

• KNOX COUNTY EDITION •



2015 NORTHWEST CITY SECTOR PLAN



KNOXVILLE • KNOX COUNTY METROPOLITAN PLANNING COMMISSION



Northwest City Sector Plan

This plan was adopted by:
Knox County Commission on August 24, 2015

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

Project Leader: Jeff Archer, AICP, Senior Planner
Jeff Welch, AICP, Interim Director and Knoxville Area Transportation Planning Organization Director
Liz Albertson, Planner II
Tarren Barrett, Transportation Engineer
Bryan Berry, Research Associate
Amy Brooks, AICP, Principal Transportation Planner
Doug Burton, AICP, Principal Transportation Planner
Michael Carberry, AICP, (former) Comprehensive Planning Manager
Mike Conger, PE, Transportation Engineer
Mark Donaldson, (former) Executive Director
Jake Gill, Intern
Kaye Graybeal, AICP, Historic Preservation Planner
Dave Hill, Executive Deputy Director, Comprehensive Planning Manager
Ewing (Buz) Johnson, AICP, (former) Deputy Executive Director
Tim Kuhn, Geographic Information Systems Manager
Debbie Mitchell, Administrative Assistant I
Sarah Powell, Webmaster
Mike Reynolds, AICP, Senior Planner
Nick Schoenborn, GIS Analyst
Kelley Segars, Principal Transportation Planner
Jo Ella Washburn, Graphic Designer
Ellen Zavisca, Senior Transportation Planner
Alex Zendel, GIS Analyst

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THE CITY OF KNOXVILLE

City Council Members: Brenda Palmer and Finbarr Saunders
Parks and Recreation Department: Lori A. Goerlich, Parks and Greenways Coordinator
Public Service Department, Urban Forestry Division: Kasey Krouse, Urban Forester
Office of Neighborhoods: David Massey, Neighborhood Coordinator

KNOX COUNTY

Knox County Commissioner: Randy Smith
Knox County School Board Member: Terry Hill
Engineering & Public Works: Cindy Pionke, Director of Planning & Development

TENNOVA HEALTHCARE

Jerry Askew, Senior Vice President
Melanie Burgess, Vice President

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Mildred Caughron	Cathy Mathis
Barbara Chandler	Elizabeth Miller
Bill Christenberry	Yael-Alex Monereau
Bobbie Christenberry	Carol Nelson
Bill Collier	Tony Norman
Anna Compton	Brad Painter
Anne Crais	Barbara Pelot
Loretta Cravens	Reuben Pelot
Sheriell Creek	Pat Pennebaker
Mike Day	Debbie Phillips
Larry Dyke	Mike Phillips
Donnie Ernst	Sandra Priest
Jan Evridge	Frank Ramey, III
James Fleming	Lynn Redmon
Vicki Forester	Robert Schoenfeld
Joseph Fuhr	David Sellers
Louise Gorenflo	Larry Silverstein
Byran Grubaugh	Rachel Smith
Margaret Hammond	Jean Teague
Al Hazari	Liz Thacker
John Heins	Marilyn Trabold
Katie Helms	Derek Trimble
Tony Hernandez	Kelly Trimble
Alberta Holbart	Nancy Val Verde
Laura Honaker	Charlotte West
Hal Horner	Tommy Wolf
Lee Huane	Viviann Wiedemann
Connie Hughes	Ashley Williams
Doug Johnson	David Williams
Lesa Johnson	Freda Yearwood
Shirley Johnson	Jim Yearwood
Arthur Jones	

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NORTHWEST CITY SECTOR

Executive Summary

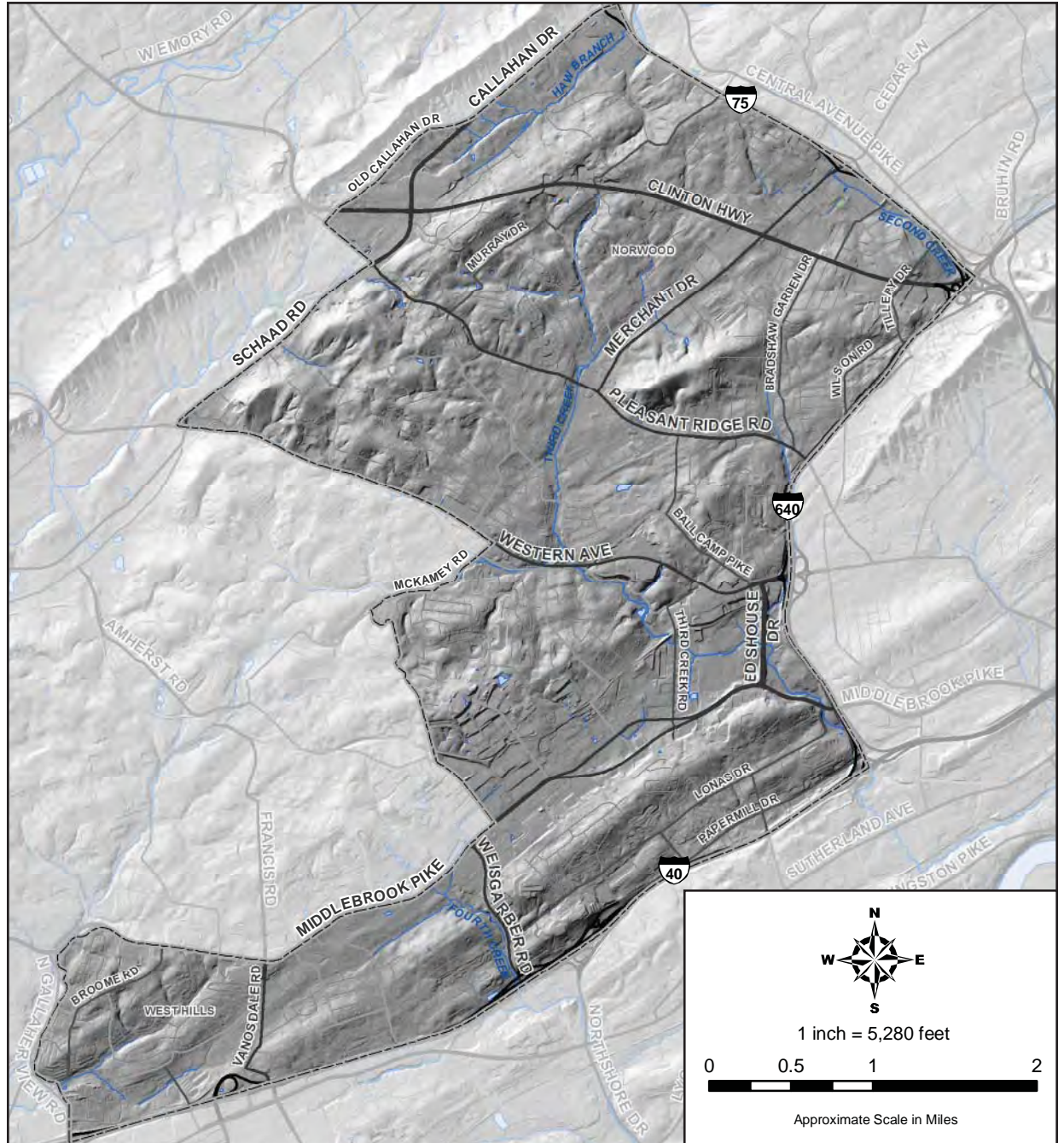
The Northwest City Sector is a 16.5 square mile area that is suburban/urban in character, well-served by city infrastructure systems, and home to several well-established, healthy neighborhoods and a wide diversity of thriving businesses. The Sector Plan for this area includes land use, community facilities, green infrastructure, historic resources, and transportation plan recommendations. Summary recommendations are organized into 5-year and 15-year implementation stages. The sector plan recommendations reflect observation of data trends, projects implemented since 2004 (the last sector plan update), and public input resulting from an online survey and public meeting comments.

City and county sectors vary widely regarding character, population, development activity, and rate of growth. For the Northwest City Sector, population growth has increased steadily. From 1990-2000, the sector's population grew by 11.0%, and from 2000-2010 it grew by 7.9%. Development activity was equally consistent – since 2004, \$100 million (permit value) was invested in residential construction (\$82 million) and remodeling (\$18 million), with another \$104 million in nonresidential construction (\$50 million) and remodeling (\$54 million). Vacant land declined since 2004 from 2,180 acres to 1,781 acres, and much of the remaining land supply for new development is challenged due to slope or stream constraints. Growth and improvements within the sector will likely rely more on redevelopment and renovation of existing developed properties, and less so on 'greenfield' development. Although some residents are concerned that new development will pose land use conflicts for existing neighborhoods, most of the public comments reflected a desire to improve quality of life through amenity improvements, such as sidewalks and greenways, and to improve design quality and connectivity for commercial strips and centers.

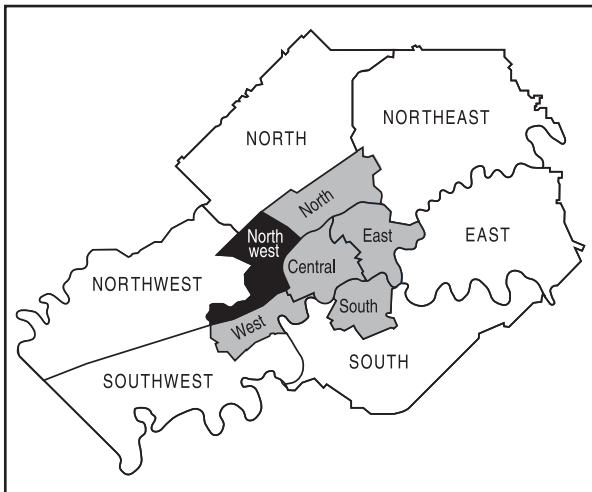


As a result, the Northwest City Sector Plan recommendations are structured to address redevelopment strategies, preserve and enhance existing neighborhoods, and improve aesthetics and infrastructure. The sector plan identifies different types of centers with differing scales and functions, including neighborhood, community, and employment centers. Rather than creating new centers and corridors, the Northwest City Sector Plan recommends strengthening existing ones, improving connectivity to the neighborhoods they serve, accommodating appropriate infill opportunities, and using design guidelines to improve aesthetics and appearance.

The Northwest City Sector



MPC's Planning Sectors



Section 1:

Background Report

The Northwest City Sector Plan was updated 11 years ago and adopted by the Knoxville City Council and the Knox County Commission in January 2004. In addition this sector plan was amended through the adoption of the *Knoxville-Knox County Park, Recreation, and Greenways Plan* in January 2010.

Comprehensive Planning Process

Comprehensive planning in Knoxville and Knox County can be viewed as a series of plans that start with regional areas and broad goals and objectives that gradually address smaller parts of the city and county in more detail and with greater specificity.

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

- Roads, and other transportation systems
- Parks and other public property
- The general location and extent of public utilities, including sanitation and water
- The general character and location of community areas and housing development;
- Uses of land for trade, industry, housing, recreation, agriculture, and forestry
- Appropriate zoning relating to the land use plan, outlining permitted uses and the intensity of those uses, such as height and locations of buildings on their parcels

The Growth Plan (*The Growth Plan for Knoxville, Knox County, and Farragut, Tennessee*) was mandated under the Tennessee Growth Policy Act (Public Chapter 1101), and requires that city and county governments prepare

a 20-year Growth Plan for each county. At a minimum, a growth plan must identify three classifications of land outside of the city limits:

- **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.
- **Rural Areas** are to include land to be preserved for farming, recreation, and other non-urban uses.

Note: The Northwest City Sector is almost entirely within the Knoxville city limits except for an area along Schaad Road and Callahan Drive. This area, at the northern boundary of the sector, is classified as a Planned Growth Area.

The General Plan (*The Knoxville-Knox County General Plan 2033*) 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 twelve sector plans, corridor and small area plans, system-wide plans, and the Growth Plan.

Sector Plans provide a detailed analysis of land use, community facilities, and transportation for twelve 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.

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. Detailed than sector plans because they have a smaller geographical area. Recommendations often deal with economic development, aesthetics, and public safety.

The One Year Plan is required by City Charter. The Charter requires the annual preparation and adoption of a one year comprehensive development plan covering the entire city. Fifteen-and five-year development plans (sector plans) are prepared to provide policy guidance on long and mid-range development issues and as a guide to development of the One Year Plan. The One Year Plan is specifically designed to be the basis for land use regulations and short-term public improvements.

System-Wide Plans cover specific systems such as greenways and parks, hillside and ridge top protection, and major road plans.

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.

An Overview of Sector Changes

The 2004 Northwest City Sector Plan included recommendations for land use, community facilities, and transportation. The following is a list of changes that have occurred or are on their way to realization:

Parks and Greenways

2004: Victor Ashe Park opened. The creation of this park solved a major shortcoming in this area: the need for a large, multipurpose park. The 115-acre park features paved and unpaved trails, four soccer fields, football fields, a fishing pond, an 18-hole disc golf course, volleyball courts, a playground, picnic shelter, and other amenities.

2007: Dogwod Park, Knoxville's first public dog park, opened in Victor Ashe Park. The one-acre off-leash area is completely fenced and features a puppy playground, a dog water fountain, and dog waste stations.

2007: The City of Knoxville opened a 0.9-mile extension of the Northwest Greenway, which connects Victor Ashe Park and Badgett Fields to Northwest Middle School.

2010: The City of Knoxville extended the Jean Teague Greenway by 0.4 miles to connect to the Ten Mile Greenway.

2011: The City of Knoxville opened the Papermill Bluff Greenway. The greenway spans a mile across hilly terrain where it runs parallel with Interstate 40. It begins at the corner of Papermill Road and Kirby Road and connects with the existing Weisgarber Greenway at the corner of Weisgarber Road and Lonas Drive.



Victor Ashe Park opened in 2004 and Knoxville's first public dog park was added as an amenity in 2007.



Victor Ashe Park

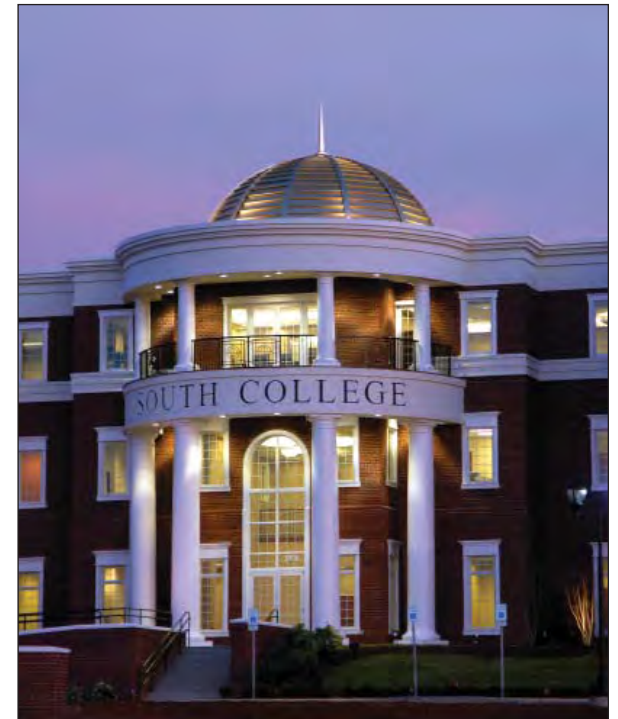
2012: The tennis facilities in West Hills Park were renovated. The improvements included a new 1,400-square-foot building that houses the tennis programming, concessions, and the long-requested public restrooms to accompany this park's 11 tennis courts.

2014: The Inskip Ballfield-Second Creek Restoration Project was completed by the City of Knoxville. The project included stream bank stabilization and habitat improvements.

Land Use

2006: South College completed construction of its new main campus facility at 3904 Lonas Drive. The building contains 56,000 square feet of modern lecture classrooms, laboratories, a student center, a bookstore, faculty/staff office space and a library.

2014: Tennova Healthcare rezoned 110 acres on the south of Middlebrook Pike southwest of Old Weisgarber Road from general agricultural to office, medical and related services. Tennova proposes to build a hospital to replace the 401-bed Physicians Regional Medical Center at 900 E. Oak Hill Avenue in north Knoxville.



Transportation

2007: The I-40 Interchange Improvement Project at West Hills and Papermill Road were completed.

2008: Schaad Road extension - Phase 1 was completed. The new road was extended west of the Western Avenue intersection.

2010: Pleasant Ridge Road - Phase 1 was completed. This project phase added a center turn lane and sidewalks from 1-640 to Merchant Drive.

2011: The Western Avenue (State Route 62) Improvement Project began and is scheduled to be completed in 2015. The project is reconstructing the existing two lane roadway to a five-lane facility. Improvements will be along the road's present alignment. The design consists of four 12-foot traffic lanes, a 12-foot center lane, 10 foot outside shoulders, 2 foot curb and gutter, and 5-foot wide sidewalks. The project begins at Schaad Road and extends approximately 3.9 miles to Copper Kettle Road.



The I-40 Interchange for Papermill and Weisgarber Roads

Community Profile

Since 2000, the population of the sector has increased by 7.9 percent. The most significant growth from 2000 to 2010 occurred among those aged 45 to 64, which saw a 21.1% increase and made up 22.4% of the sector's population. This age group now includes all of the "baby boom" generation.

Table 1. Northwest City Sector Population by Age and Sex

	1990	2000	% Change 1990-2000	2010	% Change 2000-2010
Under 5 years	1,477	1,743	+ 18.0%	1,927	+ 10.6%
5-19 years	4,167	4,262	+ 2.3%	4,542	+ 6.6%
20-34 years	7,733	8,161	+ 5.5%	9,156	+ 12.2%
35-44 years	3,591	3,984	+ 10.9%	3,660	- 0.1%
45-64 years	4,876	5,581	+ 14.5%	6,760	+ 21.1%
65+ years	3,363	4,213	+ 25.3%	4,130	- 2.0%
TOTAL	25,207	27,974	+ 11.0%	30,175	+ 7.9%
Male	12,023	13,332	+ 10.9%	14,429	+ 8.2%
Female	13,184	14,642	+ 11.1%	15,746	+ 7.5%

At the Knox County level, total population grew by 12.4 percent from 1990 to 2010, while Knoxville's population grew 5.2 percent. Since 1990, Knox County's population shifted from 50.6 percent found in Knoxville to only 41.4 percent in 2010, indicating the city is growing more slowly than the county.

Table 2. Knox County Population

	1990	% Share	2000	% Share	2010	% Share
Knox County	335,749		382,032		432,226	
Knoxville	169,761	50.6	173,890	45.5	178,874	41.4
County Balance	165,988	49.4	208,142	54.5	253,352	58.6

While other city sectors have experienced changes in population growth and decline, the population of Northwest City and its relationship to the greater city population, has increased steadily over the past 20 years.

Table 3. City Planning Sectors Population

City Sectors	1990	% Share	2000	% Share	2010	% Share
Central	52,881	32.1	48,162	29.0	49,584	28.8
East	25,878	15.7	25,478	15.4	25,136	14.6
North	23,344	14.1	25,343	15.3	29,233	17.0
Northwest	25,207	15.3	27,974	16.9	30,175	17.5
South	17,719	10.7	18,516	11.2	18,029	10.5
West	19,808	12.1	20,354	12.3	19,781	11.5
TOTAL	164,837		165,827		171,938	

Public Facilities and Infrastructure

Schools

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



Enrollment for schools that serve the Northwest City Sector has generally increased between 2008 and 2013. The school enrollment change was mainly a result of the opening of the new Hardin Valley Academy and the redistricting boundaries for the schools. The only schools where enrollment did not grow during this timeframe are Pond Gap Elementary (-6.5%), Bearden High School (-2.0%), Karns High School (-61.8%), and West High School (-15.7%).

Table 4. Northwest City Sector School Enrollment

School Name	2008	2013	% Change
Amherst Elementary*	691	778	+11.1
Bearden Elementary*	314	373	+15.8
Karns Elementary*	1,087	1,189	+8.5
Norwood Elementary	422	597	+29.3
Pleasant Ridge Elementary	350	389	+12.3
Pond Gap Elementary	327	307	-6.5
Powell Elementary*	846	891	+5.0
West Haven Elementary	273	339	+19.4
West Hills Elementary	696	788	+11.6
Bearden Middle*	1,077	1,167	+7.7
Gresham Middle*	753	765	+1.5
Karns Middle*	1,178	1,387	+15.0
Northwest Middle	741	822	+10.9
Powell Middle*	908	957	+5.1
Bearden High*	1,954	1,915	-2.0
Karns High*	1,941	1,199	-61.8
Powell High*	1,196	1,374	+12.9
West High*	1,429	1,235	-15.7
TOTAL	18,191	16,472	-10.4

* Indicates schools not located inside the sector bound

Libraries

Northwest City is served by the Norwood Branch Library at 1110 Merchant Drive.



Public Safety

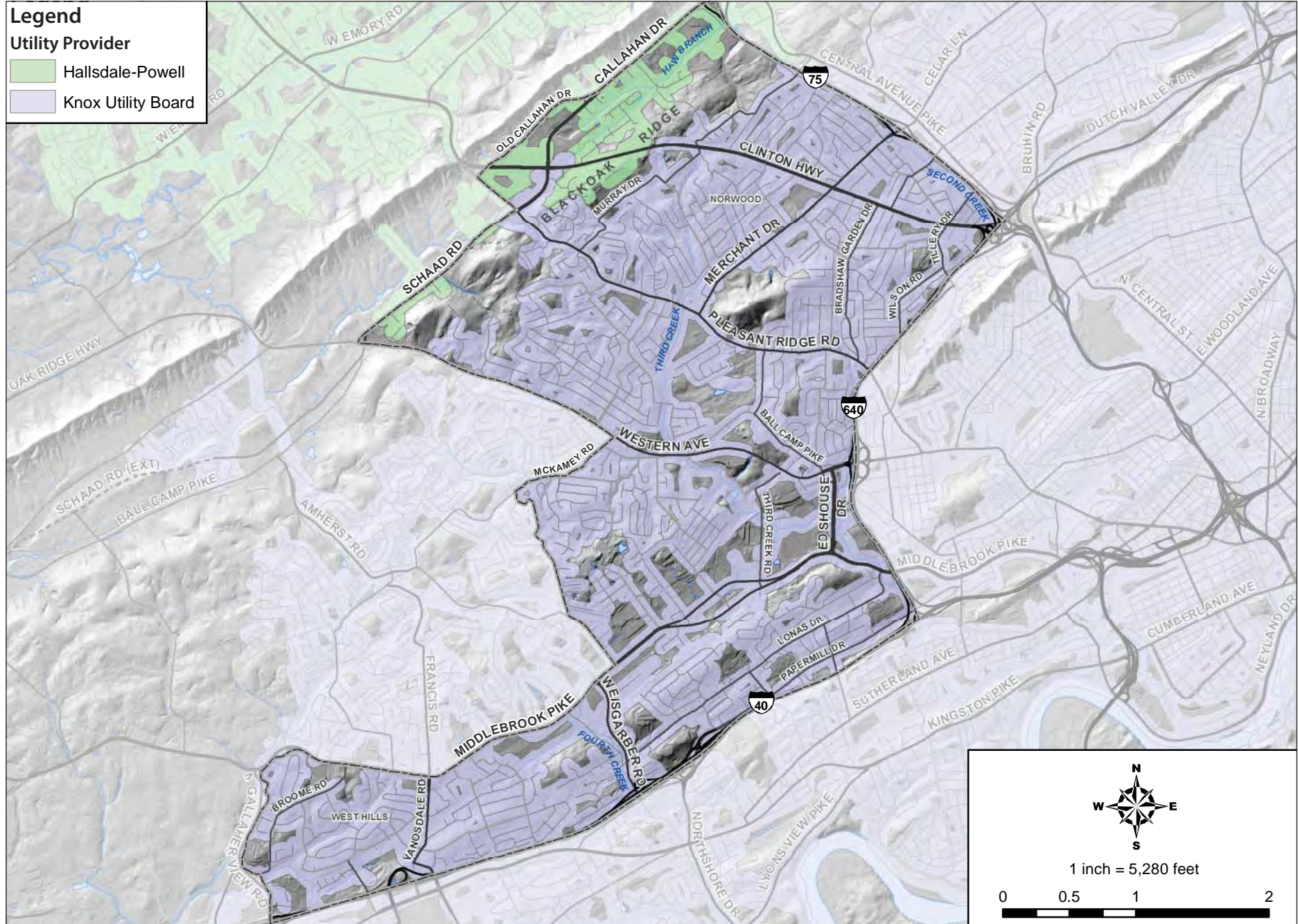
Police protection is provided by the Knoxville Police Department (KPD) within city limits. The Knoxville Fire Department provides fire protection service primarily from the Northwest Fire Station 17.

Northwest City Sector: Existing Wastewater Service

Legend

Utility Provider

- Hallsdale-Powell
- Knox Utility Board



Public Utilities

The utility infrastructure is extensive with virtually all parts of the sector capable of being served by the Knoxville Utilities Board (KUB), which provide water, sanitary wastewater, natural gas, and electrical utility services to the Northwest City Sector.

Parks and Greenways

There are 250.5 acres of parks within Northwest City Sector boundaries. The largest of these are Victor Ashe Park (115 acres) and West Hills/John Bynon Park (14 acres). The Inskip Pool and Ball fields (21 acres) and Badgett Fields also provide other leisure opportunities for residents.

Table 5. Northwest City Sector Park Acreage

Classification	Acreage
Neighborhood	10.58
Community	129.00
District/Regional	110.92
Open Space/Natural Area	0.00
Private/Quasi-Public	0.00
TOTAL ACREAGE	250.50
Acres of Close-to-Home Parks per 1,000 people	4.64

Greenway trails in the sector include:

- Cavet Station Greenway is located from the intersection of Gallaher View Road and E. Walker Springs Road and runs north to the intersection of Mars Hill Road and Walker Springs Road. The greenway continues along the east side of Mars Hill



Road to the intersection with Middlebrook Pike. At the intersection of Broom Road and Gallaher View Road, Cavet Station Greenway connects directly west to Ten Mile Creek Greenway and Knox County's Walker Springs Park. Cavet Station Greenway also connects east to the Jean Teague Greenway.

- Jean Teague Greenway is 2.3 miles and connects to West Hills/John Bynon Park, West Hills Elementary School, Westside YMCA, Cavet Station Greenway and Ten Mile Creek Greenway.
- Northwest Greenway is 1.9 miles and begins on Northwest Middle School property to make a series of loop trails around the edges of open space. The greenway connects south along Third Creek from Northwest Middle School and Northwest Park to Victor Ashe Greenway, which circumvents the soccer field. It also connects to Pleasant Ridge Greenway at Northwest Middle School's entrance on Pleasant Ridge Road. This greenway affords beautiful views of the creeks, springs, and farms in the area with certain sections featuring creek on both sides of the greenway.

- Papermill Bluff Greenway begins at the intersection of Papermill Road and Kirby Road and its west terminus is at the corner of Weisgarber and Lonas Drive where it connects with the existing Weisgarber Greenway. This greenway has several hills overlooking I-40 and Bearden Hill. On clear days, some peaks on the greenway offer beautiful views of the Great Smoky Mountains.

- Pleasant Ridge Greenway was built by TDOT as part of the Pleasant Ridge Road Improvement Project. On the west side of Pleasant Ridge Road, Pleasant Ridge Greenway begins just north of the Pleasant Ridge Road/Merchant Drive intersection and heads south on Pleasant Ridge Road until stopping at the bridge that crosses I-640. It connects to the Northwest Greenway, heading south to connect to the Victor Ashe Greenway at Victor Ashe Park. Pleasant Ridge Greenway is a prime example of how a greenway, through a mere 1.7-mile road improvement project, can connect thousands of people living in hundreds of homes and several large apartment/condominium complexes to two school zones, two major parks, several churches, and many businesses including several grocery providers.





- Victor Ashe Greenway and Trails are 2.3-miles located within Victor Ashe Park consisting of a 0.8 paved greenway and a 1.5-mile unpaved trail that is a favorite destination for cross-country runners. This greenway connects to the Northwest Greenway along Green Heron Creek, a tributary of Third Creek. It is a favorite for dog owners and their leashed dogs, as it is adjacent to a public dog park, Dogwood Park. Victor Ashe Greenway also features a leg that connects the park to Pleasant Ridge Greenway along Pleasant Ridge Road.

- Weisgarber Greenway is a 1.0-mile trail that follows Weisgarber Road. It runs south from the Middlebrook Pike sidewalk system, under I-40/75 to Papermill Road. The Papermill Bluff Greenway connects to Weisgarber Greenway near I-40 at the Church of the Savior.

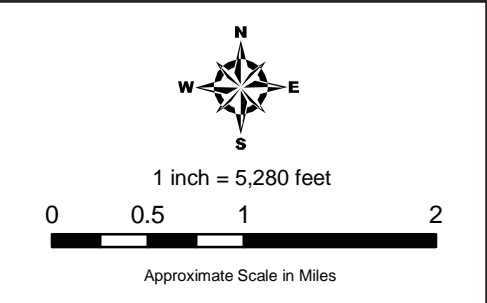
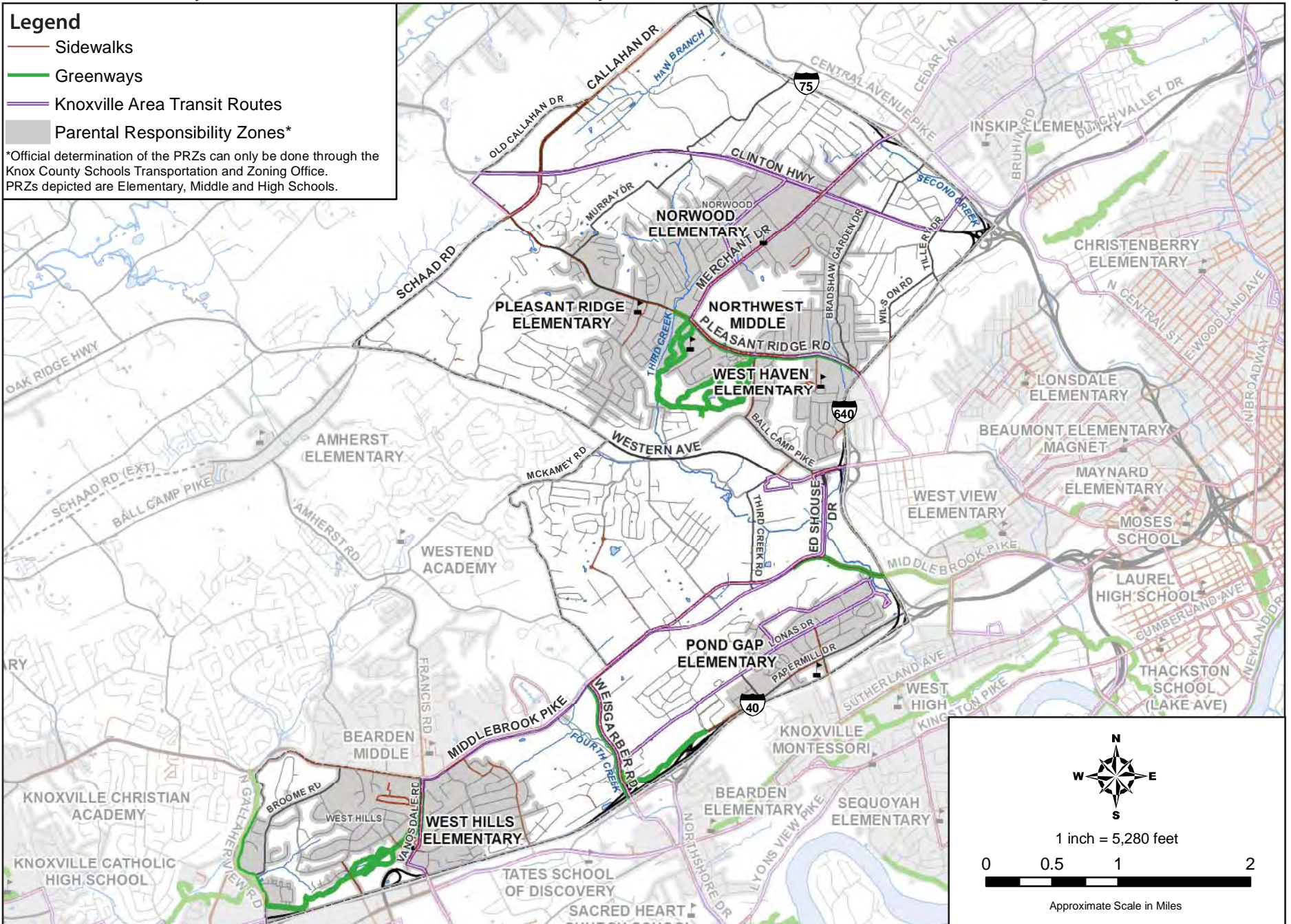


Northwest City Sector: Sidewalks, Greenways, Transit Routes & Parental Responsibility Zones

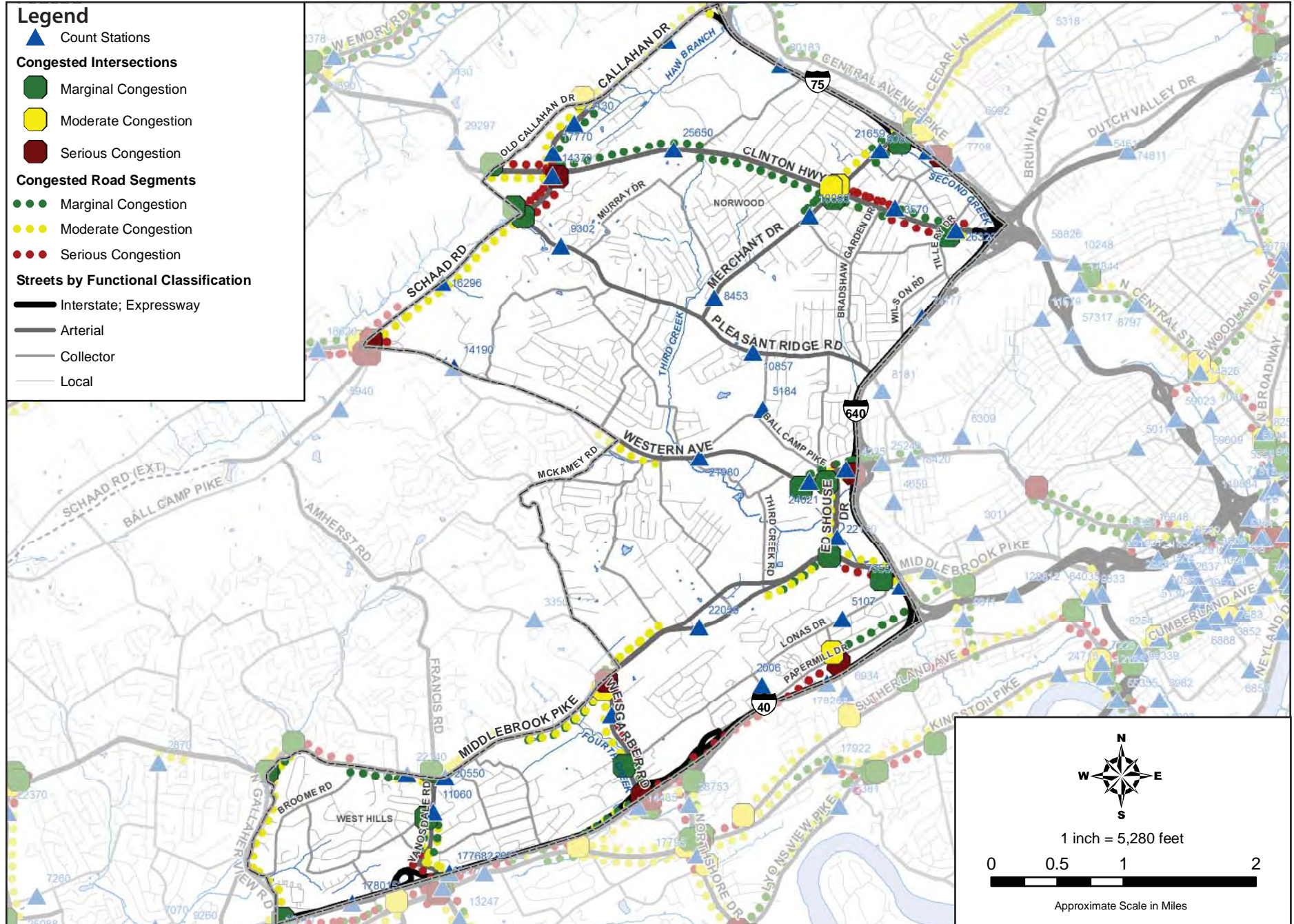
Legend

-  Sidewalks
-  Greenways
-  Knoxville Area Transit Routes
-  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, Middle and High Schools.



Northwest City Sector: Traffic Congestion and Road Functional Classification



Transportation

The Major Road Plan for the City of Knoxville and Knox County was adopted by MPC, City Council, and County Commission in 2011. It views each road as part of the overall transportation system and identifies its functional classification (such as freeways and arterial roads). It assigns right-of-way requirements based on the purpose and function of the road, future road improvements, future pedestrian improvements, traffic counts, anticipated development and policies and goals contained in adopted sector plans, long range mobility plans, the *Knoxville-Knox County General Plan* and other documents.

Sidewalks

The Northwest City Sector streets with the most sidewalks include Vanosdale Road, Middlebrook Pike, Wesley Road, Weisgarber Road, Hollywood Road,

Pleasant Ridge Road, Merchant Drive, and Callahan Drive. Many of these streets have missing sections of sidewalks, but the vast majority of streets do not contain any sidewalks. The presence of sidewalks can be seen on the Sidewalks, Greenways and Transit Routes map.

Currently, there are no general requirements to provide sidewalks with new development. However, the subdivision regulations do give MPC the right to require sidewalks in Parental Responsibility Zones (PRZ) near schools. The PRZ is an area of one (1) mile from elementary schools and an area of one and a half (1.5) miles from middle and high schools where parents are responsible for providing transportation to and from school, as these zones are not serviced by school buses. The PRZ is determined by the roadway system from the front door of a school and not “as-the-crow-flies.” These areas should be targeted for sidewalk creation or improvement.

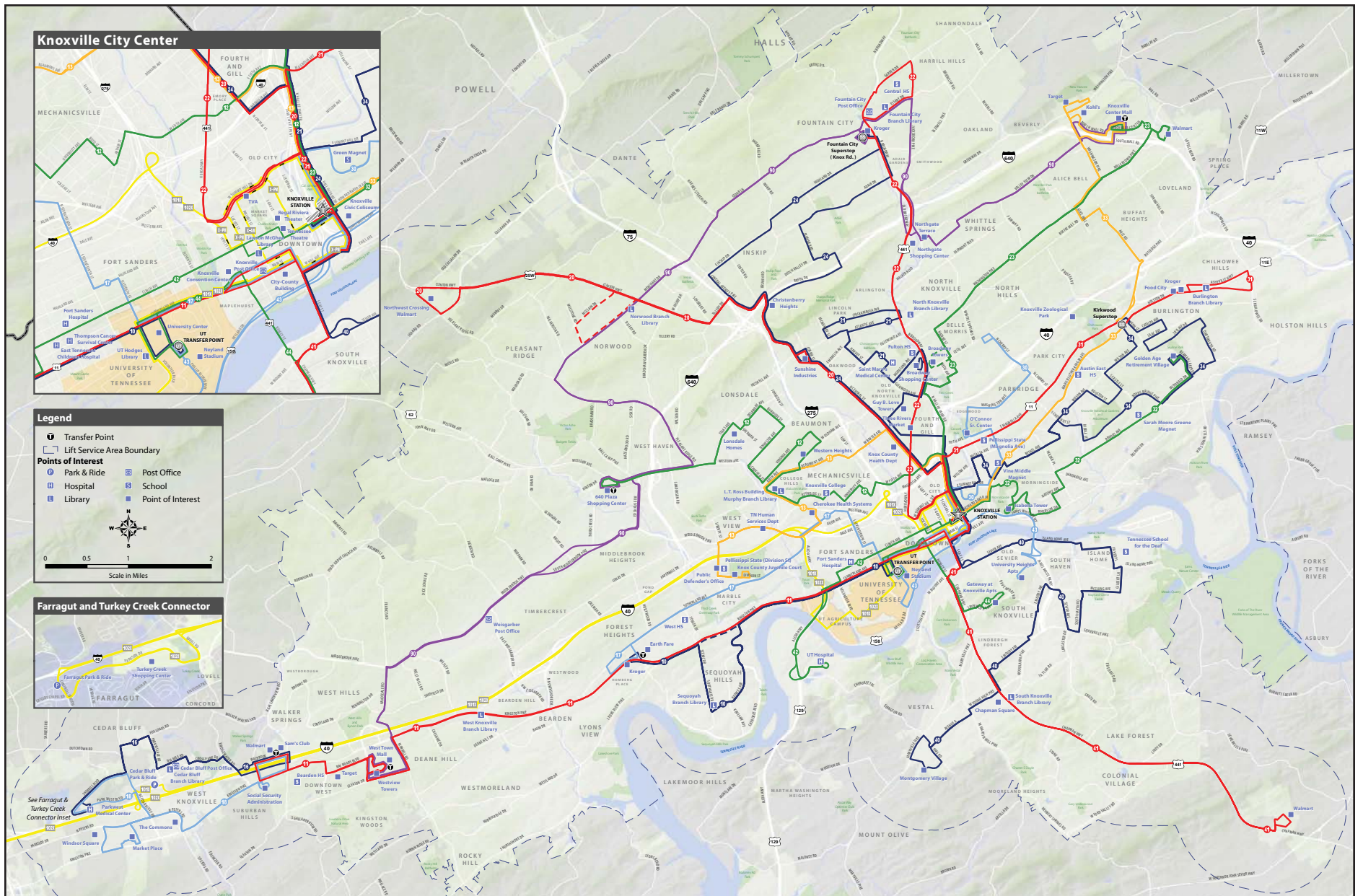
Bicycle Facilities

The City of Knoxville has budgeted for the installation of pavement markings along established bicycle routes citywide, including Wesley Road, which will be marked as a “sharrow.” Those markings indicate to drivers the street should be shared with bicyclists. Wesley road is a key bike route segment that makes up a designated route from Cedar Bluff to downtown.

Transit

The Knoxville Area Transit (KAT) is the largest provider of public transit in the Knoxville region. KAT focuses a majority of its services within the City of Knoxville but does provide some service in Knox County outside the city limits. With a capital and operating budget slightly over \$16 million annually, KAT provides fixed-route bus service, downtown trolley circulators, and door-to-door





paratransit service for persons with disabilities. The KAT fixed route bus and trolley system consists of 28 routes with several in the Northwest City. Bus routes 12, 19,

20, and 90 all serve Northwest City residents. Route 90 Crosstown is the most extensive of these routes and goes from West Hills to Knoxville Center Mall with many

stops in Northwest City. Route 12 runs along Lonas Drive in the sector and serves the South College Main Campus. Route 20 runs along Clinton Highway.

Natural Resources and Environmental Constraints

Topography

The Knoxville Knox County Hillside and Ridgetop Protection Plan was adopted in 2011 and 2012 by the Knoxville City Council and Knox County Commission. The Hillside and Ridgetop Protection Area (HRPA) is primarily areas with a slope of 15 percent or greater. The intent is to reduce the density of development in the HRPA and encourage/incentivize the transfer of development intensity to less environmentally sensitive areas, which helps to reduce the quantity of stormwater runoff and maintain the quality of the area's water resources.

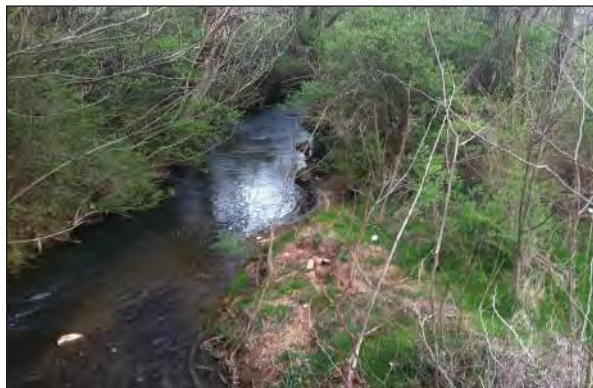
Public safety is also a concern in restricting the intensity of development. Sloped areas have greater susceptibility for soil slippage and failure. Many of the soils along slopes are considered unstable, and removal of vegetation that secures the soil promotes further slope failure.

A few areas of Black Oak Ridge and Pleasant Ridge are located within a Hillside and Ridgetop Protection Area.

Water Resources

Flood Prone Areas

Significant areas for flooding in the Northwest City Sector are Second, Third and Fourth Creeks. Second Creek flows along the eastern border of the sector, Third Creek, the largest, runs through the central section of the sector, and Fourth Creek flows almost parallel to Weisgarber Road.



Third Creek

Table 6. Hillside and Ridgetop Protection Plan Policies*	
<p>Low Density Residential density limits within the Hillside and Ridgetop Protection Area (HRPA) :</p> <ul style="list-style-type: none"> • 15 - 25 percent slope = two houses per acre in the low density residential areas; one house per acre in agricultural and rural residential areas • 25 - 40 percent slope = one house per two acres • 40+ percent slope = one house per four acres • Ridgetops are generally the more level areas on the highest elevations of a ridge. Because the shapes of Knox County ridges are so varied, the ridgetop area should be determined on a case-by-case basis with each rezoning and related development proposal. 	
<p>Medium Density Residential and Office development within the HRPA that extends into the 15 to 25 percent slopes should only be considered :</p> <ul style="list-style-type: none"> • If the slope is closer to 15 percent and the building footprint does not exceed 5,000 square feet per one acre • If the slope is closer to 25 percent and the building footprint does not exceed 5,000 square feet per two acres • All proposals should be subject to the approval of a use on review and site plan by the Metropolitan Planning Commission. 	
<p>Commercial development within the HRPA that extends into the 15 to 25 percent slopes:</p> <ul style="list-style-type: none"> • Slope restoration and reforestation of cut-and-fill areas should be accomplished to minimize the long term impact to water quality and lessen forest canopy loss. 	
<p>Height of new buildings within the HRPA:</p> <ul style="list-style-type: none"> • Limit to 35 feet. 	

*Please note that this is not a complete list of the policies from the Knoxville-Knox County Hillside and Ridgetop Protection Plan, as adopted by County Commission Resolution RZ-12-1-101 on January 23, 2012.

The City of Knoxville Engineering Division restricts filling of the floodplain, and habitable portions of buildings must be above the 100-year floodplain elevation.

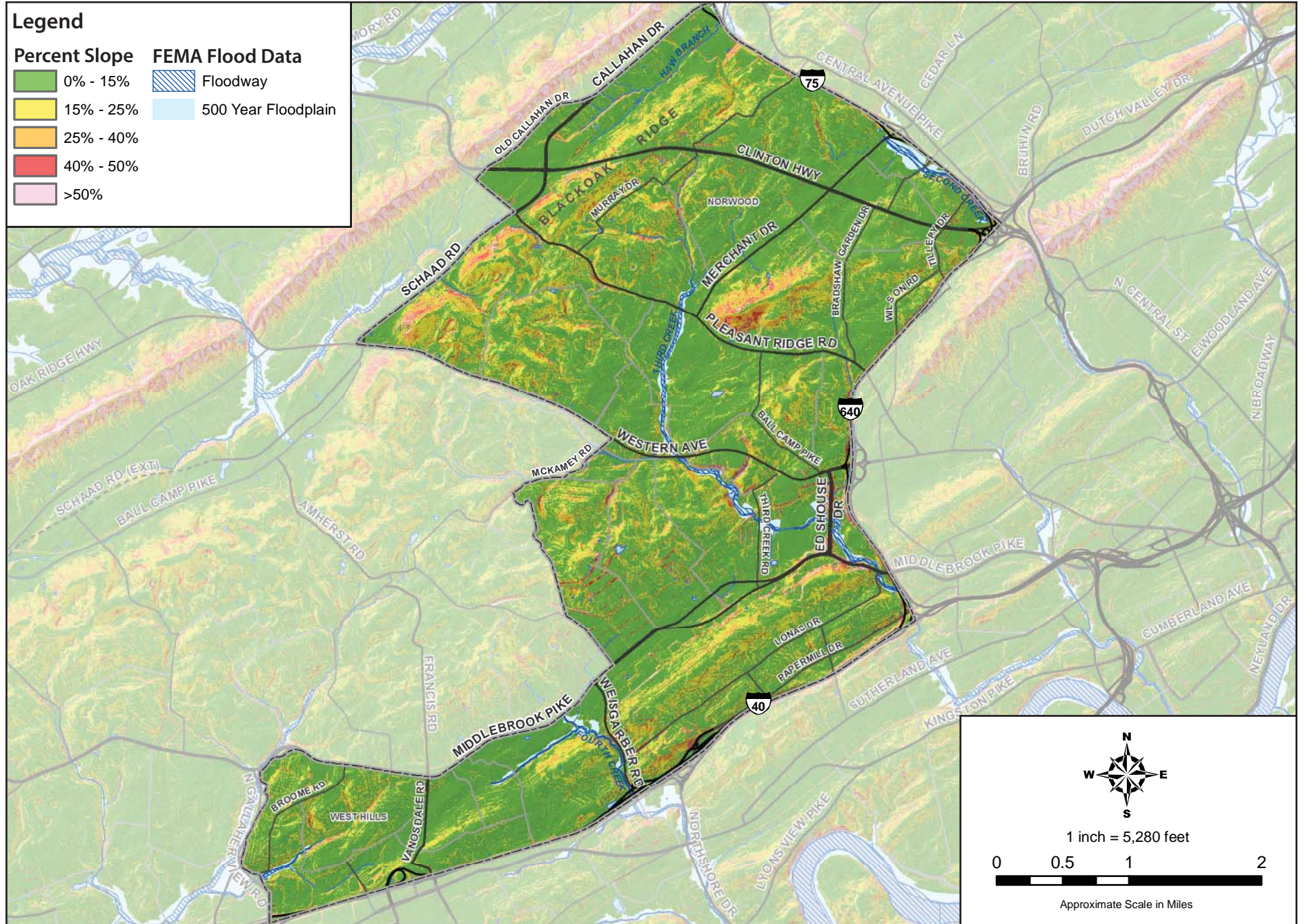
Water Quality

The Knoxville Utility Board (KUB) is under a federal consent decree to provide wastewater infrastructure improvements. Partners Acting for a Cleaner Environment (PACE10) is a ten-year program to address wastewater issues. Second and Third Creek are on the State's 303(d) list, a collection of waterways which do not meet the clean water standards of the Tennessee Department of Environment and Conservation.

Agricultural Soils and Greenbelt Program Parcels





Nine 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. The prime and locally important agricultural soils are found along the major waterways of the sector such as Third Creek and in the northern section of Northwest City.

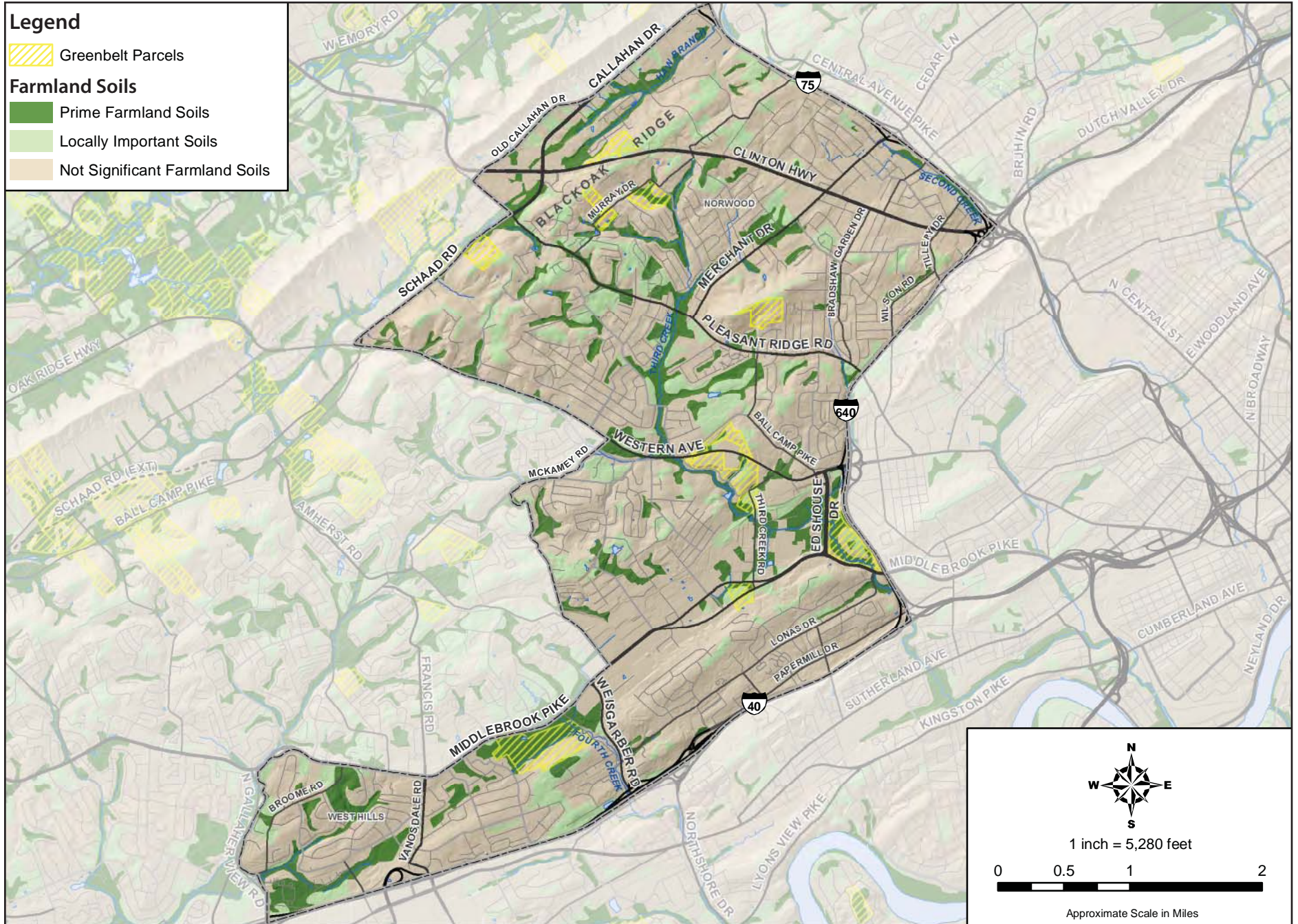
Northwest City Sector: Environmental Constraints



Northwest City Sector: Agricultural Soils and Greenbelt Program Parcels

Legend

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



LAND USE AND DEVELOPMENT TRENDS

Existing Land Use

Existing Land Use refers to the actual use of land based on its observable characteristics. It describes the predominant use that takes place in physical or observable terms (e.g., farming, shopping, manufacturing, vehicular movement, etc.). The existing land use classification definitions ONLY apply to this existing land use section.

As of 2012, Northwest City Sector land use is mainly comprised of single family residential at 34.98 percent of the total acreage. The second largest share is agriculture/forestry/vacant at 16.84 percent, followed closely by right of way/open space at 14.14 percent.

Land Use	Acreage	% Share
Agriculture/Forestry/Vacant	1,780.72	16.84
Commercial	682.83	6.46
Industrial (Manufacturing)	202.27	1.91
Multifamily Residential	615.67	5.82
Office	242.83	2.29
Private Recreation	47.79	0.45
Public Parks	304.22	2.87
Public/Quasi Public	577.10	5.46
Right of Way/Open Space	1,495.31	14.14
Rural Residential	523.79	4.95
Single Family Residential	3,697.38	34.98
Transportation/Communications/Utilities	61.99	0.58
Under Construction/Other Uses	29.86	0.28
Water	0.00	0.00
Wholesale/Warehousing	306.50	2.90
Mining/Landfills	0.00	0.00
TOTAL	10,568.26	100.0

Agriculture/Forestry/Vacant:

Includes land that is used for agricultural or forestry purposes. This classification also incorporates vacant land

that is not used in conjunction with adjacent parcels, and includes single family residential on ten or more acre lots.

Commercial:

This classification includes land uses that have sales and services, not including personal services such as real estate and banking services, which are classified under office.

Industrial/Manufacturing:

Includes all manufacturing and assembly uses. This category is used as a catch-all for uses commonly found in industrial areas, excluding wholesale/warehousing.

Multifamily Residential:

Includes residential developments commonly associated with development that is denser than single family development, including condominiums, planned unit development, mobile home parks, group quarters, and multifamily housing.

Office:

Typical office uses should be categorized here including those that are primarily office-use in character. The use includes some uses that may sometimes be considered commercial uses, such as banks and real estate offices. Use this category as a catch-all designation for all office-type uses.

Private Recreation:

Includes cultural or natural exhibition, amusement, recreation activities, resorts, and camps.

Public Parks: Includes public parks.

Public/Quasi Public:

Includes government owned land, religious institutions, public gathering places, educational services.

Right of Way/Open Space:

Includes public rights of way that have no major structures.

Rural Residential:

Includes residential uses that are located on two to ten acre parcels.

Single Family Residential:

Includes residential uses that are located on two or less acre parcels.

Transportation/Communication/Utilities:

This is a catch-all category comprising transportation, communication, and utilities for essential facilities.

Under Construction/Other Uses:

Includes uses under construction, contract construction, and other uses that cannot be categorized.

Water:

Includes permanently watered areas such as lakes, rivers, large sink holes, and creeks.

Wholesale/Warehousing:

Wholesaling is an intermediate step in the distribution of merchandise. Wholesalers either sell or arrange the purchase of goods to other businesses and normally operate from a warehouse or office. They may be located in an office building or a warehouse. Unlike retailers, their warehouses and offices have little or no display of merchandise.

Warehousing includes storage facilities for general merchandise, refrigerated goods, and other warehouse products. They provide the facilities to store goods but do not sell the goods they handle. They may also provide a range of services related to the distribution of goods, such as labeling, breaking bulk, inventory control and management, light assembly, order entry and fulfillment, packaging, pick and pack, price marking and ticketing, and transportation arrangement.

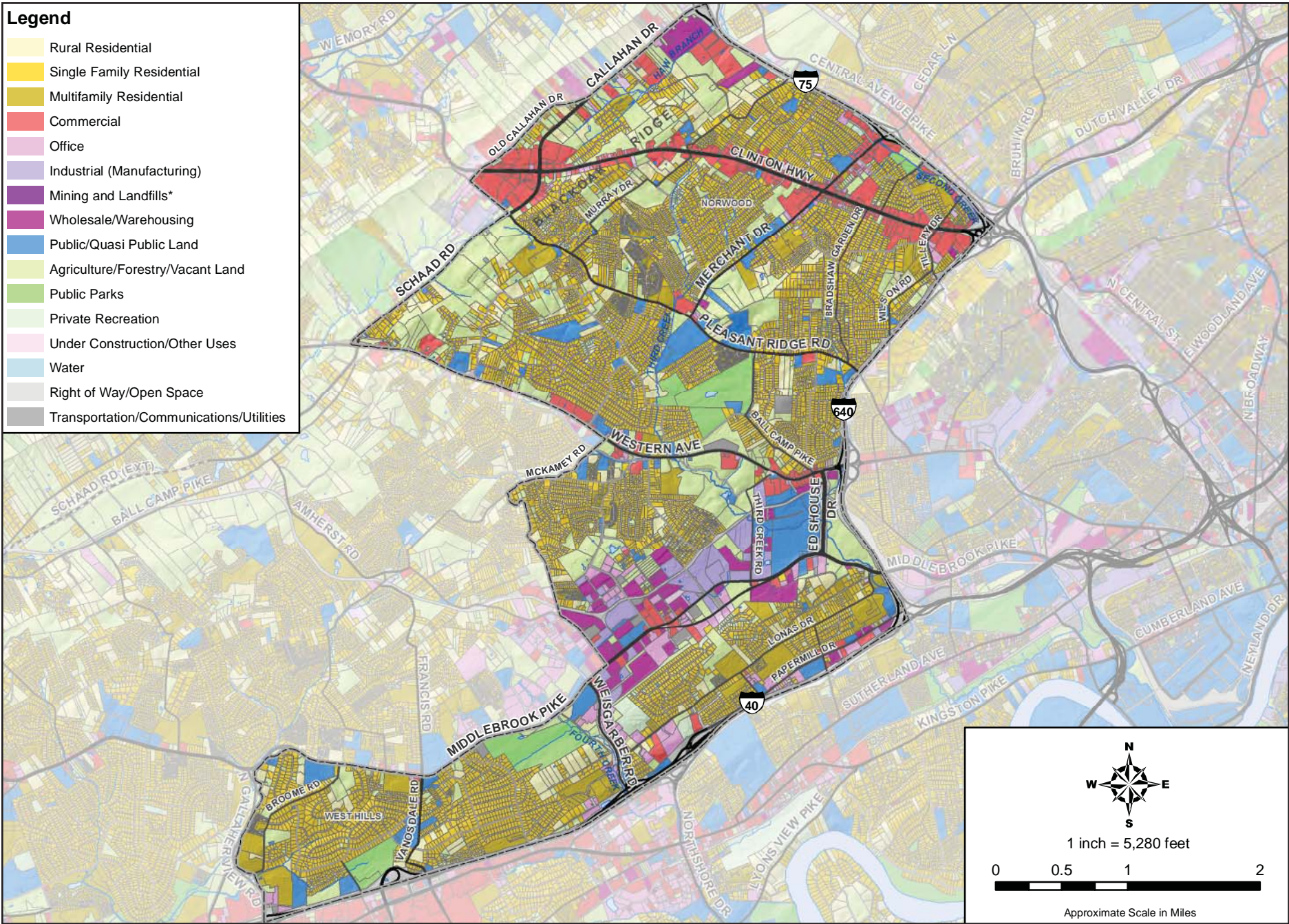
Mining/Landfills:


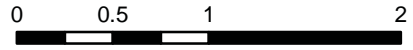
These establishments extract natural mineral solids (coal and ores), liquid minerals (crude petroleum), and gases (natural gas). Mining includes quarrying, well operations, beneficiating (e.g., crushing, screening, washing, and flotation), and other preparations customarily performed at the mine site, or as a part of mining activity. Also classified in this category are landfills and resource recovery facilities.

Northwest City Sector: Existing Land Use

Legend

- Rural Residential
- Single Family Residential
- Multifamily Residential
- Commercial
- Office
- Industrial (Manufacturing)
- Mining and Landfills*
- Wholesale/Warehousing
- Public/Quasi Public Land
- Agriculture/Forestry/Vacant Land
- Public Parks
- Private Recreation
- Under Construction/Other Uses
- Water
- Right of Way/Open Space
- Transportation/Communications/Utilities




 1 inch = 5,280 feet

 0 0.5 1 2
 Approximate Scale in Miles



Residential Development

The Northwest City Sector had an increase of 1,199 residential units between January 2004 and December 2013. This increase in units accounted for 12.3 percent of the city's permit value for residential new construction.

Table 8. Residential Subdivision Permits, 2004 – 2013

Subdivision	Northwest City	All City Sectors	Percent Share of City Total
Acreage	3,42.4	1,299.9	26.3%
Number	59	349	16.9%
Lots	845	2,247	37.6%

Table 9. Residential Building Permits for New Construction January 2004 – December 2013

Housing Type	Northwest City Sector		Percent Share of City Total	
	No. of Units	Permit Value	No. of Units	Permit Value
Mobile Home	9	\$82,000	13.2%	5.6%
Condo/Townhouse	260	\$17,837,895	14.6%	12.0%
House	480	\$43,695,725	18.8%	15.1%
Apartment	101	\$20,475,726	12.4%	9.1%
TOTAL	850	\$82,091,346		12.3%

Table 10. Residential Building Permits for Renovation/Alteration/Addition January 2004 – December 2013

Housing Type	Northwest City Sector		Percent Share of City Total	
	No. of Permits	Permit Value	No. of Permits	Permit Value
Mobile Home	0	\$0	0.0%	0.0%
Condo/Townhouse	17	\$137,585	3.2%	0.6%
House	1,132	\$14,783,742	11.7%	8.6%
Apartment	114	\$3,145,125	7.8%	3.2%
TOTAL	1,263	\$18,066,452		6.1%

Non-Residential Development

Northwest City Sector had 113 permits issued for non-residential new construction, representing 12.3 percent of the city's building permit value for these uses. There were 599 permits issued for non-residential renovations, alterations or additions, representing 11.8 percent of the city's building permit value for these uses.

Table 11. Non-Residential Building Permits for New Construction January 2004 – December 2013

Category	Northwest City Sector		Percent Share of City Total	
	No. of Permits	Permit Value	No. of Permits	Permit Value
Commercial	98	\$43,352,783	19.8%	12.5%
Industrial	15	\$6,751,371	20.8%	11.5%
TOTAL	113	\$50,104,160		12.3%

Table 12. Non-Residential Building Permits for Renovation/Alteration/Addition January 2004 – December 2013

Category	Northwest City Sector		Percent Share of City Total	
	No. of Permits	Permit Value	No. of Permits	Permit Value
Commercial	557	\$45,885,505	14.0%	10.7%
Industrial	42	\$8,596,424	23.2%	26.0%
TOTAL	599	\$54,481,929		11.8%



Between 2000 and 2010, the Northwest City Sector registered 199 commercial and 23 industrial building permits. The sector's share of commercial and industrial building permits was high among all City sectors: 35.8 percent of commercial permits and 22.8 percent of industrial permits. Northwest City had the highest activity of non-residential permits during this time.

Table 13. City Planning Sectors Non-Residential Permits, 2000 - 2010

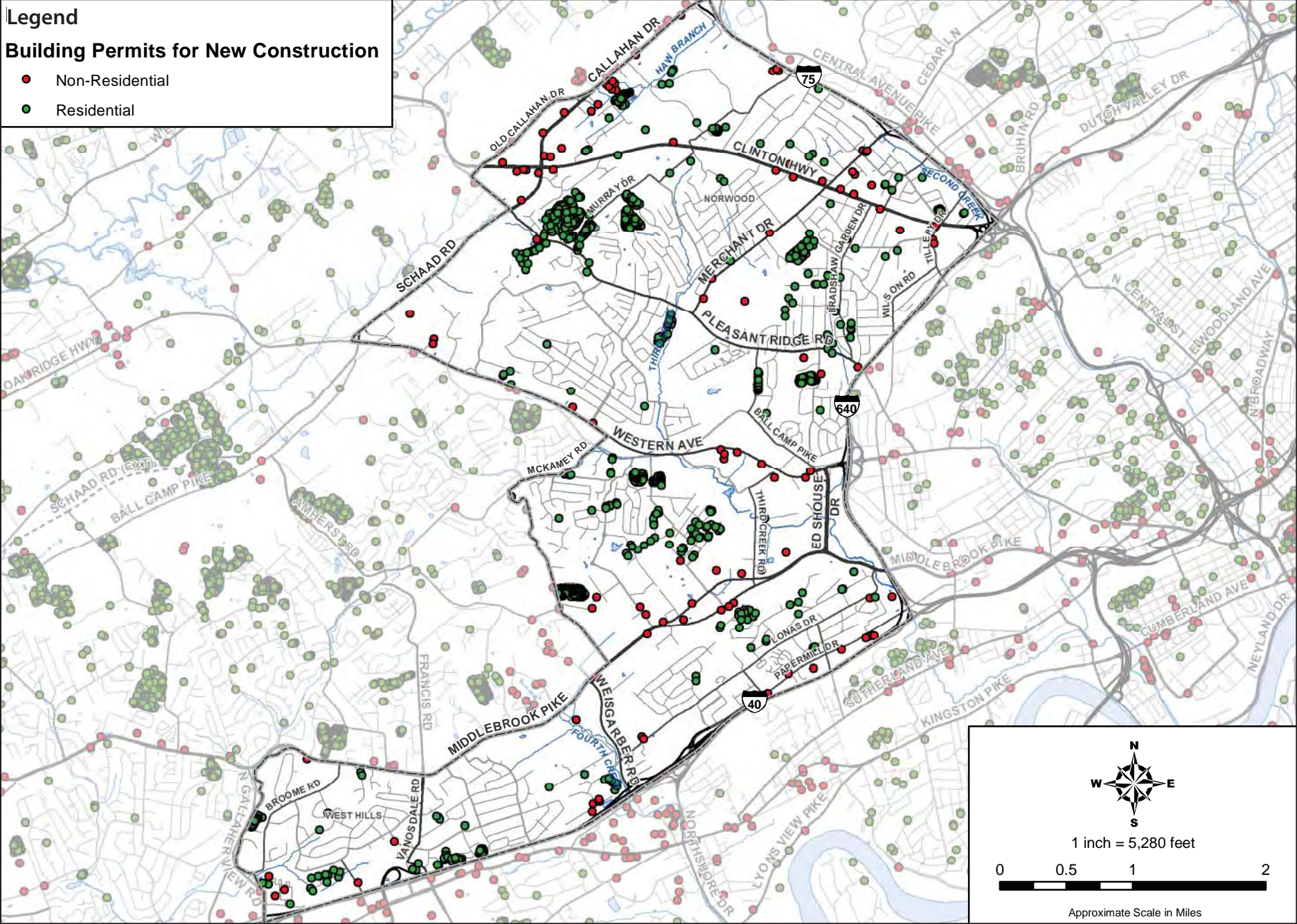
City Sector	Commercial	Percent Share	Industrial	Percent Share
Central	129	23.2%	38	37.6%
East	46	8.3%	10	9.9%
North	83	14.9%	16	15.8%
Northwest	199	35.8%	23	22.8%
South	21	3.8%	6	5.9%
West	78	14.0%	8	7.9%
TOTAL	556		101	

Northwest City Sector: New Construction, January 2004 - December 2013

Legend

Building Permits for New Construction

- Non-Residential
- Residential

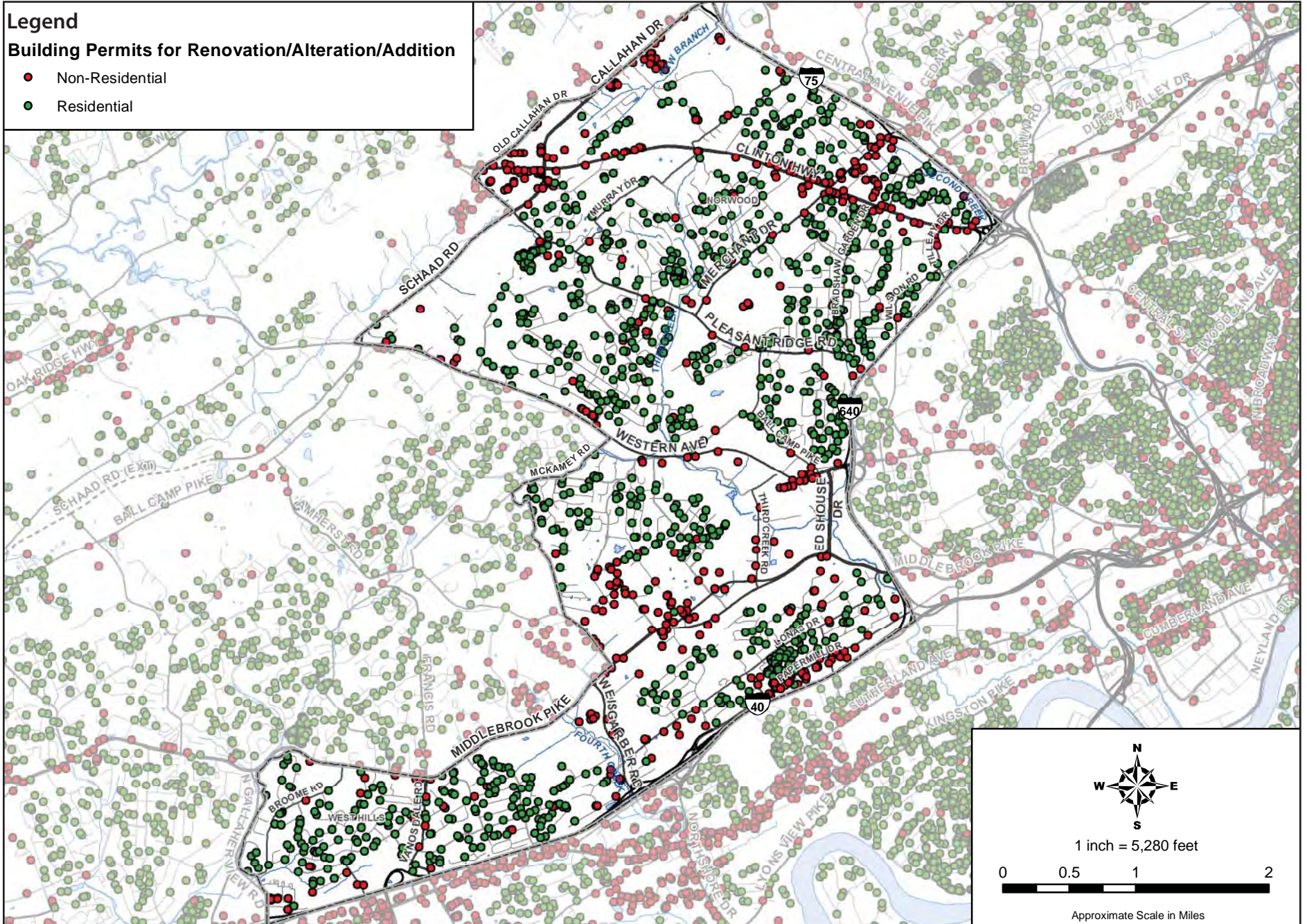


Northwest City Sector: Renovation, Alteration, Addition - January 2004 - December 2013

Legend

Building Permits for Renovation/Alteration/Addition

- Non-Residential
- Residential



Housing

The total number of housing units in the Northwest City Sector increased by 23.6 percent from 11,382 units in 1990 to 14,907 units in 2012. Home construction was the most significant share, with 1,967 units added from 1990 to 2012. These detached dwellings are approximately 60 percent of the total housing units while apartment are over 30 percent of the total.

<i>Housing Type</i>	<i>1990</i>	<i>% Share</i>	<i>2000</i>	<i>% Share</i>	<i>2012</i>	<i>% Share</i>
Mobile Home	310	2.7%	297	2.2%	189	1.3%
Condo/Townhouse	121	1.1%	426	3.2%	643	4.3%
House	6,962	61.2%	8,198	61.6%	8,929	59.9%
Apartment	3,989	35.0%	4,398	33.0%	5,146	34.5%
TOTAL	11,382		13,319		14,907	

Building Conditions

The following information is compiled from 2013 Knox County Tax Assessor's data. MPC is presenting the "big picture" of general patterns and percentages.



Residential

The majority of residential structures are rated as "fair/average" or "good/very good/excellent." An area to the northeast of the sector contains some larger parcels with buildings that are rated poor.

<i>Building Condition</i>	<i>House</i>	<i>Apartment</i>	<i>Mobile Home</i>
Unsound/Very Poor/Poor	72	0	10
Fair/Average	4,081	268	130
Good/Very Good/Excellent	4,331	33	11

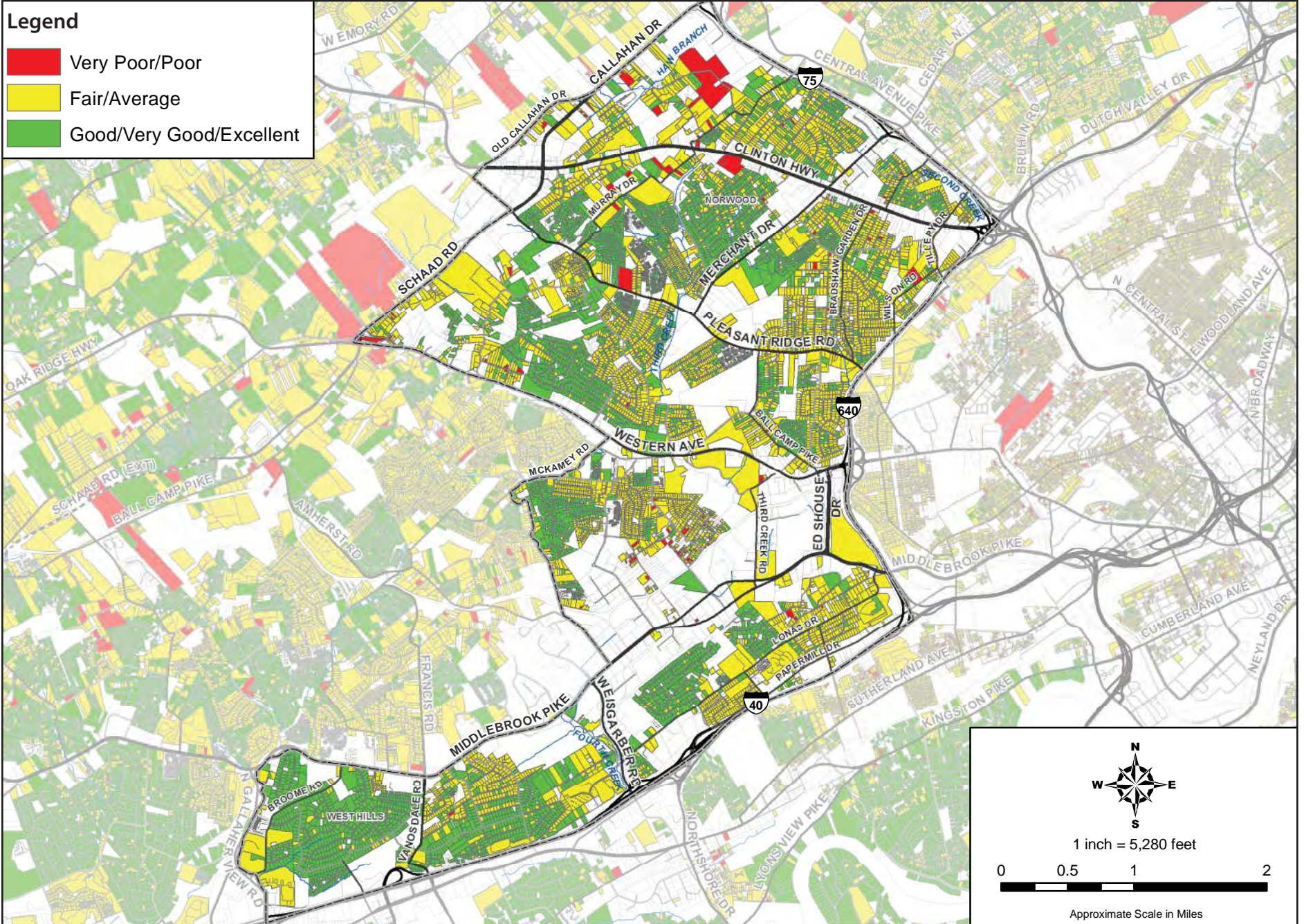
Non-Residential

The majority of buildings are rated as "fair/average." Only five parcels contain buildings rated as "very poor/poor," three are on Clinton Highway and two are on Middlebrook Pike.

<i>Building Condition</i>	<i>Number of Structures</i>	<i>Total Square Feet</i>
Poor	14	18,491
Fair/Average	453	6,771,308
Good/Very Good/Excellent	134	1,466,034



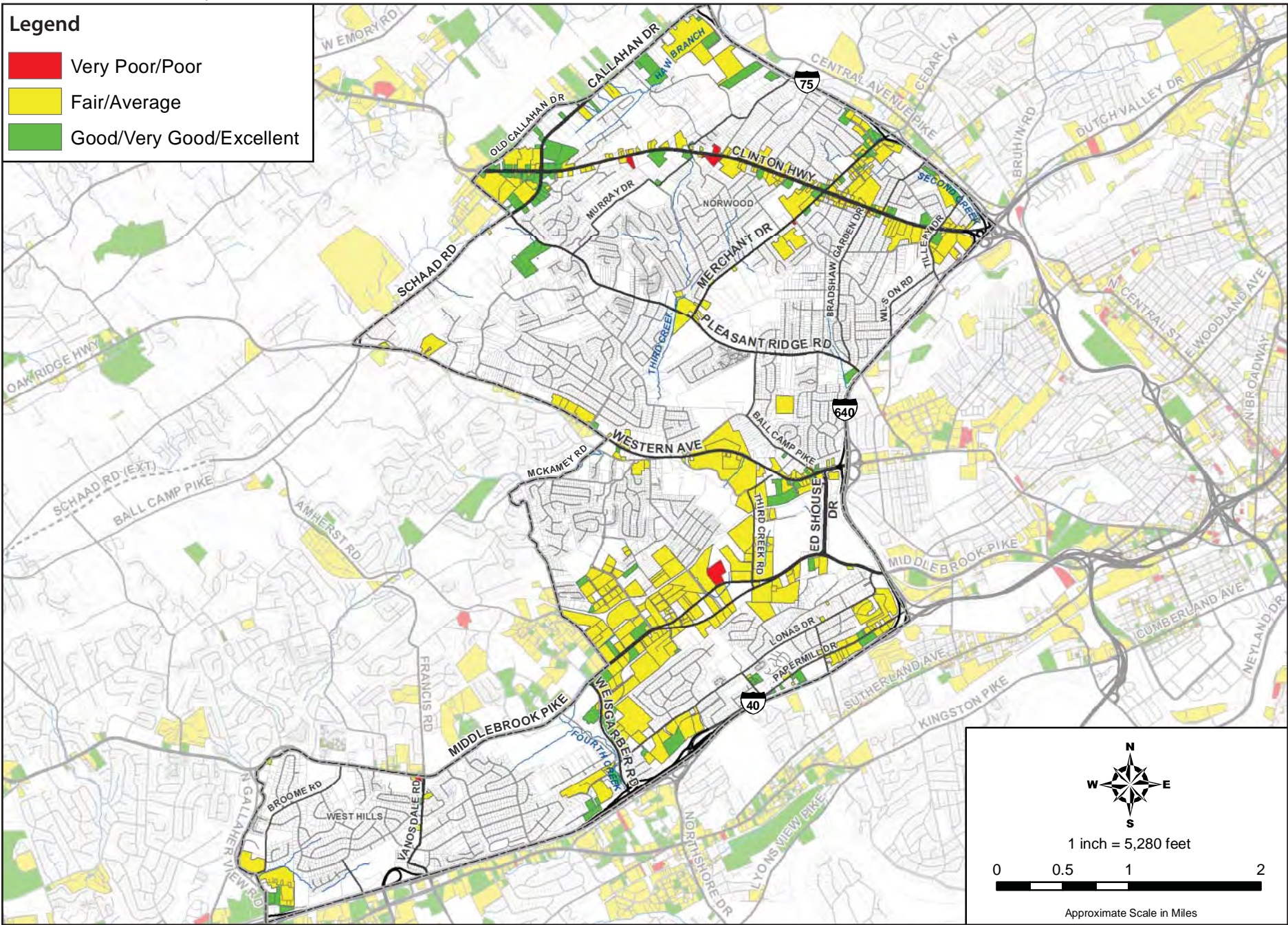
Northwest City Sector: Residential Building Conditions



Northwest City Sector: Non-Residential Building Conditions

Legend

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



Section 2:

Land Use, Community Facilities, Green Infrastructure, Historic Resources, and Transportation Plans

LAND USE PLAN

The 15-Year Land Use Plan is a basis for land development and conservation, including rezoning decisions. Those decisions are made periodically through recommendations of the Metropolitan Planning Commission and the actual zoning changes via the decisions of City Council or County Commission. Zoning districts are recommended in relation to the following land use plan designations and policies.

In developing the proposed land use plan there were six steps to develop this section:

1. Standard Land Use Classifications Conversion

In 2007, MPC developed a standard land use classification table that is now used in all 12 sectors. The table includes descriptions, location criteria, and zoning districts allowed for each proposed land use classification (see Appendix B). In developing the proposed land use map, the conversion from the older land use classification used in 2003 to the new standardized land use classification now used in all sector plans was completed.

2. Slope Protection and Stream Protection Areas

In recent years, MPC started to identify Slope Protection Areas and Stream Protection Areas as environmental overlay areas in sector plans. Without an underlying sector plan land use designation, review of rezoning and other applications became difficult and confusing. As a result, Slope Protection Areas and Stream Protection Areas have been converted to environmental overlay areas with underlying sector plan land use designations.

3. 2003 General Plan

Adopted in 2003, the Knoxville - Knox County General Plan serves as the official 30-year comprehensive plan for Knoxville and Knox County. The plan outlines a vision and framework for physical and economic development, to which sector plans must conform. Several Development Policies are set forth in the General Plan that have been used to guide Northwest City Sector Plan recommendations. An example is General Plan Development Policy #4: Understand the Building Blocks: Neighborhoods, Communities, Districts and Corridors in the Region. The sector plan reinforces the concept of building and enhancing strong neighborhoods, communities and corridors by making recommendations that support the stabilization of these building blocks and offers new enhancement tools, such as a corridor overlays and revisions to off-street parking requirements.

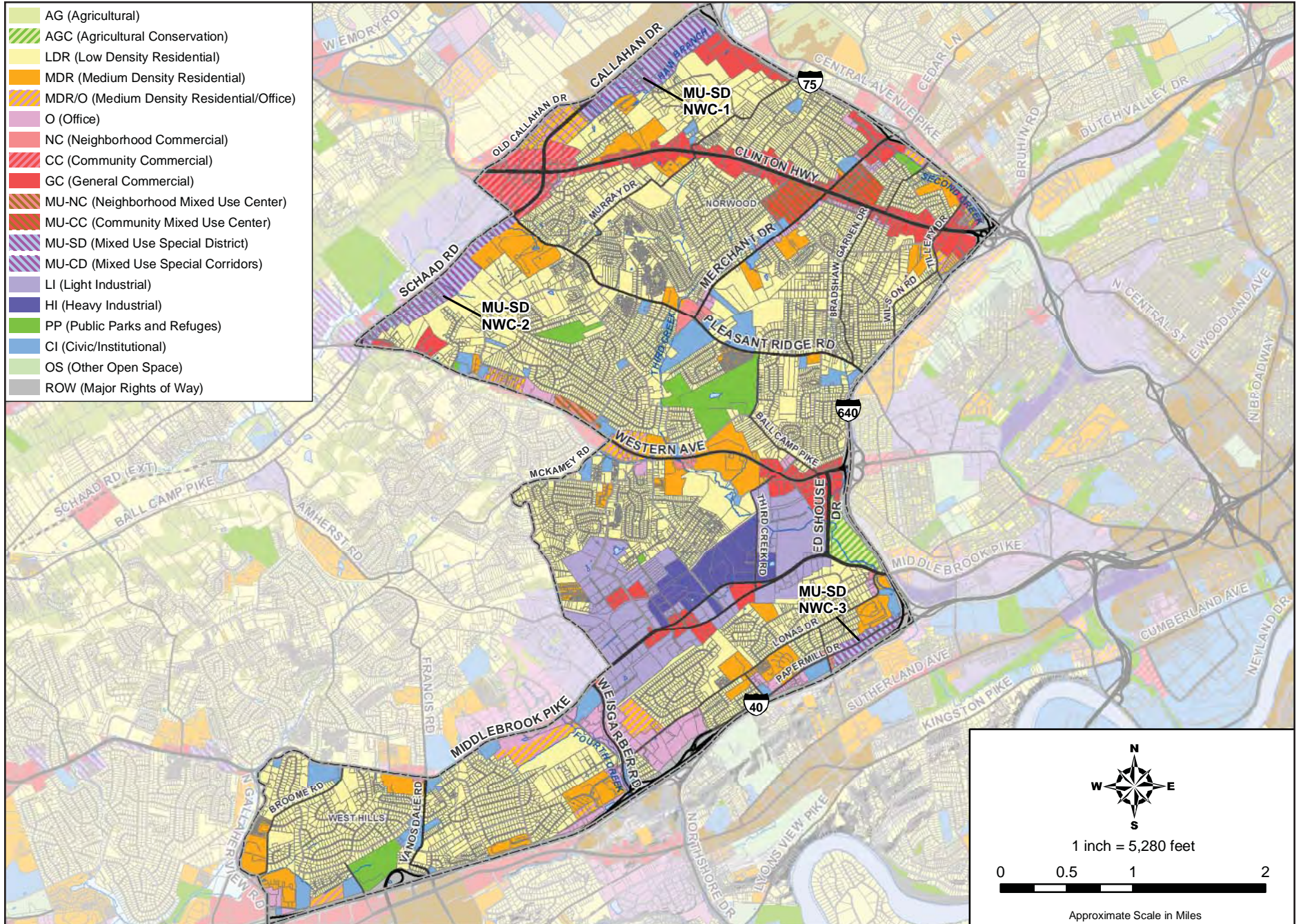
4. Citizen Input

Through the sector plan community involvement process, citizens provided input that helped to form plan recommendations. People who attended public meetings or responded to an online survey wanted better designed commercial areas that have street trees, less vacant buildings, and better design principles for new private development. Citizens were concerned about the continuing development of medium density residential in and around their neighborhoods. Many were interested in the redevelopment prospects for the northwest corner of Clinton Highway and Merchant Drive. The need for smaller neighborhood business services was also mentioned.

5. 2003 Northwest City Sector Plan and the 2001 Callahan Drive Schaad Road Corridor Plan

Previous plan recommendations were analyzed for relevancy, and when appropriate were incorporated into the sector plan.

Northwest City Sector: Land Use Plan



LAND USE CLASSIFICATIONS

The land use classifications used in this sector plan are now part of standardized Land Use Classifications used for all sector plans. Under each classification is a “Proposed Changes” section that contains the total changes in acreage, along with specific locations that have been changed since the 2003 sector plan update.

Some of the changes in acreage were a result of reassigning approximately 2,000 acres of former slope protection areas and stream protection areas.

Slope Protection Areas and Stream Protection Areas are now environmental overlay areas with underlying land use designations.

Table 17: Land Use Acreage Comparison

Land Use Classification	2003 Sector Plan	2014 Sector Plan
Slope Protection Area*	1,798	0
Stream Protection Area*	198	0
Agriculture Conservation**	0	66
Low Density Residential	4,800	6,091
Medium Density Residential	614	764
Medium Density Residential/Office	63	257
Office	396	313
General Commercial	913	629
Neighborhood Commercial	2	47
Community Commercial**	0	168
Light Industrial	774	648
Heavy Industrial	150	212
Civic/Institutional	256	373
Public Parks and Refuges	244	238
Community Center Mixed Use**	0	106
Neighborhood Center Mixed Use**	0	47
Mixed Use Special District	33	312

*Slope Protection Areas and Stream Protection Areas are now environmental overlay areas with underlying land use designations.

**This is a new land use designation that was not used in the 2003 sector plan.

Agricultural Conservation (AGC)

This includes farmland that is conserved through a land trust. The 2003 sector plan included an Agriculture/Forestry/Vacant Land category that no longer exists.

Proposed Changes

- The 2003 land use plan does not include this land use classification.
- The new proposed land use plan recommends 66 acres.

Specific location:

- A. Middlebrook at 4001 Middlebrook Pike is in a conservation land trust that would limit future development of the site, and therefore is being proposed to be changed from Office (O) to Agricultural Conservation (AGC).

Low Density Residential (LDR)

This classification includes primarily residential uses at densities of less than 6 dwelling units per acre (city) and less than 5 dwelling units per acre (county).

Proposed Changes

- The 2003 land use plan designates 4,800 acres as Low Density Residential (LDR).
- The proposed land use plan recommends 6,091 acres.

Specific locations changed to LDR:

- A. The attached units located at Maple Grove Way, Cummins Lane, Stone Hedge Drive, Springfield development on Pleasant Ridge Road and a vacant parcel near Moss Creek on Pleasant Ridge Road were designated Medium Density Residential (MDR), but were developed or zoned for less than 6 dwelling units per acre.
- B. A vacant lot and steeply sloped lot at 4170 Middlebrook Pike was designated Slope Protection Area.

Medium Density Residential (MDR)

This classification includes primarily residential uses at densities from 6 to 24 dwelling units per acre (city) and 5 to 12 dwelling units (county).

Proposed Changes

- The 2003 land use plan designates 614 acres as Medium Density Residential (MDR).
- The proposed land use plan recommends 764 acres.

Specific locations changed to MDR:

- A. The Keystone Apartments, located at 3910 Middlebrook Pike was designated as Office (O).
- B. A portion of the existing apartments at Papermill Square was designated as Medium Density Residential/Office (MDR/O).
- C. The Metropolitan Way development was Low Density Residential (LDR), but is zoned RP-1 at 8 du/ac or greater.
- D. Parcels in the vicinity of 4800 Western Avenue were designated as Commercial (C).

Medium Density Residential/Office (MDR/O)

Land uses within this classification have similar development characteristics: scale of buildings, areas devoted to parking, yard spaces, and location requirements. In areas designated MDR/O, either residential or offices uses can be developed. 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 neighborhoods.

Proposed Changes

- The 2003 land use plan has 63 acres designated as Medium Density Residential/Office (MDR/O).
- The proposed land use plan recommends 257 acres.

Specific locations changed to MDR/O:

- A. A vacant lot located at 8300 East Walker Springs Lane was designated as Medium Density Residential (MDR).
- B. The Knoxville Racquet Club located at 5535 Lonas Drive was designated as Medium Density Residential (MDR).
- C. The area between 5917-6319 Western Avenue was designated as Medium Density Residential (MDR).
- D. The area on Western Avenue between McKamey Road and Third Creek was designated as Public Institutional (PI), Office (O), and Commercial (C).
- E. The area on Western Avenue east of Jimmy Carter Drive on the north side of Western Avenue was designated as Medium Density Residential (MDR).
- F. The area on Callahan Drive east of the proposed Community Commercial area was designated as Office (O).
- G. The area northwest of Wilson Road/Gap Road/Rickard Drive intersection was also previously designated as Office (O).

Office (O)

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

Proposed Changes

- The 2003 plan designates 396 acres as Office (O).
- The proposed land use plan recommends 313 acres as Office.

Specific locations changed to O:

- A. An existing office building located at 8320 E. Walker Springs Lane was designated Medium Density Residential (MDR).
- B. Three parcels located at the intersection of Hinton Drive and Ball Camp Pike were previously designated Low Density Residential (LDR).

General Commercial (GC)

This category includes previously developed strip commercial corridors providing a wide range of retail and service-oriented uses. Such a 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.

Proposed Changes

- The 2003 land use plan has 913 acres designated as commercial.
- The proposed land use plan recommends 629 acres as General Commercial (GC).

Specific locations designated in 2003 as GC:

- A. Properties located at 4810 and 4750 N. Middlebrook Pike were designated as Light Industrial (LI).
- b. The back portion of the parcel located at 6601 Willbanks Road was designated as Light Industrial (LI).
- c. Other areas previously designated as General Commercial were redesignated as Neighborhood Commercial (NC), Community Commercial (CC), or as Mixed Use/Commercial Center (MU-CC).

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.

Proposed Changes

- The 2003 land use plan has 2 acres designated as Neighborhood Commercial (NC).
- The proposed land use plan has 47 acres designated as NC.

Specific locations designated in 2014 as NC:

- A. The Papermill Drive/Hollywood Road Neighborhood Center was changed from Mixed Use to Neighborhood Commercial (NC).
- B. The Western Avenue/Ball Camp Pike Neighborhood Center was designated Neighborhood Commercial (NC).
- C. The Merchant Drive/Pleasant Ridge Road Neighborhood Center was redesignated from Commercial (C) and Office (O) to NC.
- D. A vacant parcel at Middlebrook Pike and Lonas Drive intersection previously designated as Office (O), but zoned C-1 and has been changed to (NC).

Community Commercial (CC)

This category allows retail and service-oriented development, including shops, restaurants, and “big box” retail stores; typical service areas include 20,000 to 30,000 residents. The CC category was not available for use when the 2003 sector plan was produced.

Proposed Changes

- The 2003 plan does not have any Community Commercial (CC) designations, but had 913 acres designated as commercial.
- The proposed land use plan recommends redesignating 168 acres as Community Commercial (CC).

Specific location:

- A. The area at the Callahan Drive/Schaad Road/Clinton Highway was redesignated from Commercial (C) to (CC).

Light Industrial (LI)

This category is typically used in older industrial areas for assembly, packaging, and indoor warehousing.

Proposed Changes

- The 2003 plan has 774 acres designated as Light Industrial (LI).
- The proposed land use plan recommends 648 acres.

Specific locations:

- A. The area between 4308-4337 Middlebrook Pike was changed to Commercial (C).
- B. A parcel located at 3801 Henson Road was changed to Office (O).

Heavy Industrial (HI)

This category is typically used in older industrial areas, such as chemical processing, production of materials, and heavy outdoor storage.

Proposed Changes

- The 2003 plan has 150 acres designated as Heavy Industrial (HI).
- The new land use plan recommends 212 acres.

Specific locations:

- A. Tank farm areas of 1801 Third Creek Road and 5100 North Middlebrook Pike were designated Light Industrial (LI).

Civic/Institutional (CI)

This category includes land used for major public and quasi-public institutions, including schools, colleges, churches (2 acres or larger), correctional facilities, utilities, and similar uses.

Proposed Changes

- The 2003 plan has 256 acres designated as public institutional uses.
- This category has been converted to Civic/Institutional (CI) in the proposed land use plan. As a result, the proposed land use plan recommends 373 acres Civic/Institutional (CI).

Specific locations:

- A. Churches located at 1540 Robinson Road, 4211 Pleasant Ridge Road, 5520 Ball Camp Pike, 405 Black Oak Drive, 3020 Walridge Road, 2614 Merchant Drive, 538 Vanosdale Road, 5518 Nickle Road were previously designated Low Density Residential (LDR).
- B. The church located at 701 Merchant Drive was previously designated as Commercial on the front half of the parcel.
- C. The fire station located at 200 Portsmouth Road was previously designated Low Density Residential (LDR).
- D. Knoxville Utilities Board facilities located at 4622 Robindale Road was designated Low Density Residential (LDR) and 6924 Middlebrook Pike was designated as Office (O). Both are shown as CI in the 2014 land use plan.
- E. South College, located at 3904 Lonas Drive, was previously designated as Medium Density Residential/Office (MDR/O).
- F. A portion of the Northwest Middle School was listed in 2003 as a Parks and Public Open Space.

Public Parks and Refuges (PP)

This category includes existing parks, wildlife refuges, or similar public or quasi-public parks, open spaces, and greenways.

Proposed Changes

- The 2003 plan has 244 acres designated as Parks and Public Open Space.
- This category has been changed in the proposed plan to Public Parks and Refuges (PP), with a total of 238 acres.

Specific location:

- A. The parcel located at 4815 Ball Camp Pike was Low Density Residential (LDR), but is actually part of Victor Ashe Park.

Mixed Use Community Center (MU-CC)

Centers within this land use category are envisioned to be developed at a moderate intensity with a variety of housing types (8 to 24 dwelling units/acre). The core of the district, with its predominant commercial and office uses, should be within ¼ mile of higher intensity residential uses (such as townhouses and apartments). The center should also 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 should be considerations for these centers.

Proposed Changes

- The Mixed Use Community Center (MU-CC) designation was not available in 2003.
- The proposed land use plan recommends redesignating 106 acres as MU-CC.

Specific locations:

- A. The northwest corner of Clinton Highway and Merchant Drive intersection was re-designated from Commercial, Low Density Residential, and Office to MU-CC.
- B. The southeast corner of Clinton Highway and Merchant Drive intersection was re-designated from commercial to MU-CC.

Mixed Use Neighborhood Center (MU-NC)

These are the least intense of the proposed mixed use districts. Residential densities of 5 to 12 dwelling units/acre 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.

Proposed Changes

- The Mixed Use Neighborhood Center (MU-NC) designation was not available in 2003.
- The proposed land use plan recommends redesignating 47 acres as MU-NC.

Specific location:

- A. The intersection of Western Avenue and Palmetto Road was designated Commercial in 2003.

Mixed Use Special Districts

These districts may be specially designated to address issues such as urban design, pedestrian and transit-oriented development and vertical mixed use. Such areas may include older portions of the city or county where redevelopment and/or preservation programs are needed for revitalization purposes.

Proposed Changes

- The 2003 plan has a mixed use designation for Papermill Drive totaling 33 acres.
- The proposed land use plan recommends 312 acres in Special Mixed Use Districts along portions of Callahan Drive, Schaad Road, and Papermill Road.

The changes include:

- A. Several properties located in the Schaad Road corridor were previously designated as Office (O), Other Open Space (OOS) and Light Industrial (LI).
- B. A significant segment of Callahan Road extending west from I-75 was previously designated primarily as Light Industrial (LI) with some and Office (O).

Coordination between the Northwest City and Northwest County sector plans is important to address the Callahan and Schaad Road districts.

NWC-1

Callahan Drive Mixed Use Special District

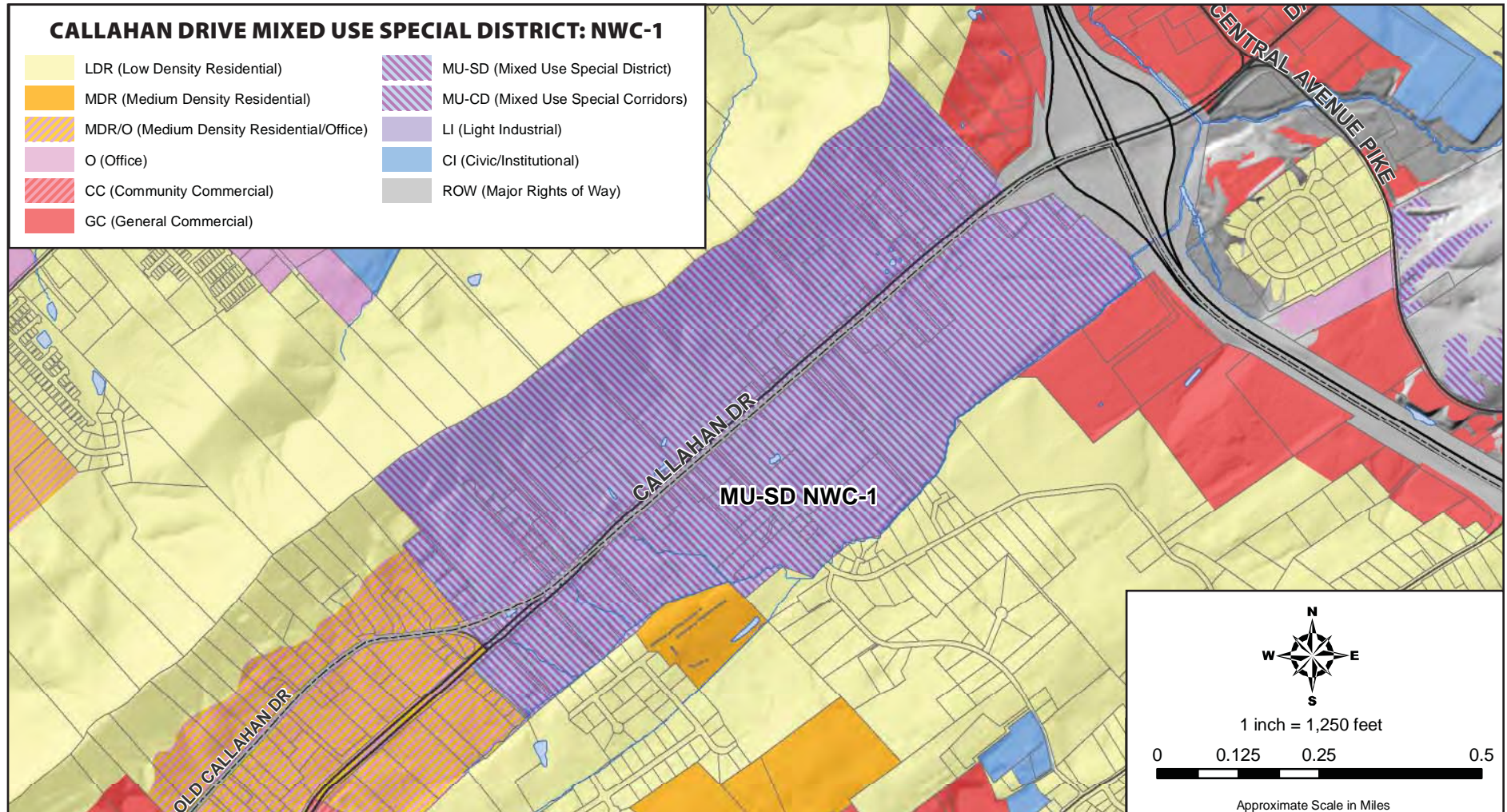
This district is currently comprised of low density residential, office, commercial, and warehousing. The zoning is predominantly commercial with some light industrial. In 2001, a corridor plan was developed and adopted by City Council and County Commission for Callahan Drive and Schaad Road, and the recommendations are carried forward as design guidelines for the district. In addition the plan made recommendations for transportation and community facility improvements.

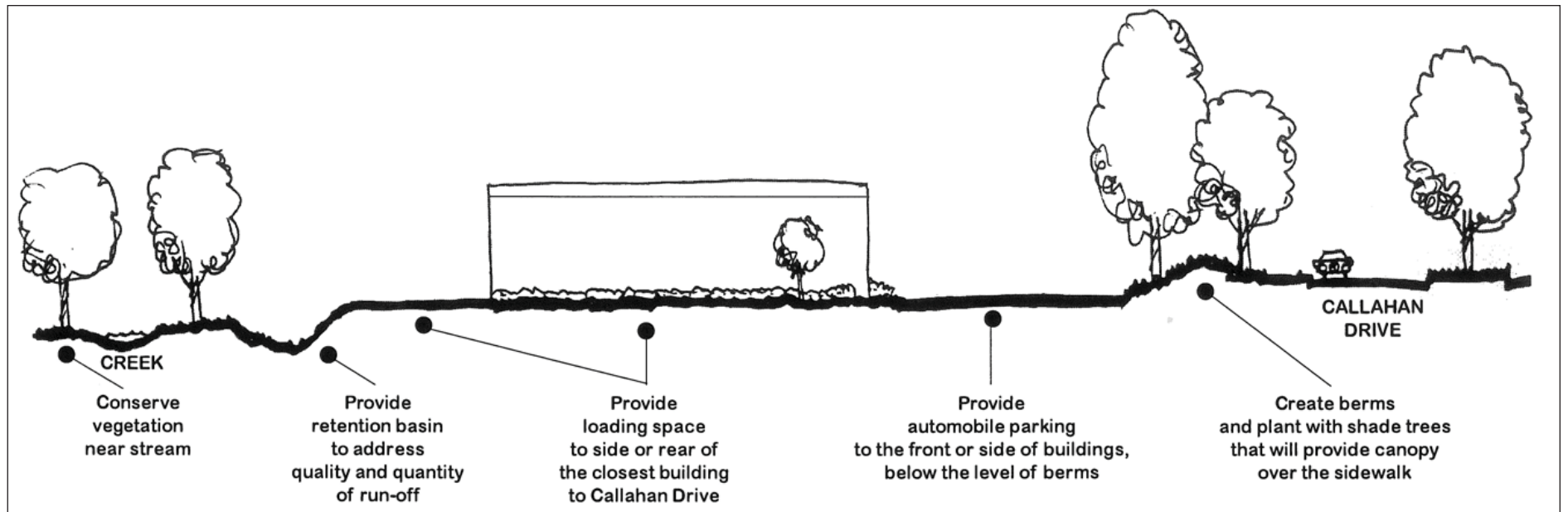
Recommended Land Uses

- General Commercial (recommended zones C-6, PC, PC-1)
- Light Industrial (recommended zones LI- LI-1, C-6, PC, PC-1)
- Office and Medium Density Residential (recommended zones PR, RP-1, and any O)
- Mixed Use Development (recommended zones TC, TC-1, TND-1)

Note:

The North side of Callahan Drive is in the North County Sector Plan and the south side is in the Northwest City Sector Plan area. The plan recommends consistency for both sides of Callahan Drive.





NWC-1 CALLAHAN DRIVE MIXED USE SPECIAL DISTRICT SITE DESIGN GUIDELINE RECOMMENDATIONS

Visual Screening

- Screening between incompatible uses should consist of masonry walls, hedges, planted berms, or combination of these screens.
- All loading areas shall be screened from the view of Callahan Drive/Schaad Road and adjacent residential or office properties.
- Screening of parking and loading areas that face Callahan Drive/Schaad Road should be based on a combination of native vegetation and berms.

Landscaping

Planned zones are recommended, requiring development according to a landscape plan showing the quantities, sizes, and types of plants to be used. In preparing the landscape portion of the site plans, the following should be addressed:

- A combination of evergreen trees, shrubs, and deciduous trees should be used to enhance the “streetscape” of the corridor.
- Grass, ivy or other natural ground cover, native trees and shrubbery should be used in landscaping. A minimum

- of 8 canopy trees (such as oaks or maples, capable of growing to a height of 50 feet or more), 4 evergreens (such as magnolia or pine, capable of growing to 50 feet or more) and 8 understory trees (such as dogwood or redbud) are to be planted per acre, with a minimum caliper of 2 ½ inches. Shrubbery should be used on berms located around buildings along Callahan Drive.
- Landscape plans should emphasize the conservation of natural features, including stands of trees. Existing trees can be used to meet a portion of the planting requirements.
- Five percent of the hard surface areas (e.g., parking and loading areas) should be landscaped.

Setbacks

- Provide a minimum of a 30-foot setback when parking is provided to the side of a building. Allow for additional space for automobile parking and detention basins between the right-of-way and building(s) as needed to meet site conditions. Truck loading areas should be oriented to the proposed access road.

Lighting

- The height of lighting should not exceed 30 feet in parking areas.

Signs

- In order to preserve views of scenic assets such as ridges along the corridor, monument signs reaching no more than 5 feet high should be used along the corridor.
- For development of parcels of 20 acres or more, monument signs should be no more than 100 square feet.
- For development of parcels between 5 and 20 acres, monument signs should be no more than 60 square feet.
- For development of parcels less than 5 acres, monument signs should be no more than 40 square feet.
- Wall signs should be limited to 1 square foot of signs for every linear foot of building frontage up to a maximum of 100 square feet.

Transportation Improvements

Continue tree planting program in center medians.

**NWC-2
Schaad Road Mixed Use Special District**

This district covers the south side of Schaad Road from Oak Ridge Highway to Pleasant Ridge Road. Existing land uses on the south side of Schaad Road are primarily single-family residential west of Hilda Lane; to the east is mainly vacant land. The recommendations from the 2001 *Callahan Drive/Schaad Road Corridor Plan* are carried forward as design guidelines for this district. The *Long Range Regional Mobility Plan 2040* identifies Schaad Road for widening in 2019. With the Schaad Road/Clinton Highway community commercial center

nearby, there is no need to have strip commercial development along this corridor. Approximately 39% of the parcels that front Schaad Road are currently zoned commercial. Near the intersection with Oak Ridge Highway, another nonresidential area is envisioned that will support office, residential, and light industrial uses.

Recommended Land Uses

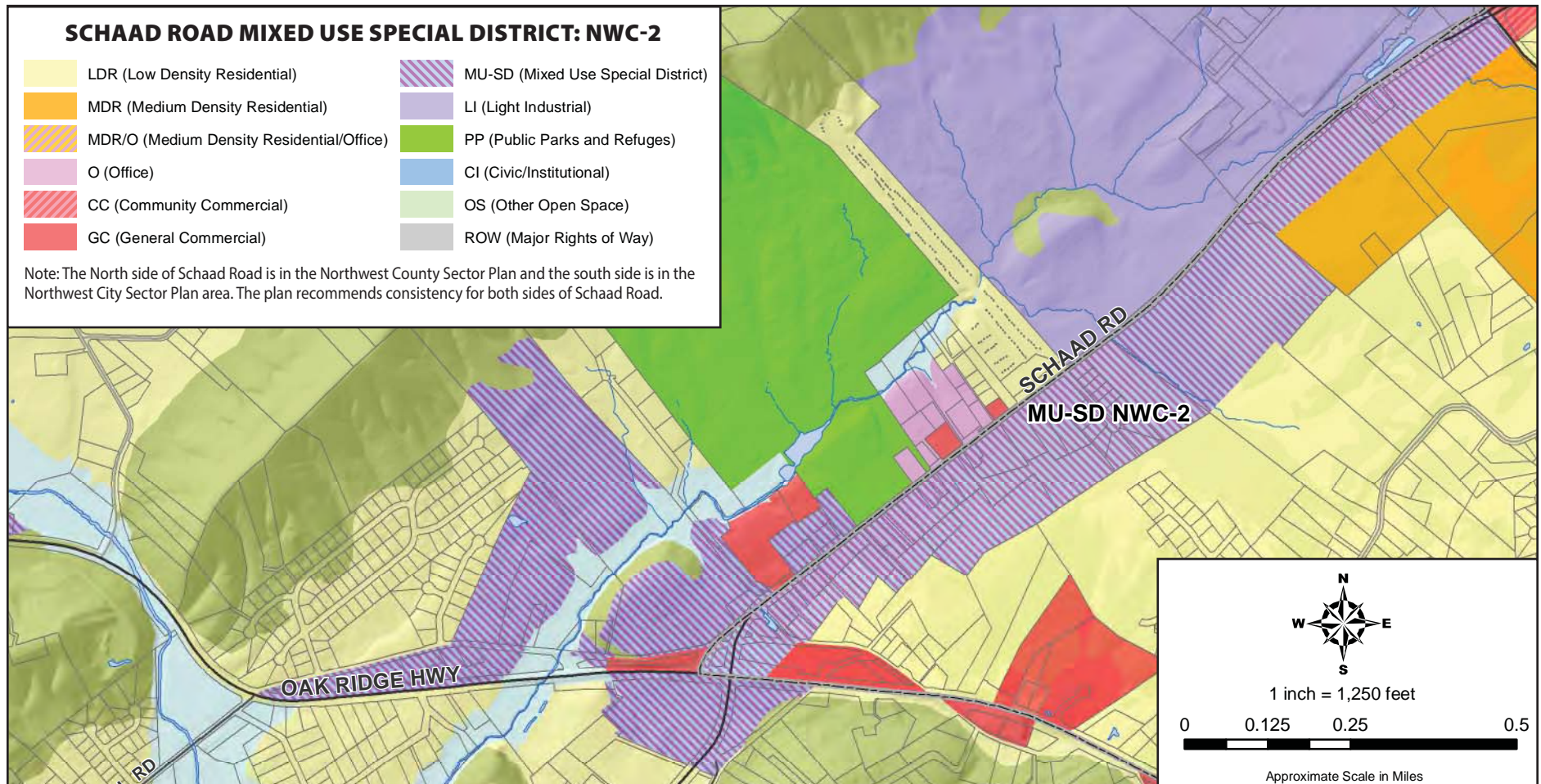
- East of Hilda Lane: Light Industrial (recommended zones LI- LI-1, C-6, PC, PC-1) and Mixed Use Development

(recommended zones TC, TC-1, TND-1)

- West of Hilda Lane: Office and Medium Density Residential (recommended zones PR, RP-1, and any O) and Mixed Use (recommended zones TC, TC-1, TND-1)
- Site design guidelines from NWC-1 Callahan Drive are also recommended for this district

Transportation Improvements

- Develop a new street design with four travel lanes, a center median, and sidewalks
- Plant new medians with street trees



NWC-3

Papermill Drive Mixed Use Special District

The existing land use pattern for the Papermill Drive District includes industrial, warehousing, office, and commercial land uses. The district is generally located between Hollywood Road to the west and the I-640 ramp to the east. Immediately to the west of this district is a neighborhood commercial center, near Pond Gap Elementary School.

Recommended Land Uses

- General Commercial (GC), Light Industrial (LI), and Office (O). The corridor is envisioned to allow a mixture of land uses in the area, but with better off-street parking standards, including reducing the number of required off-street parking spaces, encouraging parking to the rear and side of buildings, and encouraging parking lot screening and landscaping. Also, better site design standards should include monument signs, front yard landscaping, discouraging chain link fencing near future sidewalk locations, and landscape buffering along residential edges of the district.

Site Design Guidelines

- The visual screening, landscaping, lighting, and sign sections of the site design guidelines as outlined in NWC-1 Callahan Drive mixed use special district should be observed.
- Front yard setbacks should be less than 30'.
- Limit chain link fencing in the front yard space, especially near any proposed sidewalk locations.

Transportation Improvements

- Extend sidewalk along Papermill Drive, connecting to Pond Gap Elementary School and Third Creek.
- Establish tree planting areas.

Community Facilities

- Connect the Cedar Bluff Greenway through the district to the Third Creek Greenway.
- Enhance and build off the successful community garden at nearby Pond Gap Elementary School.

OTHER OPPORTUNITIES

Corridor Overlay District (CO-1)

Throughout the community input in the sector plan update process, people expressed concern that better design standards on the major commercial corridors within the Northwest City sector should be established, particularly as major roadway segments are improved or reconstructed. This is not new – the 2001 corridor plan developed for Callahan Drive and Schaad Road addresses these same design concerns. In response, MPC staff recommends the adoption of a new Corridor Overlay (CO-1) or a similar zoning tool that would address these design concerns. This new tool has been drafted by MPC staff and has been presented to City Council for consideration.

The purpose of such an overlay district is to enable the designation of specific roadway corridors and employ supplemental zoning regulations already in place.



The intent of the overlay district is:

1. To promote the health, safety, and welfare of the community;
2. To promote the safe and efficient movement of all modes of travel, including motorized vehicles, bicycles, and pedestrians;
3. To promote safe and efficient property access;
4. To create a sense of place that is aesthetically pleasing and environmentally sustainable; and
5. To establish consistent and harmonious design standards for development.

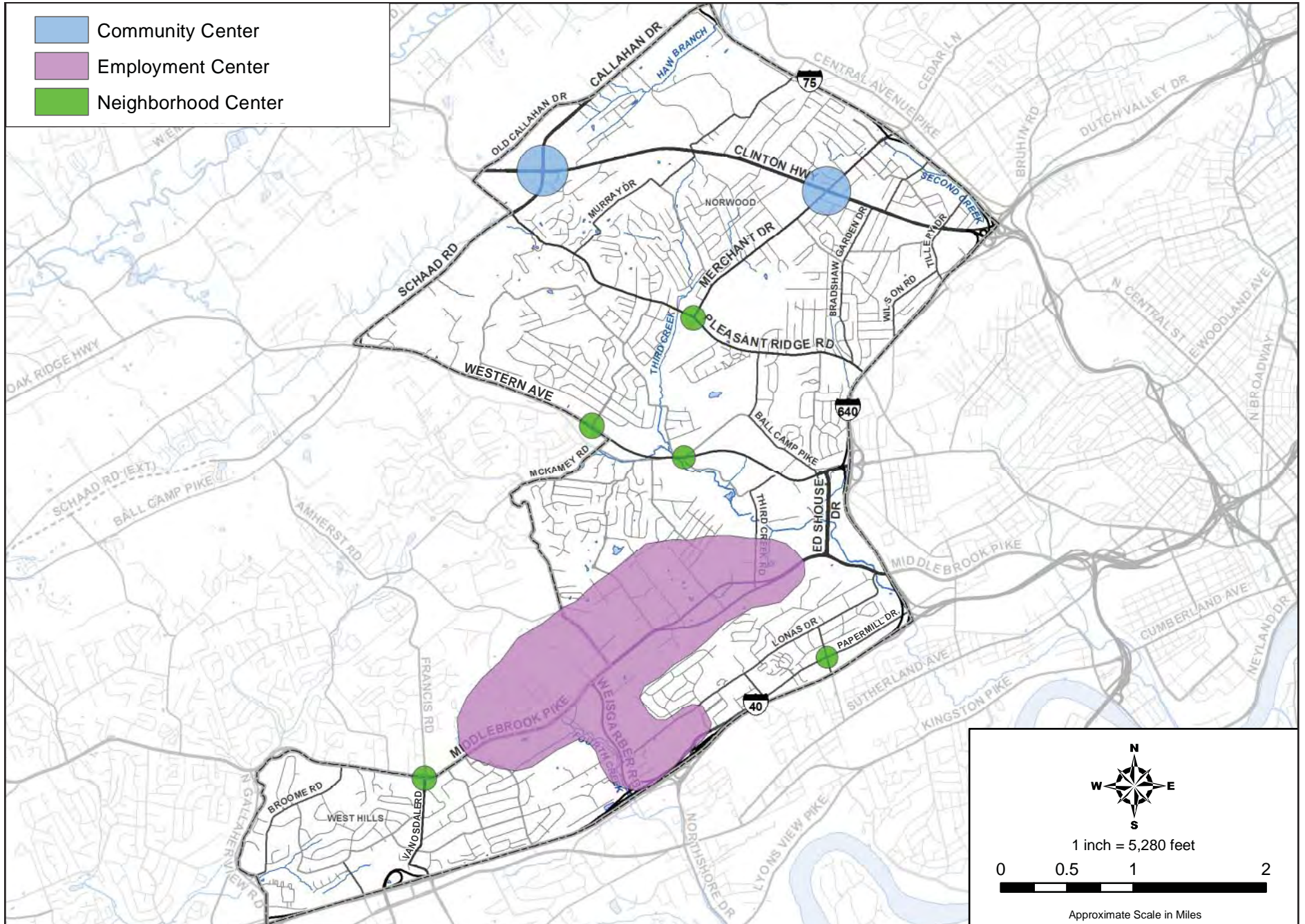
A separate public input process would be used to develop design standards unique to each corridor. This would help address issues specific to each of the Northwest City's corridors, including, but not limited to:

- Callahan Drive
- Clinton Highway
- Merchant Drive
- Middlebrook Pike
- Schaad Road
- Western Avenue
- Neighborhood & Community Center Arterial Intersections

The standards for a CO-1 overlay district may include the following elements:

1. Building and related development characteristics;
2. Lot characteristics, including setbacks and lot coverage;
3. Landscaping and lighting;
4. Access management;
5. Stormwater management;
6. Signs; and
7. Other features that may be unique to the corridor.

Northwest City Sector: Development Centers



COMMUNITY CENTERS

Community centers serve the surrounding community with goods and services, and are generally defined in scale as a “cluster of neighborhoods, with a population large enough to support a high school, sports complex, and shopping center.” They are easily accessible by roadways and transit. The sector plan identifies two community centers, both located on Clinton Highway at the intersections of Merchant Drive and Schaad Road/Callahan Drive.

All community centers should have the following amenities:

- Street trees
- Complete sidewalk system throughout the center, including both sides of the street and crosswalks
- Convenient and efficient bus service with bus shelters

Schaad Road/Callahan Drive

This community center is located at the edge of the city’s municipal limits. The area is immediately accessible by vehicle via major roads such as Schaad Road, Clinton Highway, and Callahan Drive. Interstate 75 is located less than two miles away, via Callahan Drive. Transit service is provided by KAT on weekdays and Saturdays via Route 20, Central Avenue/Clinton Highway. The area is auto-oriented in its design and use with few pedestrian amenities such as sidewalks, street trees, and bus shelters.

Existing community commercial uses include retail, service-oriented businesses, shops, restaurants, and “big box” retail stores. Some of the “big box” retail stores within this center include, Walmart, Home Depot, Lowes, Kroger and Target. There are few commercial vacancies at this interchange, and much of the development in the area occurred fairly recently. Opportunities for new development or redevelopment of this community center appear to be limited.

The land use plan recommends Community Commercial for this area, which recognizes the existing land use of the center. No land use plan revisions are needed since the plan reflects the use and development pattern that is there today.



A PlanET concept drawing of a proposed community center in Oak Ridge

Merchant Drive

This community center has two intersection quadrants with strong redevelopment potential; the west (Expo Center) and east (Clinton Plaza) corners. The area is easily accessible via Merchant Drive, Clinton Highway, I-75, and nearby I-640. In addition, two transit lines serve this center on weekdays and Saturdays, Route 20 Central Avenue / Clinton Highway and Route 90 Crosstown Connector. The area is auto-oriented in its design and use with little pedestrian amenities such as sidewalks, street trees, and bus shelters.

West Quadrant

The west quadrant includes a new Cheddars restaurant, the Knoxville Expo Center, a vacant Kroger, and 23 acres of undeveloped land. The land use plan changes the designation for this area from General Commercial to Community Center Mixed Use (MU-CC). Currently, one developer owns the majority of this quadrant, and has expressed interest in developing a town-center on this

site should market conditions improve. Redevelopment under MU-CC could include retail, office, residential, and commercial uses located in multi-story buildings that front new streets laid out to create smaller walkable blocks, similar to a small town historic main street. In addition, making pedestrian connections to the nearby Norwood Elementary School, Norwood Branch Library, and New Hope Presbyterian Church would be important elements of a town-center development. The wetland area behind the school could also be developed as into a passive park that connects future development to the school with walking trails.

East Quadrant

The east quadrant includes Clinton Plaza where the Food City and Ace Hardware occupy the largest building spaces. The remainder of the area includes Joe Nubert Collision, smaller retail uses, an apartment building, and

a house. The area has good transportation access and utility capacity, but due to age of structures and expanse of underutilized parking lot pavement, redevelopment is likely when market conditions change. Redevelopment is envisioned to be similar to that of the east quadrant, where a mix of uses, new streets, and pedestrian connections would be encouraged.

The land use plan recommends a change from General Commercial to Community Center Mixed Use (MU-CC) for the east quadrant, which recognizes the potential for redevelopment in a more compact development pattern with a mix of uses (commercial, office, and residential) with sidewalks and transit service. In order to implement this plan recommendation, rezoning the MU-CC property to TC-1 prior to redevelopment is recommended. Other new zoning tools potentially available in the future that incorporate town center principles could also be considered.

North & South Quadrants

The other two quadrants of the intersection are less likely to be redeveloped due to the smaller lot sizes, slope, and existing low density residential neighborhoods. The north quadrant includes nonresidential development that is limited to 200-300 foot deep lots fronting Merchant Drive or Clinton Highway. The Merchants Corner plaza was built recently, with single family residential development on Ridgefield Drive and Wallwood Road in close proximity. The south quadrant is similarly limited by a linear row of automotive-oriented businesses that front Clinton Highway and by office buildings that front Merchant Drive, backed by single family homes located on Marguerite Road and Britton Drive. The east and west quadrants of the Clinton Highway / Merchant Drive intersection have retained a General Commercial (GC) designation on the land use map.



Jennifer Crain

Neighborhood commercial: The Wildwood Building in Olympia Washington

NEIGHBORHOODS CENTERS

Neighborhood centers include limited nonresidential uses intended to serve adjacent neighborhoods and provide for day-to-day needs. They are smaller in size and scale as compared to community centers.

Recommendations for all the neighborhood centers include:

- Rezoning to Neighborhood Commercial (C-1) should be pursued in all centers, except at the intersection of Vanosdale and Middlebrook Pike. Also, C-1 zoning is already in place at the intersection of Western Avenue and Palmetto Road where TND-1 or new design guidelines would be more appropriate.
- Sidewalks should exist on both sides of the street in neighborhood centers.
- Crosswalks should be developed at main intersections.
- Better parking lot standards, corridor overlays or other standards that incorporate front yard landscaping and/or partial screening should be established for these areas.
- Transit service should extend throughout neighborhood centers. With the exception of the two neighborhood centers on Western Avenue, all other neighborhood centers within the sector are currently served by transit.

Specific neighborhoods centers include:

Merchant Drive/Pleasant Ridge Road Neighborhood Center

This neighborhood center is located at the edge of the Norwood neighborhood. Current land uses include a gas station, a Goodwill store, vacant land, underutilized land currently serving as bus storage, and office uses. The Victor Ashe Greenway provides connectivity between Victor Ashe Park, the Northwest Middle School, Victor Ashe Park, and the neighborhood center. The area is also serviced by transit via Route 90 Crosstown Connector. Establishing a stronger neighborhood center could take advantage of the easy pedestrian accessibility via the Victor Ashe Greenway, to the nearby Northwest Middle School, and to underutilized land currently at the old gas station which is currently being used for bus storage. The land use designation for this center is Neighborhood Commercial (NC). Retail and service-oriented commercial uses are available to provide goods and services that serve the day-to-day needs of households within walking or short driving distance.

Western Avenue/Palmetto Road Neighborhood Center

This neighborhood center is located at the edge of the Cumberland Estates neighborhood. Current land uses include a Weigel's gas station, Cumberland Estates Center plaza, a Food City grocery store, Weaver funeral home, and self-storage units. This area shares a planning boundary with the Northwest County Sector Plan and the recommendations should be consistent for both sides of the street. The primary transportation corridor serving the area is Western Avenue; no bus routes serve this center. Redevelopment along Western Avenue is likely to occur after improvements to the streetscape are completed.

The plan recommendation for this center is Neighborhood Center Mixed Use (MU-NC). This would allow a recommended mix of uses (office, medium density residential and commercial). The size and scale of new buildings in this center should complement the surrounding neighborhoods.

Western Avenue/Ball Camp Pike Neighborhood Center

This small neighborhood center is located where Third Creek crosses Western Avenue, and where the future Third Creek Greenway extension is planned to cross Western Avenue. The area contains several vacant lots and only one commercial development, Brogdon Plumbing Company. With the reconstruction of Western Avenue and Third Creek Greenway extension, there is an opportunity to develop previously undeveloped land and establish connectivity that could serve adjacent residents. The land use plan designation for this center is Neighborhood Commercial (NC), to provide opportunities for retail and service-oriented commercial uses. These uses would provide goods and services to serve day-to-day needs of nearby households within walking or a short driving distance. Funding for the Third Creek Greenway extension is not currently available, and collaboration with TDOT is needed to develop the design for the Western Avenue crossing. Continued improvements to Victor Ashe Park will help make this a thriving neighborhood center.

Papermill Drive/Hollywood Road Neighborhood Center

This neighborhood center is located next to Pond Gap Elementary School. Current uses include day care, a beauty salon, a photography studio, an exterminator, and an auto repair business. Pond Gap Elementary was the first "community school" in Knox County. The center could be improved further by establishing a neighborhood commercial land use pattern at the intersection near the school. The Papermill Bluff Greenway is recommended to be extended through this center, with Third Creek Greenway access located at the southern terminus of Hollywood Drive. The center has a limited sidewalks system, with sidewalks currently existing only on Papermill Drive near the school and on Hollywood Drive.

The land use plan designation for this center is Neighborhood Commercial (NC). Such uses would provide goods and services to serve day-to-day needs of nearby households within walking or a short driving distance.

Vanosdale Road/Middlebrook Pike Neighborhood Center

This neighborhood center is located next to the West Hills neighborhood. One parcel at the southwestern corner is currently designated Neighborhood Commercial (NC). Middlebrook Pike United Methodist Church is designated Civic/Institutional (CI). The northern side of Middlebrook Pike is in the Northwest County Sector Plan area and should be designated as Neighborhood Commercial (NC). The center has good access, sidewalk connectivity, and is served by transit via Route 90 Crosstown Connector.

The land use plan designation for this center is Neighborhood Commercial (NC), intended to provide retail and service-oriented commercial uses within a walking or short driving distance.

EMPLOYMENT CENTERS

Employment centers are concentrations of nonresidential land uses that employ a significant number of people. Characteristics associated with these centers include an efficient transportation system, larger tracts of land, and some level of separation from adjacent residential uses. The PlanET employment center in the Northwest City sector is located along Middlebrook Pike/Weisgarber Road/Lonas Drive.

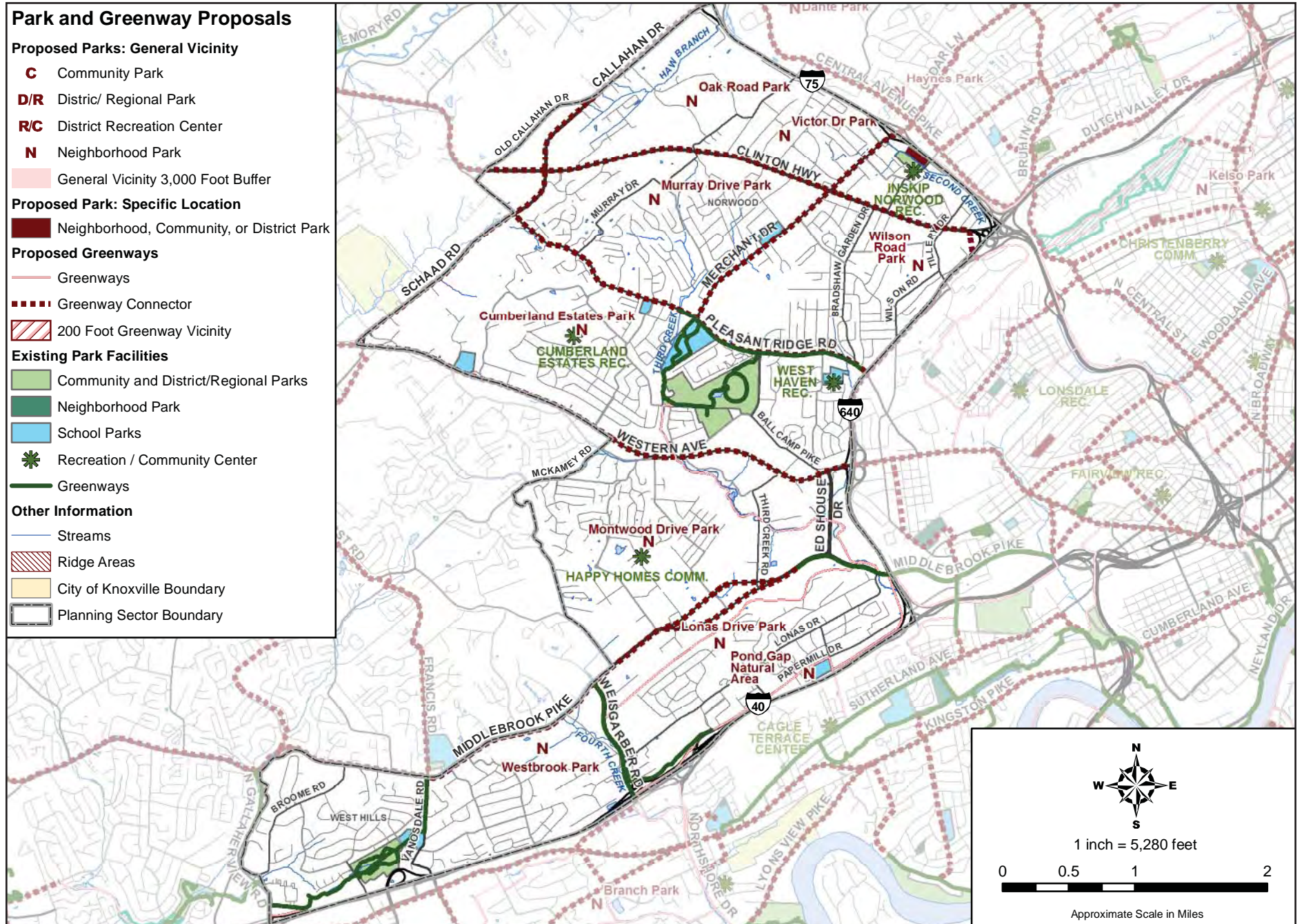
Middlebrook Pike/Weisgarber Road/Lonas Drive

Middlebrook Pike contains major employers along the industrial area east of Weisgarber Road. To the west is Dowell Springs and the proposed site for the new Tennova hospital. Major employers such Bush Beans and Pilot Travel Center have located their corporate headquarters in this center. The general area is served by an easily accessible road system with good connectivity to I-40, I-640, and I-75. Transit service is provided by KAT via the Route 90 Crosstown Connector on Middlebrook Pike and the Route 19 Lakeshore/Lonas Connector. This center will become a more active employment center should the new hospital be developed. The sector plan includes land use designations for a majority of the center capable of accommodating large employers such as industrial and office uses.



Bush Brothers and Company corporate headquarters on Weisgarber Road

Northwest City Sector: Community Facilities Plan



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 relative to the conservation of scenic, historical, and environmental assets.

The community facilities plan incorporates recommendations from the following sources:

- Community input
- City of Knoxville Parks and Recreation staff interviews
- *Northwest City Sector Plan* (2003)
- *Greenway Corridor Feasibility Study* currently being conducted by the City of Knoxville
- *Knoxville-Knox County Park, Recreation and Greenways Plan* (2010/2011)
- *Long Range Regional Mobility Plan 2040* (2013)

Schools and Libraries

Schools and libraries are well distributed in the sector. 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 and should consider the following recommendations voiced by the public:

Recommendations

- When additional school class room space is needed in existing schools, expansion of existing school facilities should be accomplished through permanent structural additions rather than portable classrooms.
- The Norwood Library should encompass a community gathering space in any renovation plans to the building.

Parks, Greenways, and Recreational Facilities

Parks and greenways are well distributed throughout the sector, except for the northeastern portion. The City of Knoxville is currently conducting a feasibility study to explore implementation of the *Knoxville-Knox County Park, Recreation and Greenways Plan* recommendations. One greenway route being studied is the connection from West Hills Park to Victor Ashe Park, along Middlebrook Pike and Third Creek.

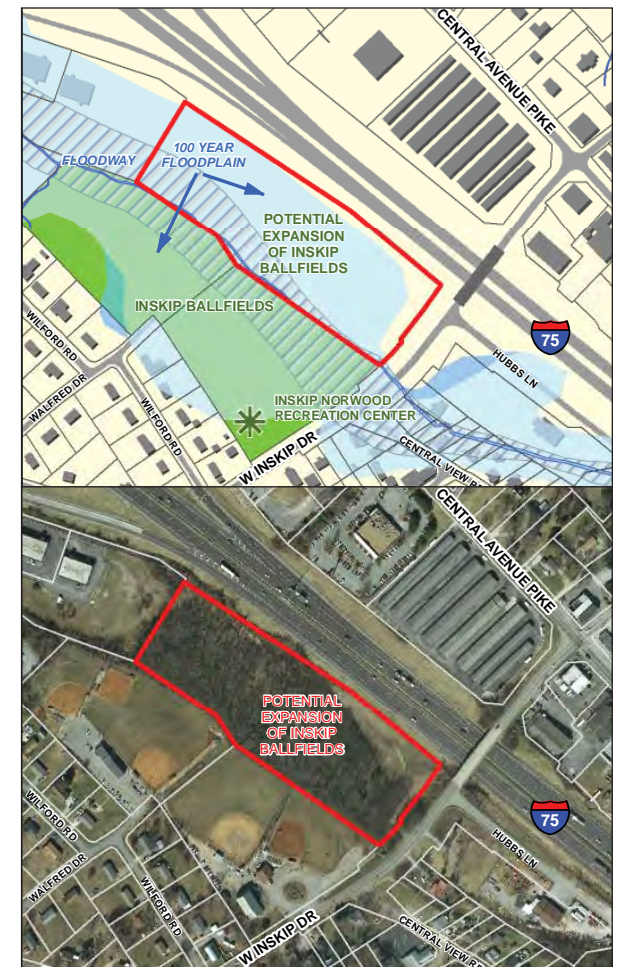


Other Recommendations from the 2010 Plan include:

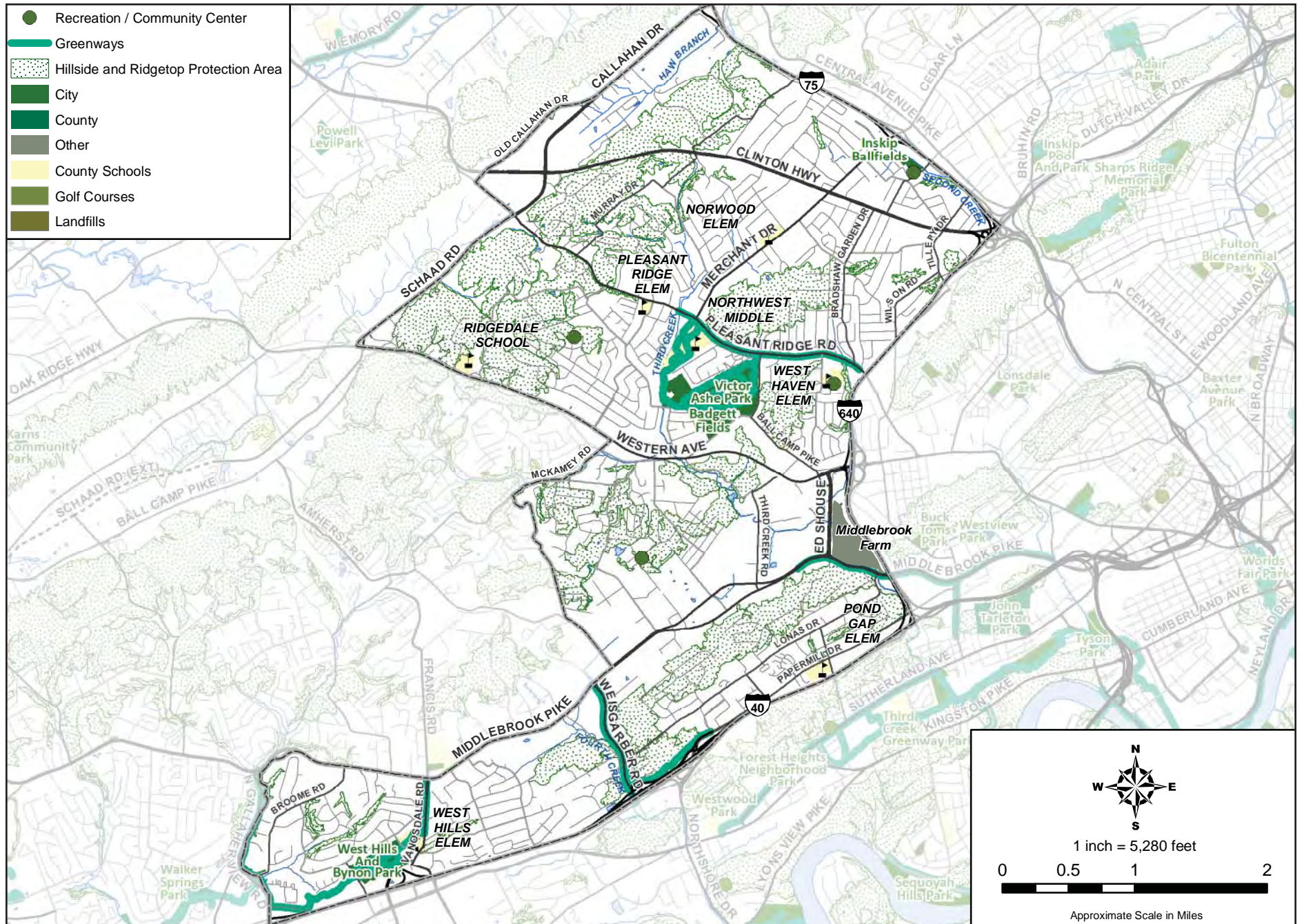
- Fourth Creek Greenway – Phase 2: Construct a greenway from Weisgarber Greenway to Jean Teague Greenway (2019).
- West Knoxville Greenway: Construct a greenway from Weisgarber Greenway to Victor Ashe Park (2024).
- Third Creek Greenway – North Extension: Construct a greenway from Sutherland Avenue/Third Creek Greenway to Victor Ashe Park (2024). This segment of greenway may be moved up in priority due to the crossing of Western Avenue, where TDOT is currently analyzing a pedestrian bridge versus a culvert to establish access across Western Avenue.
- Extend the Pleasant Ridge Greenway to the northwest to connect to the sidewalk system along the widened Pleasant Ridge Road.
- Acquire space for new neighborhood parks (5 to 10 acres each) in the general vicinity indicated on the plan: Westbrook Park, Oak Road Park, Victor Drive Park, Lonas Drive Park (consider a partnership including the United Way, Knox Racquet Club, or the Elks Lodge in providing this facility), Wilson Road Park, Murray Drive Park and Montwood Drive Park.
- Provide a connection from the Papermill Bluff Greenway to Pond Gap Elementary School.
- A Pond Gap Greenway should be created as a buffer to and recreation resource for the neighborhood north of Lonas Drive.
- Sidepaths along roadways for biking and walking are partially established along Middlebrook Pike. More

connections are needed to link the Weisgarber and Jean Teague greenways and provide a connection to Bearden Middle School. Other major bicycle-pedestrian connectors include Western Avenue, Clinton Highway, Pleasant Ridge Road and Merchant Drive.

- Create a master plan for the Cumberland Estates Recreation Area and expand the opportunities for outdoor recreation.
- Expand the Inskip Ballfields into adjacent property consisting of approximately seven acres of floodplain and forested land. This new addition could be used primarily for passive activities such as nature observation or walking paths.



Northwest City Sector: Green Infrastructure Plan



GREEN INFRASTRUCTURE PLAN

Green infrastructure represents the natural resources needed for environmental, social and economic sustainability, including existing parks, schools, natural areas, wooded hillsides, lakes, creeks, and existing and proposed greenways. A well-connected green infrastructure system has both environmental and economic benefits to communities. These benefits include clean air and water, increased property values and healthier citizens.

The green infrastructure plan incorporates recommendations from the following sources:

- Community input
- City Forester interviews
- Knoxville Food Policy Council recommendations
- Knox County Stormwater Management Ordinance
- City of Knoxville Stormwater Ordinance
- *Greenway Corridor Feasibility Study* currently being conducted by the City of Knoxville
- *Knoxville Street Tree Master Plan* (2002)
- *Northwest City Sector Plan* (2003)
- *Knoxville-Knox County Tree Conservation and Planting Plan* (2007)
- *Knoxville-Knox County Park, Recreation and Greenways Plan* (2010/2011)
- *Knoxville-Knox County Hillside and Ridgetop Protection Plan* (2011/2012)

The 2003 Northwest City sector plan includes recommendations for landscaping and beautification improvements to major roads in the sector. The public input process through surveys and the first round of meetings stressed the importance of carrying forward these recommendations. Furthermore, the *Knoxville-Knox County Tree Conservation and Planting Plan* calls for tree plantings along streets and new landscaping standards for parking lots.

Floodways and Floodplains

The FEMA Flood Insurance Study (FEMA) maps, which designate boundaries for floodways, 100-year floodplains, and 500-year floodplains in the vicinity of streams and rivers, have been adopted by the City and County as

part of their flood prevention ordinances. “Open-type” uses (such as parks, parking lots and golf driving ranges) are allowed within the floodway, however, the clearing of vegetation is limited within water quality (riparian) buffer zones around streams. Structures are only allowed in the floodway if extensive stormwater modeling proves that there is no effect to the 500-year floodplain. The “no-fill line”, which is established halfway between the FEMA floodway and 100-year floodplain, does not allow any type of fill or new construction that reduces flood storage capacity (for example, a parking lot can be constructed but the asphalt cannot be higher than the current ground elevation). New structures are allowed within the FEMA 100-year and 500-year floodplain but they must be approved by the City or County engineering department and certified that all habitable floors are 1-foot above the 500-year flood elevation and the foundation is designed to ensure the unimpeded movement of floodwaters.

Stormwater Best Management Practices

Stormwater Best Management Practices (BMP’s) include bio-retention areas, wetland enhancement and porous paving systems, and address the need to manage water quality resources. BMP’s have been established to control stormwater pollution, reduce soil erosion, and reduce sedimentation in streams and other waterways. These practices are illustrated and discussed in Knox County’s Stormwater Management Manual and the City of Knoxville Best Management Practices Manual. These manuals were included as part of the National Pollutant Discharge Elimination System (NPDES) which requires large and medium-sized cities/counties to obtain a NPDES permit for municipal storm sewer systems. In order to be compliant with federal and state regulations, the City needs to incorporate best management practices to ensure that growth is accommodated in an environmentally responsible manner.

Impervious Pavement Coverage

The City Urban Forester recently conducted an impervious pavement coverage assessment for all city neighborhoods. Within the Northwest Sector, Norwood East has the most impervious pavement coverage (34.90%) and Cumberland Estates has the least impervious pavement (9.00%).

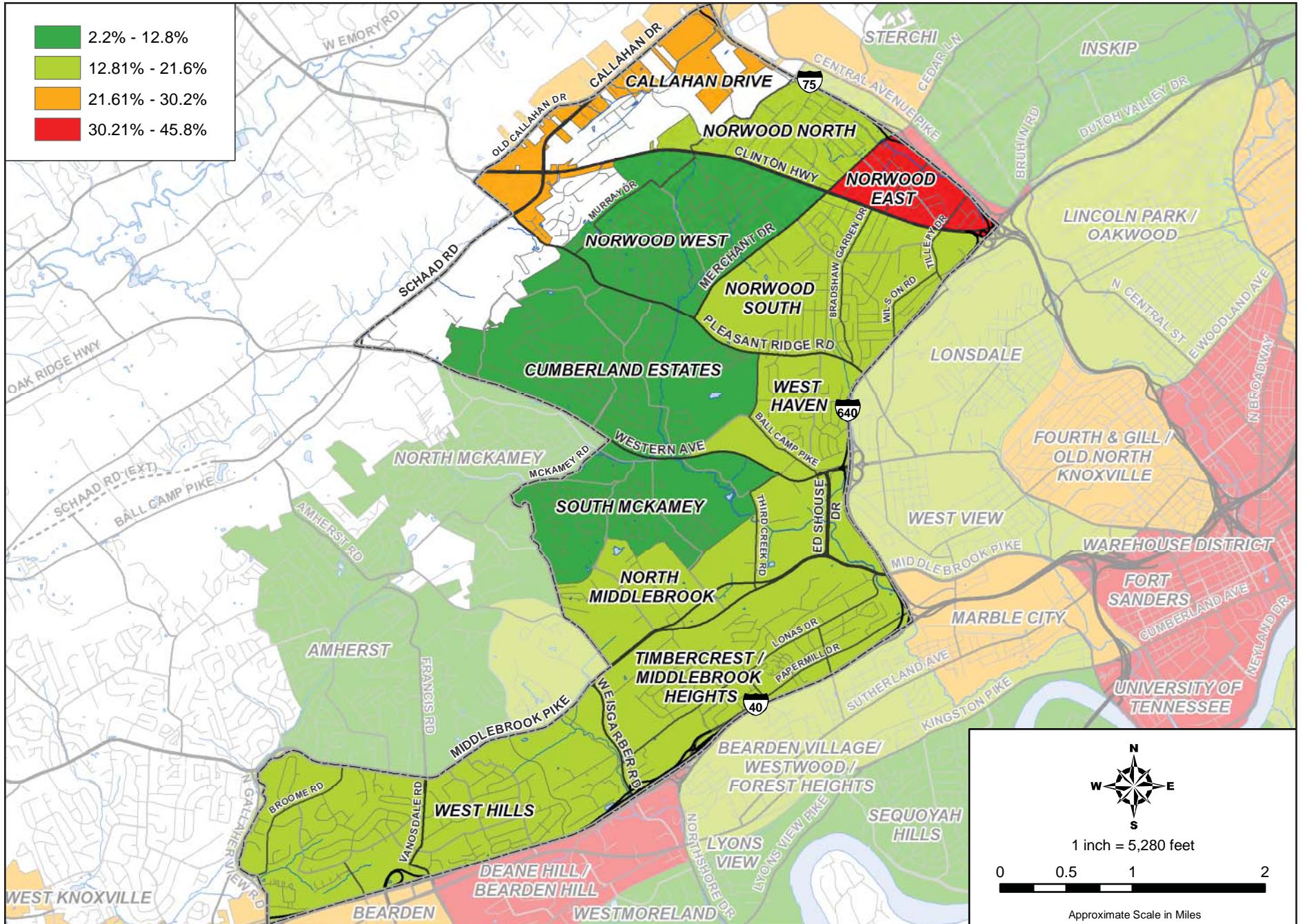
<i>Neighborhood</i>	<i>Pavement Coverage (%)</i>
Cumberland Estates	9.00
South McKamey	9.14
Norwood West	11.80
Norwood South	13.80
Norwood North	17.10
Timbercrest/Middlebrook Heights	18.60
West Hills	19.20
North Middlebrook	20.60
Norwood East	34.90
City of Knoxville Average	18.51

Tree Canopy Coverage

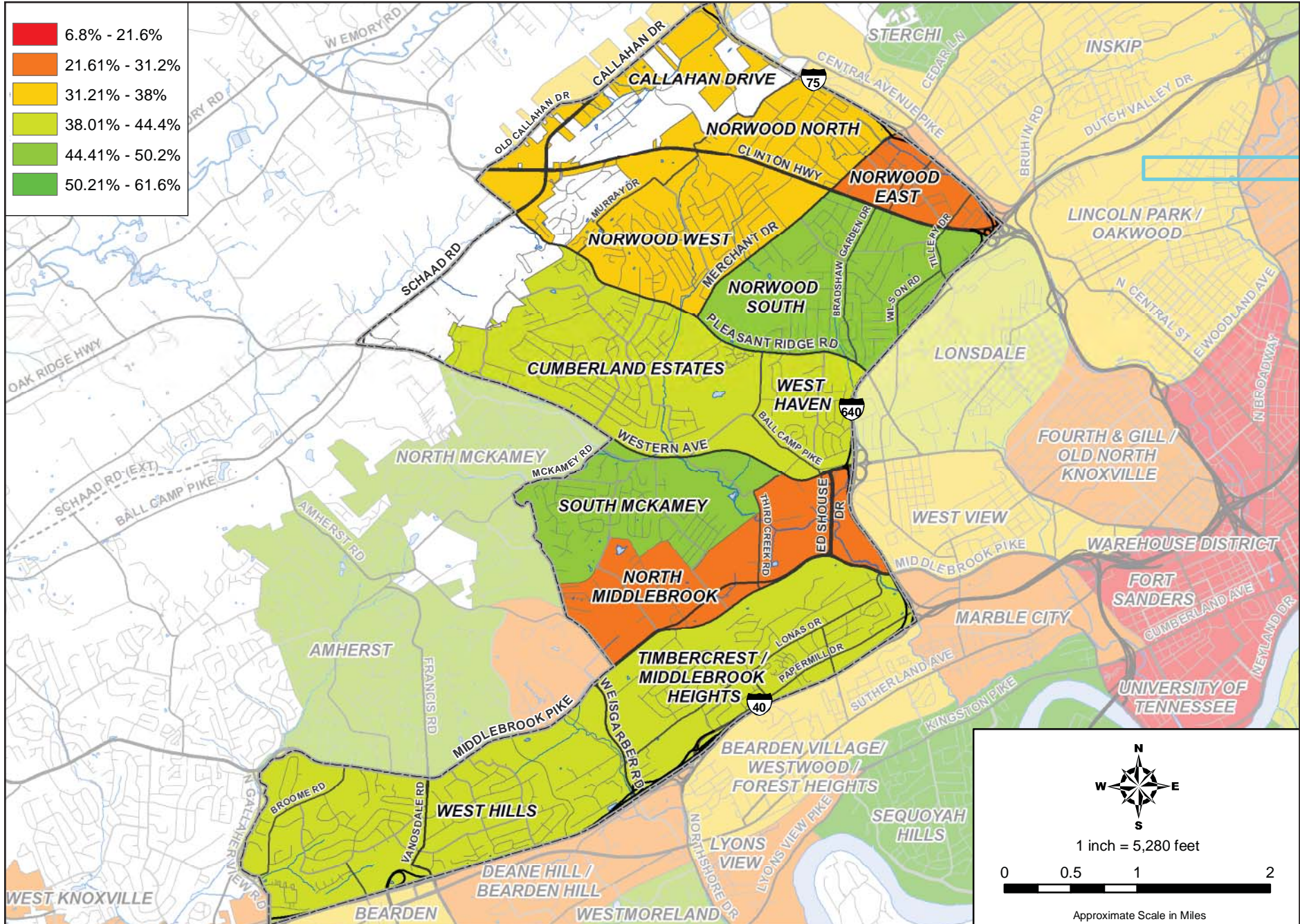
Knoxville was named a 2013 Tree City USA community by the Arbor Day Foundation in honor of its commitment to effective urban forest management. The City also received a Tree City USA Growth Award for demonstrating environmental improvement and a higher level of tree care. The plan recommends building on this momentum as a means to improve the green infrastructure.

The City Urban Forester recently conducted a tree canopy assessment for all city neighborhoods. Norwood East (25.30%) and North Middlebrook (30.90%) have the least tree canopy coverage within the sector. Norwood South (45.40%) and South McKamey (45.40%) have the most tree canopy within the sector. The average for the City is 38.99% and 43.31% for suburban sections of the city (American Forests recommends 50% coverage for suburban areas).

Northwest City Sector: Impervious Pavement Coverage



Northwest City Sector: Tree Canopy Coverage



<i>Neighborhood</i>	<i>Tree Coverage (%)</i>
Norwood East	25.30
North Middlebrook	30.90
Norwood West	35.60
Norwood North	38.00
West Hills	40.80
Timbercrest/Middlebrook Heights	42.00
Cumberland Estates	43.10
Norwood South	44.40
South McKamey	45.40
City of Knoxville Average	38.99

Economic Benefits

Commercial, office, and multifamily developments are greatly enhanced by shade trees. Consumers want a pleasant place to shop, work, and reside. Developers of several new commercial and office projects have placed a premium on planting and saving trees. Trees in commercial and office settings provide a more seamless transition between businesses and residences. Landscaping adds value to properties. In fact, residential property values increase by as much as 15 percent in wooded settings.

Environmental Benefits

Trees and planting areas reduce water run-off and the heat of asphalt paving. On a hot summer day, surface temperatures in unshaded parking lots can reach 140°. When a rainstorm occurs, run-off to nearby streams can cause thermal pollution that threatens aquatic life. Shade trees can reduce that effect and filter stormwater, thereby reducing water temperatures, pollutants and flooding problems.

Parking Lot Landscaping

Developing stronger landscaping standards for off-street parking is one way to increase urban canopy and reduce impervious pavement coverage. Currently, Knox County does not have a provision for tree planting standards in parking lots, while the City of Knoxville

has standards that are applied in specific situations. While some developers have provided shade trees and landscaping in relation to parking lots, it is common to see wide, uninterrupted expanses of parking lot asphalt, particularly along commercial corridors and within older shopping plazas. Parking lot landscaping is beneficial for reasons that are discussed below.

Also, off-street parking standards should be revised to allow better storm water management, reduction in parking spaces, and other best management practices.



An employee parking area at Bush Brothers and Company corporate headquarters

Urban Agriculture and Food Access

Knoxville is home to the first food policy council in the world. The Food Policy Council was created in 1982 and includes appointees made by the Knoxville and Knox County mayors. Along with the appointed members, there are associate members; together they work to address issues of food security, access and equity.

Recently, there has been building interest in food systems planning, including food access and urban agriculture. Public health impacts, such as rates of obesity, diabetes and heart disease have demonstrated strong correlations with lack of access to healthy affordable food. Burgeoning interest in local food, including the growth of farmers markets and community gardens, is creating a robust local

food economy. Cities across the world, including Knoxville, are looking at reuse of blighted properties for urban agriculture as a means of job creation and for neighborhood stabilization. These neglected spaces have the capacity to become income generators as well as providing a space for social interaction to further strengthen connections between neighbors.

The Knox County Health Department, the City of Knoxville, and other organizations have been working to address these challenges and interests. A recent focus has been addressing the problem of “food deserts,” which are sections of the city where populations are challenged by low-income and low access to be able to reach a supermarket or large grocery store.

Recently, the U.S. Department of Agriculture (USDA) announced more than \$52 million in grants nationwide to support local and regional food systems. As part of the announcement, the Knoxville-Knox County Metropolitan Planning Commission (MPC) was awarded \$25,000 to study the feasibility of a food hub for the Knoxville region.



The Edible Schoolyard at Pond Gap Elementary is a community garden sponsored by Pellissippi State Community College.

URBAN AGRICULTURE & FOOD ACCESS

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The Knox County Health Department, the City of Knoxville and other organizations have been working to address these challenges and interests. A recent focus has been addressing the problem of "food deserts," which are sections of the city where populations are challenged by low-income and low access to be able to reach a supermarket or large grocery store. The majority of food deserts are located in the Central City and East City Sectors.



USDA Food deserts in the Northwest City Planning Sector



POLICES TO ADDRESS FOOD DESERTS



Allowance of gardening and urban agriculture practices by right in all zone districts

Use of Community Development Block Grants and other grants to enable food desert populations to have the means to create community garden and agricultural programs

Acceptance and promotion of certain defined urban agricultural activities (for example, hoop houses where plants can be propagated, and allowances for goats)

Adoption of conservation subdivisions and courtyard development ordinances to provide incentives for creation of common open space that can be used for community gardens and urban agriculture practices

Performance standards for protecting adjacent property owners from larger scale commercial operations (such as buffering and fencing)

Green Infrastructure Implementation Strategies

- **Continue to expand the greenway system** within and beyond the sector plan boundary, especially by expanding the parks and open space system along the creeks.
- **Connect residential areas** to natural areas and community facilities such as schools and parks.
- **Conserve wooded hillsides**, which help maintain our natural ridge system and reduce stormwater runoff.
- **Strategic acquisition and/or the establishment of conservation areas** should be undertaken to connect ridges and streams/floodplains in order to connect and preserve existing environmental systems.
- **Protect the area's watershed systems**, fostering more widespread use of best management practices that reduce stormwater runoff and protect water quality.
- **The zoning regulations should be revised to accurately reflect current FEMA map boundaries and City and County flood prevention and stormwater regulations.** The City and County zoning ordinances each have a "Floodway" zoning district and "Flood fringe area" regulations that were created before recent FEMA maps and boundaries were updated. City and County flood prevention and stormwater regulations have been continually updated and are now the primary tools devised to address a wide range of development issues. Current zoning regulations have not been substantially updated since 1982 and no longer accurately reflect current regulations that are enforced.
- **Amend off-street parking standards** to improve property values, reduce impervious surfaces, introduce landscaping and trees, capture and filter stormwater, and reduce thermal pollution.
- **Adopt better buffer standards** in the zoning ordinance to enhance landscaping between residential property and large scale commercial uses.
- **Enact conservation subdivision regulations** or other tools to foster green infrastructure protection while allowing clustered residential development.
- **Adopt conservation subdivisions and courtyard development** ordinances to provide incentives for creation of common open space that can be used for community gardens and urban agriculture practices.

- **Create policies to address food deserts:**
 - Allow gardening and urban agriculture practices by right in all zone districts.
 - Seek grant funding to enable food desert populations to have the means to create community garden and agricultural programs.
 - Encourage acceptance and promotion of certain defined urban agricultural activities (for example, hoop houses where plants can be propagated, and allowances for goats).
- **Implement tree planting plans** in public spaces such as parks and greenways, major streets and neighborhoods. More specifically, priority tree planting areas should include Callahan Drive, Clinton Highway, Oak Ridge Highway, Papermill Drive, Pleasant Ridge Road and "gateways" to the interstate system. There is a need to incorporate tree planting areas into major street design phases of road projects. Also, neighborhoods that have lower tree canopy coverage and higher impervious surface coverage should be considered priority areas for future tree plantings.

Clinton Highway Tree Plantings

Clinton Highway has been frequently cited as an eyesore due to the lack of trees and landscaping. This arterial has a wide median, which has been partially landscaped. Occasionally, small ornamental trees have been planted next to commercial uses. Otherwise, there are very few trees along the corridor.

Recommendations include:

- **I-640 to McClain Drive**
The median has been partially landscaped, additional trees can be added and, most importantly, trees should be planted in the adjoining yards and parking areas.
- **McClain Drive to Murray Drive**
The median is drained by a swale, and there is the potential opportunity for further median planting, possibly by enclosing portions of the drainage system and adding trees in those areas. Planting in yards and parking areas are also recommended.



Tree plantings at Alcoa Highway and Neyland Drive could be used as a model for interchanges, like Callahan Drive and I-75.



Trees have been recently planted in seven medians on Callahan Drive. In the next fiscal year when the two remaining medians are planted, there will be street trees from Clinton Highway to I-75.



Trees were planted along Papermill Drive in the area visible from I-40, and planting should continue east along this road.

Northwest City Sector: Historic Resources

Legend

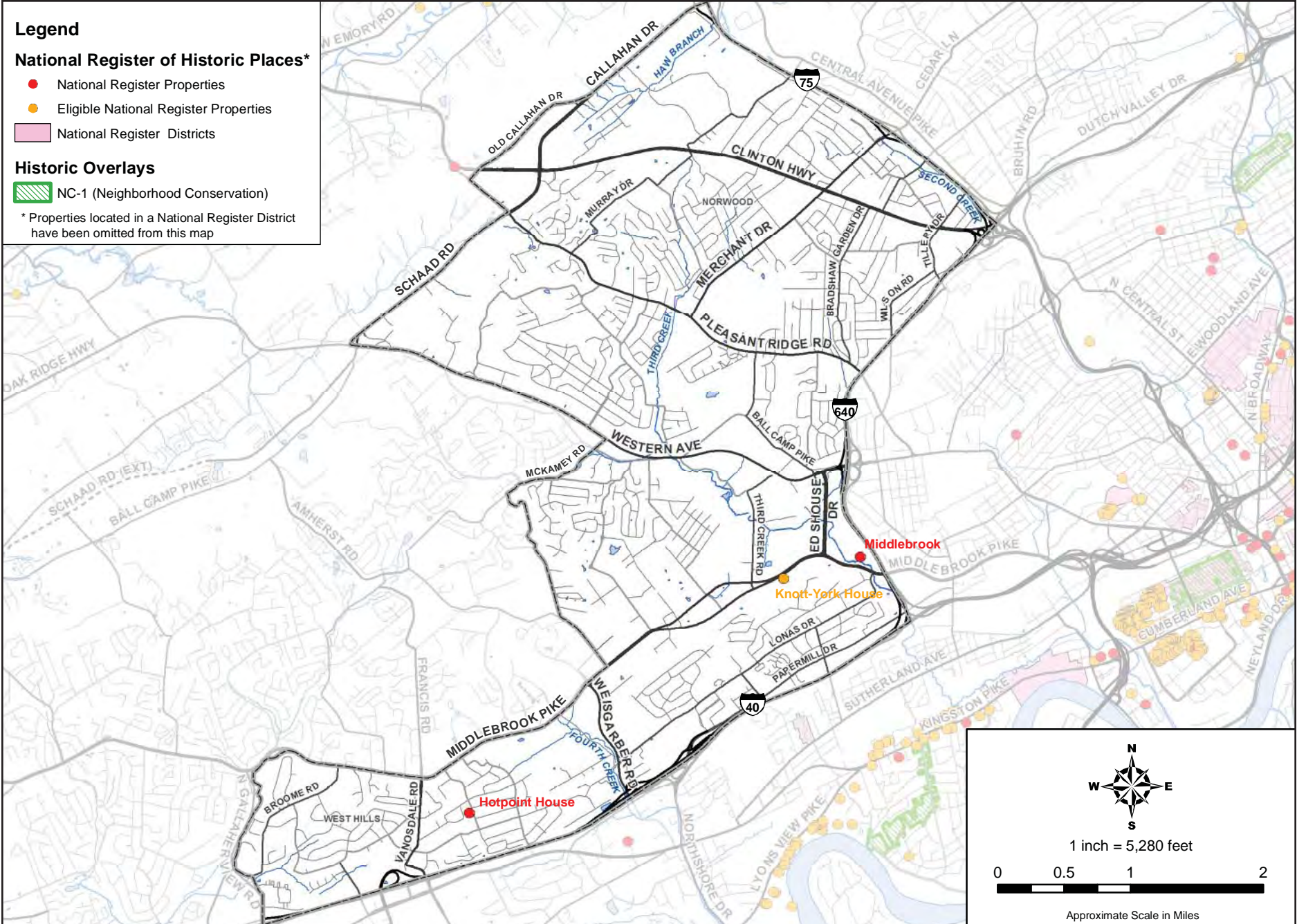
National Register of Historic Places*

- National Register Properties
- Eligible National Register Properties
- National Register Districts

Historic Overlays

- NC-1 (Neighborhood Conservation)

* Properties located in a National Register District have been omitted from this map



1 inch = 5,280 feet

Approximate Scale in Miles

HISTORIC RESOURCES PLAN

Plan recommendations were incorporated from the following sources:

- MPC historic preservation files
- MPC historic resources inventory
- Community Input

Historic Preservation Program

The goals for historic preservation are threefold:

1. Preserve all buildings that are on the National Register of Historic Places.
2. Support more National Register of Historic Places nominations for historically significant properties.
3. Collaborate with non-profits and property owners to develop strategies to stabilize and restore historic resources.
4. Update the historic resources inventory to include cemeteries, such as Mars Hill Cemetery/Cavett's Station, as well as auto-oriented, mid-century modern commercial buildings along Clinton Highway.

The following descriptions of each historic resource are followed by a preservation recommendation.



• **The Knott-York House** at 4810 Middlebrook Pike is eligible for listing on the National Register. Constructed c. 1840, the two-story brick house with federal-style detailing is a significant example of antebellum architecture.

Recommendation: Support nomination to the National Register of Historic Places.



• **Middlebrook** at 4001 Middlebrook Pike: Constructed in 1845, this house is one of the few remaining pre-Civil war frame structures in Knox County. It was originally part of a 1,000 acre farm. It was listed on the National Register in 1974.

Recommendation: Ensure that the owner is aware of federal rehabilitation income tax credits that are available for approved restoration and maintenance projects.



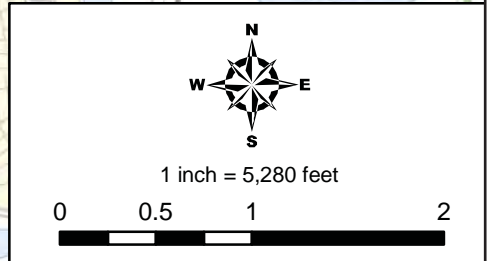
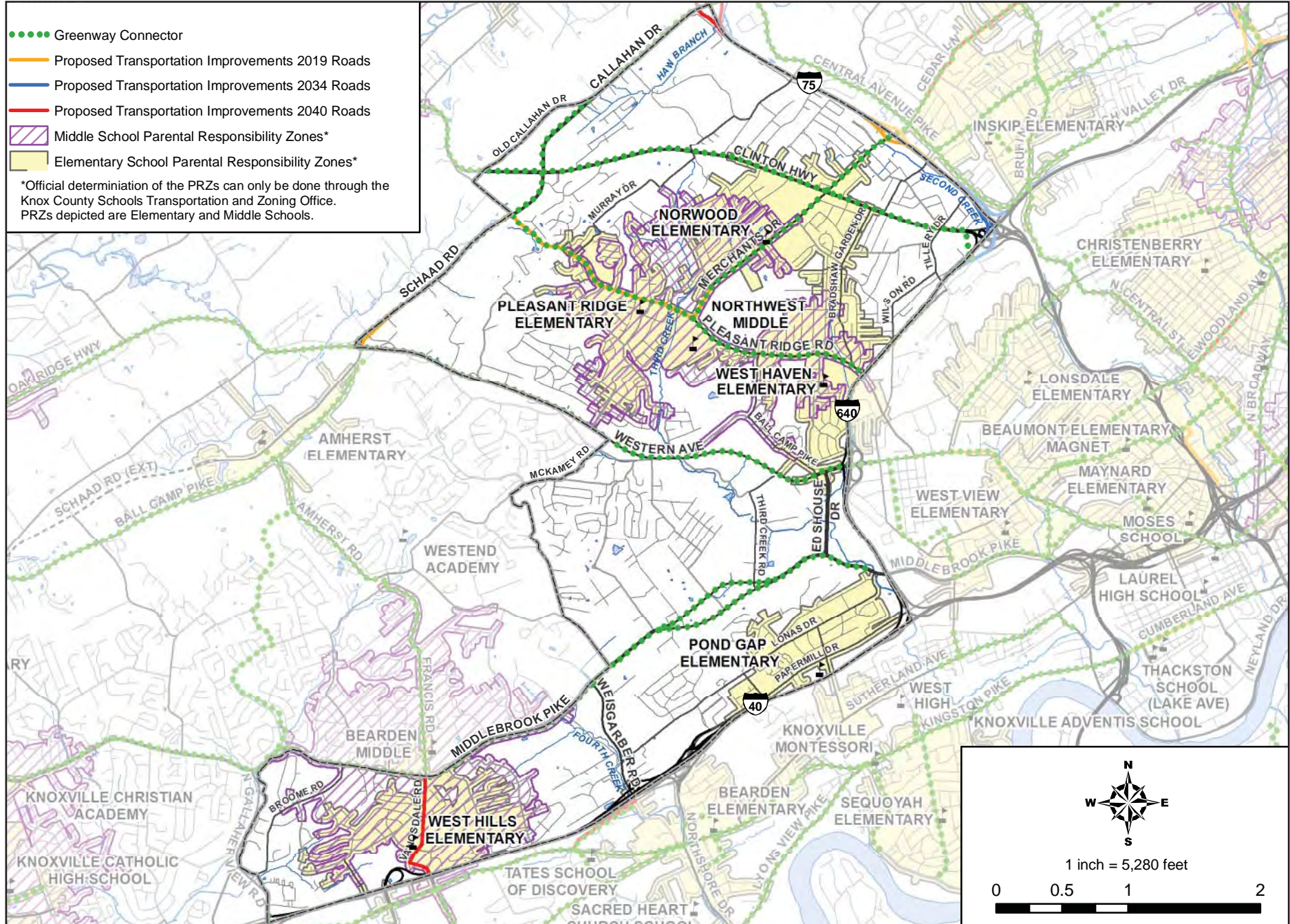
• **Hotpoint House** at 509 West Hills Road was listed in the National Register of Historic Places in 2010. The 1954 house was built as a demonstration model for small starter homes. The home is also known as Anderson-Wilson House and was designed by nationally-known local architect Bruce McCarty, who was considered to be a champion of modern architecture.

Recommendation: The preservation of mid-century modern structures is of growing importance as more are destroyed due to the lack of recognition that they convey a significant era in our architectural history. National Register nomination should be utilized as a model for needed documentation and for preservation to heighten awareness of the contributions of modern structures to the City's architectural heritage. Efforts should be made to ensure the owner is aware of federal rehabilitation income tax credits that are available for approved restoration and maintenance projects.

Northwest City Sector: Planned Roadway Improvements

- Greenway Connector
- Proposed Transportation Improvements 2019 Roads
- Proposed Transportation Improvements 2034 Roads
- Proposed Transportation Improvements 2040 Roads
- ▨ Middle School Parental Responsibility Zones*
- ▨ Elementary 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.



PROPOSED TRANSPORTATION PLAN

Northwest City sector plan transportation recommendations are based on previously adopted plans and studies, including the *Long Range Regional Mobility Plan 2040*. Roadway and sidewalk recommendations from the mobility plan and public input are presented below. The recommendations from the mobility plan include the horizon year.

Prior to implementation of the following proposed projects, opportunities for additional public input to address such potential issues as impacts related to adjacent land use, neighborhood protection, and environmental and cultural resource protection should be provided. 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.

Roadways

In March 2014, the City secured multimodal funding for intersection improvements at the Merchant Drive and Clinton Highway intersection. Construction is scheduled for 2016. The project will extend on Merchant Drive from Marguerite Road to Ridgefield Road and on Clinton Highway from Orchid Drive to Harriett Place and make the following improvements:

- Realign the left turns, allowing left-turn traffic to run concurrently and eliminating the need for separate left-turn phases.
- Add appropriate pedestrian crossing times to the signal.
- Convert flushed-painted channelization islands to raised channelization islands, providing pedestrian refuges with pedestrian crosswalk markings on all four legs of the intersection.
- Improve the sidewalks on each of the corners to provide ADA compliant access at the intersection and add new sidewalk on all four legs of the intersection.
- Extend sidewalk improvements from the intersection to provide pedestrian access to the eight nearby Knoxville Area Transit (KAT) bus stops on two bus routes, a public library, local retail businesses, and churches. Currently, of the eight (KAT) stops in this area, only two are accessible via dedicated pedestrian facilities.

- Modify curb lines along Clinton Highway at the intersection to maintain a minimum of 4' shoulders for bicyclists, and designate the westbound right-turn lane as a combined bicycle/right turn lane with a shared lane marking or sharrow.

Additional roadway improvements include:

- Pleasant Ridge Road/Merchant Drive widening, Phase 2: Add a center turn lane from Knoxville City Limits (Country Book Lane) and on Merchant Drive from Pleasant Ridge Road to Wilkerson Road (2019)
- Schaad Road: Widen from 2-lanes to 4-lanes (2019)
- I-75 at Merchant Drive interchange improvements (2019)
- I-640 at I-75/I-275 interchange improvements: Add a through lane on I-75 north and southbound ramps (2034)
- I-75 at Callahan Drive interchange improvements: Reconfigure existing interchange to improve safety and operations (2034)
- Vanosdale road widening: Add center turn lane from Buckingham Road to Middlebrook Pike (2040)

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. Recently City Council adopted a complete streets policy.

Considerations for more detailed road designs include:

- Callahan Drive
- Clinton Highway
- Merchant Drive
- Middlebrook Pike
- Schaad Road
- Western Avenue

Traffic Calming

Neighborhood residents have expressed concern about speeding traffic along their streets, especially near elementary schools. Speeding at West Haven Elementary School was mentioned during the public input process. Traffic calming involves a set of design strategies aimed at reducing motor vehicle speeds, improving safety and enhancing quality of life. The goal of traffic calming efforts is to balance vehicle traffic on local streets with other uses such as walking and bicycling. The City of Knoxville is currently analyzing calming program/policy options to address appropriate calming measures in neighborhoods.

Transit

Transit-oriented development should be encouraged along several corridors. Strip commercial development should be discouraged. Nonresidential development and redevelopment investment energy should be directed toward neighborhood and community centers. Between the centers, residential densities sufficient to support or increase transit ridership should be encouraged, provided design guidelines that include neighborhood buffering are utilized.

The frequency of service and comfort of using the bus service should be improved. For example, all bus stops should have a minimum of a concrete pad to stand on and a bench to sit. Incorporate bus shelters on major stops, like those inside the community and neighborhood centers.

Sidewalk Improvements

Priority areas include Parental Responsibility Zones (PRZ) where students do not have bus service to and from school. In 1993, the Knox County Board of Education established guidelines for Parental Responsibility Zones (PRZs) in Knox County. These guidelines state that for elementary schools, students within an area of one (1) mile from the school by the shortest route will not be provided transportation services by Knox County Schools. For middle and high schools, PRZs are one and a half (1.5) miles.

Sidewalks recommendations from the *Long Range Regional Mobility Plan 2040* are provided below.

- Construct 4,300 linear feet of sidewalk on Sheffield Drive between Wesley Road and the existing sidewalk near Portsmouth Road (2019)
- Construct 15,000 linear feet of sidewalk on Lonas Drive between Middlebrook Pike and Gate Lane (2034).
- Construct of sidewalk on the south side of Bennington Drive, between Sheffield Drive and Vanosdale Road
- Construct a complete sidewalk system in all the neighborhood and community centers identified within this plan
- Sidewalk connections should be made to greenways, consistent with the community facilities plan

Section 3:

Five- and Fifteen-Year Improvement Plans

The improvement plans recommend 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 the capital improvements program (CIP).

<i>Project or Program</i>	<i>5-Year</i>	<i>15-Year</i>	<i>Responsible Agency</i>
LAND USE			
Pursue rezonings of the neighborhood and community centers.	X		City/MPC
Revise neighborhood commercial zoning to reflect uses neighborhoods desire within their community.	X		City/MPC
Revise parking ordinance to reduce off-street parking requirements and require landscaping.	X		City/MPC
Create a new zoning district: Corridor Overlay or similar tool for commercial corridors.	X		City/MPC
Work with community to apply Corridor Overlay zoning to commercial corridors.	X	X	City/MPC
COMMUNITY FACILITIES			
Fourth Creek Greenway – Phase 2: Construct greenway trail from Weisgarber Greenway to Jean Teague Greenway.	X		City
West Knoxville Greenway: Construct greenway trail from Weisgarber Greenway to Victor Ashe Park and Greenway.	X	X	City
Third Creek Greenway – North Extension: Construct greenway from Sutherland Avenue / Third Creek Greenway to Victor Ashe Park.	X	X	TDOT/City
Expand and connect Papermill Bluff Greenway.	X	X	City
Develop Pond Gap Greenway.		X	City
Expand Pleasant Ridge Greenway.	X		City
Expand Inskip Ballfields.	X	X	City
Create a master plan for the Cumberland Estates Recreation Center and expand the opportunities for outdoor recreation.	X	X	City
GREEN INFRASTRUCTURE			
Amend off-street parking standards to include parking lot landscaping standards and achieve stormwater infiltration benefits.	X		City/County/MPC
Amend “Floodway” zoning district and “Flood fringe area” supplemental regulations to reflect updated flood and stormwater requirements.	X		City/County/MPC
Develop a tree planting plan and program for Clinton Highway.	X		City/TDOT
Adopt conservation subdivision and courtyard development ordinances to provide incentives for creation of common open space that can be used for community gardens and urban agriculture practices.	X		City/County
Allow gardening and urban agriculture practices by right in all zone districts.	X		City/County
Seek grant funding to enable food desert populations to have the means to create community garden and agricultural programs.	X	X	City/County/MPC

<i>Project or Program</i>	<i>5-Year</i>	<i>15-Year</i>	<i>Responsible Agency</i>
HISTORIC PRESERVATION			
Update the inventory of historic resources.	X		MPC/City
Knott-York House at 4810 Middlebrook Pike: Support nomination to the National Register of Historic Places.	X		MPC/Knox Heritage
Middlebrook at 4001 Middlebrook Pike: Ensure that the owner is aware of Federal rehabilitation income tax credits that are available for approved restoration and maintenance projects.	X		MPC/Knox Heritage
Hotpoint House at 509 West Hills Road: Ensure that the owner is aware of Federal rehabilitation income tax credits that are available for approved restoration and maintenance projects.	X		MPC/Knox Heritage
TRANSPORTATION			
Implement multimodal improvements to Merchant Drive and Clinton Highway Intersection.	X		City
Pleasant Ridge Road/ Merchant Drive widening, Phase 2: Add a center turn lane from Knoxville City Limits (Country Book Lane) to Merchant Drive / Pleasant Ridge Road to Wilkerson Road.	X		City/TDOT
Schaad Road widening: Widen from 2-lanes to 4-lanes.	X		City/County
Construct I-75 at Merchant Drive interchange improvements.	X		City/TDOT
Construct 4,300 linear feet of sidewalk on Sheffield Drive between Wesley Road and existing sidewalk near Portsmouth Road.	X		City
Construct a complete sidewalk system in all the neighborhood and community centers identified within the sector plan.	X	X	City/TDOT
Construct sidewalk connections greenways, consistent with the community facilities plan.	X	X	City/TDOT
Implement the traffic calming program.	X		City
Improve transit service and stops.	X	X	City/KAT
Continue to prioritize PRZ sidewalk installation.	X	X	City/TDOT

APPENDIX A: Public Participation

The public input process for the development of this plan included four sector plan meetings, two neighborhood association meetings (Norwood and West Hills), and a survey that had ninety-eight respondents.

ROUND ONE MEETINGS

In 2014 MPC staff held sector plan meetings on August 25th at Middlebrook Pike United Methodist Church and on August 28th at Cumberland Estates Recreation Center.

Staff gave a presentation and was available at land use, community facilities, and transportation stations with maps and supporting material. People were encouraged to leave or send in comments.

MPC staff attended the Norwood Homeowners Association on August 9th and the West Hills Community Association meeting on October 20th. At these meetings there was concern about plan implementation and the status of project recommendations.

Sector plan elements such as community facilities, land use, and transportation were discussed. Below is a brief summary of the comments received.

Land Use

- Neighborhood-scale commercial services connected to neighborhoods via sidewalks, greenways, or within a short driving distance instead of more strip commercial development
- Concern that Norwood area receives a disproportionate share of higher density residential development

Community Facilities

- Need for more sidewalks, bike lanes, and street trees on major streets
- High priority to connect community resources
- Desire for a community gathering place in Norwood Library
- Need to expand elementary schools in the sector.

- Excessive portable classrooms at elementary schools were mentioned as a problem

Transportation

- Intersection improvements at Clinton Highway/ Merchant Drive and Clinton Highway/Tillery were important priorities
- Eager for implementation of programmed transportation improvements for major connectors (Merchant Drive, Schaad Road, Pleasant Ridge Road)
- Need for safer bus stops with adequate facilities
- Need for sidewalks as part of new developments

ROUND TWO MEETINGS

Additional sector plan meetings were held on December 8th at Cumberland Estates Recreation Center and on December 11th at Middlebrook Pike United Methodist Church.

MPC staff gave a presentation of the draft plan and distributed a handout that included all plan recommendations. Comments from attendees are listed below.

Civic/Institutional (CI) Land Use Classification

- There was concern that zoning classifications were changed from the 2003 Sector Plan.

The difference between the zoning ordinance classifications and MPC's land use classifications was clarified.

It is MPC's policy to recognize large churches (2 acres or more) as Civic/Institutional uses. This does not affect the zoning of the property and in fact if someone wanted to utilize the property for another use through a rezoning, they would need to go before MPC to seek a sector plan amendment.

Tennova Healthcare Property

- A concern to ensure that greenspace and buffering on the backside of the Tennova property is kept.

A recommendation is included in the community facilities and the land use section of the plan for keeping the area south of the creek as Low Density Residential.

Inskip Norwood Recreation Center Ballfields

- There was concern about park expansion and flooding.

Flooding issues are addressed in the design phase of any park expansion.

Historic Resources

- A citizen provided a description of other potential historic resources.

This information was added to the records of MPC's Historic Preservation Planner as a need for future analysis of cemetery sites.

One Year Plan

- Inclusion of a description of the One Year Plan in the Background Report was requested.

This element was added to the plan.

Sidewalks

- Citizens wanted sidewalks to Wesley Road and around West Hills Elementary included as a high priority in the plan.

In the transportation section of the Five and Fifteen Year Improvement Plans, constructing a new sidewalk on Sheffield Drive is identified as a near term project.

Traffic congestion at Interstate Interchanges

- A concern was expressed about congestion in the evening at the I-75/Merchant Road intersection.

This is identified as a near term project in the Five and Fifteen Year Improvement Plans transportation section.

SURVEY SUMMARY

The survey contained fourteen questions regarding land use, community facilities, and transportation.

The Cumberland Heights community had the highest participation rate (39%). This neighborhood is bounded by Pleasant Ridge Road to the north, Western Avenue to the south, I-640 to the east, and Schaad Road to the northwest.

Land Use

- Most respondents support commercial and office uses on Callahan Drive, Clinton Highway, Gallaher View Road, Merchant Drive, Papermill Road, Schaad Road, Weisgarber Road, and Western Avenue.
- There was support for multifamily residential on Gallaher View Road, Schaad Road, and Pleasant Ridge Road.
- A large percentage (70%) want to protect the areas historic resources.
- Several people felt there was enough or too much large commercial development on major streets.
- There were concerns that the widening of Schaad Road would result in redevelopment into another strip commercial area.
- There was a sentiment that the existing major streets within the sector need safety (example: fewer curb cuts) and aesthetic enhancements (example: more trees, better signage standards, less use of chain link fencing along road frontage and fewer billboards).
- People want close access to smaller scale neighborhood commercial services, such as restaurants, gas stations, coffee shops.
- Some respondents felt that multi-family residential development was encroaching into certain single-family neighborhoods.

Transportation

- Most respondents (51%) commute outside the sector for work.
- The highest transportation priority was to provide more sidewalks and pedestrian paths/bike trails where they do not exist.

- The majority of respondents would like to see less congestion on Merchant Drive.
- The majority of respondents would like to see better sidewalks on Western Avenue and Pleasant Ridge Road.
- A majority of respondents support landscape improvements on Clinton Highway (67%), Schaad Road (75%), Callahan Drive (60%), Pleasant Ridge Road (59%), and Western Avenue (75%).
- The need for additional street trees, median trees, and landscaping was a frequently mentioned issue.
- Respondents want to address 'gap' construction to fill in the areas along major roads where sidewalks and pedestrian crossings are missing.
- With the reconstruction of Western Avenue, people feel there is an opportunity to improve private development in the corridor.
- There are concerns for safety on Schaad Road but people appear to be looking forward to this widening project.

Community Facilities

- Most survey respondents do not use the area greenways and parks.
- Victor Ashe Park and Greenway was the most used facility.
- A need to connect the greenways to each other and to the surrounding neighborhoods was expressed.
- People would like to see improvements to the Inskip ball fields and continued improvements to Victor Ashe Park, including shade trees.

APPENDIX B: Land Use Classifications

AGRICULTURAL and RURAL RESIDENTIAL LAND USE CLASSIFICATIONS		
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.		
Location Criteria: <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) 	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.	Other Zoning to Consider: A or PR @ densities of one dwelling unit per acre where dwellings are clustered in one portion of a subdivision.
Rural Residential (RR) Very low density residential and conservation/cluster housing subdivisions are typical land uses.		
Location Criteria: <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 	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	Other Zoning to Consider: A in the Growth Plan's Rural Area
RESIDENTIAL LAND USE CLASSIFICATIONS		
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.		
Location Criteria: <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) 	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.	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)

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>
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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>
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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>
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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>
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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>
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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>
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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>
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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.

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>
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MIXED USE and SPECIAL DISTRICTS . . . continued

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>
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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>
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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>
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MIXED USE and SPECIAL DISTRICTS . . . continued

Mixed Use Special District (MU-SD)

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.

Location Criteria: • Case-by-case analysis is recommended	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.
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Mixed Use Special Corridors (MU-CD)

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.

Location Criteria: • Case-by-case analysis is recommended	Recommended Zoning and Programs: Should be noted in the Sector Plan and One Year Plan for each of these districts.
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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.

Location Criteria: • Existing industrial areas • Within one mile of an interstate interchange with access via standard major collector or arterial streets	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	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.
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Business Park Type 1 (BP-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.

Location Criteria: • 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	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	Other Zoning to Consider: PC
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INDUSTRIAL AND WAREHOUSE/DISTRIBUTION LAND USE CLASSIFICATIONS . . . continued

Business Park Type 2 (BP-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>
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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>
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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>
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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>
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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: 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. 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: Other zones that require use-on-review</p>
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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: City: F-1 and 'planned zones' (such as RP-1 and PC-1), which entail site plan review. 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>
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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: City: F-1 County: F</p>
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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.

KNOXVILLE • KNOX COUNTY

M P C
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C O M M I S S I O N

T E N N E S S E E

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Knoxville, Tennessee 37902
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