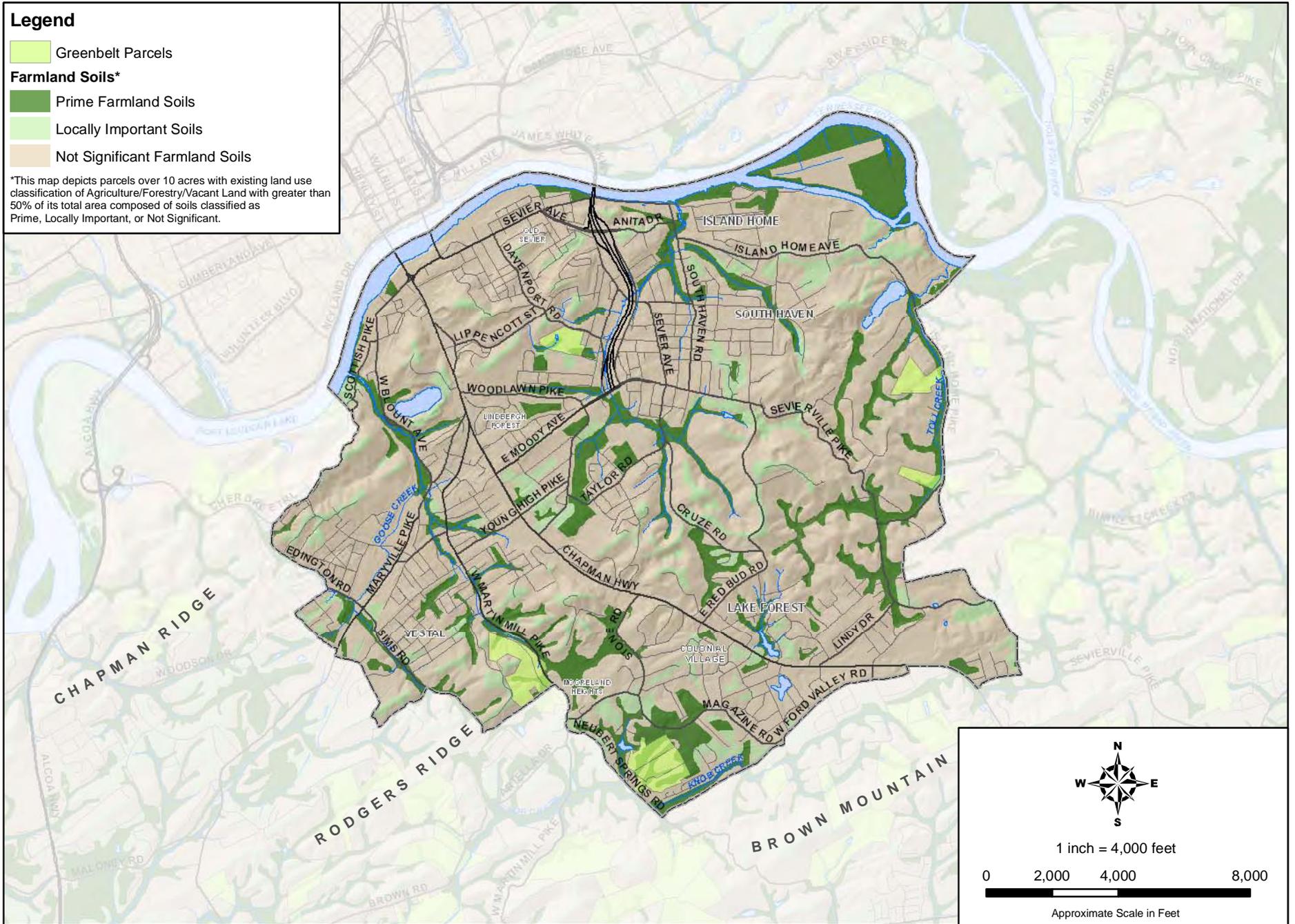


South City Sector: Agricultural Soils and Greenbelt Program Parcels

Legend

- Greenbelt Parcels
- Farmland Soils***
- Prime Farmland Soils
- Locally Important Soils
- Not Significant Farmland Soils

*This map depicts parcels over 10 acres with existing land use classification of Agriculture/Forestry/Vacant Land with greater than 50% of its total area composed of soils classified as Prime, Locally Important, or Not Significant.



LAND USE AND DEVELOPMENT TRENDS

Existing Land Use

As of 2008, South City Sector land use is mainly comprised of detached dwellings at 28.9 percent of the total acreage. The second largest share is Agricultural/ Forestry/ Vacant Land at 21.4 percent. The most notable change in land use would be the doubling in acreage for public parks; this was due to such large scale acquisitions as Hastie Park and Mead's Quarry.

Table 6. Existing Land Use

Land Use Category	2000 Acreage	% Share	2008 Acreage	% Share
Agriculture/Forestry/Vacant	1,795	25.2	1,515	21.4
Commercial	205	2.9	206	2.9
Industrial (Manufacturing)	185	2.6	114	1.6
Multifamily Residential	246	3.5	288	4.1
Office	98	1.4	80	1.1
Private Recreation	13	0.2	3	0
Public Parks	269	3.8	643	9.1
Public/Quasi Public Land	403	5.7	550	7.8
Right of Way/Open Space	912	12.8	907	12.8
Rural Residential	375	5.3	406	5.7
Single Family Residential	2,072	29.1	2,046	28.9
Transportation/ Communications/Utilities	91	1.3	40	0.6
Under Construction/Other Use	211	3	39	0.5
Water	229	3.2	229	3.2
Wholesale	17	0.2	17	0.2
TOTAL	7,121		7,083	



Almost 29 percent of the land use is comprised of single family residential, like South Haven.

From 2000 to 2009, the South City Sector gained 86 residential lots, divided among 37 subdivisions for a total of 71.8 acres. The South City Sector only comprised 2.9 percent of all permits for residential lots during this time.

Table 7. Residential Subdivision Permits, 2000 – 2009

Subdivision	South City Sector	All City Sectors	% Share
Acreage	71.8	1,916.4	3.7
Number	37	367	10.1
Number of Lots	86	2,968	2.9

From 2000 to 2009, the South City Sector registered 21 commercial and six industrial permits. Non-residential construction in the South City Sector was far less than the five remaining city sectors.

Table 8. Non-Residential Permits, 2000 - 2009

Sector	Commercial	% Share	Industrial	% Share
South City	21	3.9	6	6.1
Central City	125	23.2	36	36.4
East City	42	7.8	10	10.1
North City	80	14.8	16	16.2
Northwest City	194	36.0	23	23.2
West City	77	14.3	8	8.1
TOTAL	539		99	

Housing

The total number of housing units in the South City Sector increased 20.6 percent from 8,270 units in 1990, to 9,971 units in 2009. The most significant growth occurred in multi-dwellings with over 1,200 units added from 1990 to 2009. Detached dwellings comprised the largest share of residential types with 61.4 percent of the total housing units.

Table 9. Housing Units

Type	1990	% Share	2000	% Share	2009	% Share
Detached	5,896	71.3	5,921	63.6	6,120	61.4
Attached	77	0.9	86	0.9	237	2.4
Multi-dwelling	2,201	26.6	3,211	34.5	3,475	34.9
Mobile home	96	1.2	88	0.9	139	1.4
TOTAL	8,270		9,306		9,971	

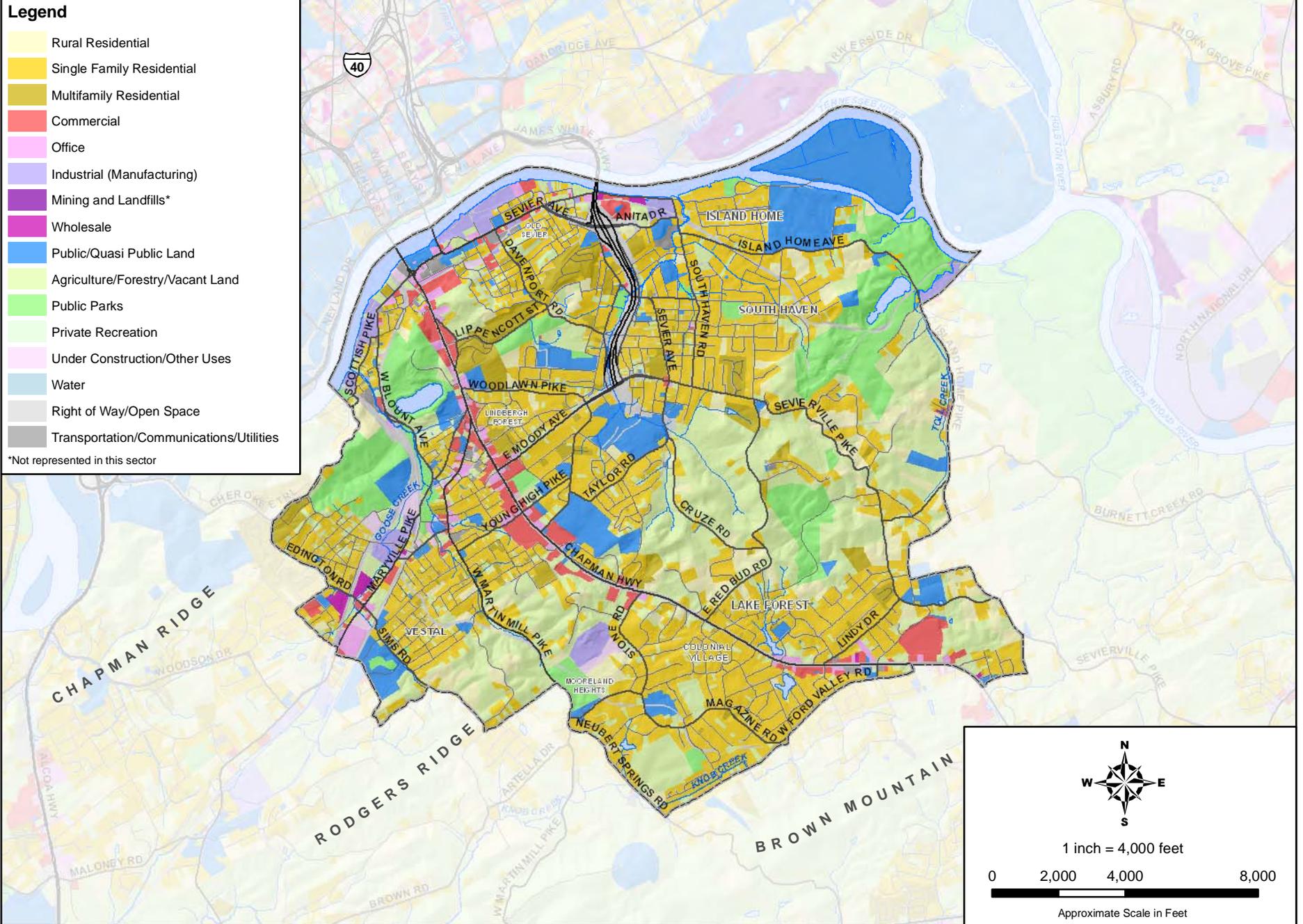
Recent Land Use Plan Recommendations

The study, *Potential Sites for Industrial and Commercial Redevelopment in Knoxville's Empowerment Zone*, listed a site along Maryville Pike and an adjoining railroad corridor for potential redevelopment. The 70-parcel site is bounded by Maryville Pike, Spruce Drive, and Joe Lewis Drive. Candora Marble, Vestal Lumber Company, and Witherspoon Scrap Metal once occupied this area.

The *Knoxville South Waterfront Vision Plan* is the culmination of two years of input from stakeholders, technical experts, and consulting teams. The plan creates a vision of extensive public and private improvement projects to be completed over the course of the next 20 years in order to beautify and redevelop Knoxville's South Waterfront. The plan calls for a variety of public projects: a bike and pedestrian riverwalk, parks and green spaces, new and reconstructed streets, sidewalks, bike lanes, and parking.

The private development, which is enabled under the plan and its new form-based zoning code, will include mixed and higher intensity uses. The proposed capital improvement projects are anticipated to foster new development, benefiting residents, businesses, and the greater Knoxville area. The plan's goal is to utilize one of the city's most valuable assets by linking the South Waterfront to downtown. The plan was developed under extensive review and input from members of the community, ranging from government entities to

South City Sector: Existing Land Use



South City Sector: Residential & Non-Residential Development Activity, 2000-2009

Legend

Low Density Residential

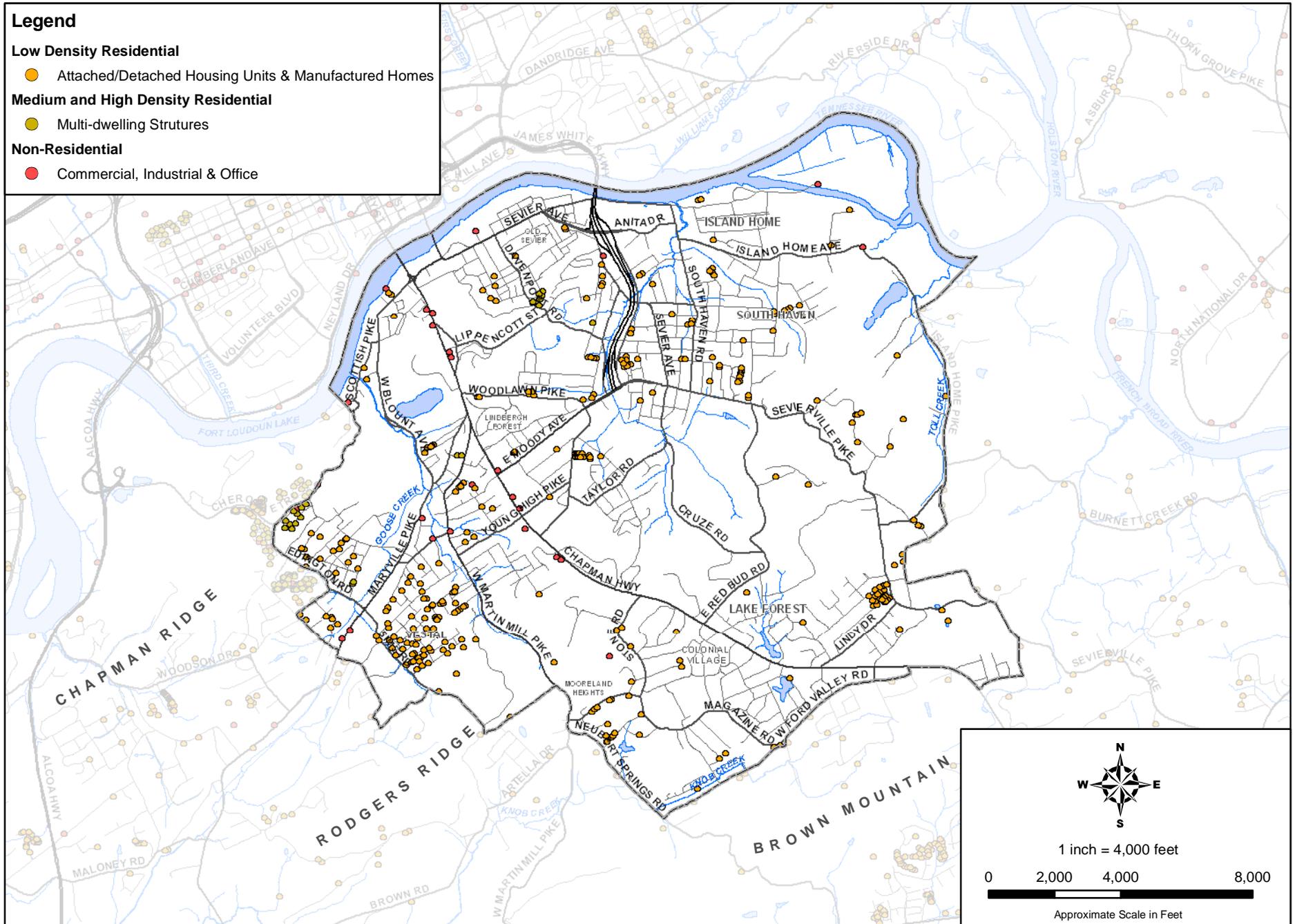
● Attached/Detached Housing Units & Manufactured Homes

Medium and High Density Residential

● Multi-dwelling Structures

Non-Residential

● Commercial, Industrial & Office

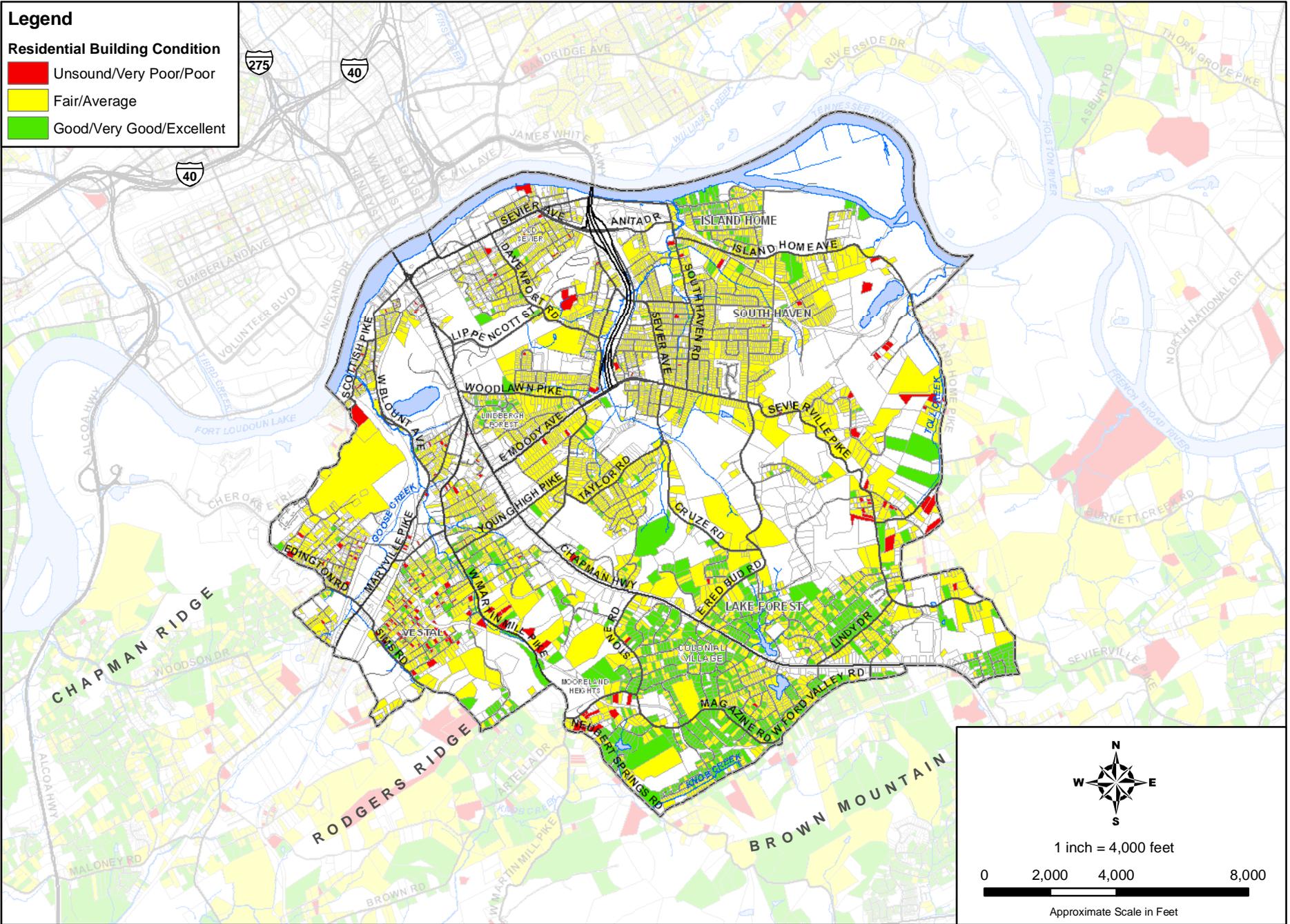


South City Sector: Housing Conditions

Legend

Residential Building Condition

- Unsound/Very Poor/Poor
- Fair/Average
- Good/Very Good/Excellent

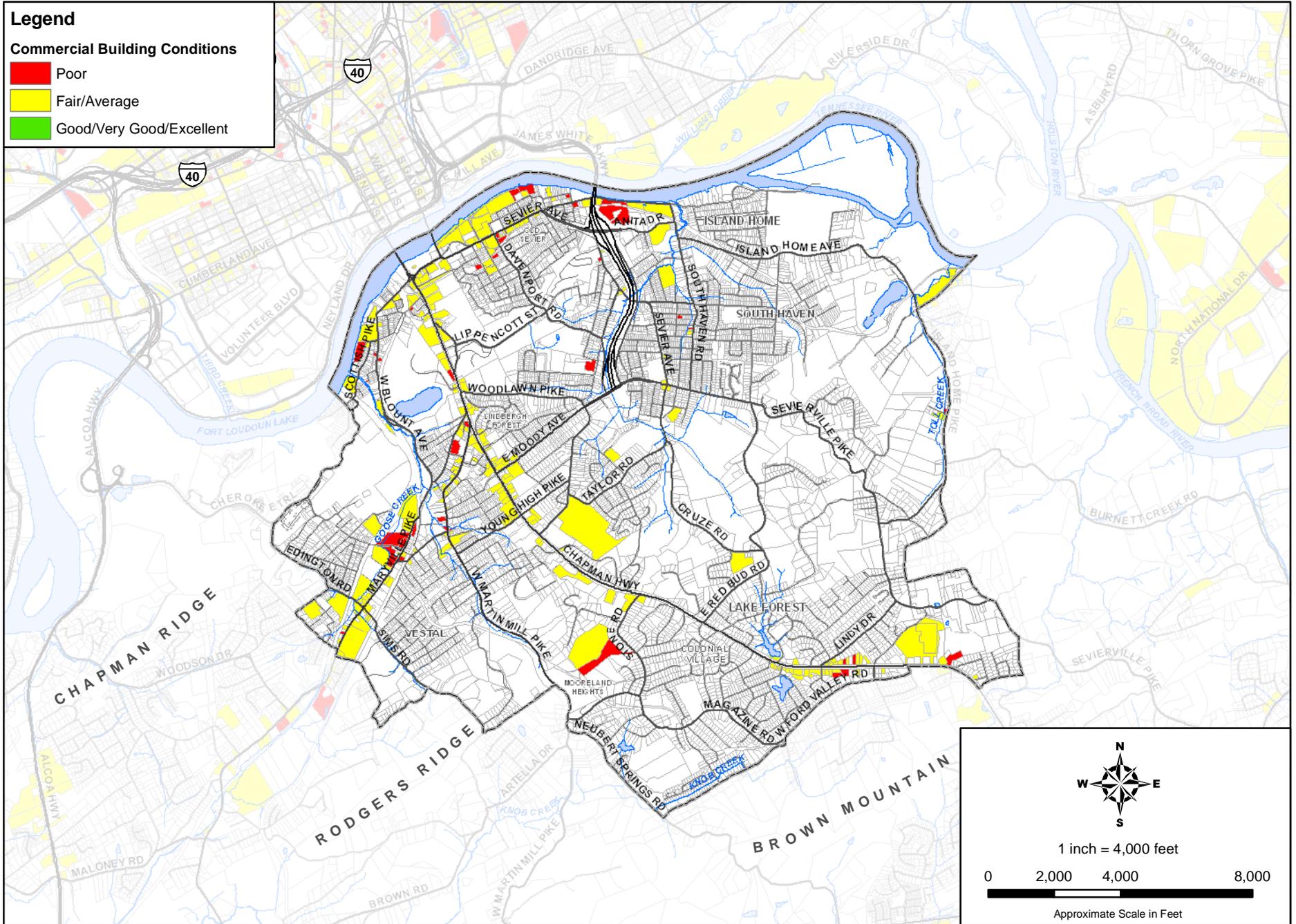


South City Sector: Commercial-Industrial-Office Building Conditions

Legend

Commercial Building Conditions

- Poor
- Fair/Average
- Good/Very Good/Excellent



1 inch = 4,000 feet

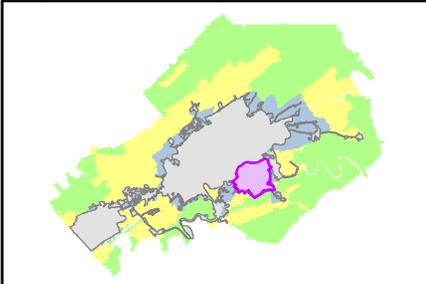
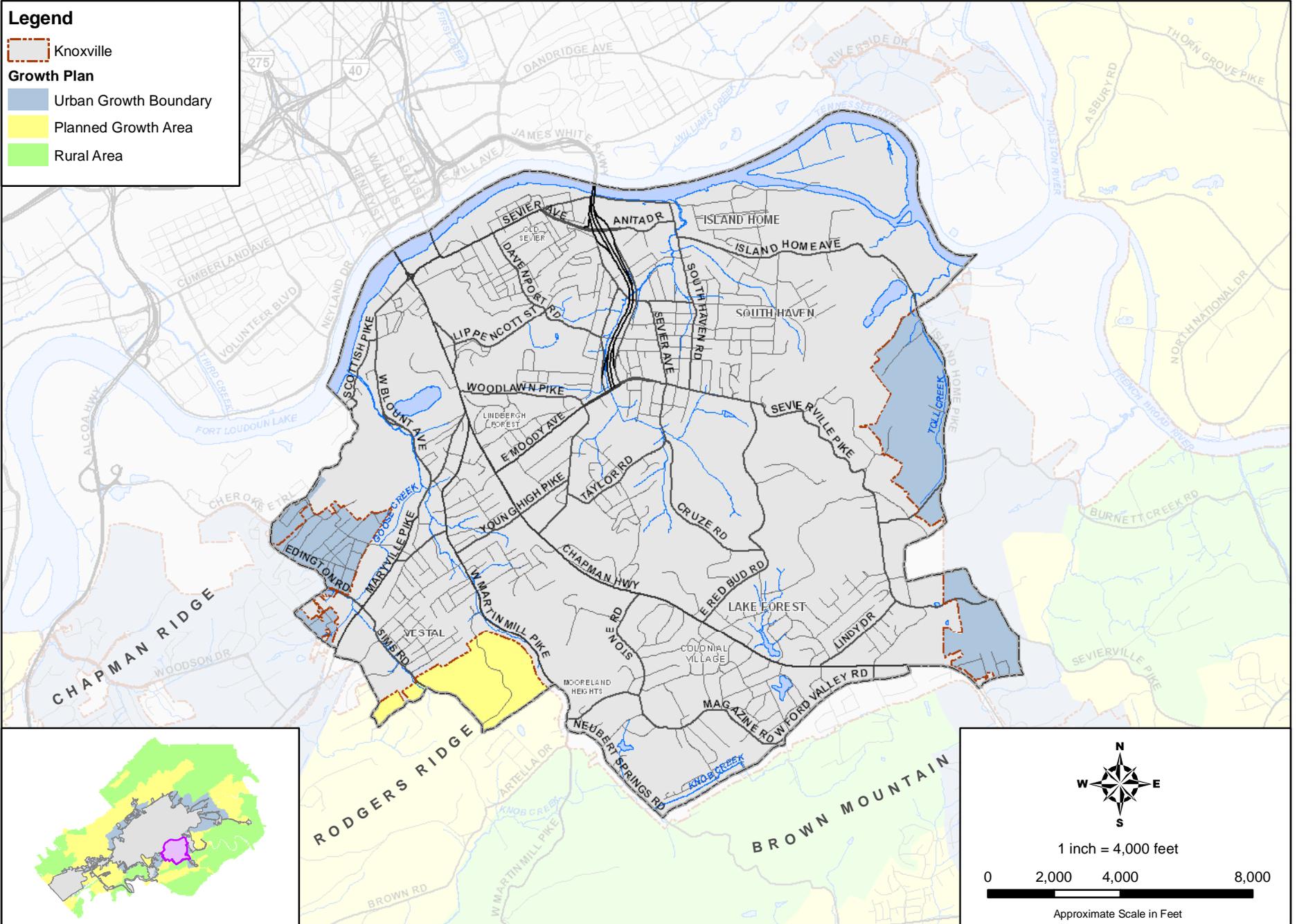
0 2,000 4,000 8,000

Approximate Scale in Feet

South City Sector: Growth Policy Plan

Legend

-  Knoxville
- Growth Plan**
-  Urban Growth Boundary
-  Planned Growth Area
-  Rural Area




 1 inch = 4,000 feet

 Approximate Scale in Feet

South City Sector residents. A summary of types of development and uses is presented in Table 10.

Table 10. Knoxville South Waterfront Vision Plan Growth Strategy for the Next 20 Years

Type of Development Study Demand	Estimated Market Approx. Capacity	Vision Plan Capacity
Residential	2,200 Units	2,500 Units
Retail	60,000 Sq. Ft.	421,700 Sq. Ft.
Restaurant/Entertainment	30,000 Sq. Ft.	60,000 Sq. Ft.
Office	400,000 Sq. Ft.	1 Million Sq. Ft.
Hotel	100 Rooms	160 Rooms
Marina	225 Slips	225 Slips
Culture/Civic Institution	135,000 Sq. Ft.	135,000 Sq. Ft.
Whitewater Kayak Park	1 Course on Quarry	
Garages	700 Cars	
On-Street Parking	790 Cars	
Off-Street Parking Lots	450 Cars	
New Roads	11,750 Linear Feet	
Existing Roads - Upgrades	11,000 Linear Feet	
New Parks, Greenways	51.3 Acres	

The *Vestal Redevelopment Plan* was created by Knoxville’s Community Development Corporation and approved by City Council in January 2007. The plan proposes the area be revitalized through the elimination of blighted structures and inappropriate land uses. The area also has been a focus area for U.S. Housing and Urban Development (HUD) funds administered by the city. The plan recommends focusing on the area around the Ogle Avenue and Martin Mill Pike intersection.

Growth Policy Plan. The majority of the South City Sector area is contained within the existing city limits and Knoxville’s Urban Growth Boundary. The exception is a small area to the south, along Lester Road, located between Sims Road and Martin Mill Pike, which is designated a Planned Growth Area.

HISTORIC RESOURCES

The South City Sector’s historic resources include four districts containing more than 130 properties listed on or eligible for the National Register of Historic Places. Outside of the four districts are eight historic properties on or eligible for the National Register of Historic Places. Also, there are three earthen fortifications which played roles during the Civil War. The historic resources are outlined below:

Lindbergh Forest Historic District is comprised of Tudor Revival, Mission, and Bungalow style homes. Tennessee Marble can be seen in the construction and ornamentation of several of the homes, which date from the mid-1920s to the 1950s. Not unlike Sequoyah Hills, with its curvilinear streets, Lindbergh Forest is a fine example of an early suburb. Lindbergh Forest was developed by Vic McLean and originally was inhabited by entrepreneurs and civic leaders.

The Tennessee School for the Deaf Historic District contains a collection of historic buildings built between 1846 and 1904. Architectural styles include Greek Revival, Italianate, Romanesque, and Neoclassical. The original architect was Thomas S. Marr. The school was originally established as the Tennessee Asylum for the Deaf and Dumb. It served as a state-operated residential and day school for deaf and hard-of-hearing students.

Island Home Park Historic District contains the most intact collection of Craftsman style houses in Knoxville dating from 1897 to 1935. Development in Island Home was greatly spurred by the construction of the Gay Street Bridge in 1898 and Henley Street Bridge in 1928. Island Home was named for the model farm and second home of Perez Dickinson, who owned the land from 1875 to the turn of the century. Dickinson’s Italianate design house is present on the grounds of the Tennessee School for the Deaf, located



Island Home Park Historic District

at the eastern boundary of the district. In addition to the Craftsman style, Tudor Revival, Colonial Revival, and Minimal Traditional architecture are represented in Island Home.

Gobbler’s Knob/Sherrod Road Neighborhood Conservation District contains a collection of Queen Anne, Folk Victorian, Ranch, and Revival style home, dating from 1900 to 1950. The houses rest comfortably on the rugged topography above the river.

The JFG and Kerns Bakery signs. These remnants of Americana are classic examples of advertising of the mid-twentieth century. Their lighting and animation, like the falling slices of bread, have made them well appreciated local landmarks.

Willie Blount’s log home was the home of one of the earliest settlers. Willie Blount is the half-brother of Governor William Blount. The log home was built in 1790.

The Graf-Cullum House was designed by Leroy F. Graf and built in 1923. The house is a prairie style house, which is uncommon and unique to Knoxville’s architecture.

Candoro Marble Works, a one-story building, was designed by Charles Barber and built in 1923 to extensively display the quality of Tennessee pink marble. It served as both a show room and office space. The building reflects the importance of the Knoxville marble industry as a producer of marble materials. Grand buildings such as the National Gallery of Art and New York's Grand Central Station were constructed of Tennessee Marble.

The Cruze House, built around 1880, is a two-story house with distinctive East Tennessee vernacular design.

South Knoxville High School, which was designed by Charles Barber, opened as South Knoxville Junior High School in 1937. The Neoclassical architectural design is representative of many of the Depression-era school projects in Knoxville. While the original structure is eligible for the National Register, the latter addition to the west is not.

Mead Elementary School, dating from 1937, was made possible through the Works Progress Administration. Built to serve the area's neighborhoods and children of those who worked at nearby Mead's Marble Quarry, it is now used as a Montessori School.

Forts Dickerson, Stanley and Higley were designed to protect access to the river and the southern approaches to Knoxville. The Forts, on top of commanding hills, were manned by Union troops. Confederate General Joseph Wheeler's cavalry advanced on the forts on November 15-16, 1863 from Maryville, but did not succeed in overtaking the Union positions.

Fort Dickerson's well preserved site, established in 1863, provides context of Knoxville's involvement in the Civil War. Fort Dickerson, one of a few remaining intact earthen Civil War forts in America, formed part of the defense perimeter of Knoxville. The 90 acre, city-owned site contains natural areas as well as the earthworks.

Fort Stanley served as a fortification for the protection of Knoxville in the Civil War battle of 1863. Although a portion of Fort Stanley was altered with residential development along Sherrod Road, portions of the Fort's earthwork trenched remain on the hillside to the west of Sherrod Road.

Fort Higley was recently preserved through the efforts of the Aslan Foundation, Pilot Corporation, and the Legacy Parks Foundation. Fort Higley's position protected deep ravines where Confederate soldiers could have easily passed through to the river.

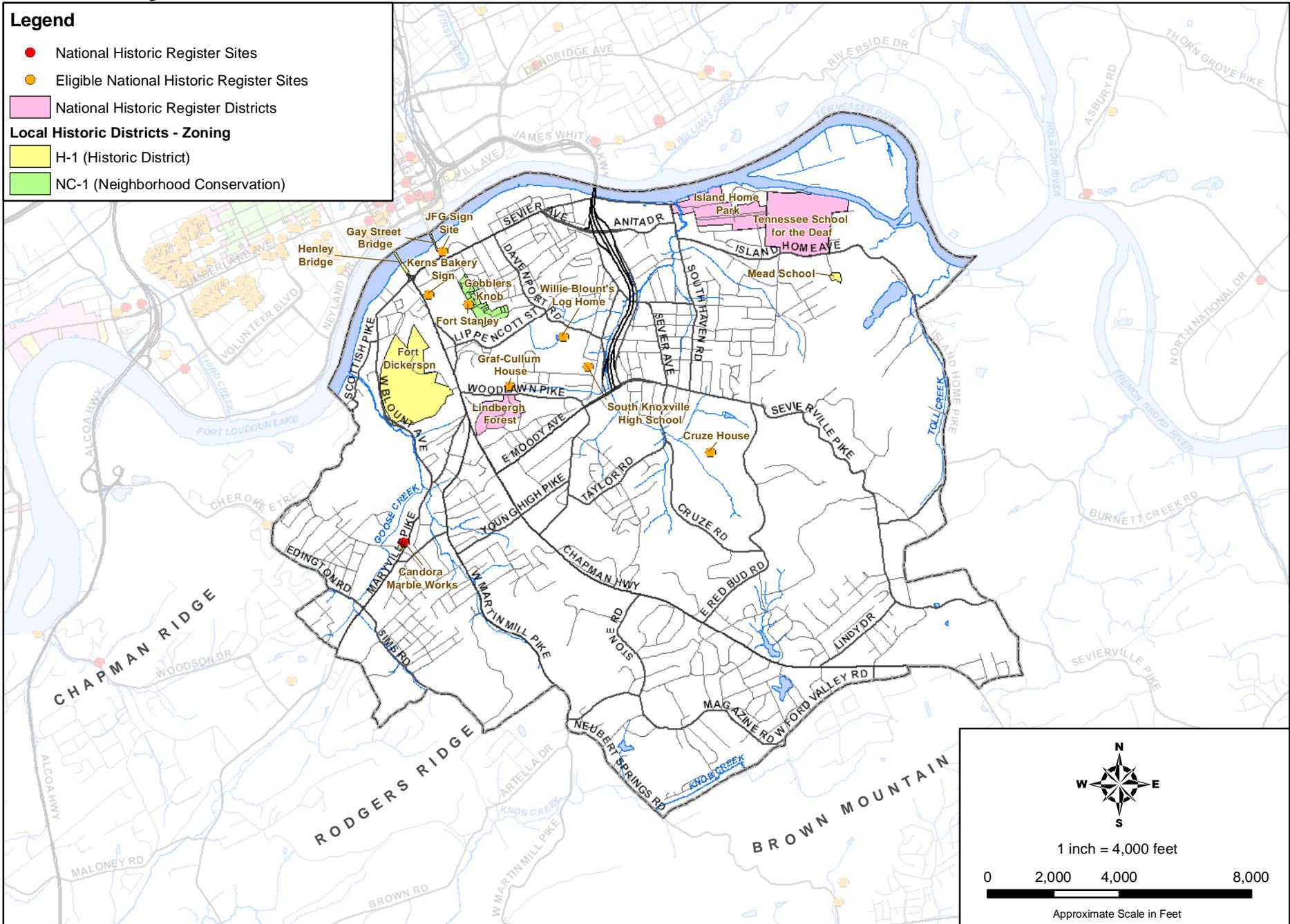


Fort Dickerson

South City Sector: Historic and Related Resources

Legend

- National Historic Register Sites
- Eligible National Historic Register Sites
- National Historic Register Districts
- Local Historic Districts - Zoning**
- H-1 (Historic District)
- NC-1 (Neighborhood Conservation)



PUBLIC PARTICIPATION

MPC staff held three public meetings concerning the update of the South City Sector Plan. Public input was gathered by staff taking notes at these meetings, emails sent to staff, phone conversations, and comment cards supplied at the meetings. The meetings summary is presented in chronological order.

First Sector Plan Meeting (January 20, 2011)

At the beginning of the meeting, MPC staff presented information from the background report and then was available at breakout stations to discuss community facility, land use, and transportation issues. MPC staff invited representatives from Knoxville's Community Development Division, Knoxville's South Waterfront Office, Legacy Parks, TDOT, and TPO.

Summary of the comments:

- Need to implement the Knoxville Urban Wilderness and Historic Corridor
- Protect ridges as a backdrop to the South Waterfront
- Improve greenway connectivity
- Realign Fort Dickerson entrance
- Implement the recommendations in the *Chapman Highway Corridor Study*
- Look at opportunities associated with the Henley Street Bridge closure
- Moody Avenue should retain residential land use pattern
- Promote neighborhood business districts
- Parking requirements need to be reconsidered

Second Sector Plan Meeting (March 24, 2011)

MPC staff held an open house meeting to discuss the proposed land use plan, Chapman Highway business vacancy status from the river to Moody Avenue, and the Green Infrastructure Plan. There was consensus among participants that the new recommendations (for example, special mixed use districts and a green infrastructure plan) should be included in the updated sector plan.

Third Sector Plan Meeting (July 26, 2011)

MPC staff held an open house meeting to discuss the draft sector plan where the draft plan, including boards containing recommendations for land use, community facilities, transportation, and green infrastructure plans, were displayed. There was consensus among the approximately twenty-five public participants that the draft sector plan contained recommendations with which they agreed.

Section 2:

Land Use, Community Facilities and Transportation Plans

LAND USE PLAN

The 15-Year Land Use Plan is a basis for land development and conservation, including rezoning decisions. Those zoning decisions are made periodically through recommendations of the Metropolitan Planning Commission and the changes to existing zones via the decisions of City Council or County Commission.

The list of zoning districts that are recommended in relation to the following land use plan designations and policies are outlined in Appendix A.

Proposed Land Use Policies

Agricultural (A): For use in the Rural Area of the *Growth Policy Plan*, this designation includes other farm and agricultural-related uses and very low density residential uses (not to exceed one dwelling unit per acre).

Low Density Residential (LDR): Primarily residential at densities of less than 6 dwelling units per acre (city); 5 dwelling units per acre (county).

Medium Density Residential (MDR): Primarily residential at densities from 6 to 24 dwelling units per acre (city) and 5 to 12 dwelling units per acre (county).

Office (O): Business and professional offices and office parks.

General Commercial (GC): Primarily existing strip commercial corridors, providing a wide range of retail and service-oriented uses. In some areas, such as Asheville Highway, with (CB) Business and Manufacturing Zoning, warehousing and light manufacturing may be created.

Neighborhood Commercial (NC): This classification includes retail and service-oriented uses intended to provide goods and services that serve the day-to-day needs of households, within walking or short driving distance.

Community Mixed Use Center (MU-CC): This type of center is envisioned to be developed at a moderate intensity with a variety of housing types (5 to 24 dwelling units/acre). The core of the district, with its predominant commercial and office uses, should be within one-fourth of a mile of the higher intensity residential uses (such as townhouses and apartments). The district should be located within one-fourth mile radius of an intersection of the thoroughfare system (a collector/arterial or arterial/arterial intersection). In addition to sidewalks, the district should be at a location that would logically be served by transit in the future. Redevelopment of a vacant or underutilized shopping center is a consideration for such a center.

Light Industrial (LI) and Heavy Industrial (HI): These classifications are used to identify older industrial areas, which were intended for manufacturing, assembling, warehousing, and distribution of goods. Light industrial uses include such manufacturing as assembly of electronic goods and packaging of beverage or food products. Heavy industrial uses include such processes used in the production of steel, automobiles, chemicals, cement, and animal by-products and are viewed clearly not compatible with areas designated for residential, institutional, office, and retail uses.

Civic/Institutional (CI): Land used for major public and quasi-public institutions, including schools, colleges, churches, correctional facilities, utilities, and similar uses.

Public Parks and Refuges (PP): Existing parks, wildlife refuges, or similar public or quasi-public parks, open spaces, and greenways.

Other Open Space (OS): Cemeteries, private golf courses and similar uses.

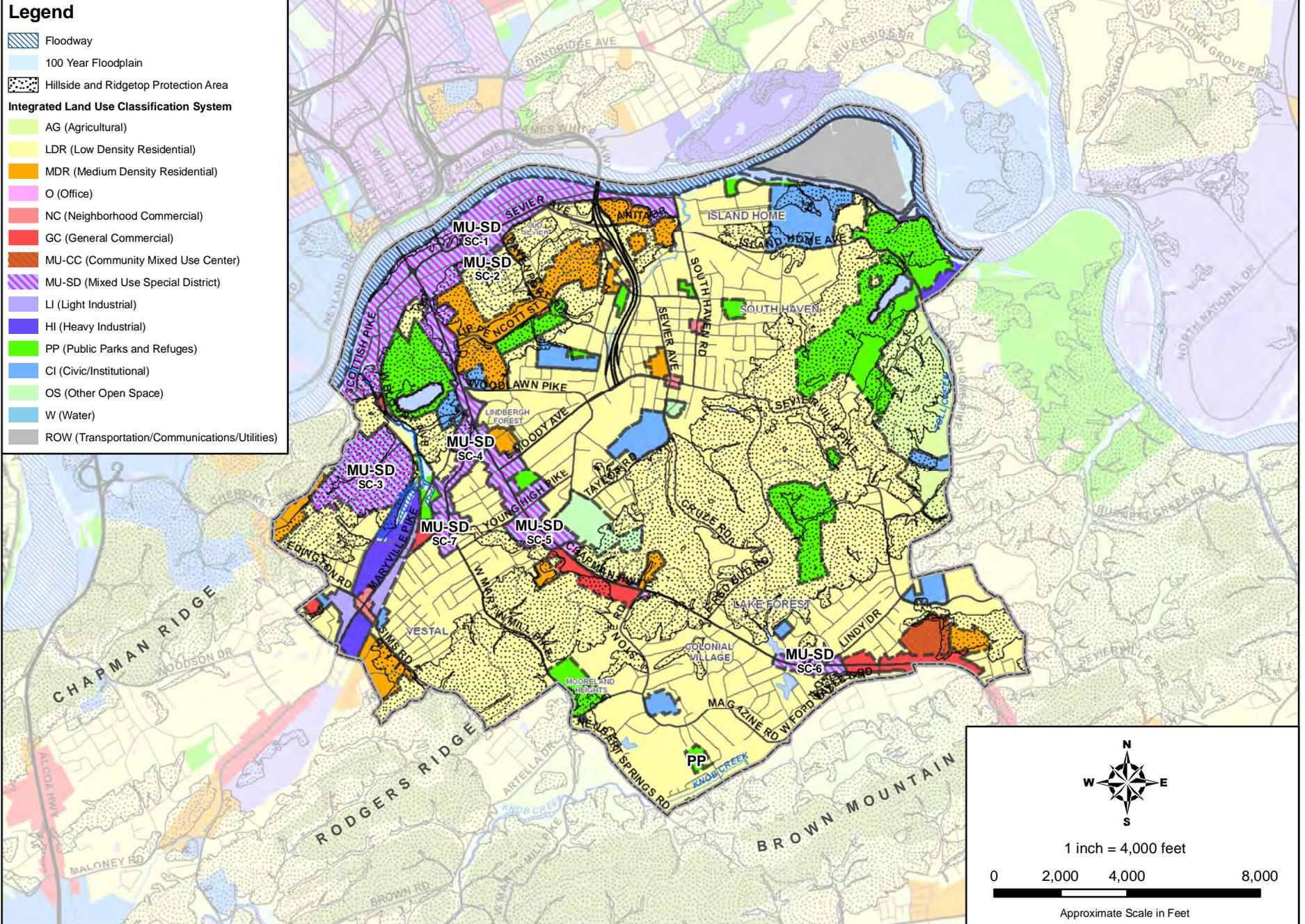
Hillside/Ridge Line Protection Areas (HP): Ridge crests, and hillsides and ravines that have a slope of 15 percent or more. Future development should be limited on hillsides and ridge tops.

- Prohibit commercial development on hillsides greater than 25 percent and on ridgetops. Forest restoration should be undertaken on cleared areas below 25 percent slopes.
- Prohibit industrial development on slopes greater than 15 percent.
- Limit density as follows:

SLOPE %	DENSITY
15 - 25	low density residential = 2 houses per acre; agricultural, rural residential = 1 house per acre
25 - 40	1 house per 2 acres
40 - 50	1 house per 4 acres
50+	No development or clearing*
*There are no parcels in the South City Sector that are entirely on a 50 percent slope.	

- Limit new building height to 35 feet on hillsides and ridge lines.

South City Sector: Proposed Land Use Plan



Stream Protection Areas (SP): Areas subject to flooding as identified on Knox County flood maps. For streams that do not have a mapped flood zone, state and local storm water regulations, creating non-disturbance areas, apply.

Water (W): Primarily the French Broad River and Holston River.

Major Rights-of-way (R-O-W): Generally, the rights-of-way of interstates and very wide parkways and arterial highways.

Special Land Use Districts

There are several areas that are capable of sustaining different mixes of land uses. In other words, a broad brush of proposing only one land use may not be prudent in view of changing conditions and the dynamics of the local economy. All of the following proposed districts are well located in terms of good transportation systems and generally have good infrastructure. Both interim and long-term zoning are recommended for each district

SC-1: South Waterfront District

Recommended Program:

The *Knoxville South Waterfront Vision Plan*, adopted in 2006, describes a long-term improvement strategy for an approximate 750-acre area fronting the three-mile shoreline. Implementation tools include an Action Plan, an Urban Renewal and Redevelopment Plan, and the South Waterfront Development Code. The primary implementation strategy is to create public-private partnerships. Completion of the plan will take at least 20 years. Some public improvements include a pedestrian/bicycle riverwalk, parks and green spaces, new and reconstructed streets, sidewalks, bike lanes, and parking. It is anticipated that these public improvements will stimulate private investment, resulting in the addition of new residential, commercial, retail, and recreational opportunities.

Current Zoning:

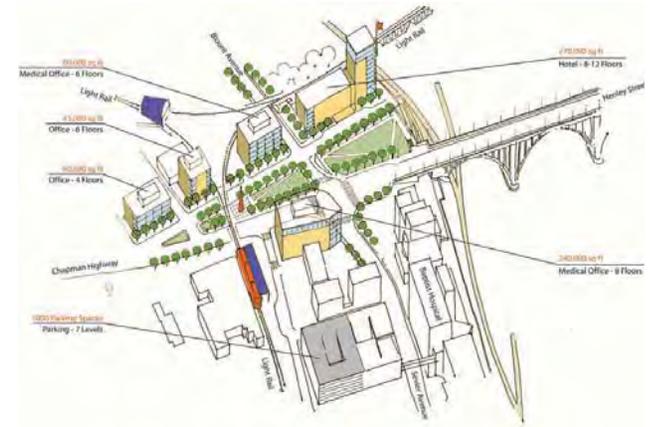
SW-1, SW-2, SW-3, SW-4, OS-1, OS-2
(no changes are anticipated)

Transportation Improvements:

- New and reconstructed streets with sidewalks, bike lanes, and parking

Community Facilities:

- New parks and green spaces
- New pedestrian/bicycle bridge connecting the South Waterfront to the university campus
- Continuous pedestrian/bicycle river walk along the shoreline



*Henley Gateway Park (in the shape of a triangular wedge):
From across the river, the gateway opens a welcoming view to the
corresponding open space at World's Fair Park*



An artist's rendering of a pedestrian/bicycle bridge spanning the Tennessee River

SC-2: Potential Addition to the South Waterfront District

Recommended Uses: This area currently contains commercial, office, industrial, and medium-density residential land uses, but the current zoning is I-3 and R-2. A continued mix of uses is appropriate but the physical layout and buffering of these uses is important because of its proximity to low density residential uses and the South Waterfront area. If the South Waterfront Plan is updated, this area should be incorporated in the new plan. In the meantime, conditions should be placed on rezoning decisions to insure proper buffering from the adjacent neighborhood.

Rezoning Recommendations:

Interim = Any SW Zone, any planned zone or R-1, R-1A, R-2, I-3, C-3

Long-term = A South Waterfront form-based zone



Log Haven District: Conservation of existing woodlands is recommended during the development process.

SC-3: Log Haven District

Recommended Uses: The previous sector plan calls for low density residential and commercial at the 800 English Road site. It is important to maintain the tree canopy in this area and any uses that would jeopardize large clearing of the land would not be recommended.

Rezoning Recommendations: RP-1, OS-1, R-1, R-1A

SC-4: Chapman Highway District (Downtown to Martin Mill Pike)

Recommended Uses: Higher intensity mixed use development that takes advantage of the proximity to downtown and the South Waterfront. The form of development should borrow from the South Waterfront's form district. Potential redevelopment area could be created to help implement change in the area.

Rezoning Recommendations:

Interim = R-1, R-1A, R-2, C-3, C-4, O-1

Long-term = Form-based zone

Transportation Improvements:

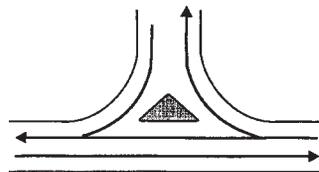
- Access management
- Bus shelters and bus pull offs
- Extend existing sidewalks in Vestal to Chapman Highway

Community Facility Improvements:

- Improve the entrance to Fort Dickerson



Techniques to manage access near Fort Avenue could include driveway treatments (shared access and restricted turning movements; see below), internal circulation improvements and construction of a backage road.



Example of a driveway channelizing island to discourage left-turn egress and ingress maneuvers

SC-5: Chapman Highway District (Taliwa Court to Fronda Lane)

Recommended Uses: Moderate intensity of vertically oriented mixed use developments including commercial, office, and medium density residential uses that would form a Town Center. Uses that are not compatible with the Town Center setting should be discouraged. These include commercial uses such as self-storage that are not oriented to pedestrians. Higher residential densities that support walk-in retail should be encouraged. A more urban form of development should take place where parking would occur to the side and rear of development.

Rezoning Recommendations:

Interim = C-3, C-4, C-6, SC-2, SC-3, OS-1, TND-1, TC-1

Long-term = Form-based zone

Transportation Improvements:

- Provide street furniture, such as benches and waste receptacles
- Increase internal access between businesses, eventually developing a grid pattern of local streets and eliminating individual curb cuts along Chapman Highway, especially near intersections
- Study Moody Avenue extension options to Maryville Pike
- Bike lanes should be extended through this segment

Community Facility Improvements:

- Park improvements and greenway connections
- Create better visual connection between Chapman Highway and Sam Duff Memorial Park, which could be the centerpiece of the Town Center

Town Center land use proposal from the Chapman Highway Corridor Study



The photograph (top right) is of the area between Moody Avenue and Young High Pike. Like most of the corridor, this area has seen businesses change over time. In anticipation of future changes, and in the interest of creating more pedestrian-friendly places and avoiding sprawl, a town center is proposed.

The proposal, depicted in the drawing, is centered on Sam Duff Memorial Park, where the open space and walking trail become the centerpiece for the development. Chapman Highway is the focus for a vertical mix of uses, including sidewalk-oriented shops and restaurants with housing and offices above. Apartments and office buildings are located behind mixed-use development. In order to create a pedestrian-friendly feeling, a boulevard with street trees and a landscaped median have been created and parking is placed behind buildings. The restaurants have space for outdoor eating, including a plaza, leading to Sam Duff Park.

This is a long-range vision, which can be created incrementally by the adoption of mixed-use zoning and form-based codes for the area.

**SC-6: Chapman Highway District
(Lakeview Drive to Lindy Drive)**

Recommended Uses: Neighborhood oriented mixed use development including neighborhood commercial uses, and office uses consistent with a village setting. New buildings should be constructed close to the sidewalks to provide pedestrian access.

Rezoning Recommendations:

Interim = C-1, C-3, C-4, O-1

Long-term = Form-based zone

Transportation Improvements:

- Roadway design should be pedestrian-oriented
- Landscaping, pedestrian improvements, bike lanes, and design features such as on-street parking should be explored

Community Facility Improvements:

- Encourage better connection and public use of Butterfly Pond, similar to Fountain City Park



Proposal for Butterfly Pond: This neighborhood's character would be enhanced by turning the Butterfly Pond into a public amenity similar to Fountain City Park (pictured above). Since the residential areas are in easy walking distance from the commercial core, using the pond as a public amenity could serve as a catalyst for revitalization of the businesses in the Lake Forest area.

SC-7: Downtown Vestal District

Recommended Uses: Neighborhood oriented mixed use development including neighborhood commercial uses and office uses consistent with a village setting. New buildings should be constructed close to the sidewalks to provide pedestrian access. The area should implement the sustainability guidelines outlined in the Vestal Site Improvement Plan (see Appendix B).

Rezoning Recommendations:

Interim Zone = C-1, C-2, C-3, R-1, R1-A, R-2, O-1, O-2
 Long-term Zone = Form-based zone

Transportation Improvements:

- On-street and off-street parking should be shared by various land uses to maximize parking spaces
- New sidewalks, pedestrian signals, crosswalks, street trees, and lighting will enhance pedestrian movement throughout the area

Community Facility Improvements:

- Connections should be made to greenways and parks, including Mary Vestal and Charter E. Doyle Parks
- Development of a "history wall," celebrating the legacy of Vestal, including the marble and lumber industries

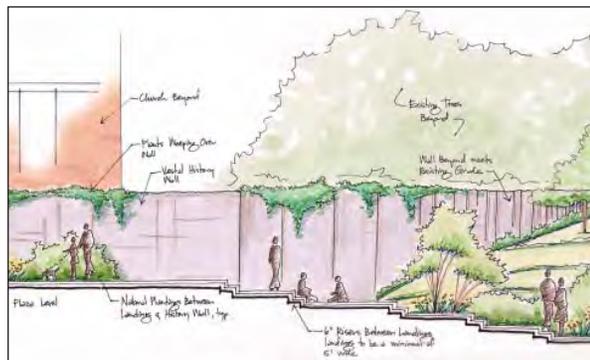


Concept renderings from the Vestal Site Improvement Plan

Top right: Site Plan

Bottom right: Cross Section of greenway

Below: History Wall



Maryville Pike Corridor

This corridor is an older industrial area that prospered when Vestal's lumber and marble industries were more prolific. Those industries relied more heavily on the railroad. Today the corridor is characterized by older industrial properties, some brownfields, vacant land, and vacant, underutilized, and deteriorating buildings.

A corridor plan is recommended to be developed as an outgrowth of this document to improve the corridor's economic vitality, safety, environment, and aesthetics. The plan should encompass both the city and county's jurisdictions westward to the rail underpass and address:

- Water quality by developing either a curb and gutter or swale system
- A strategy for consolidating parcels for economic development purposes
- Moody Avenue extension to Maryville Pike for needed connectivity
- Aesthetic improvements (for example, landscaping) and potential design overlay
- Land use and building location patterns
- An economic development strategy, such as establishing a redevelopment area
- Future rail corridor use (considering such concepts as light rail and/or improved freight rail and sidings if industrial revitalization is sought)



Underutilized parcels along Maryville Pike



From South Haven Neighborhood Model Block

Neighborhood Commercial on South Haven Road (between Price and Minnis Avenues) During the plan update process, MPC received a proposal from Suzanne McGee, who developed an

architecture thesis entitled *South Haven Neighborhood Model Block*. After analyzing the designs, MPC and citizens felt that the recommendations have significant merit and should be included in the plan, including the following concepts:

- Develop live/work units
- Encourage mixed use development
- Develop a mid-block greenway
- Encourage shared parking

South Haven Neighborhood

MPC has developed a draft residential zone that deals with smaller residential lots and this new tool is recommended for South Haven Neighborhood and other small lot residential neighborhoods within the sector. In addition, the existing low density residential areas west of South Haven Road should be rezoned to low density, instead of medium density zoning.

Community Facilities Plan

This portion of the plan is directed to public facilities that are needed for community growth and provided in a prudent manner in relation to the conservation of scenic, historical, and environmental assets.

Schools and Libraries

These facilities are well distributed in this sector and the anticipated growth trends do not point to the need for additional schools or libraries. The Knox County School Board and Knox County Library Board will concentrate on facility maintenance programs for the foreseeable future.

Parks, Greenways and Recreation Facilities

In 2009 the city and county adopted a comprehensive park plan. The South City Sector portion of that plan is presented below. During the course of sector plan meetings, only a few additions were suggested: a dog park and a wilderness trail connection along the ridge between William Hastie Natural Area and the proposed Smoky Mountain Railroad Greenway. The dog park, happily, is now slated for construction, and the trail connection has been added to both the park plan and the Green Infrastructure Plan.

Close-to-Home Parks

The National Recreation and Park Association (NRPA) recommends that communities meet a minimum standard of 6.25 acres of close to-home parks for every 1,000 people. In comparing that standard to the South City Sector's 2009 population (19,814), the sector is deficient by 25.3 acres. As subdivisions are created, a provision for neighborhood parks is a typical goal in most communities.

New Parks, Squares and Additions

The acquisition of space for new neighborhood parks (5 to 10 acres each) or squares and plazas (1 to 5 acres each) should be sought in the general vicinity of the proposed sites on the park plan map.

Park and Recreation Center Improvements

- **Cecil Webb Park:** Creation of a master plan to link Cecil Webb Park and Cecil Webb Recreation Center; consider an expanded open space system linking Dogwood Elementary and the old South Knoxville High School.
- **Sam Duff Memorial Park:** Improvements to the park should be based on the public process and master plan provided by the East Tennessee Community Design Center.
- **William Hastie Natural Area:** Provide natural surface trails that connect to the surrounding neighborhoods, Marie Myers Park, and Ijams Nature Center.

Greenways and Greenway Connectors

A greenway is an open space corridor marked by paved or unpaved paths that accommodate bicycle and pedestrian uses. Many greenways are located along creeks or rivers, providing users access to nature and an alternative means of transportation.

- **Baker Creek Greenway:** Connect to the proposed James White Parkway Greenway to Island Home Park and south to Mary James Park.
- **James White Greenway:** Include a separated greenway as part of roadway construction if the parkway is extended.
- **Smoky Mountain Railroad Greenway:** Follow the former railroad line, connecting South Waterfront with Charter E. Doyle Park and South Knoxville neighborhoods. Also, develop a connection to the William Hastie Natural Area.
- **South Waterfront Greenway and connected trails:** Extend the South Waterfront trail and create a natural surface trail from Ijams Nature Center through Marie Myers Park to William Hastie Natural Area.



Extension of the South Waterfront Greenway will provide a promenade along the river.

- **Greenway connectors:** Chapman Highway and Moody Avenue are the two major roads that should be improved to safely accommodate both pedestrians and bicyclists, where capable.

Green Infrastructure Plan

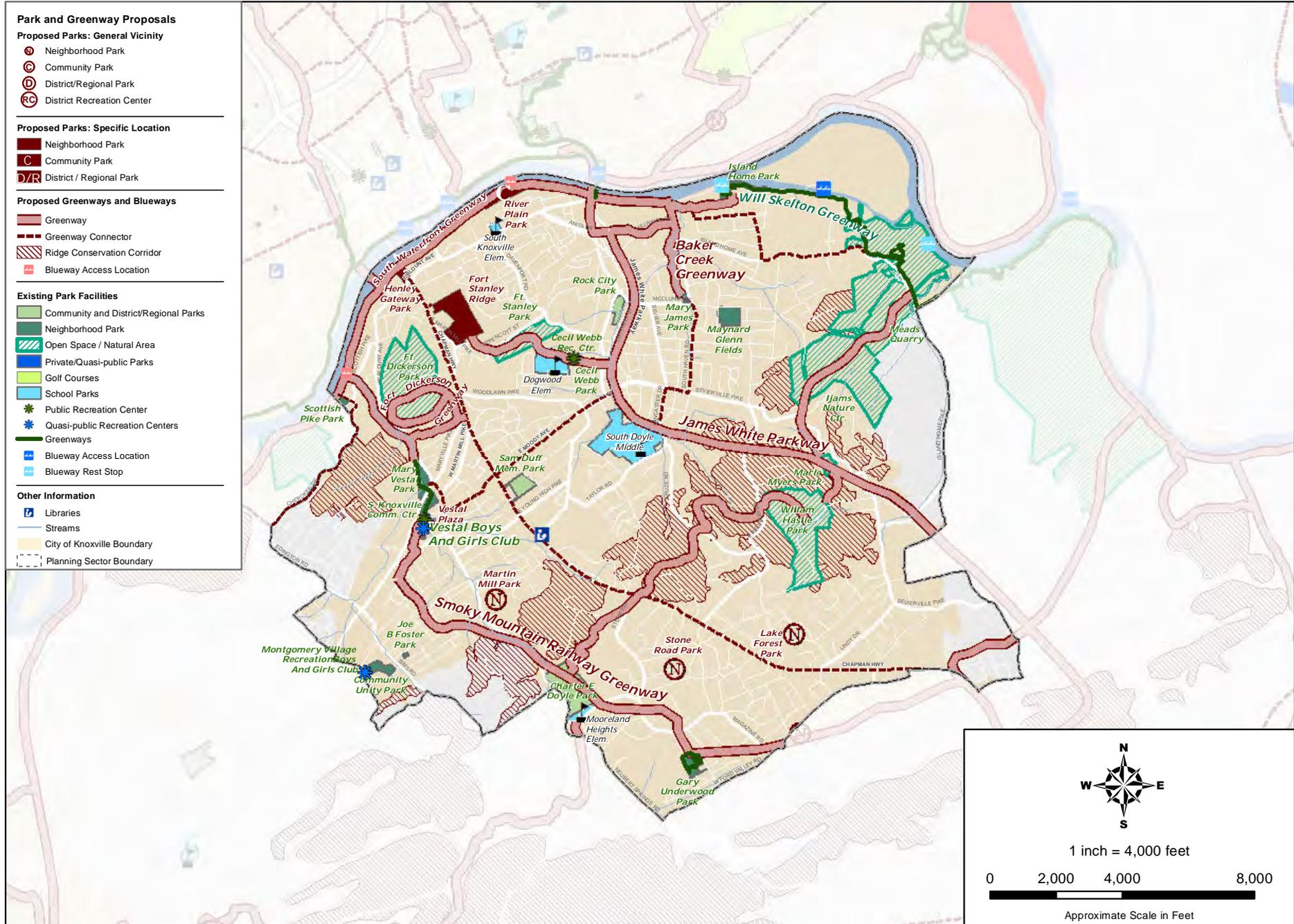
Green infrastructure represents the natural resources underpinning needed for environmental, social, economic sustainability, including existing parks, schools, natural areas, wooded hillsides, lakes, creeks, and existing and proposed greenways.

The Green Infrastructure Plan incorporates the green infrastructure components of the *Knoxville South Waterfront Vision Plan*, *Knoxville-Knox County Park, Recreation and Greenways Plan*, and Knoxville's Urban Wilderness and Historic Corridor initiative.

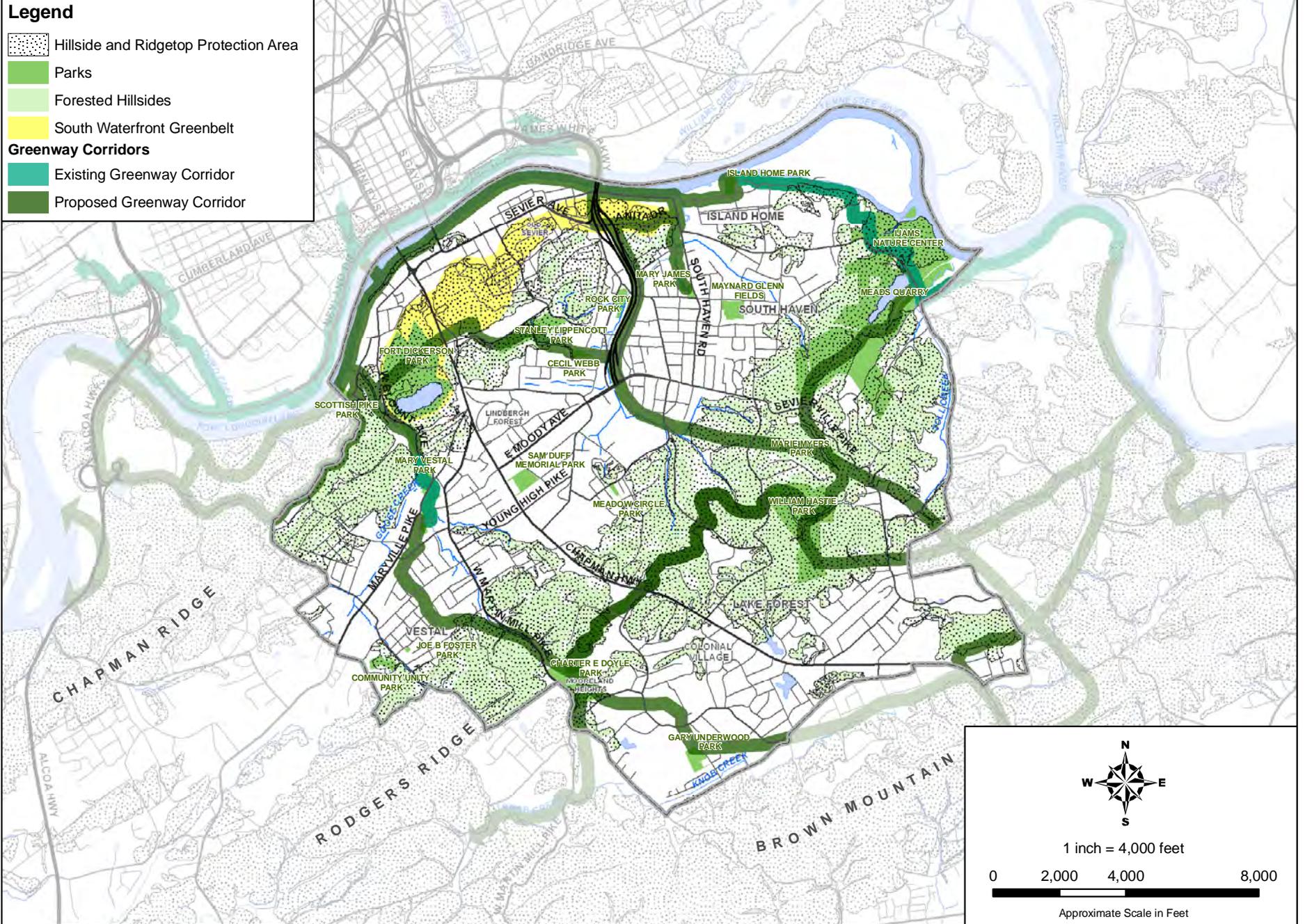
The implementation strategies are as follows:

- Support Legacy Park's Knoxville's Urban Wilderness and Historic Corridor initiative efforts as a means of connecting the green infrastructure assets as a high priority
- Any new community facilities (parks, greenways, schools, or libraries) should be connected to the Urban Wilderness and Historic Corridor
- Conserve the wooded hillsides, which help maintain our natural ridge system
- Protect the area's watershed system
- Preserve the historic fort areas
- Connect the Urban Wilderness and Historic Corridor beyond the sector plan limits into the South County Sector Plan area
- Preserve the South Waterfront Greenbelt that forms a forested backdrop to the waterfront. As a greenbelt, the area should be conserved as development along the lake and on the slopes transpires. Beyond its scenic beauty, this resource protects air and water quality, and adds value to existing and future development.

South City Sector: Park, Greenway and Community Facilities Plan



South City Sector: Green Infrastructure Plan



Transportation Plan

The transportation recommendations are based on previously adopted plans and studies, including the *Knoxville Regional Mobility Plan 2009 - 2034*, MPC's and TDOT's Chapman Highway studies, the *Knoxville South Waterfront Vision Plan*, and many of the proposals of the 2002 *South City Sector Plan*. The South City Sector portion of the *Mobility Plan* is presented on the following page. During the course of public meetings, changes were not suggested to this plan map.

Prior to implementation of the following proposed projects, there should be opportunities for additional public input to address issues of impacts related to adjacent land use, neighborhood protection, and environmental and cultural resource protection. These are principles that are important in developing a sustainable transportation system. It is vital to develop and maintain a transportation network that is accessible, provides mobility to all residents, and does not adversely impact the environment. To meet these goals this plan recommends several implementation tools such as conservation corridors, complete streets, and greenway connectors. The complete streets principles should guide all future roadway projects.

Complete Streets

Complete streets are designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists and transit riders of all ages and abilities are able to safely move along and across a complete street.

Considerations for more detailed road designs include:

- Chapman Highway
- Proposed Moody Avenue extension to Maryville Pike
- South Waterfront Road Improvements
- Ogle Avenue and Martin Mill Pike Intersection
- Hillwood Avenue

In addition, several roads and intersections are overly congested, resulting in safety issues. These areas need to be improved and designed as complete streets.

The congested intersections include:

- E. Moody Avenue/Chapman Highway
- Sevier Avenue/Chapman Highway
- Colonial Drive/Chapman Highway

The Ogle Avenue and Maryville Pike intersection has high crash rates.



The Ogle Avenue intersection at Maryville Pike causes an awkward traffic movement

Congested road sections include:

- Chapman Highway, Martin Mill Pike
(between Chapman Highway and Ogle Avenue)
- Ogle Avenue, Maryville Pike
(south of the Ogle Avenue intersection)

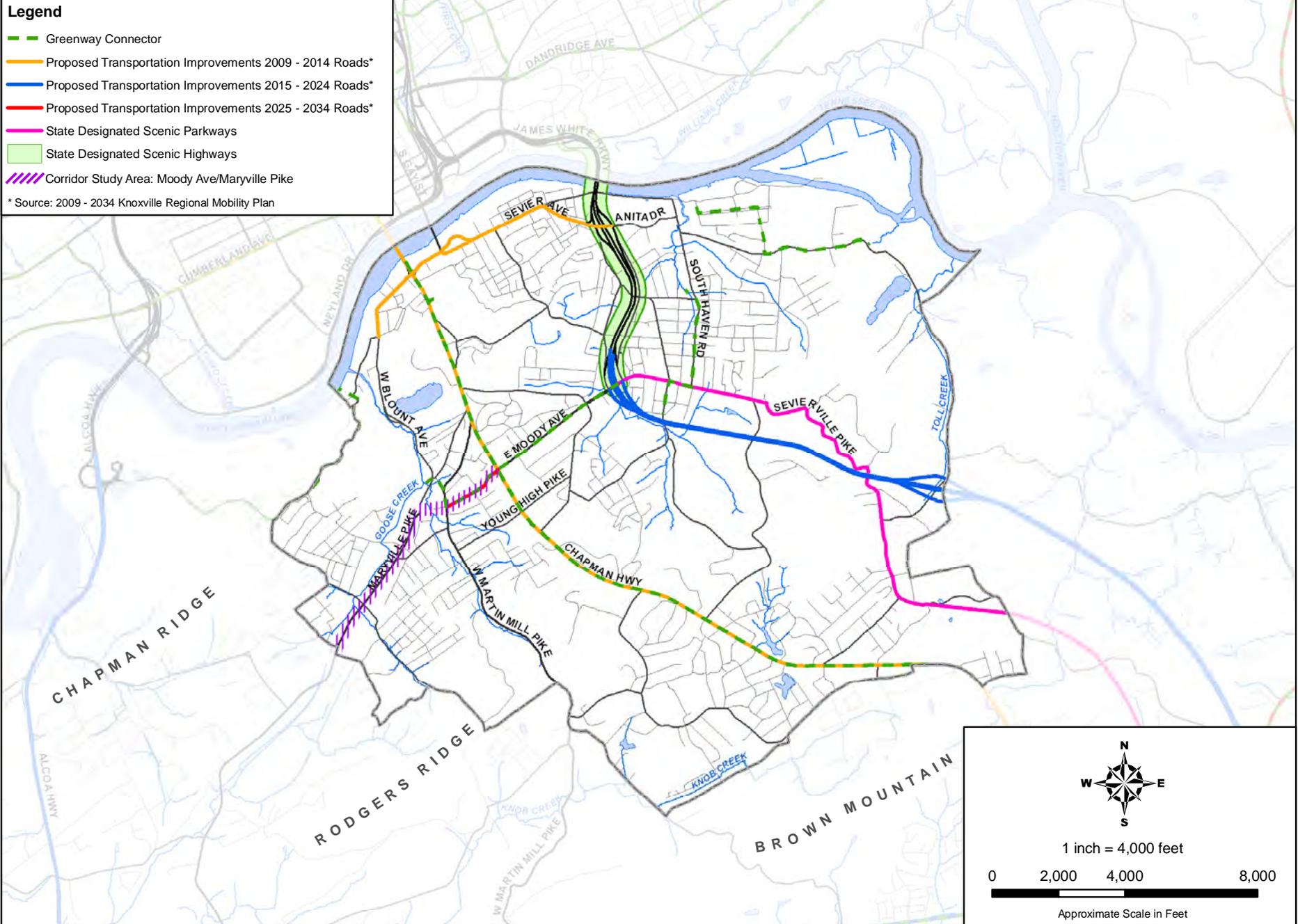
These areas need to be upgraded and improved as complete streets.

Potential Corridor Plan Study Area

While no changes are recommended to the *Mobility Plan*, Moody Avenue-Maryville Pike is depicted as a "Potential Corridor Plan Study Area." The intent of this future study should be to link transportation improvements with revitalization and economic development, particularly in the Maryville Pike industrial corridor. The lack of a straight-forward

linkage to James White Parkway is very apparent and the railroad underpass farther west on Maryville Pike is yet another impediment (adding to the lack of a good connection to John Sevier and Alcoa Highways). On page 27, the concepts for a Maryville Pike improvement program are recommended.

South City Sector: Planned Roadway Improvements



Section 3:

The Five and Fifteen Year Improvement Plans

The Improvement Plan recommends projects and programs to be implemented for the first five and the next ten years following plan adoption. The 5-Year Plan should be reviewed annually in preparing capital improvement programs.

Project or Program	5-Year	15-Year	Responsible Agency
Land Use			
Develop a form-based code for five special districts: Downtown Vestal, an addition to the South Waterfront, and three areas along Chapman Highway	X		City/MPC
Pursue general re-zonings and OneYear Plan amendments in areas where inconsistencies exist within the sector plan	X		City/MPC
Pursue implementation of the Waterfront Plan and partner with private development for any needed public improvements	X	X	City
Develop a Maryville Pike corridor study that looks at transportation improvements, brownfield strategies, land use and other improvements to enhance the corridor economically and environmentally	X		City/MPC/ Development Corp.
Adopt a new zoning district that creates small lot development standards to be utilized in older neighborhoods such as South Haven	X		City/MPC
Develop a highway overlay to be used along Maryville Pike to improve safety and aesthetics		X	City/MPC
Continue brownfield assessment of South Waterfront properties and look for expanded opportunities along the Maryville Pike corridor	X	X	City
Transportation			
Implement improvements in the <i>Chapman Highway Corridor Improvement Study</i> conducted by the Tennessee Department of Transportation	X		City/TDOT
Implement road improvements in the <i>Vestal Redevelopment Plan</i> for the area immediately surrounding the Ogle Avenue/Martin Mill Pike intersection	X		City/TDOT
Develop new road cross sections for Chapman Highway that complement the intent of the proposed form-based code areas found within this plan		X	City/TDOT
Develop a pedestrian/bicycle bridge to span the Tennessee River from the South Waterfront to the University of Tennessee's Thompson-Boling Arena.	X		City/UT
Extend Moody Avenue from Chapman Highway to Maryville Pike		X	City/TDOT
Improve Hillwood Drive from James White Parkway to Island Home Avenue	X		City
Extend James White Parkway to Chapman Highway (depending on TDOT's Environmental Impact Statement)		X	TDOT
Build New Sidewalks: <ul style="list-style-type: none"> • Chapman Highway from Blount Avenue to city limits in conjunction with the preparation of TDOT's Transportation Planning Report • Blount Avenue from Chapman Highway to Maryville Pike • Martin Mill Pike from Maryville Pike to Neubert Springs Road • Neubert Springs Road from Martin Mill Pike to Oliver Road • Magazine Road from Oliver Road to Martin Mill Pike • Woodlawn Pike between Chapman Highway and Galbraith School Road • Young High Pike between Woodlawn Pike and Higgins Avenue • Higgins Avenue between Young High Pike and Martin Mill Pike • Lippencot Street between Chapman Highway and Davenport Road • Baker Avenue from Sevier Avenue to Moody Avenue • Sevier Avenue from James White Parkway to Tilson Street 		Sidewalks should be added when new development or redevelopment occurs along or within the proposed street segments.	City

Project or Program	5-Year	15-Year	Responsible Agency
Parks & Recreation			
Implement the Urban Wilderness and Historic Corridor initiative	X		City/Legacy Parks
Acquire space for new neighborhood parks (5 to 10 acres each) or squares and plazas (1 to 5 acres each) in the general vicinity of the proposed sites on the parks plan map		X	City
Cecil Webb Park: Create a master plan to link Cecil Webb Park and Cecil Webb Recreation Center; consider an expanded open space system linking Dogwood Elementary and the old South Knoxville High School		X	City
Sam Duff Memorial Park: Further consider design with form-based code, building on the Master Plan developed by the East Tennessee Community Design Center		X	City
William Hastie Natural Area: Continue the natural surface trail to connect surrounding neighborhoods, Marie Myers Park, and Ijams Nature Center	X		City
Extend the James White Greenway – Also, include a separated greenway as part of roadway construction if the parkway is extended further into South Knoxville and construct the greenway to connect to South Doyle Middle School		X	City
Build Baker Creek Greenway: Connect to the proposed James White Greenway extension to Island Home Park and south to Mary James Park		X	City
Build Smoky Mountain Railroad Greenway: Follow the former railroad line, connecting South Waterfront with Charter E. Doyle Park, South Knoxville neighborhoods, and the William Hastie Natural Area	X	X	City
Build greenway connectors: Chapman Highway and Moody Avenue are the two major roads that should be improved to safely accommodate both pedestrians and bicyclists where capable		X	City
Extend the South Waterfront Greenway (Riverwalk) and connected trails to the Island Home neighborhood	X		City
Improve access to Fort Dickerson Park	X		City
Connect to the proposed Knox-Blount Greenway	X		City

APPENDIX A: Land Use Classifications

AGRICULTURAL and RURAL RESIDENTIAL LAND USE CLASSIFICATIONS		
<p>Agricultural (AG) and Agricultural Conservation (AGC) This includes farmland in the county's Rural Area as designated in the Growth Policy Plan. Undeveloped tracts with the best soils for agriculture are considered as the primary areas for agricultural conservation (AGC). Agricultural land uses are not generally recommended in the City of Knoxville, nor in the County's Planned Growth Area.</p>		
<p>Location Criteria:</p> <ul style="list-style-type: none"> Farmland in the Rural Area as designated in the Growth Policy Plan Land where soils are designated as prime or locally important by the U.S. Department of Agriculture are considered for agricultural conservation (AGC) 	<p>Recommended Zoning and Programs: County's Rural Area: A new zone AC (Agricultural Conservation) is proposed for Agricultural Conservation (AGC) areas, allowing agriculture and one dwelling unit per 30 acres, minimum. (Note: This density will require a change to the zoning ordinance.) Additionally, conservation easement and related programs should be considered to preserve prime farmland.</p>	<p>Other Zoning to Consider: A or PR @ densities of one dwelling unit per acre where dwellings are clustered in one portion of a subdivision.</p>
<p>Rural Residential (RR) Very low density residential and conservation/cluster housing subdivisions are typical land uses.</p>		
<p>Location Criteria:</p> <ul style="list-style-type: none"> Rural areas characterized as forested (tree covered), especially on moderate and steep slopes Sites adjacent to agricultural areas (AG or AGC) where conservation/cluster housing subdivisions may be appropriate 	<p>Recommended Zoning and Programs: County's Rural Area: OS, E, RR (Rural Residential, a new zone with densities of one dwelling unit per acre or less), or PR @ densities of one dwelling unit per acre where dwellings may be clustered in one portion of a subdivision</p>	<p>Other Zoning to Consider: A in the Growth Plan's Rural Area</p>
RESIDENTIAL LAND USE CLASSIFICATIONS		
<p>Traditional Neighborhood Residential (TDR) This land use is primarily residential and is characterized by neighborhoods where a mix of detached and attached houses, sidewalks, smaller lots and alleys have typically been or are to be created. Densities in the range of 4 to 8 dwelling units per acre are typical.</p>		
<p>Location Criteria:</p> <ul style="list-style-type: none"> Neighborhoods like those in the 'Heart of Knoxville' where lots are typically less than 50 feet wide, and usually have sidewalks and alleys. This area is essentially the 19th and early 20th century grid street neighborhoods, mostly located within the I-640 beltway. City's Urban Growth Area or county's Planned Growth Areas where neighborhood or community mixed use development is identified (see Mixed Use and Special Districts section) 	<p>Recommended Zoning and Programs: City: R-1A or RP-1 [with an Infill Housing (IH-1), Neighborhood Conservation (NC-1) or Historic (H-1) Overlay]; TND-1; and new residential zone(s), based on lot sizes less than 7,500 square feet County's Planned Growth Area: PR and new TND zoning.</p>	<p>Other Zoning to Consider: City: R-1, R-1A and RP-1 (without overlays), R-2 County's Planned Growth Area: RA, RB and PR (with conditions for sidewalks, common open spaces and alleys)</p>

RESIDENTIAL LAND USE CLASSIFICATIONS . . . continued

Low Density Residential (LDR)

This type of land use is primarily residential in character at densities of less than 6 dwelling units per acre (dus/ac). Conventional post-1950 residential development (i.e. large-lot, low-density subdivisions) and attached condominiums are typical.

<p>Location Criteria:</p> <ul style="list-style-type: none"> • Land served by water and sewer utilities and collector roads • Slopes less than 25 percent 	<p>Recommended Zoning and Programs:</p> <p>City: R-1, R-1E and RP-1 at less than 6 dus/ac and new residential zones based on lot sizes greater than 7,500 square feet and 75 feet or greater frontage.</p> <p>County's Planned Growth Area: RA, RAE and PR at less than 6 dus/ac.</p>	<p>Other Zoning to Consider:</p> <p>City: R-1A and A-1</p> <p>County: A and RB</p>
--	--	---

Medium Density Residential (MDR)

Such land uses are primarily residential at densities from 6 to 24 dwelling units per acre (city) and 6 to 12 (county). Attached houses, including townhouses and apartments are typical. Mobile home parks are another form of this land use.

<p>Location Criteria:</p> <ul style="list-style-type: none"> • As transitional areas between commercial development and low density residential neighborhoods • On land with less than 15 percent slopes • Along corridors that are served by or proposed to be served by transit, with densities proposed to be above 12 dwelling units per acre and to be served by sidewalks 	<p>Recommended Zoning and Programs:</p> <p>City: R-2, R-3 and R-4 (within the 'Heart of Knoxville' area such zoning should be accompanied by an IH-1, NC-1 or H-1 overlay); otherwise, R-1A, RP-1, RP-2 or RP-3. Densities above 12 dus/ac should be within ¼ mile of transit service with sidewalk connections to transit service.</p> <p>County's Planned Growth Area: PR, densities above 12 dus/ac should be within ¼ mile of transit service with sidewalk connections to transit service; RB at 6 or more dus/ac may be considered with use on review. (Note: This proposed 6 dus/ac threshold for use on review will require a zoning ordinance change.)</p>	<p>Other Zoning to Consider:</p> <p>City's Urban Growth Boundary: R-2, R-3 and R-4</p>
---	--	---

High Density Residential (HDR)

This land use is primarily characterized by apartment development at densities greater than 24 dwelling units per acre.

<p>Location Criteria:</p> <ul style="list-style-type: none"> • On major collector and arterial streets, adjacent to regional shopping and major office districts (office sites allowing four or more stories); these sites must be identified in sector or small area plans • Within the CBD or its adjacent areas, such as portions of the Morningside community • On relatively flat sites (slopes less than 10 percent) • Along corridors with transit and sidewalks 	<p>Recommended Zoning and Programs:</p> <p>City: C-2, RP-2 and RP-3, and new form-based codes (e.g. South Waterfront). R-3 and R-4 (with an IH-1, NC-1 or H-1 overlay in the 'Heart of Knoxville' area)</p>	<p>Other Zoning to Consider:</p> <p>TC-1 and TC (where higher density residential is part or a mixed-use project)</p>
--	--	--

RESIDENTIAL LAND USE CLASSIFICATIONS . . . continued

Medium Density Residential/Office (MDR/O)

Office and medium residential uses typically have similar development characteristics: scale of buildings, areas devoted to parking, yard spaces and location requirements (on thoroughfares). In areas designated MU-MDR/O, either use can be created. These uses provide a buffer to low density residential areas, particularly when located adjacent to a thoroughfare or as a transition between commercial uses and a neighborhood.

Location Criteria:	Recommended Zoning and Programs:	Other Zoning to Consider:
<ul style="list-style-type: none"> • See Medium Density Residential (MDR) criteria 	City: RP-1, RP-2, RP-3 County: PR	City: O-1, O-2 County: OB

OFFICE and BUSINESS/TECHNOLOGY LAND USE CLASSIFICATIONS

Office (O)

This land use includes business and professional offices and office parks.

Location Criteria:	Recommended Zoning and Programs:	Other Zoning to Consider:
<ul style="list-style-type: none"> • Low intensity business and professional offices (less than three stories) may be transitional uses from commercial or industrial uses to neighborhoods • Generally level sites (slopes less than 15 percent) • Access to major collector or arterial streets, particularly within one-quarter mile of such thoroughfares • Highest intensity office uses (development that is four or more stories), should be located in close proximity to arterial/freeway interchanges or be served by transit 	City: O-1, O-2, O-3, or a new office zone that requires site plan review County's Planned Growth Area: OA, OC, PC (with covenants) or a new office park zone that requires site plan review	In areas that are identified in sector plans exclusively as office land uses, OB.

Technology Park (TP)

This land use primarily includes offices and research and development facilities. The target area for such development has been the Pellissippi Technology Corridor. Additional districts could be created in other areas of the city or county. The development standards that are adopted by the Tennessee Technology Corridor Development Authority should be used for such districts.

Location Criteria:	Recommended Zoning and Programs:	Other Zoning to Consider:
<ul style="list-style-type: none"> • Within the Technology Corridor or subsequent areas designated for Technology Park development • Sites near freeway interchanges or along major arterials • Water, sewer and natural gas utilities available 	City: BP-1 County's Planned Growth Area: BP and PC (with covenants limiting uses to research/development)	EC (with limitations to require office and research/development uses)

RETAIL and RELATED SERVICES LAND USE CLASSIFICATIONS

Rural Commercial (RC)

This classification includes retail and service-oriented commercial uses intended to provide rural communities with goods and services that meet day-to-day and agricultural-related needs.

Location Criteria:	Recommended Zoning and Programs:	Other Zoning to Consider:
<ul style="list-style-type: none"> • At the intersection of two thoroughfares (arterial or collector roads) • Rural commercial nodes should generally not exceed more than 300 feet in depth and lots and not extend more than 300 feet away from the intersection 	County's Rural Area: CR PC as provided in Growth Policy Plan	CN

RETAIL and RELATED SERVICES LAND USE CLASSIFICATIONS . . . continued

Neighborhood Commercial (NC)

This classification includes retail and service-oriented commercial uses intended to provide goods and services that serve the day-to-day needs of households, within a walking or short driving distance. Neighborhood commercial uses may also be accommodated within neighborhood centers (see Mixed Use and Special Districts).

<p>Location Criteria:</p> <ul style="list-style-type: none"> • Generally located at intersections of collectors or arterial streets at the edge of or central to a neighborhood • New NC should not be zoned for or developed within ½ mile of existing commercial that features sales of day-to-day goods and services • Automobile-oriented uses (e.g. gas stations or convenience stores) should be located on arterial street at the edge of neighborhood • Should not exceed the depth of the nearby residential lots and not extend more than a block (typically no more than 300 feet) away from the intersection 	<p>Recommended Zoning and Programs:</p> <p>City: C-1 County's Planned Growth Area: CN</p>	<p>Other Zoning to Consider:</p> <p>SC-1</p>
---	--	---

Community Commercial (CC)

This land use includes retail and service-oriented development, including shops, restaurants, and what has come to be known as "big box" retail stores; typical service area includes 20,000 to 30,000 residents. Community commercial uses may also be considered within community centers (see Mixed Use and Special Districts).

<p>Location Criteria:</p> <ul style="list-style-type: none"> • Locate at intersection of arterial streets • Sites should be relatively flat (under 10 percent slope) and with enough depth to support shopping center and ancillary development. • Vehicular and pedestrian connections should be accommodated between different components of the district (e.g. between stores, parking areas and out-parcel development) • Infrastructure should include adequate water and sewer services, and major arterial highway access • Community commercial centers should be distributed across the city and county in accordance with recommended standards of the Urban Land Institute 	<p>Recommended Zoning and Programs:</p> <p>Because of traffic and lighting impacts (potential glare) and buffering needs of surrounding interests, 'planned zones' should be used.</p> <p>City: SC-2, PC-1 and PC-2. County's Planned Growth Boundary: PC or SC</p>	<p>Other Zoning to Consider:</p> <p>As infill development within areas already zoned C-3, C-4, C-5 and C-6 (City), and CA, CB and T (County)</p>
---	--	---

RETAIL and RELATED SERVICES LAND USE CLASSIFICATIONS . . . continued

Regional Commercial (RS)

This land use includes retail and service-oriented development that meets the needs of residents across Knox County and surrounding areas. Development typically exceeds 400,000 square feet; malls have been a typical form and 'life-style centers' (e.g. Turkey Creek) are examples of regional-oriented commercial uses. Regional commercial uses may also be considered in Regional Centers (see Mixed Use and Special Districts).

<p>Location Criteria:</p> <ul style="list-style-type: none"> • Flat sites (under 10 percent slope) • Locate near interstate interchanges with major arterial highway access • Water, sewer, gas and stormwater systems should be capable of handling the development • Vehicular and pedestrian connections should be accommodated between components of the development 	<p>Recommended Zoning and Programs:</p> <p>Because of the magnitude of the traffic and environmental impacts, planned zones should be used.</p> <p>City: SC-3, PC-1 and PC-2</p> <p>County's Planned Growth Boundary: PC</p>	<p>Other Zoning to Consider:</p> <p>As infill development within areas already zoned C-3, C-4, C-5 in the City CA, CB and SC in the County</p>
---	---	---

General Commercial (GC)

This category includes previously developed strip commercial corridors providing a wide range of retail and service-oriented uses. Such land use classification and related zoning should not be extended because of the adverse effects on traffic-carrying capacity, safety and environmental impacts. Redevelopment of commercial corridors, including mixed use development, should be accommodated under planned or design-oriented zones.

<p>Location Criteria:</p> <ul style="list-style-type: none"> • Existing commercial areas 	<p>Recommended Zoning and Programs:</p> <p>City: C-6 and PC-1</p> <p>County's Planned Growth Area: PC</p> <p>New corridor design overlays when designated as special districts (see Mixed Use and Special Districts)</p>	<p>C-3, C-4, C-5, SC-1, SC, CA and CB for infill commercial development in areas previously zoned for commercial uses</p>
--	---	---

MIXED USE and SPECIAL DISTRICTS

There are several types of mixed-use areas: neighborhood, community and regionally-scaled districts and urban corridors. Mixed Use areas can be developed with higher intensity uses because of infrastructure and ability to sustain alternative modes of transportation. Development plan review is crucial. These areas should typically be created with sidewalks. Shared parking may be considered. Automobile and truck-dependent uses, such as heavy industrial, distribution and highway-oriented commercial uses should not be located in neighborhood, community and regional mixed-use centers. There are likely to be several distinctions between types of mixed use designations. Each Sector Plan and the One Year Plan will have a separate section which outlines the intent of each mixed use district and the development criteria for the district.

1. Neighborhood Mixed Use Center (MU-NC)

These are the least intense of the proposed mixed use districts. Residential densities of 5 to 12 dus/ac are appropriate within the area. Locations at the intersection of a local street and thoroughfare are generally most appropriate. The surrounding land uses should primarily be planned for low or medium density residential. The buildings of these centers should be designed with a residential character and scale to serve as a complement to the surrounding neighborhoods.

<p>Location Criteria:</p> <ul style="list-style-type: none"> • Flat terrain (slopes generally less than 10 percent) • Currently served by or planned to be served by sidewalks • The location does not include auto and truck-oriented uses such as industrial, strip commercial and warehouse/ distribution uses unless the proposal calls for a redevelopment of such areas • At the intersection of a local street and throughfare • Next to low or medium density residential 	<p>Recommended Zoning and Programs:</p> <p>TND-1</p>	<p>Other Zoning to Consider:</p> <p>Other form- or design-based codes</p>
---	---	--

2. Community Mixed Use Center (MU-CC)

These centers are envisioned to be developed at a moderate intensity with a variety of housing types (8 to 24 dus/ac). The core of the district, with its predominant commercial and office uses, should be within ¼ mile of the higher intensity residential uses (such as townhouses and apartments). The district should be located within a ¼-mile radius of an intersection of the thoroughfare system (a collector/arterial or arterial/arterial intersection). In addition to sidewalks, the district should be served by transit. Redevelopment of vacant or largely vacant shopping centers are considerations for these centers.

<p>Location Criteria:</p> <ul style="list-style-type: none"> • Flat terrain (slopes generally less than 10 percent) • Areas currently served by or planned to be served by sidewalks • The location does not include auto and truck-oriented uses such as industrial, strip commercial and warehouse/distribution uses unless the proposal calls for a redevelopment of such areas • Within a ¼-mile radius of an intersection of the thoroughfare system (a collector/arterial or arterial/arterial intersection) • Commercial/office core should be within ¼ mile of the higher intensity residential uses (e.g. townhouses and apartments) • Areas currently served by or planned to be served by sidewalks and transit services 	<p>Recommended Zoning and Programs: TC-1, TC</p>	<p>Other Zoning to Consider: Other form- or design-based codes</p>
--	---	---

3. Regional Mixed Use Center (MU-RC)

These are envisioned to be highest intensity mixed use centers. These districts should be served by sidewalk and transit systems and be located on a major arterial, adjacent to an Interstate highway or adjacent to downtown. Housing densities in the core of such districts can be 24 or more dus/ac. Downtown Knoxville's Central Business District is a regional mixed use center.

<p>Location Criteria:</p> <ul style="list-style-type: none"> • Flat terrain (slopes generally less than 10 percent) • Currently served by or planned to be served by sidewalks • The location does not include auto and truck-oriented uses such as industrial, strip commercial and warehouse/distribution uses unless the proposal calls for a redevelopment of such areas • On a major arterial, adjacent to an interstate highway or adjacent to downtown 	<p>Recommended Zoning and Programs: C-2 in the Central Business District (Downtown); an adaptation of C-2 for the 'Downtown North' area (Central City Sector); TC-1, TC or new form-based codes (and regulating plans) for other community and regional centers</p>	<p>Other Zoning to Consider: Other form- or design-based codes</p>
--	--	---

4. Urban Corridor Mixed Use (MU-UC)

Several street corridors within the city have potential for redevelopment with a mix of retail, restaurants, office and residential uses. Commercial cores should be created at points (nodes) along these corridors, allowing a vertical mix of uses (for example, shops at ground level and apartments above); such nodes should not be more than four blocks long.

<p>Location Criteria:</p> <ul style="list-style-type: none"> • Corridors should have sidewalks, transit services, street trees and related beautification • Capable of sustaining on-street parking along corridor or along side streets 	<p>Recommended Zoning and Programs: City: form-based or design-based codes (e.g. South Waterfront)</p>
---	---

MIXED USE and SPECIAL DISTRICTS . . . continued

5. Special Mixed Use District (MU with reference number)

These can include designations to address urban design, pedestrian and transit-oriented development and vertical mixed use in designated areas. The areas may include older portions of the city or county where redevelopment and/or preservation programs are needed for revitalization purposes.

<p>Location Criteria:</p> <ul style="list-style-type: none"> • Case-by-case analysis is recommended 	<p>Recommended Zoning and Programs: TND-1, TC-1, TC, especially in greenfield areas, or form-based or designed-based codes as noted in the Sector Plan and One Year Plan for each of these districts.</p>
---	--

6. Special Corridors (CD with reference number)

These can include designations to address urban design and environmental concerns along commercial or industrial corridors (where overlays for aesthetic reasons or sidewalks may be recommended, like the Chapman Highway corridor). Other potential corridor designation could include rural/farmland conservation areas.

<p>Location Criteria:</p> <ul style="list-style-type: none"> • Case-by-case analysis is recommended 	<p>Recommended Zoning and Programs: Should be noted in the Sector Plan and One Year Plan for each of these districts.</p>
---	--

INDUSTRIAL AND WAREHOUSE/DISTRIBUTION LAND USE CLASSIFICATIONS

Light and Heavy Industrial (LI and HI) and Mining (HIM)

These classifications are typically used to identify older industrial areas, which were intended for manufacturing, assembling, warehousing and distribution of goods. Light industrial uses include such manufacturing as assembly of electronic goods and packaging of beverage or food products. Heavy industrial uses include such processes used in the production of steel, automobiles, chemicals, cement, and animal by-products and are viewed as clearly not compatible with areas designated for residential, institutional, office and retail uses. Quarry operations and asphalt plants are a particular form of heavy industrial, generally located in rural areas.

<p>Location Criteria:</p> <ul style="list-style-type: none"> • Existing industrial areas • Within one mile of an interstate interchange with access via standard major collector or arterial streets 	<p>Recommended Zoning and Programs: City: I-1, I-2, I-3 and I-4 (infill development, using those zones, may be appropriate); C-6, PC-2 and a new planned, industrial zone, that requires site plan review, may be warranted to address environmental and transportation issues and surrounding community concerns. County's Planned Growth Boundary: LI; EC zone should be used in future development</p>	<p>Other Zoning to Consider: County: I (Industrial) zoning should be used in cases involving rezonings to accommodate mining activities and should be accompanied by buffering and other conditions to protect adjacent property owner. PC, LI, I and CB may be considered for infill industrial development.</p>
---	--	---

Business Park (BP) Type 1

Primary uses are light manufacturing, office and regionally-oriented warehouse/distribution services in which tractor-trailer transportation is to be a substantial portion of the operations. A zoning category which requires site plan review is expected in the development or redevelopment of such areas. Site plans shall address landscaping, lighting, signs, drainage, and other concerns that are raised in the rezoning process. Substantial landscaped buffers are expected between uses of lesser intensity, particularly residential, office and agricultural uses.

<p>Location Criteria:</p> <ul style="list-style-type: none"> • Relatively flat sites (predominant slopes less than 6 percent) out of floodplains • Relatively large sites (generally over 100 acres) • Away from low and medium density areas or where truck traffic would have to go through such areas • Areas with freeway and arterial highway access (generally within two miles of an interchange) • Rail access is a consideration • Can be served with sanitary sewer, water and natural gas 	<p>Recommended Zoning and Programs: City: I-1, C-6, PC-2 or a new Planned Industrial Park zone County's Planned Growth and Rural Areas: EC</p>	<p>Other Zoning to Consider: PC</p>
---	---	--

INDUSTRIAL AND WAREHOUSE/DISTRIBUTION LAND USE CLASSIFICATIONS . . . continued

Business Park (BP) Type 2:

Primary uses are light manufacturing, offices, and locally-oriented warehouse/distribution services. Retail and restaurant services, which are developed primarily to serve tenants and visitors to the business park can be considered. A zoning category which requires site plan review is expected in the development or redevelopment of such areas. Site plans must include provisions for landscaping, lighting and signs. Substantial landscaped buffers are necessary between uses of lesser intensity, particularly residential, office and agricultural uses.

<p>Location Criteria:</p> <ul style="list-style-type: none"> • Relatively flat sites (predominant slopes less than 6 percent) out of floodplains • Relatively large sites (generally over 100 acres) • Away from low and medium density areas or where truck traffic would have to go through such areas • Freeway and arterial highway access (generally within two miles of an interchange) • Rail access is a consideration • Sites that can be served with sanitary sewer, water and natural gas 	<p>Recommended Zoning and Programs: City: I-1, C-6, PC-2 or a new Planned Industrial Park zone</p> <p>County's Planned Growth and Rural Areas: EC</p>	<p>Other Zoning to Consider: PC</p>
---	---	---

PARK, PUBLIC INSTITUTIONAL, OTHER OPEN SPACE & ENVIRONMENTAL PROTECTION LAND USE CLASSIFICATIONS

Public Parks and Refuges (PP)

This land use classification contains existing parks, wildlife refuges or similar public or quasi-public parks, open spaces and greenways. It also contains quasi-public spaces, which are owned by civic or related organizations. Location criteria is not needed relative to large components of the park system, like community, district and regional parks and refuges; these areas are generally established through capital expenditures or land transfers from state or federal governments.

<p>Location Criteria:</p> <ul style="list-style-type: none"> • Neighborhood parks, squares and commons should be within ¼ mile of residents in the traditional residential areas (particularly the 'Heart of Knoxville') and within ½ mile of residents within the balance of the city and county's Planned Growth area. • Greenways should be located along or within the flood plains of streams and rivers/reservoirs. Other potential locations include ridges and utility corridors. 	<p>Recommended Zoning and Programs: City: OS-1</p> <p>County's Planned Growth and Rural Area: OS, E and OC</p> <p>A new zone should be created to designate parks, schools and similar institutional lands for both city and county jurisdictions.</p>	<p>Other Zoning to Consider: Other zones that allow parks and open space as permitted uses.</p>
--	--	---

Civic/Institutional (CI)

Land used for major public and quasi-public institutions, including schools, colleges, the university, churches, correctional facilities, hospitals, utilities and similar uses.

<p>Location Criteria:</p> <ul style="list-style-type: none"> • Existing public uses, other than parks and greenways • Quasi-public uses of two acres or more 	<p>Recommended Zoning and Programs: City and County: New zoning categories for such uses or continue to use conventional zones (e.g. O-1, O-2 and OC)</p>	<p>Other Zoning to Consider: Other zones that allow civic/institutional as permitted uses.</p>
---	---	--

Other Open Space (OS)

Land uses include cemeteries, private golf courses, and similar uses.

<p>Location Criteria:</p> <ul style="list-style-type: none"> • Existing cemeteries, private golf courses and private open spaces 	<p>Recommended Zoning and Programs: City: OS-1 and a new zone created to designate parks, schools and similar institutional lands County's Planned Growth and Rural Area: OS, E and OC</p>	<p>Other Zoning to Consider: A-1, and A</p>
--	---	---

PARK, PUBLIC INSTITUTIONAL, OTHER OPEN SPACE & ENVIRONMENTAL PROTECTION LAND USE CLASSIFICATIONS . . . continued

Hillside/Ridge Top Protection Areas (HP)

This classification is used to identify hillsides, ridges and similar features that have a slope of 15 percent or more. Open space, recreation land or very low density housing (one dwelling unit per two acres) is recommended for slopes exceeding 25 percent. For slopes of 15 to 25 percent, housing densities should not exceed 2 dus/ac). Office uses may also be considered. Building height should not exceed 35 feet.

<p>Location Criteria:</p> <ul style="list-style-type: none"> Hillsides greater than 15 percent slope 	<p>Recommended Zoning and Programs:</p> <p>City: RP-1, OS-1 and a new hillside protection zoning overlay, that has standards for various residential and office land uses and the amount of land disturbance that can take place relative to the degree of slope.</p> <p>County's Planned Growth and Rural Areas: OS, E, A (on slopes less than 15 percent) and PR; a new hillside protection zoning overlay, that has standards for various residential and office land uses and the amount of land disturbance that can take place relative to the degree of slope.</p>	<p>Other Zoning to Consider:</p> <p>Other zones that require use-on-review</p>
--	--	---

Stream Protection Areas (SP)

Typically these are areas which are subject to flooding. Such areas include both the floodway, which carries the significant portion of stormwater, and the 500-year flood fringe, which the city and county govern with various stormwater regulations.

<p>Location Criteria:</p> <ul style="list-style-type: none"> Floodways and flood fringes 	<p>Recommended Zoning and Programs:</p> <p>City: F-1 and 'planned zones' (such as RP-1 and PC-1), which entail site plan review.</p> <p>County's Planned Growth Area: F and 'planned zones' (such as PR and PC), that require site plan review to address flooding and stream protection issues</p>
--	--

Water (W)

Typically includes the French Broad River, Holston River, Fort Loudoun Lake/Tennessee River, and Melton Hill Lake/Clinch River.

<p>Location Criteria:</p> <ul style="list-style-type: none"> Rivers, TVA reservoirs 	<p>Recommended Zoning and Programs:</p> <p>City: F-1</p> <p>County: F</p>
---	--

Major Rights of Way (ROW)

Generally, the rights-of-way of interstates and very wide parkways and arterial highways are depicted on the future land use map.

APPENDIX B: Form-based Code Guidelines from the *Vestal Site Improvement Plan*

Introduction

This chapter includes guidelines for development and preservation of buildings in the project area that can be the basis of a form based code. The other parts of the form code are the design of streets and public spaces that were outlined in Section 4.

Private Development Guidelines

Building Mass, Scale and Form

Building form should reinforce the character of downtown Vestal as an urban setting and enhance

the experience of pedestrians at street level. Creating pedestrian-scale buildings, especially at street level, can reduce the perceived mass of buildings. The use of “human scale” design elements is necessary to create buildings that respond to pedestrians and create a comfortable environment.

Guidelines include:

1. Maintain a pedestrian-scaled environment.
2. Foster air circulation and sunlight penetration around new buildings. Buildings may be designed with open space, as allowed under

existing C-2 zoning, or buildings may be “stepped back” on upper floors with lower floors meeting the sidewalk edge.

3. Use building materials, signs and awnings that respond to the human scale in order to reduce the mass of buildings as experienced at street level.
4. Divide larger buildings into modules that are similar in scale to traditional “downtown” buildings. Buildings should be designed with a recognizable base, middle and top on all exposed elevations.
5. Avoid blank walls along street-facing elevations.



Some of the early Vestal commercial buildings are good examples for creating the form code



Building Location

It is important to establish a strong relationship among buildings, sidewalks and streets. This is typically accomplished through consistent setbacks that locate buildings on the same line.

Guidelines include:

1. Maintain sight lines to historic buildings that were originally located in an open setting, providing setbacks for new buildings next to historic structures in order to preserve views.
2. Design plazas to be pedestrian-friendly. Provide human-scale amenities and include landscaping.

Architectural Character

Buildings should be visually interesting to invite exploration by pedestrians. This is important as

buildings are experienced by pedestrians at a close proximity.

Guidelines include:

1. Encourage first floor uses that draw walk-in traffic. (Businesses that do not require pedestrian traffic should be located on other floors.)
2. Enhance pedestrian interest in commercial and office buildings by creating a largely transparent and consistent rhythm of entrances and windows.
3. Scale first floor signs to pedestrians.
4. Differentiate the architectural features of ground floors from upper floors.
5. Encourage the use of “green roofs” and other sustainable practices.

Sustainable Features

Guidelines include:

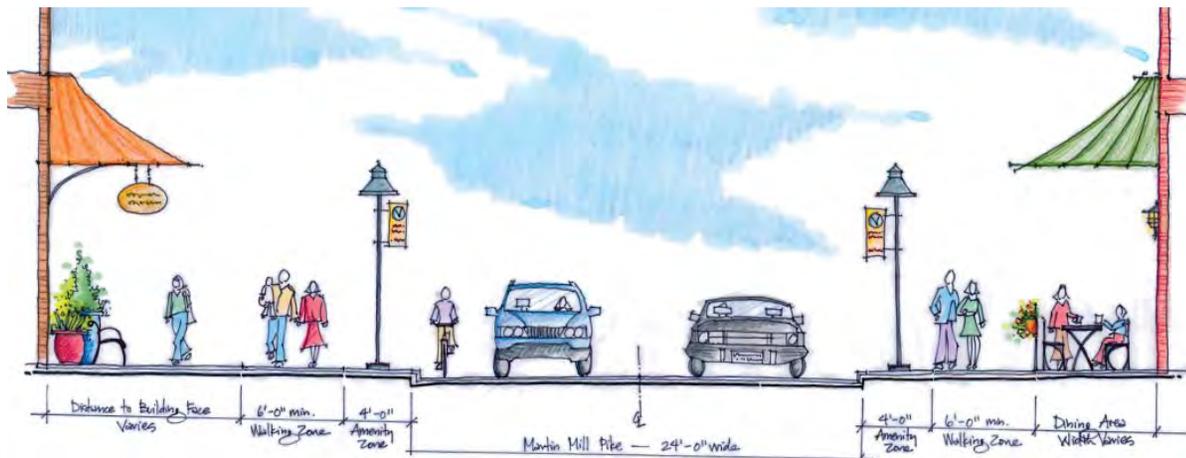
1. New construction and major renovation projects should include sustainable design features. The US Green Building Council LEED Rating System should be followed. Certification is encouraged.

Ground Floor Doors And Windows

Entrances and ground floor windows should foster pedestrian comfort, safety and orientation.

Guidelines include:

1. Use a consistent rhythm of openings, windows, doorways and entries.
2. Orient primary front entrances to the main street. Secondary entrances should be clearly defined and oriented to streets or alleys as appropriate.
3. Buildings that are along the streams should have a “face” to the stream side.
4. Design entrances according to the proportions of the building’s width and height.
5. Consider corner entrances at the end of blocks.
6. Require a transparency standard for windows at the pedestrian level.



The form code concept for locating new buildings.

Residential Buildings

Privacy and safety are concerns with solely residential buildings where residential units meet the sidewalk. Mixed use buildings, with apartments above shops or offices, can avoid these challenges and add vitality to downtown Vestal.

Guidelines include:

1. Design entrances to residential buildings so that access is separated from the pedestrian flow on the sidewalk.
2. Encourage the development of mixed use buildings with apartments over lower story commercial uses.

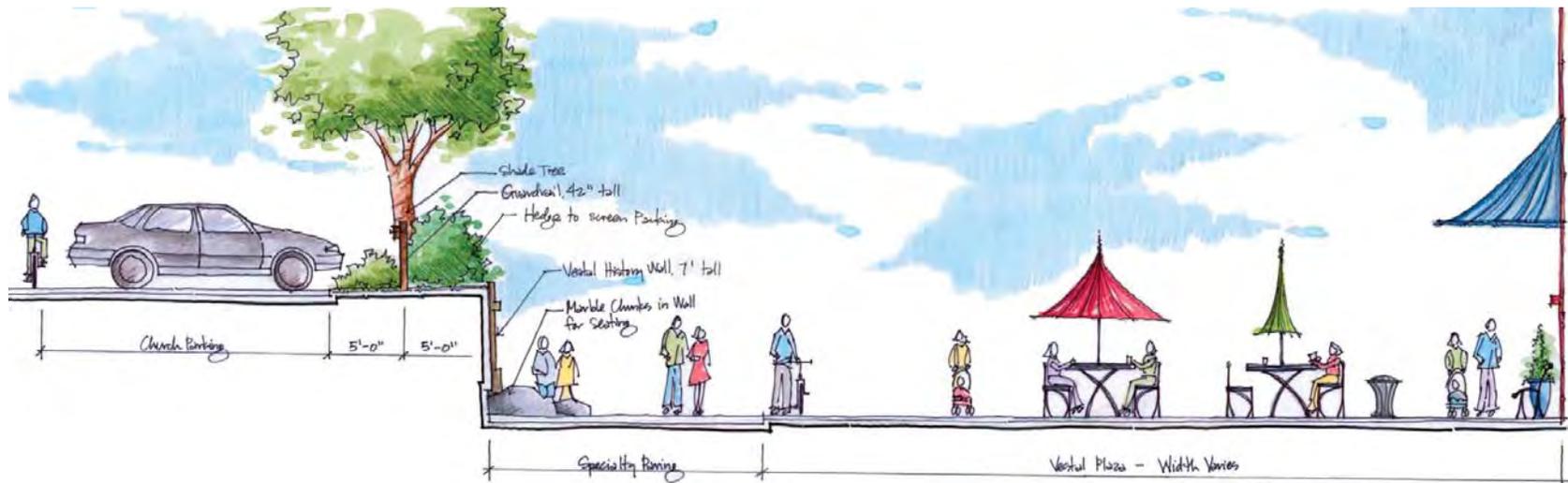
Mechanical Equipment And Service Utilities

Utilities can include telephone and electrical lines, ventilation systems, gas meters, air conditioners, fire protection and telecommunication and alarm systems. Adequate space for these utilities should be planned in a project from the outset and they should be designed such that their visual and noise impacts are minimized.

Guidelines include:

1. Minimize the visual impact of mechanical equipment.
2. Do not locate units on a primary facade.

3. Consider sound-buffering mechanical units.
4. Locate utility connections and service boxes on secondary walls.
5. Reduce the visual impacts of trash storage and service areas by locating them at the rear of a building or off of an alley, when possible.
6. Screen dumpsters from view.
7. Locate satellite dishes out of public view.
8. Allow solar panels and other sustainable technological advances on rooftops and other unobtrusive locations.



A view from the plaza: examples of what a form code could accomplish

APPENDIX C: Town Center Concept from the *Chapman Highway Corridor Study*



Existing Conditions

Auto-oriented regional arterial is inhospitable to pedestrians. The street is wider than it needs to be; signage and lighting are oversized. Despite being located on a major transportation corridor, land uses are low-intensity and underutilized. Driveways invade what little pedestrian space exists. Parking lots along the street and blank-walled buildings form a public space that is unattractive.



Phase I

Public improvements in the streetscape and pedestrian environment are coupled with changes in land use policy. Higher intensity, mixed-use developments are attracted to the corridor. New buildings are placed next to the street, on-street parking is provided and off-street parking is located in the rear. A landscaped median adds definition to the corridor, and the former parking lot entrance is converted to a street. Building placement and the mix of ground-floor commercial and upper-story office uses bring pedestrian activity to the sidewalk, which is made pleasant and interesting by building design details. Street trees and on-street parking buffer pedestrians from traffic.



Phase II

A new housing development with apartments above office and retail on the ground floor frames the street and provides a smooth transition to the adjacent neighborhoods by transitioning to street-fronting townhouses. The increased land use activity has generated greater demand for transit services. A bulbout-style bus stop is added, along with other features to speed bus operations. Through incremental improvements, the street has become a place – it has evolved into a vibrant mixed-use corridor serving as a center of activity and commerce for surrounding neighborhoods.

KNOXVILLE-KNOX COUNTY

M P C

METROPOLITAN
P L A N N I N G
C O M M I S S I O N

T E N N E S S E E

Suite 403 • City County Building
400 Main Street
Knoxville, Tennessee 37902
8 6 5 • 2 1 5 • 2 5 0 0
F A X • 2 1 5 • 2 0 6 8
w w w • k n o x m p c • o r g