

ADVANCE KNOX

State of the County

May 2022

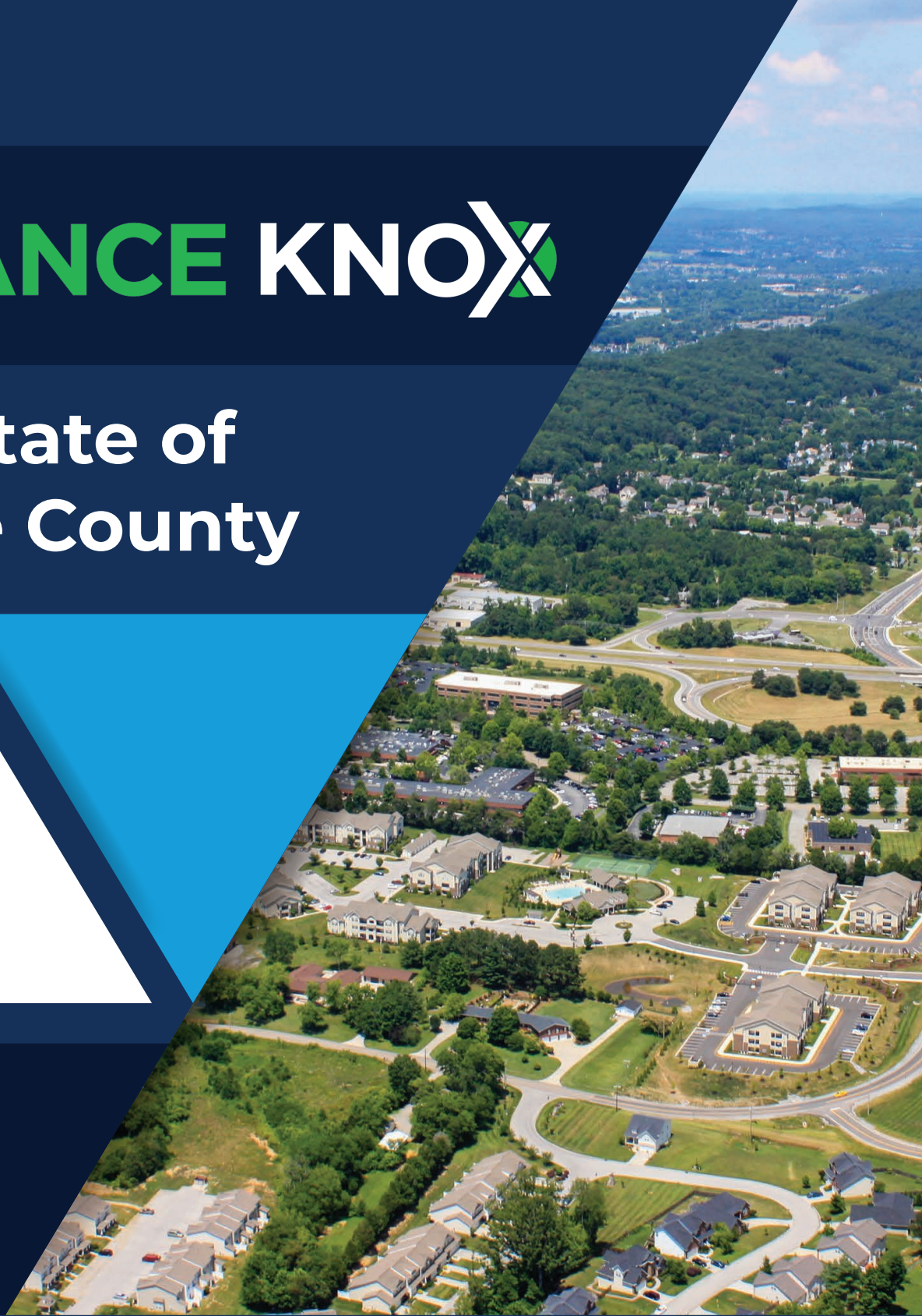


KNOX COUNTY
TENNESSEE



Planning

KNOXVILLE | KNOX COUNTY



A Note from the Mayor

Knox County has just embarked upon an 18-month project to create an integrated land use and transportation plan. The first step in the process is the State of the County Report, which gives readers an overview of our current land use patterns and transportation systems and the infrastructure that connects them.

With a laser focus on jobs, education, and recreation, I am committed to creating opportunities for everyone to thrive in an engaged and vibrant community.

What people love most about Knox County-what brings and keeps them here-is that we support business and economic development, provide high-quality educational opportunities for all, and actively promote the outdoor tourism and recreation assets for which we are known.

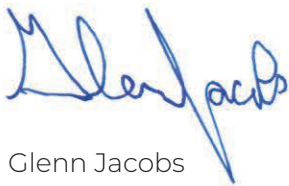
It is important that as our growth continues, we are deliberate about managing where development occurs, improving infrastructure, and making decisions that positively impact our diverse residency and their quality of life.

Your voice is an integral part of the process because the final Comprehensive Plan-a policy document-will help guide our land use and transportation investments over the next 20 years.

I encourage you to stay engaged as this project progresses so you can actively contribute to what I hope will be a shared vision for the future.

I look forward to working with you.

Sincerely,

A handwritten signature in blue ink, appearing to read "Glenn Jacobs". The signature is stylized and cursive.

Glenn Jacobs

Knox County Mayor

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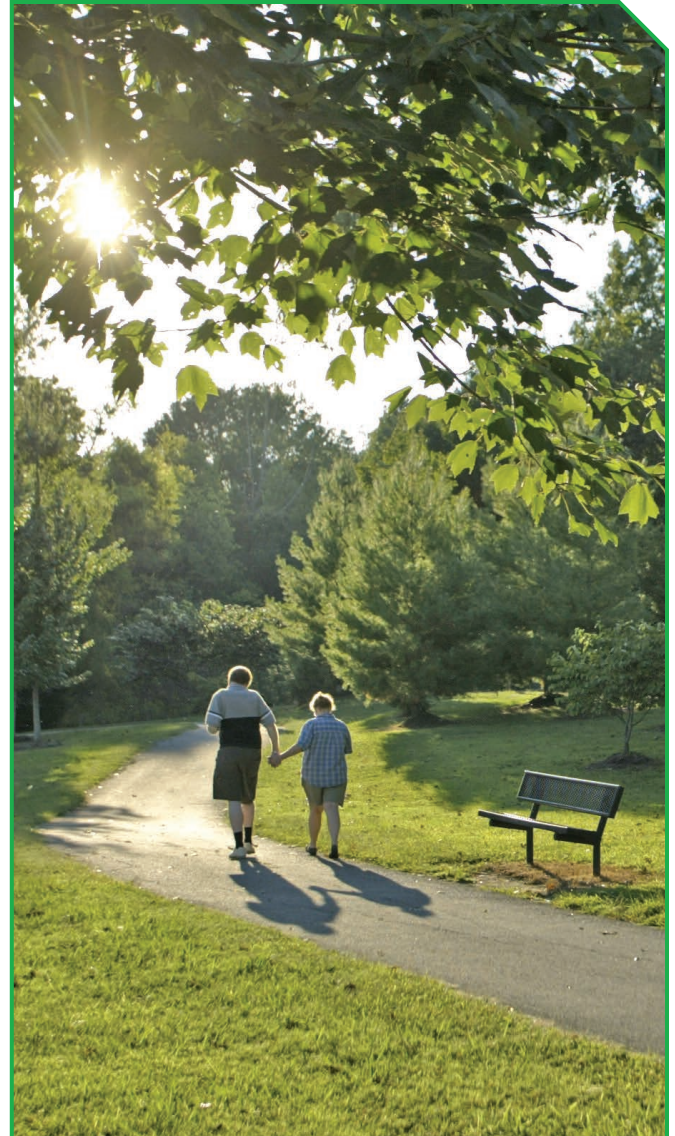
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State of the County

The State of the County is an assessment of the conditions and trends that affect how Knox County residents live, work and travel. It sets the stage for defining and shaping a new land use and transportation future. The State of the County is intended for all residents or stakeholders interested in the current conditions and future opportunities within Knox County.

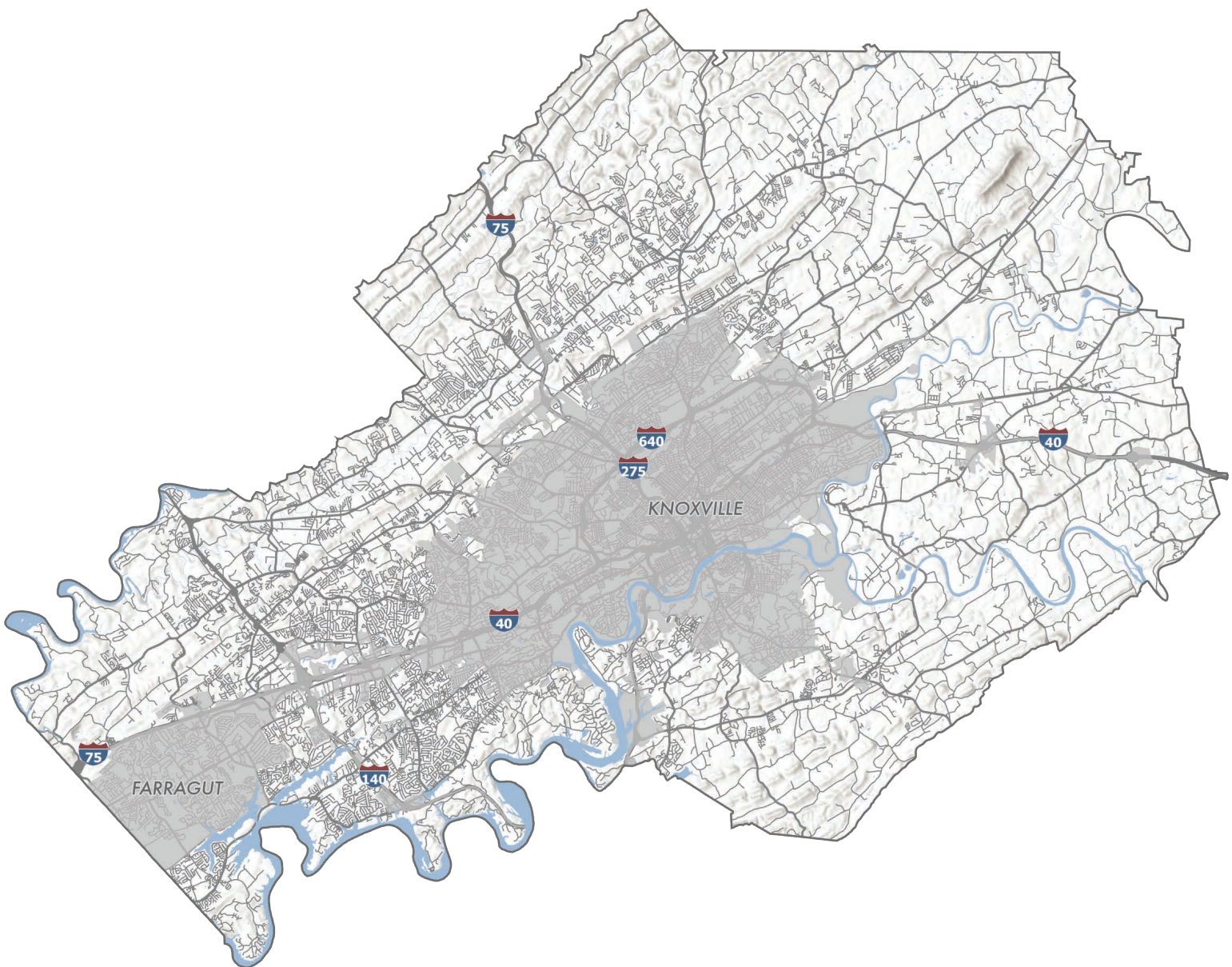
This report is focused on the unincorporated area of Knox County. However, this planning process acknowledges the close relationship between the county, City of Knoxville, and Town of Farragut. The city and town are valued stakeholders in the planning process, and are being directly coordinated with throughout the plan's development. Throughout this document, mapping of the county will focus on the unincorporated area to emphasize the plan's study area.

The document leverages a variety of data sources from the local, regional, state, and federal levels. Individual data sources are noted where they are referenced. In many places throughout this document comparisons are made between the county as a whole and the unincorporated county, as well as comparisons between the county and the region or state.



KEY GEOGRAPHIC TERMS

- **Knox County** refers to the county as a whole inclusive of the City of Knoxville and Town of Farragut.
- **Unincorporated Knox County** refers to the portions of the county exclusive of City of Knoxville and Town of Farragut.
- **Region** refers to the nine-county region that includes Anderson, Blount, Grainger, Jefferson, Knox, Loudon, Roane, Sevier, and Union Counties.
- **Metropolitan Statistical Area (MSA)** refers to an eight-county area including Anderson, Blount, Campbell, Knox, Loudon, Morgan, Roane, and Union Counties. MSAs are delineated by the U.S. Office of Management and Budget. An MSA is the formal definition for a region that consists of at least one urbanized area with a minimum population of 50,000. Based on the geographic scale of available data, the Prosperity chapter uses the MSA.



Chapter 1

People

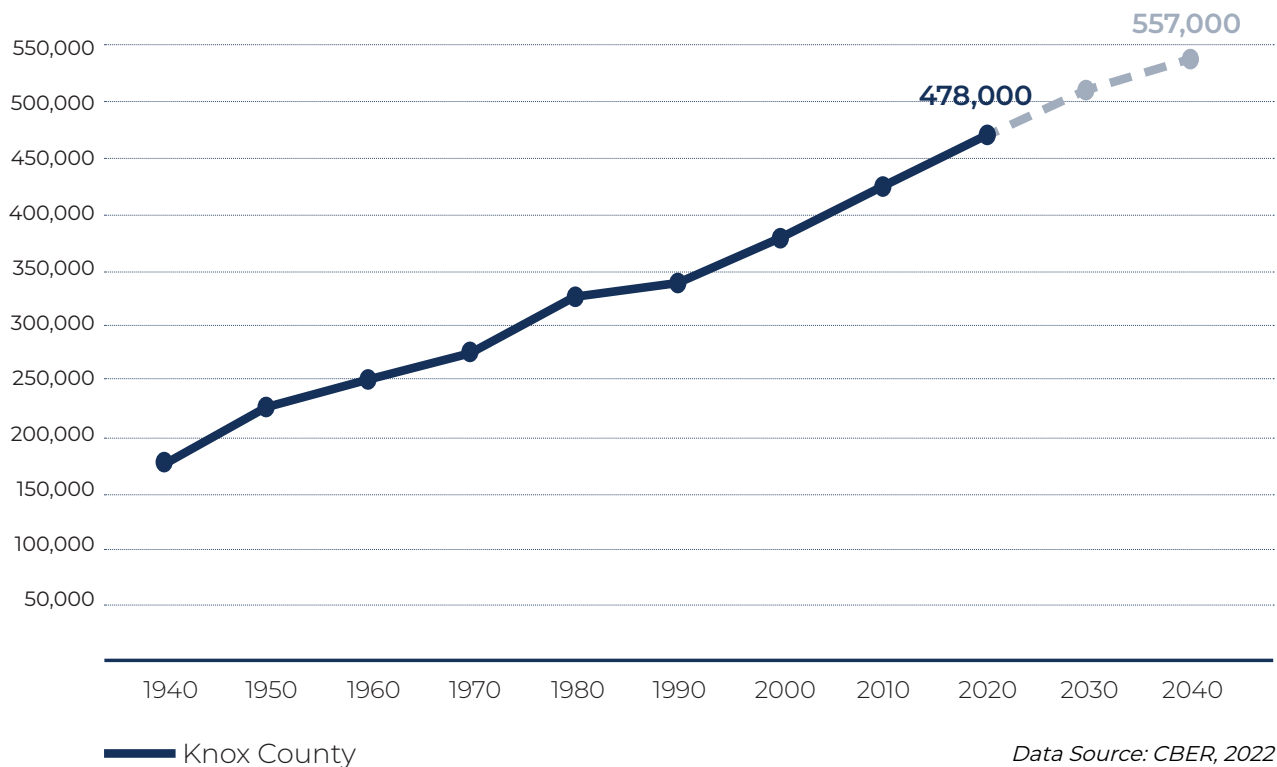
This chapter examines demographic trends and growth projections for Knox County. It includes an assessment of population makeup, prosperity, education, family composition, vulnerable groups, and community health. Understanding who lives and works in the county today will inform important considerations to ensure they are supported in the future. The county is going to grow - efforts to direct those gains should look to attract a diverse population and retain them and their children for generations.

Population

Knox County has seen steady growth over the last 40 years. In 1980, the population totaled 320,000; by 2020, the county witnessed a 50 percent gain, reaching 479,000 residents.

County-wide growth is expected to continue over the next two decades. By 2030, almost 39,000 new residents are expected- a gain of eight percent. By 2040, the population is expected to reach a total of 557,000 residents. A continued influx of new residents is the primary factor influencing growth projections.

POPULATION GROWTH OVER TIME

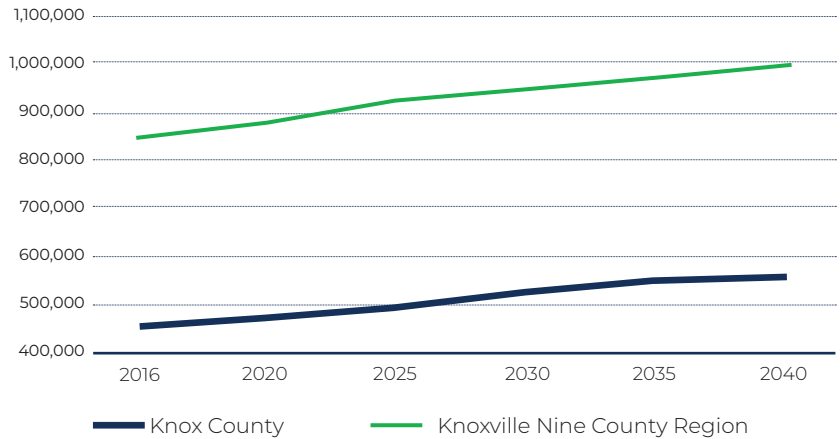


REGIONAL GROWTH

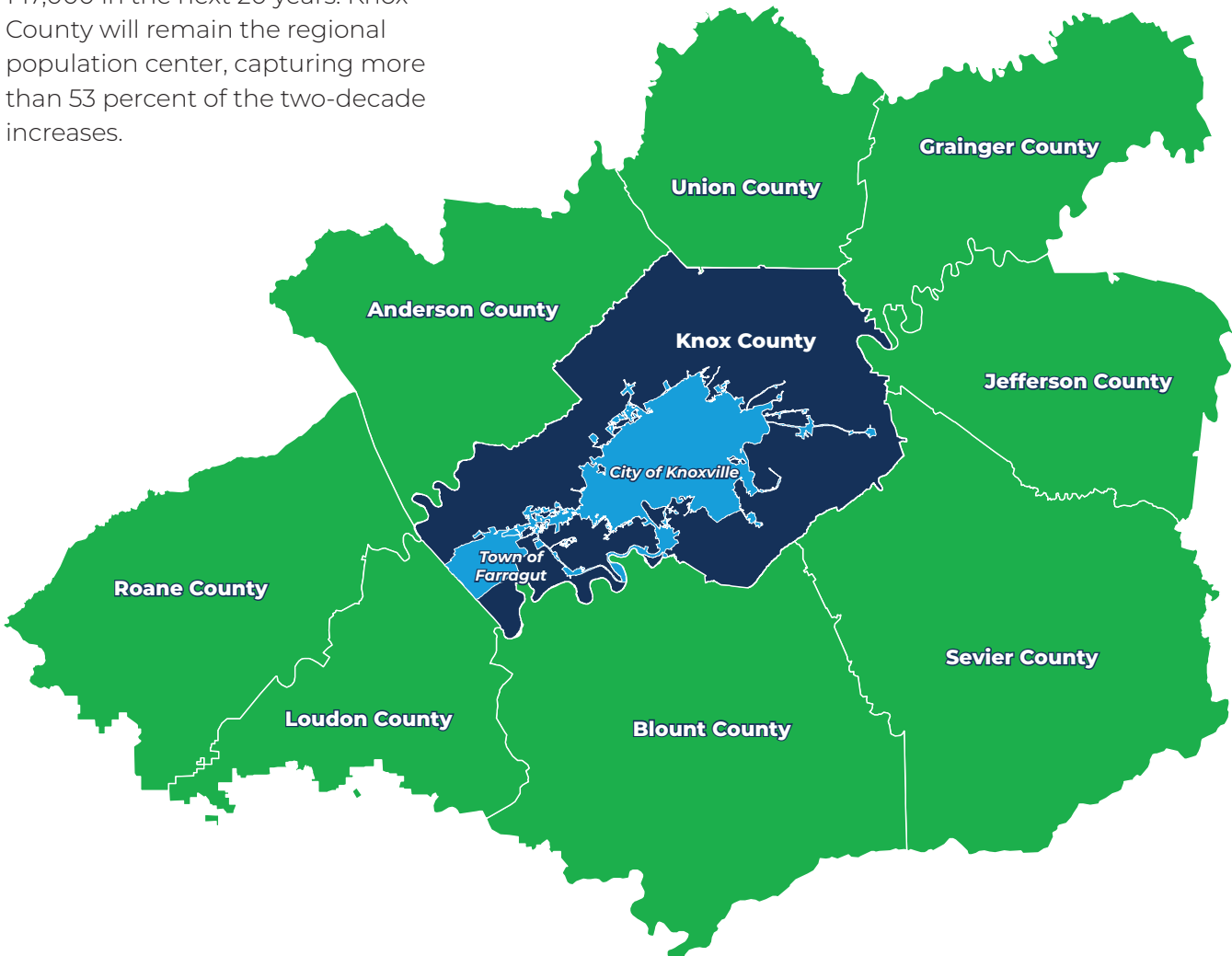
Knox County is central to a nine-county region in East Tennessee. In 2020, the region marked a total population of nearly 996,000, with Knox holding the greatest share, 48 percent. Similar to trends in Knox, three other counties in the region – Blount, Loudon, and Sevier – experienced population growth of nine percent or higher in recent years. Over the same period, Tennessee’s growth rate was nine percent.

Based on projections to 2040, the region’s population is expected to exceed 1.1 million, a gain of nearly 147,000 in the next 20 years. Knox County will remain the regional population center, capturing more than 53 percent of the two-decade increases.

REGIONAL POPULATION PROJECTIONS THROUGH 2040



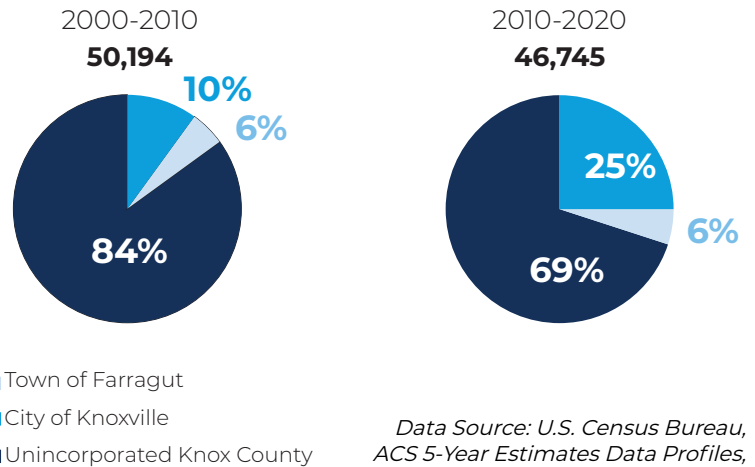
Data Source: CBER, 2022



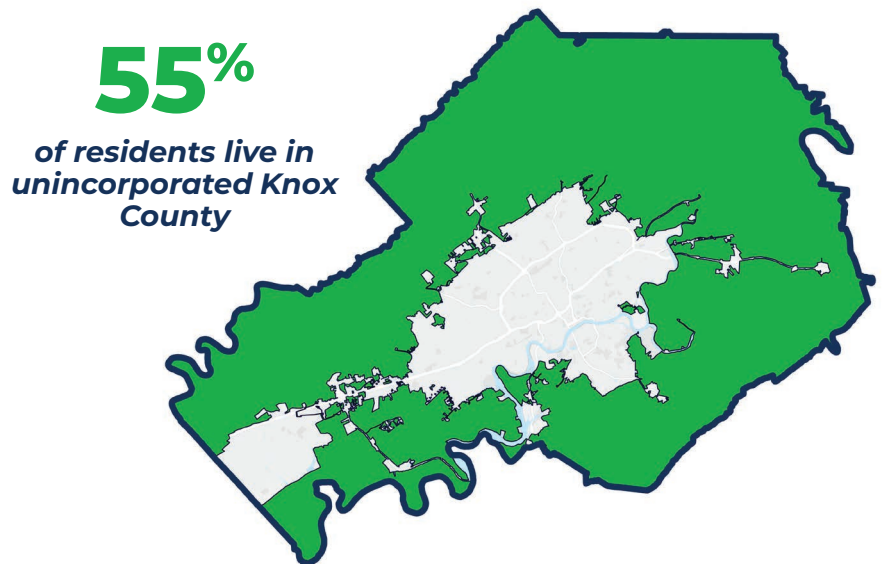
LOCAL RESIDENTS

Of Knox County's 478,971 residents, over 55 percent live outside the city limits of Knoxville and Farragut. Knoxville's population holds a 40 percent share of the county total, while Farragut comprises the remaining five percent. Over the past two decades, unincorporated Knox County has attracted the largest share of residential growth, but that trend is slowing. Since 1980 the most significant increases in Knox County's population occurred outside of city and town limits – residents of unincorporated Knox County almost doubled from 138,400 in 1980 to 264,800 in 2020. In the last decade, however, population counts indicate a reduced share of growth occurring in unincorporated areas from 84 percent during the decade from 2000-2010 to 69 percent in 2010-2020.

SHARE OF POPULATION GROWTH



Data Source: U.S. Census Bureau, ACS 5-Year Estimates Data Profiles, 2010, 2020

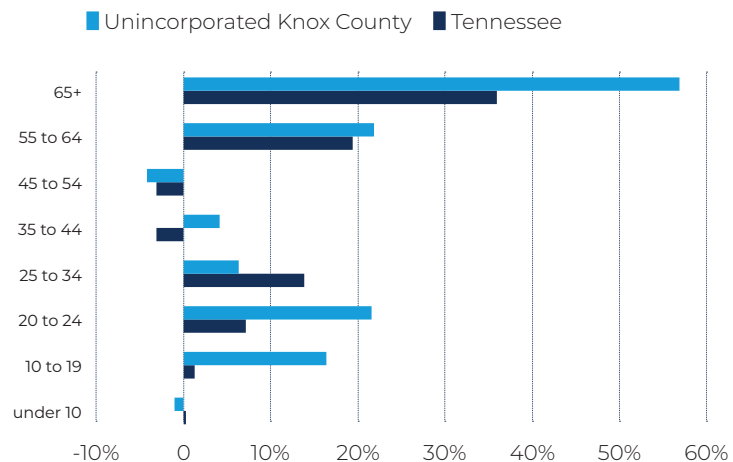


Data Source: U.S. Census Bureau, ACS 5-Year Estimates Data Profiles, 2020

CHANGING DEMOGRAPHICS

Within the county's population, the demographic makeup has changed. One notable change is the age distribution of the population. In line with state and national trends, age 55 and over is the fastest growing group and will continue to be through the year 2040.

POPULATION CHANGE BY AGE SINCE 2010

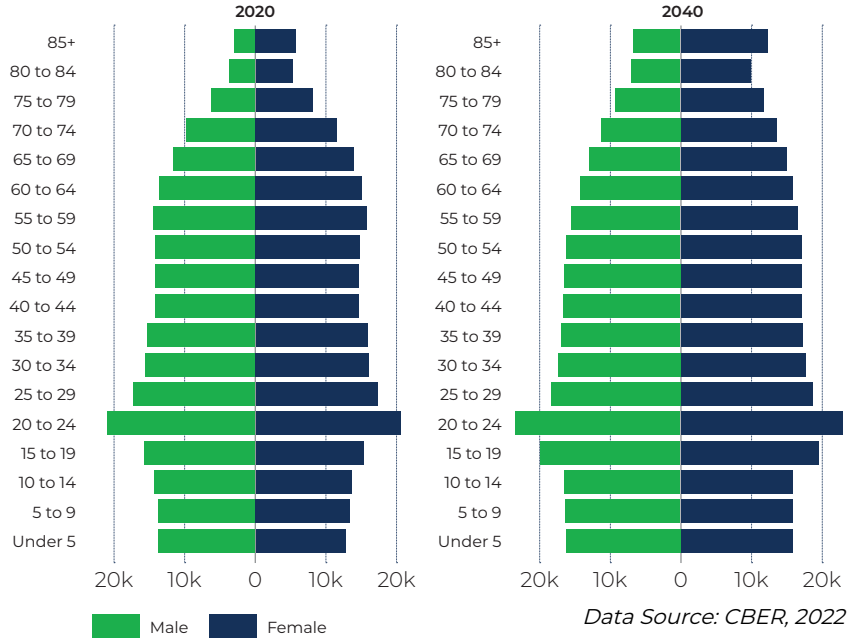


Data Source: U.S. Census Bureau, ACS 5-Year Estimates Data Profiles, 2020

One out of every five county residents will be over the age of 65 by 2040.

One area of difference compared to the state is that Knox County has a larger proportion of college-age residents because it is the home to the University of Tennessee’s flagship campus. While that group grew over the last decade, adults age 25-34 grew by only one percent compared to 13 percent statewide, indicating that the county is not retaining those students upon graduation. As the Boomer generation ages, older cohorts will continue to rise in numbers. Similarly, CBER projects an increase in the 15-19 and 20-24 age groups.

POPULATION BY AGE 2020 AND 2040



Household Characteristics

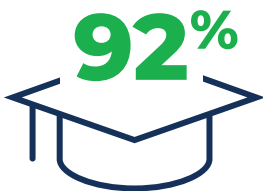
The average size of Knox County households is 2.40 persons, somewhat smaller than the state’s average of 2.51. Both figures are significantly lower than levels reported just a couple of decades earlier. Excluding very minor recent fluctuations, the trend of decline is expected to continue over the next several years. Contributing to this change are senior householders - those 65 years of age or more - who are living alone at higher rates, up 12.4 percent. This number is likely to climb as additional members of the massive Baby Boomer generation grow older. Offsetting some of the decline in household size, though, are households with children under 18. That population group recorded gains of 9.4 percent in recent years.



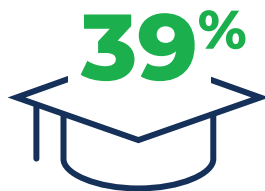
Data Source: U.S. Census Bureau, ACS 5-Year Estimates Data Profiles, 2020

EDUCATION

About 92 percent of Knox County’s population aged 25 years or older has a high school education or higher, with more than one-third (39 percent) holding a bachelor’s degree or higher, and 15 percent completing a graduate or professional degree. The local achievements outperform both state and national averages. The region is home to world-class higher education opportunities at The University of Tennessee as well as several other four- and two-year post-secondary institutions.



High School Graduate or Higher



Bachelors Degree or Higher

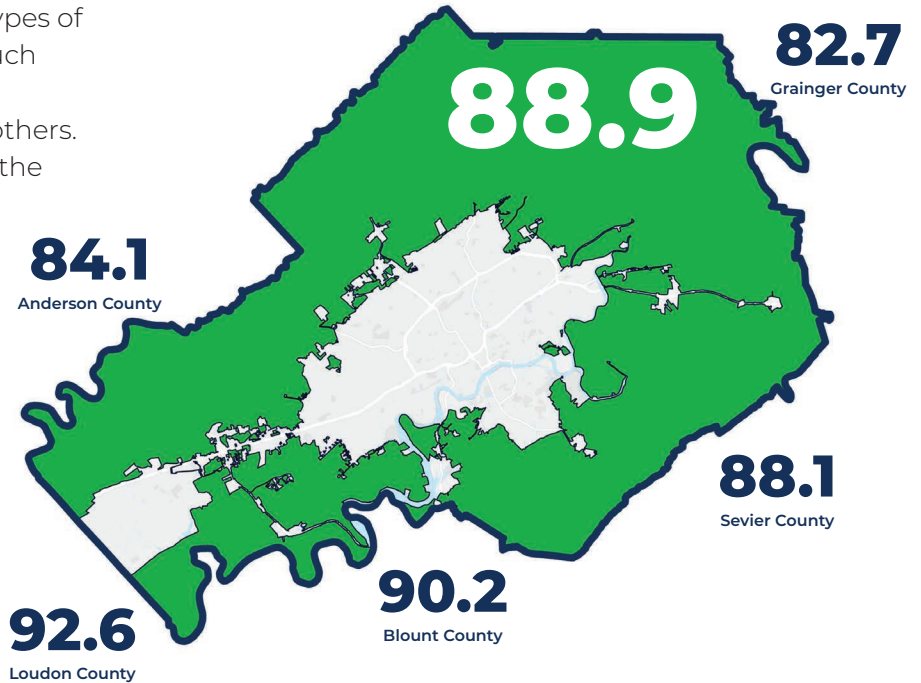


Graduate or Professional Degree

Data Source: U.S. Census Bureau, ACS 5-Year Estimates Data Profiles, 2020

COST OF LIVING

Cost of living is a comparative spending measure that includes over 30 types of consumer goods and services such as healthcare, housing, utilities, transportation, food prices and others. It is reported as a percentage of the national average. Knox County's cost of living is about 89 percent of the national average while neighboring counties such as Blount and Loudon are closer to 90-93 percent.

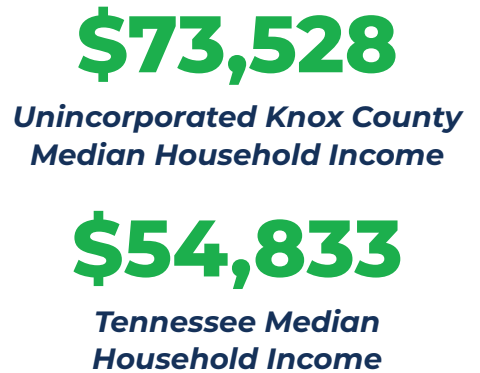


Data Source: Sperling's BestPlaces, 2020

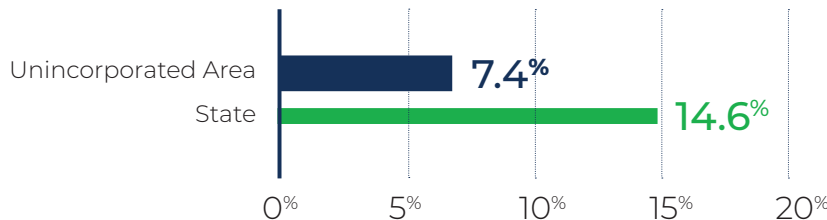
HOUSEHOLD INCOME

The county's household incomes reflect the higher than average educational attainment. The local median household income in the county is \$73,528 – higher than the states \$54,833.

Along with a higher median household income, there are relatively fewer county residents in poverty. An estimated 7.4 percent of residents, or roughly 19,000, were below the poverty line in 2020.



POPULATION BELOW POVERTY THRESHOLD

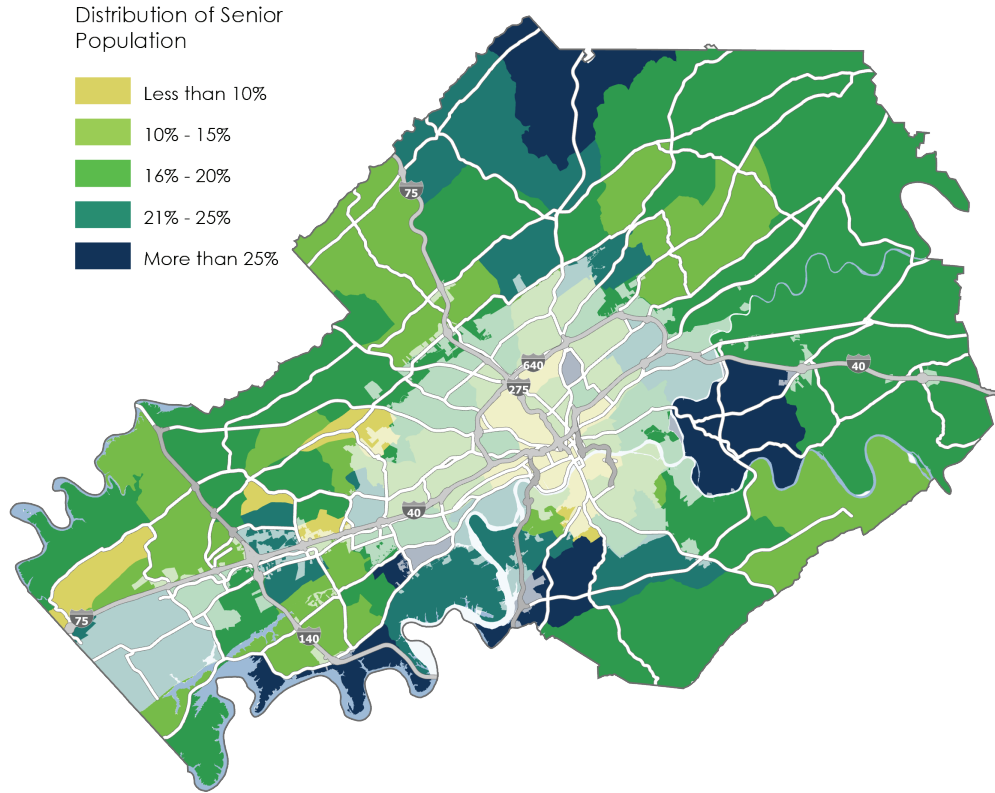


Data Source: U.S. Census Bureau, ACS 5-Year Subject Tables, 2020

This is determined by the Census Bureau based for a subset of the population (not living in group homes, incarcerated, nursing facilities, etc). It is calculated on a sliding threshold where poverty level is dependent on household size. If total family income is less than the poverty threshold for that family size, that family and everyone in it is considered to be in poverty.

SENIORS

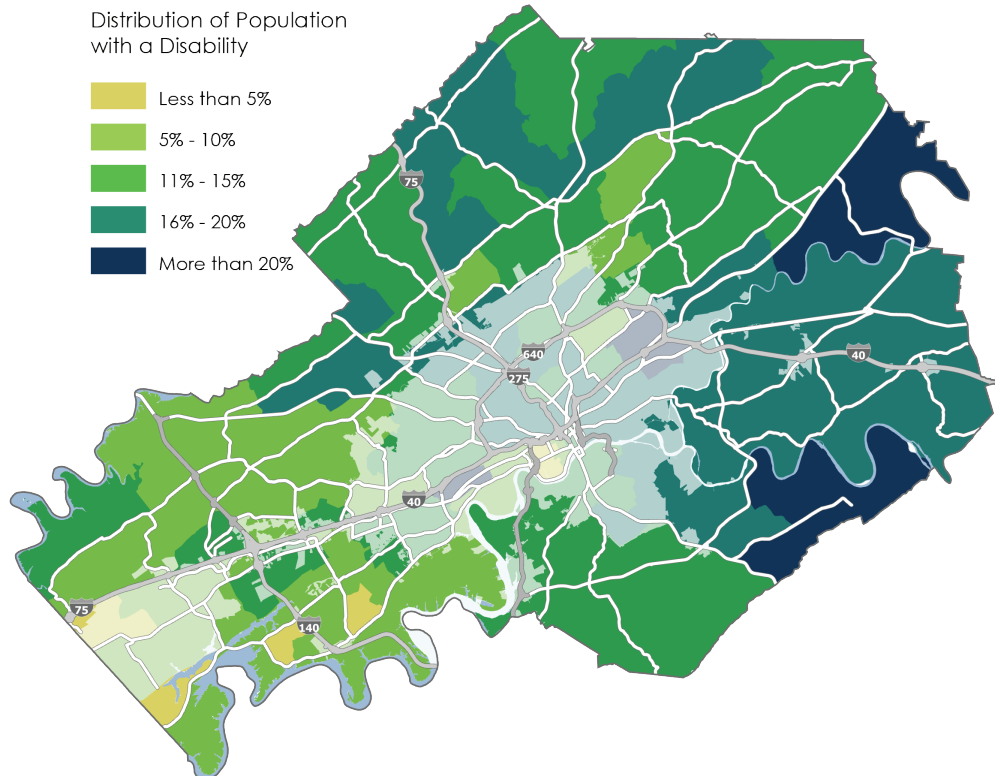
Much of the local aging and elderly population is confronted by daily challenges, such as limited income, disabilities, costly healthcare, few transportation options, and other difficulties. Today, about 16 percent of Knox County's population is over age 65. By the year 2030, nearly 19 percent of the population will comprise that age group.



Data Source: U.S. Census Bureau, ACS 5-Year Estimates Data Profiles, 2020

PEOPLE WITH DISABILITIES

Over 55,000 people in Knox County, or about 12 percent of the total population, have at least one disability. In fact some local communities report more than a 20 percent disability rate. The largest subgroup of this population has ambulatory disabilities, or serious difficulty walking or climbing stairs. This will likely continue to increase as the population of Knox County continues to get older.



Data Source: U.S. Census Bureau, ACS 5-Year Estimates Data Profiles, 2020

Chapter 2

Place

This chapter summarizes Knox County's physical characteristics, including land use, environmental features, recent development trends, and projections about future growth and development.

Knox County's location and natural features, including rivers, forests, farmlands, wetlands, hillsides, and ridgetops, are defining characteristics. Those natural characteristics are cherished by those who live in the county and have also shaped where and how growth has occurred.

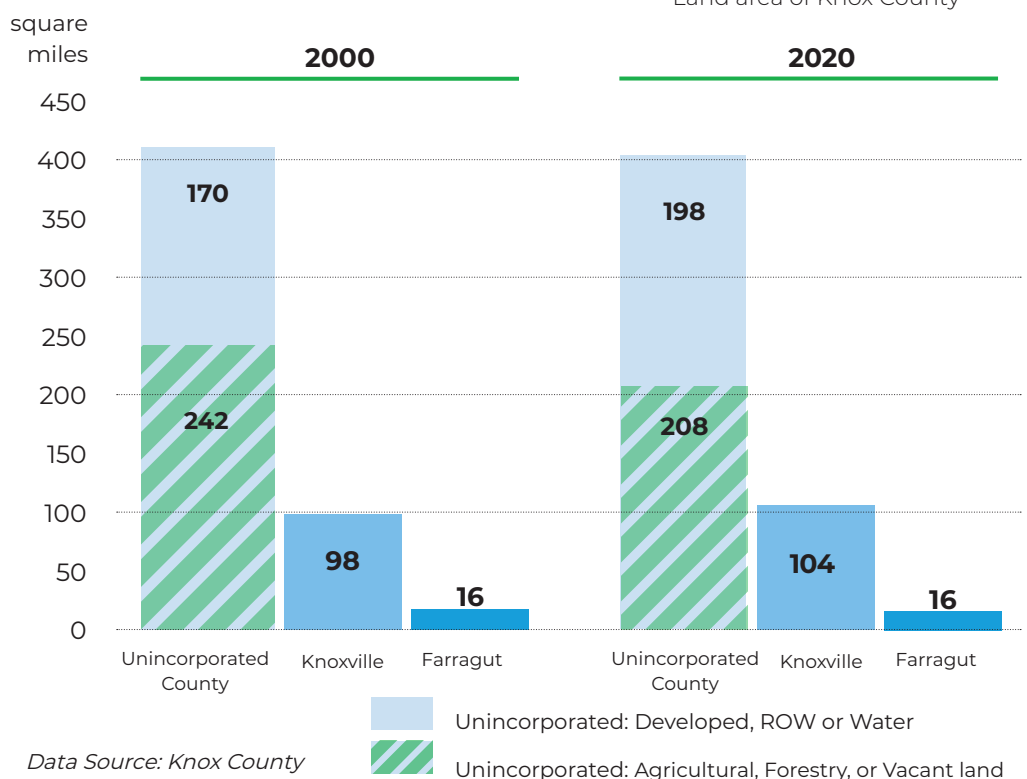
Land Utilization

Knox County is 526 square miles in land area and about 23 percent of that land is within the incorporated areas of Knoxville or Farragut. Prior to 2000, annexations in the county were primarily focused on major road corridors. Since the adoption of the Growth Policy Plan (2000) and a change in annexation policy, the City of Knoxville has expanded its boundaries by about six square miles. In that same period, just over 20 years, 28 square miles of land in the unincorporated parts of the county were developed.

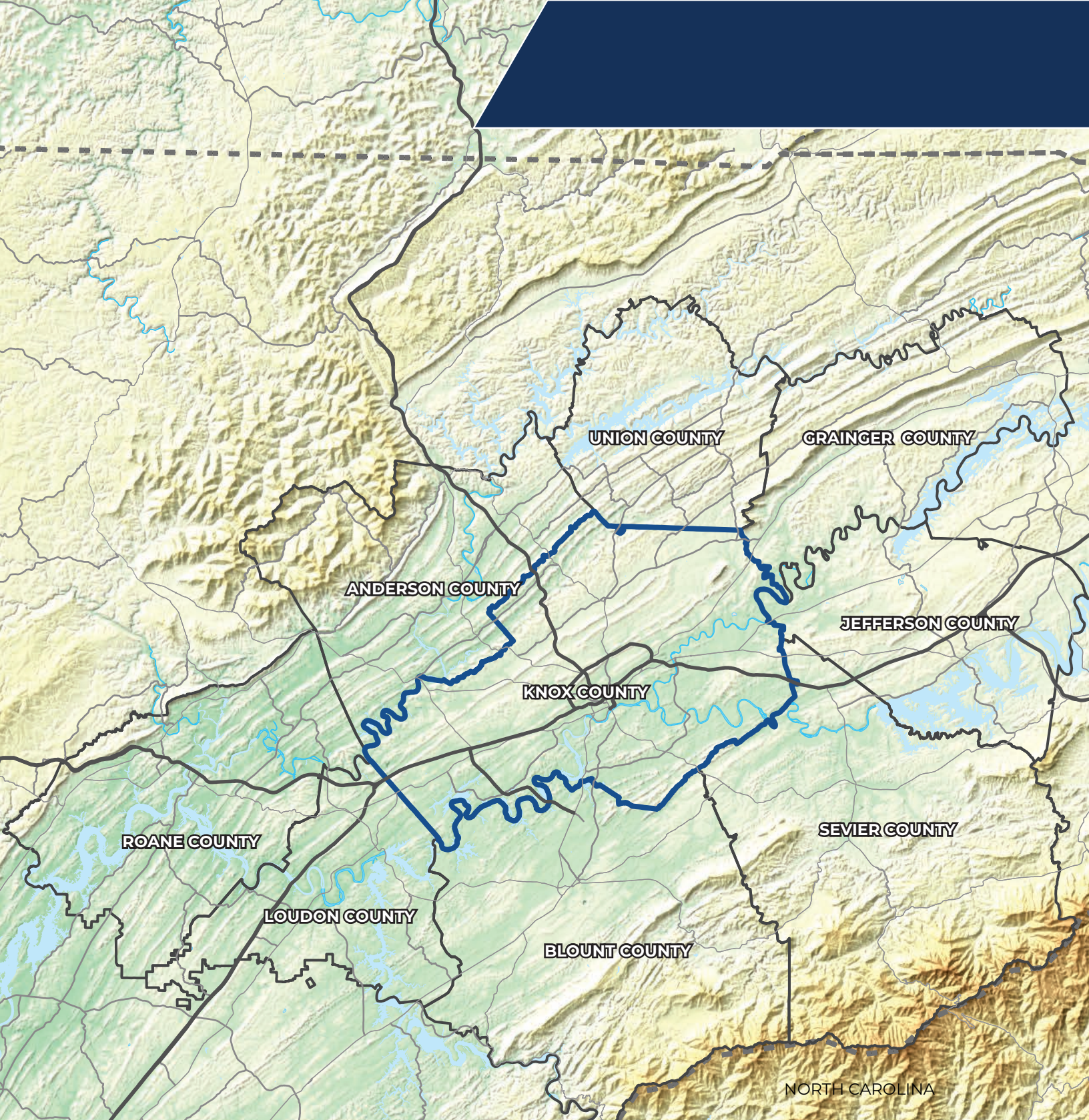
Around the year 2000, slightly more than half of all the county's land was undeveloped. Today, about 43 percent of all the county's land is undeveloped. In the unincorporated area alone, about 52 percent is undeveloped.

That development has primarily occurred in areas with minimal environmental constraints and access to utilities.

LAND AREA OF MUNICIPALITIES AND DEVELOPED AREA OF COUNTY



Data Source: Knox County



Context

Knox County is the population center of the East Tennessee Region. Knoxville is the county's urban center, representing 40 percent of the County's population and 20 percent of its land area. The county's growth patterns reflect the region's topography and natural features.

Data Source: Knoxville Regional TPO
Map Source: Esri

Existing Land Use

Unincorporated Knox County is mostly developed with rural residential or single family residential. Approximately 52 percent of land in unincorporated Knox County is considered undeveloped (classified as Agriculture, Forestry, or Vacant Land).

Category	Unincorporated		Countywide	
		Acres		Acres
Agriculture (see definition below), Forestry, Vacant Land		134,941		143,482
Commercial (includes Wholesale)		3,394		7,796
Industrial (manufacturing) and Mining		4,145		5,085
Office		2,176		4,111
Parks and Recreation (public and private)		4,855		8,451
Public/Quasi Public Land		6,128		11,803
Residential, Multifamily		3,948		7,587
Residential, Single Family (see definition below)		41,738		42,255
Residential, Rural (see definition below)		39,716		63,375
Water, Right of way		16,668		39,980
Other Uses		1,499		2,680
Total acres		259,208		336,605

LAND USE CATEGORY DEFINITIONS

- Single-family residential - a parcel up to two acres with one home.
- Rural residential - a parcel two to 10 acres with one home.
- Agriculture - includes parcels larger than 10 acres with one home

210
sq mi

Undeveloped land in unincorporated areas.

Development Potential

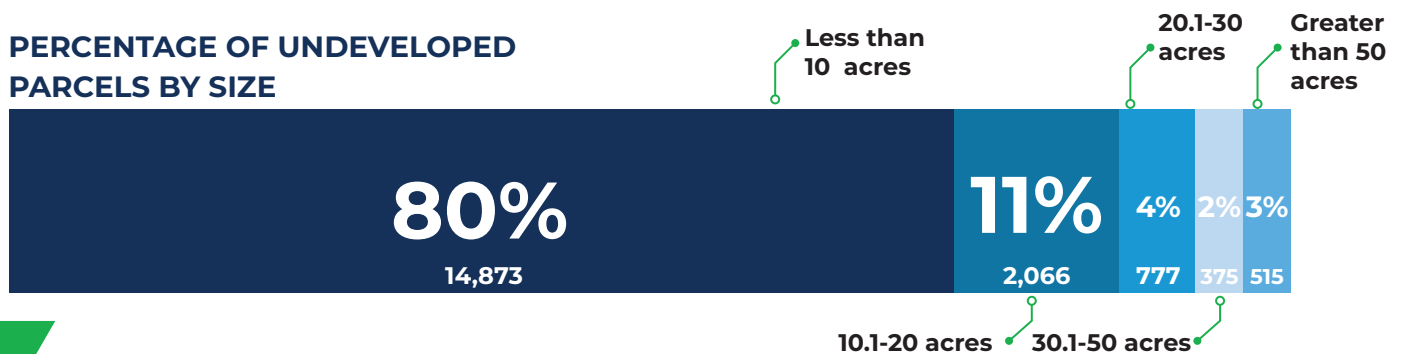
23.5
acres

Average size of vacant parcels





Development in Knox County occurred first in areas with minimal environmental constraints. Much of the remaining land could have limitations on development potential due to topography, natural features, such as floodplains and karst, or the availability of adequate infrastructure.

The size of undeveloped parcels shapes opportunity for new subdivisions or large-scale development. In unincorporated Knox County, the average size of parcels available to be developed (and larger than five acres) is 23.5 acres.

PERCENTAGE OF UNDEVELOPED PARCELS BY SIZE



Environmental Features

-  Floodways
-  Floodplains
-  Steep Slopes
-  Wetlands

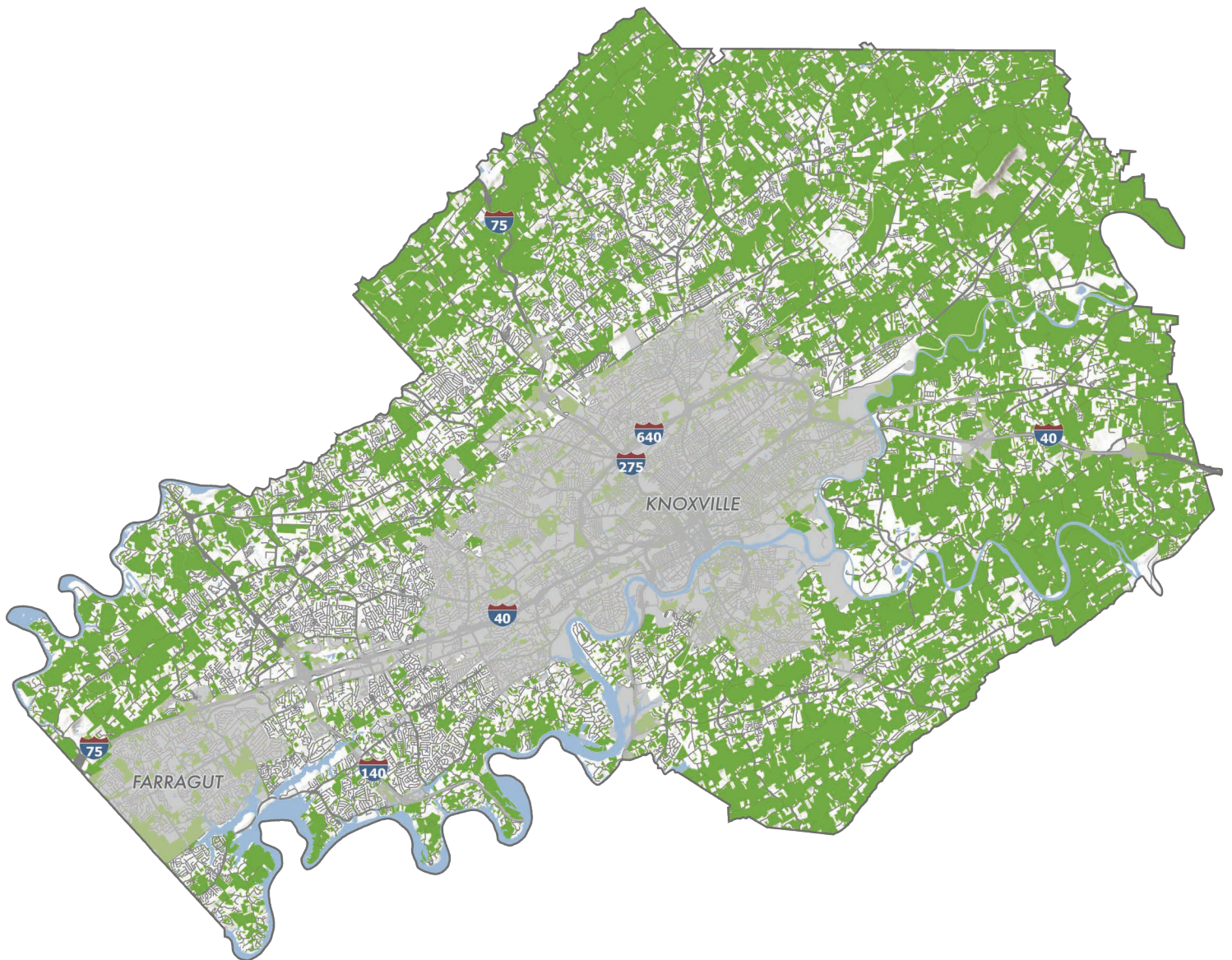


Environmentally Significant Land

Steep terrain, waterways, floodplains, and wetlands in Knox County have shaped where growth has occurred. Development in these areas tends to be more difficult to undertake.

Data Source: Knoxville-Knox County Planning, FEMA

Undeveloped Land



Undeveloped Land

Over half of the land (52 percent) within the unincorporated part of the county is considered undeveloped (classified as agriculture, forestry, or vacant), which is about 208 square miles.

Data Source: Knoxville-Knox County Planning

Development Patterns

Development character goes beyond standard parcel-by-parcel land use classifications and describes the look, feel, and function of an area. As an example, Downtown Knoxville is home to various land uses, but the integration and interaction of these uses and their connecting infrastructure help to create a place. Similarly, some rural and suburban areas could be defined as district centers, village centers, or neighborhoods.

Much of the development in unincorporated Knox County is characterized by a sprawling low-density pattern. This form of development is common in suburban and rural areas across the United States. Impacts of this pattern of development are characterized by:

- Higher long-term infrastructure costs (requires new roads and utilities that must be maintained).
- Higher personal transportation costs in terms of vehicle trips and miles for daily life.
- Loss of open space, forested areas, and water quality concerns.
- Few opportunities for walking, biking, or transit.

The map and inset below represent typical patterns of development occurring in unincorporated areas of Knox County.



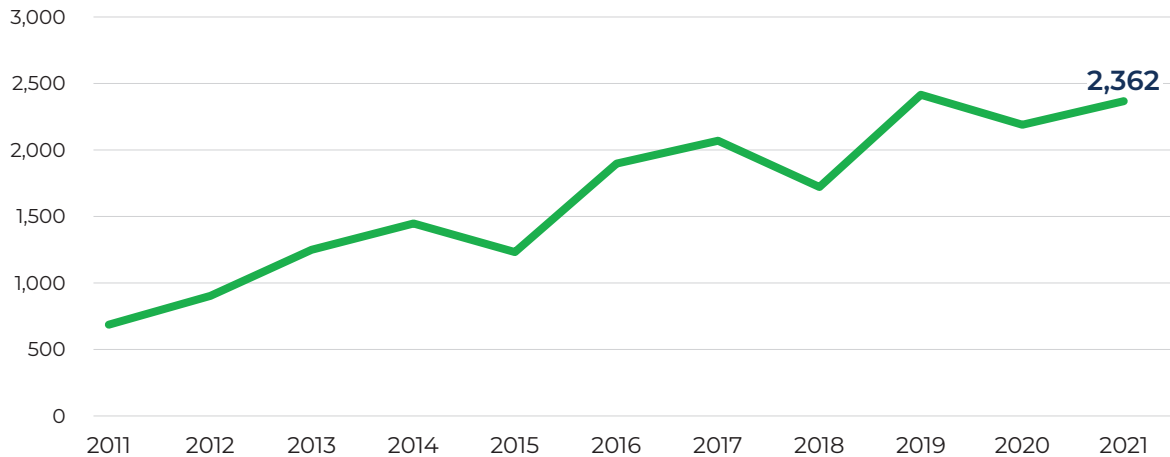
Development Activity

Like most of the country, Knox County has seen fluctuations in the pace of development that correspond to ups and downs in the national economy.

The figure below illustrates annual new construction permitting activity since 2004. Residential new construction slowed during the global economic downturn from 2007-2009. Since 2011, the amount of new residential units constructed has trended upward, but has not reached pre-recession levels. Commercial development has remained relatively stable.

1,649
Average annual residential new construction permits (2011-2021)

ANNUAL NEW RESIDENTIAL UNITS PERMITTED (UNINCORPORATED AREAS 2011-2021)



Data Source: Knoxville-Knox County Planning

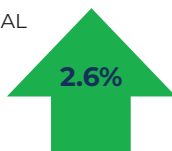
DEVELOPMENT ACTIVITY (UNINCORPORATED AREAS 2017-2021)

Rezoning: Acreage

RESIDENTIAL
2017 = 435
2021 = 973



NON-RESIDENTIAL
2017 = 152
2021 = 156

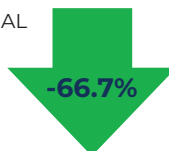


Subdivisions: New Lots

RESIDENTIAL
2017 = 1,386
2021 = 1,356



NON-RESIDENTIAL
2017 = 27
2021 = 9

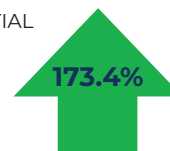


Building Permits: New Units

RESIDENTIAL
2017 = 2,064
2021 = 2,362



NON-RESIDENTIAL
2017 = 64
2021 = 175



Data Source: Knoxville-Knox County Planning, 2021

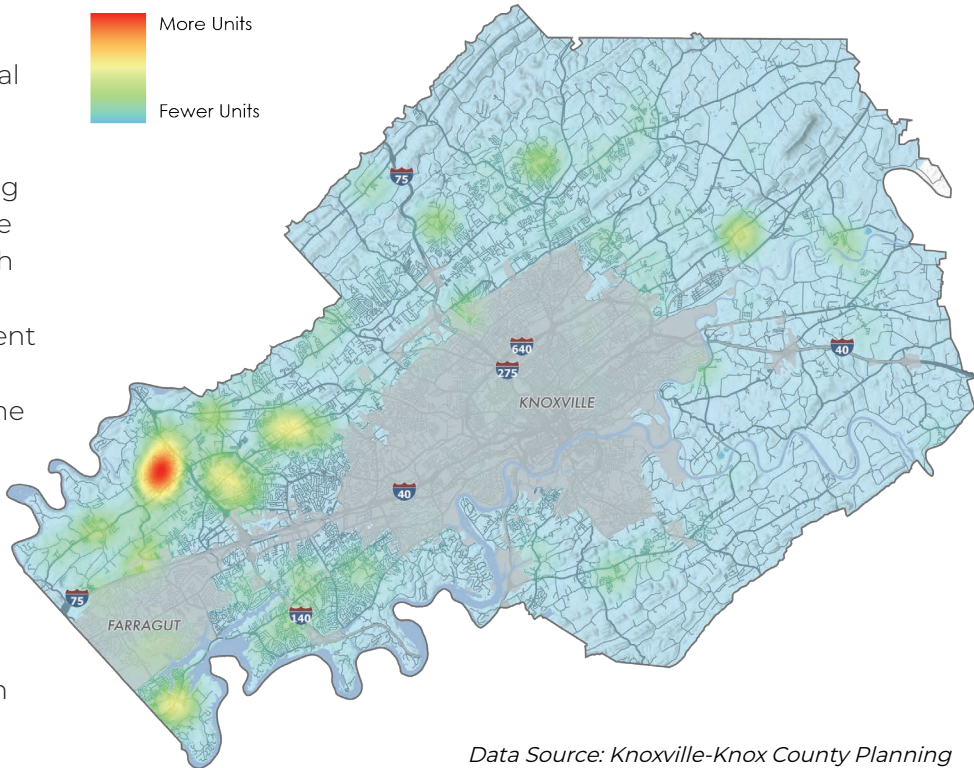
Location of Recent Development

RESIDENTIAL

Most of the county's residential development is single family housing. The greatest concentrations of new housing in the county have been in the western areas north and south of I-40. In the past five years alone (as shown on the adjacent map) there have been 10,242 single family homes built in the county. Eighty-one percent of those have been in unincorporated areas.

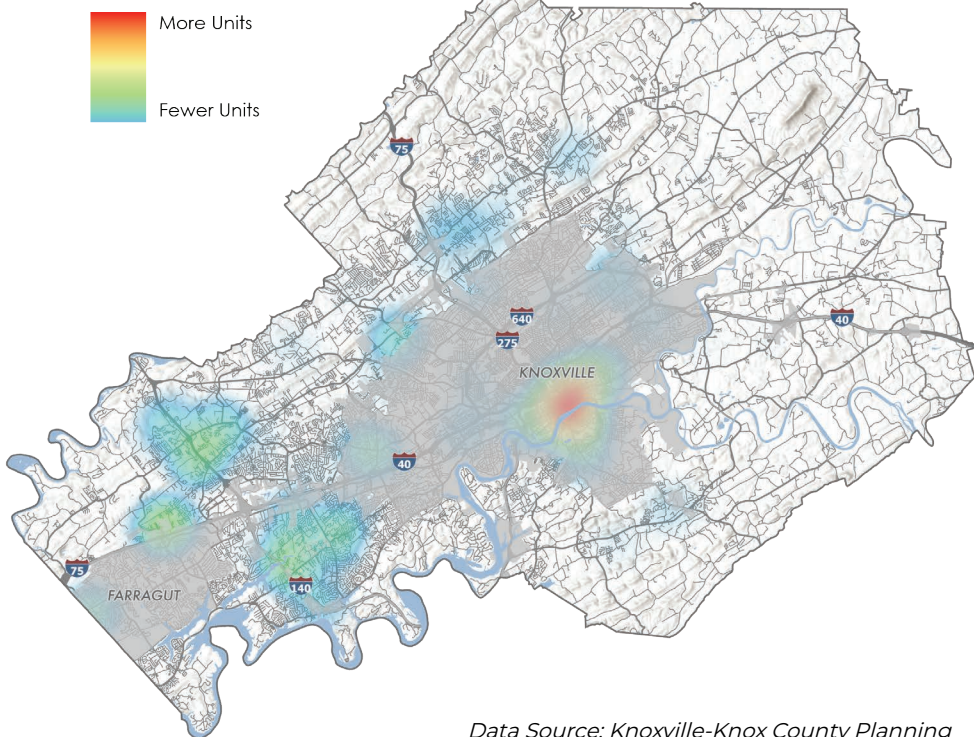
Of the 7,075 multifamily units constructed countywide in the past five years, 58 percent have been in Knoxville, seven percent have been in the Town of Farragut and 35 percent have been in unincorporated areas.

NEW SINGLE FAMILY UNITS (2017-2021)



Data Source: Knoxville-Knox County Planning

NEW MULTI-FAMILY RESIDENTIAL UNITS (2017-2021)



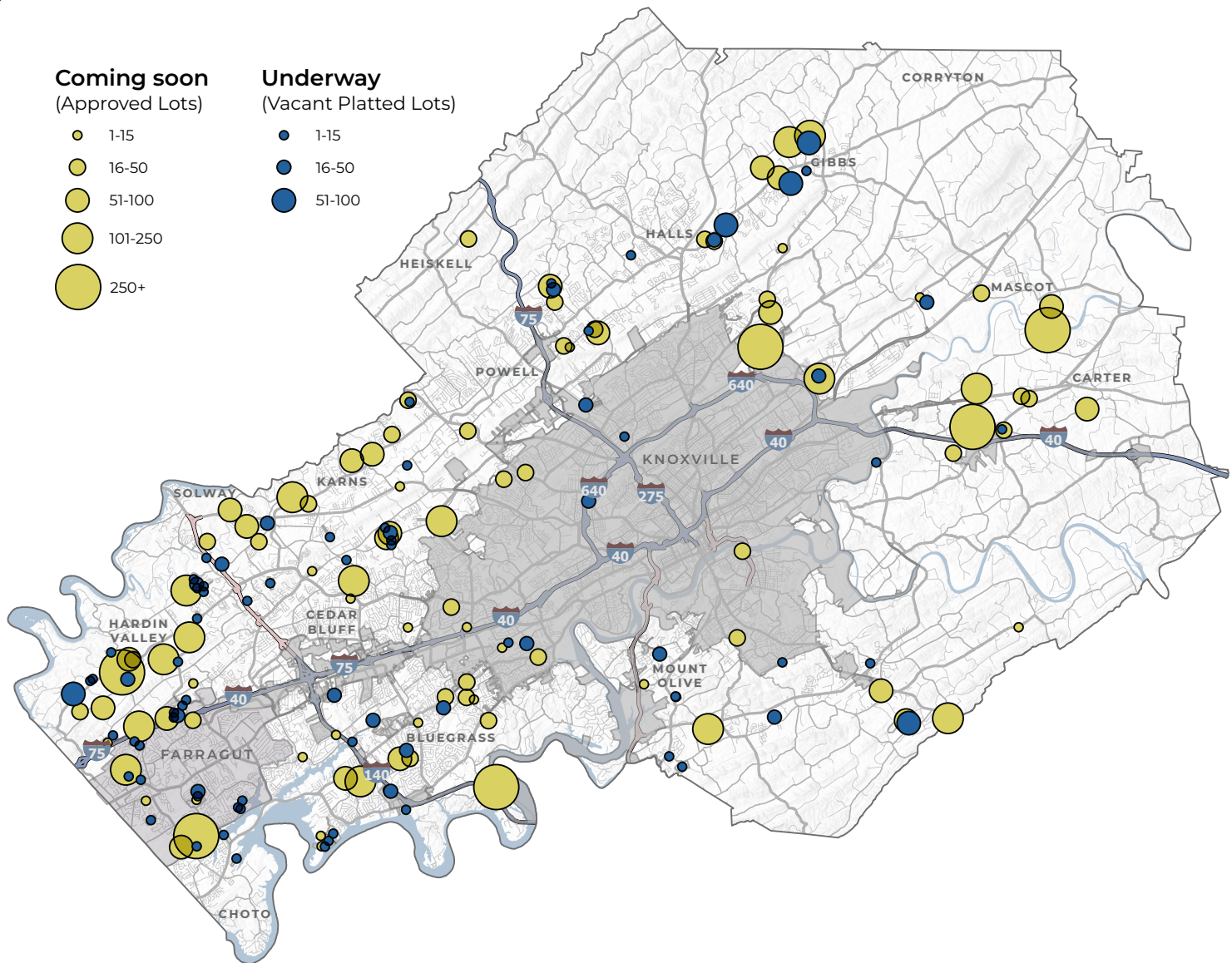
Data Source: Knoxville-Knox County Planning

81%

of every single family home built since 2017 has been in unincorporated Knox County.

35%

of all multifamily units have been constructed within unincorporated Knox County.



Location of Anticipated Single-Family Residential Development

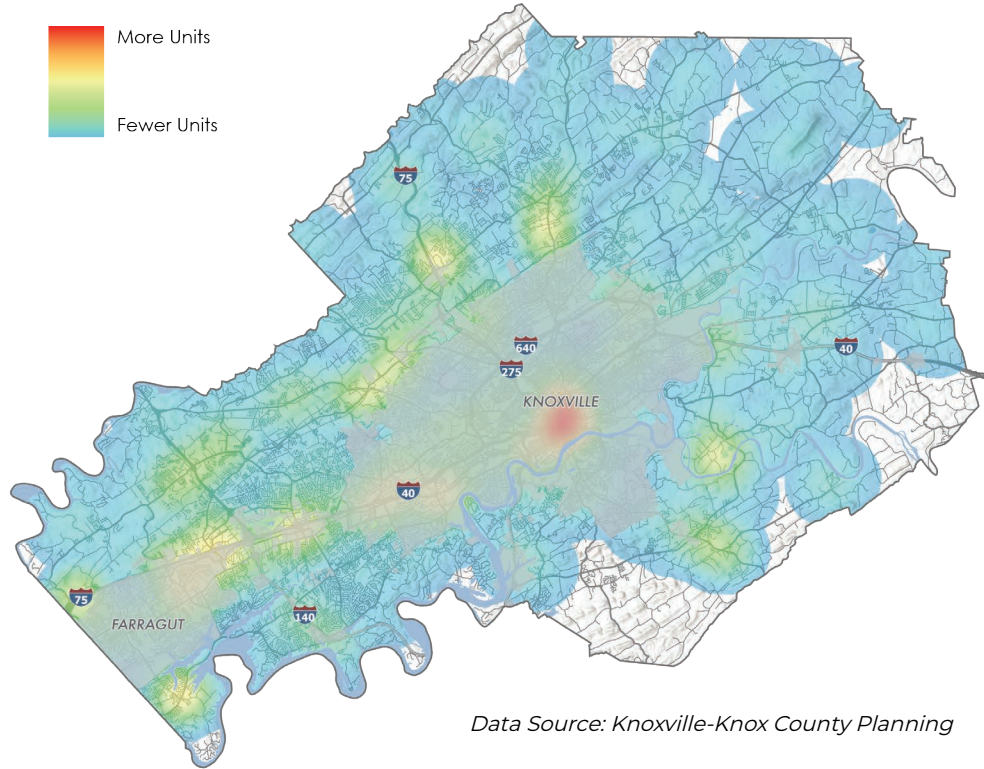
Where the previous maps show past development, this map identifies expected future single-family residential development based on subdivisions that are not yet fully built. This development snapshot is from 2021. The timing for build-out varies and is largely dependent on market forces. Together, these two types of subdivisions, “coming soon” and “underway,” comprise 7,048 and 1,379 lots respectively, the majority of which are in unincorporated areas.

Data Source: Knoxville-Knox County Planning

NON-RESIDENTIAL PERMITS

Commercial development tends to concentrate along major corridors and follows population growth. This is true in Knox County, where new commercial development has been concentrated at nodes along corridors, mostly in the western portion of the county. Of the 874 non-residential permits for new construction issued county-wide in the past five years, 496 – or 57 percent – were issued in unincorporated Knox County.

NEW NON-RESIDENTIAL PERMITS (2017-2021)



Outdoor Recreation

The county currently provides a robust system of parks and programming for the community. Knox County works with dozens of partners throughout the area that offer football, softball, cheerleading, soccer, lacrosse, kickball, and disc golf for both youth and adults. In addition to formal parks and recreation activities, Knox County is well-known for outdoor recreation like hiking, mountain biking, and paddling. The county has over 60 miles of paved greenways and natural surface trails for residents and visitors to enjoy. Additionally, the county is home to a 44-mile water trail that runs along Beaver Creek between Clayton Park in Halls and Melton Hill in Hardin Valley.

THE SYSTEM

The park system is made up of a variety of spaces.

2,715 Acres of Parkland

130 Athletic Fields

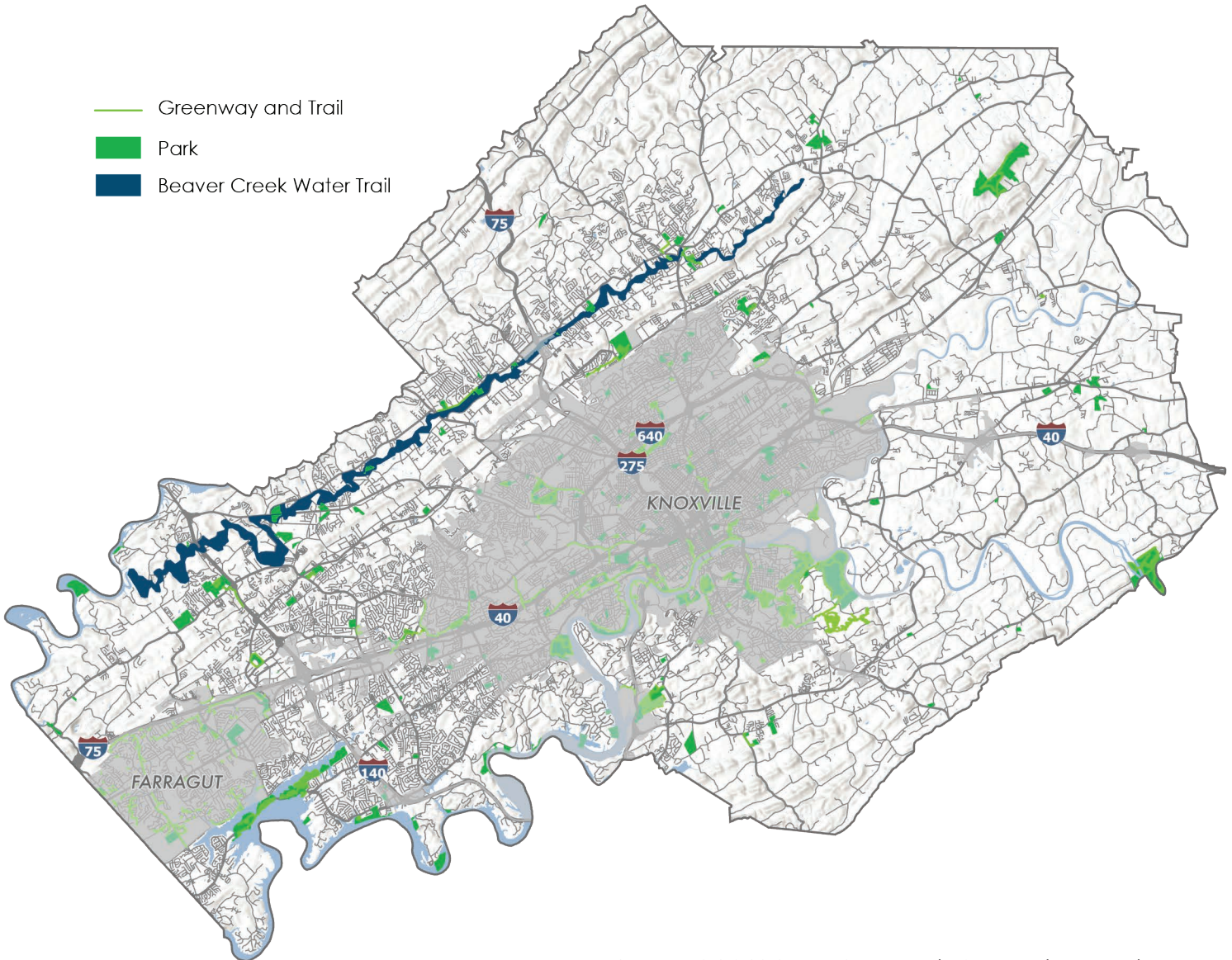
53 Parks

35 Miles of Natural Trails

27 Miles of Paved Trail

44 Miles of Water Trail

- Greenway and Trail
- Park
- Beaver Creek Water Trail



Data Source: KGIS & 2019 Knox County Parks & Recreation Annual Report

Schools

Knox County has a unified school district that is responsible for all public schools within the City of Knoxville, Town of Farragut, and unincorporated portions of the county. Knox County Schools is responsible for 91 total schools, comprised of 51 elementary schools, 16 middle schools, 16 high schools, three virtual schools, and five specialized schools. The school system serves more than 60,000 students and has more than 8,000 staff members.

Knox County Schools operates more than 335 buses each day, totaling more than 3,000,000 miles each school year. Students residing within a Parental Responsibility Zone (PRZ) are not eligible for bus transportation services provided by Knox County Schools. Within PRZs, parents are responsible for getting their children to school. PRZs for elementary schools are one mile, and for middle and high schools are one and one-half miles from their zoned school.

60,000+

students

8,000+

staff and faculty

91

schools



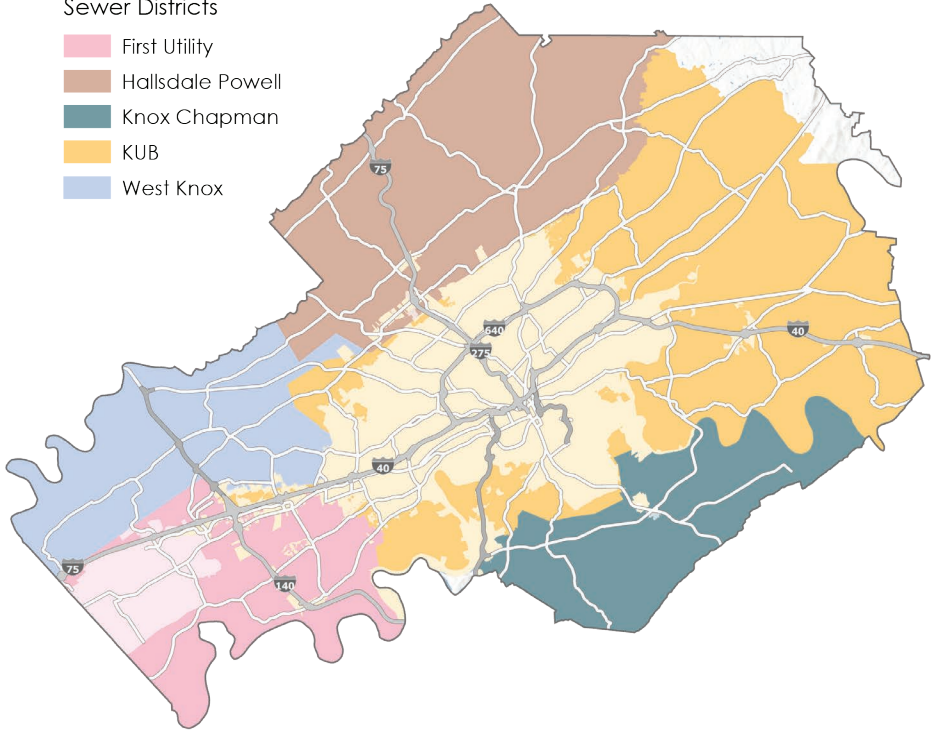
Utility Infrastructure

The availability of utilities, particularly water and sanitary sewer, are necessary for growth. Knox County does not own utility infrastructure. Instead, these utilities are provided by multiple entities. The maps on this page represent the legal service area of each entity responsible for service, and not the actual availability of sewer and water infrastructure.

- The various utility entities are primarily funded by user fees.
- Long-range planning for infrastructure maintenance and expansion/growth varies among the utility providers.
- For new infrastructure, developers work with the relevant provider to obtain connections to a utility and the terms of those connections. The developer will fund and construct the new infrastructure as part of their project and then will transfer ownership of the infrastructure to the utility.
- The costs for capital projects undertaken by the utilities (such as relocations, maintenance, upsizing, etc.) are generally paid for by users through utility rates.

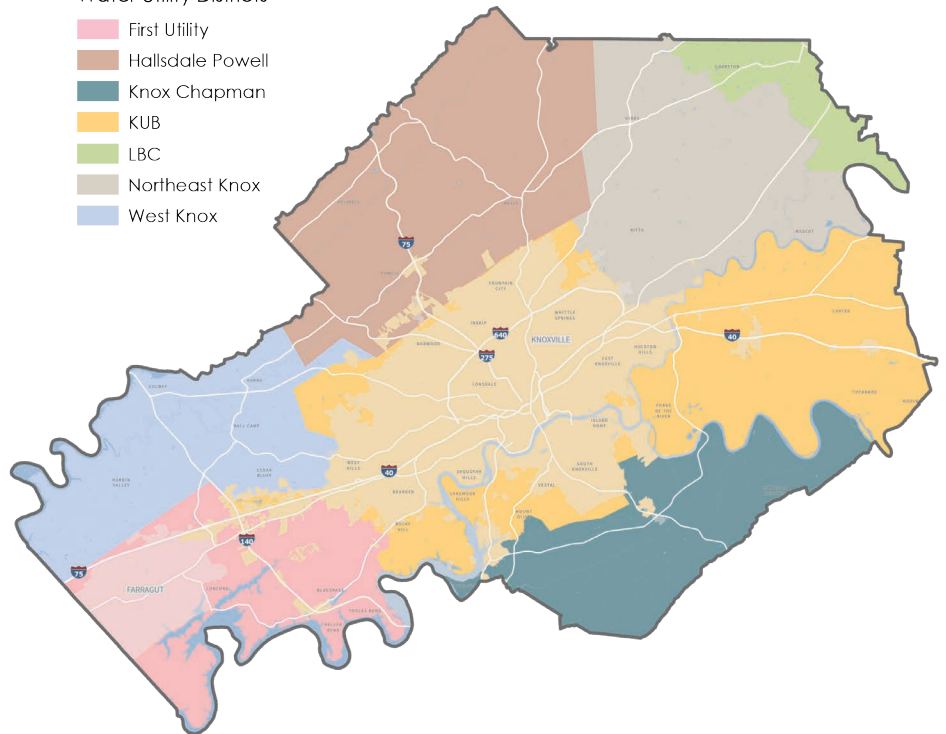
Sewer Districts

- First Utility
- Hallsdale Powell
- Knox Chapman
- KUB
- West Knox



Water Utility Districts

- First Utility
- Hallsdale Powell
- Knox Chapman
- KUB
- LBC
- Northeast Knox
- West Knox





Chapter 3

Prosperity

This chapter includes an examination of fiscal strengths, employment patterns, workforce makeup, and the housing market. These economic factors have significant influence on the personal prosperity of residents and the community overall, as well as impacting the allocation of public resources. Identifying and evaluating current conditions will reveal the potential opportunities and immediate challenges to achieving a stronger local economy.

Economic Growth

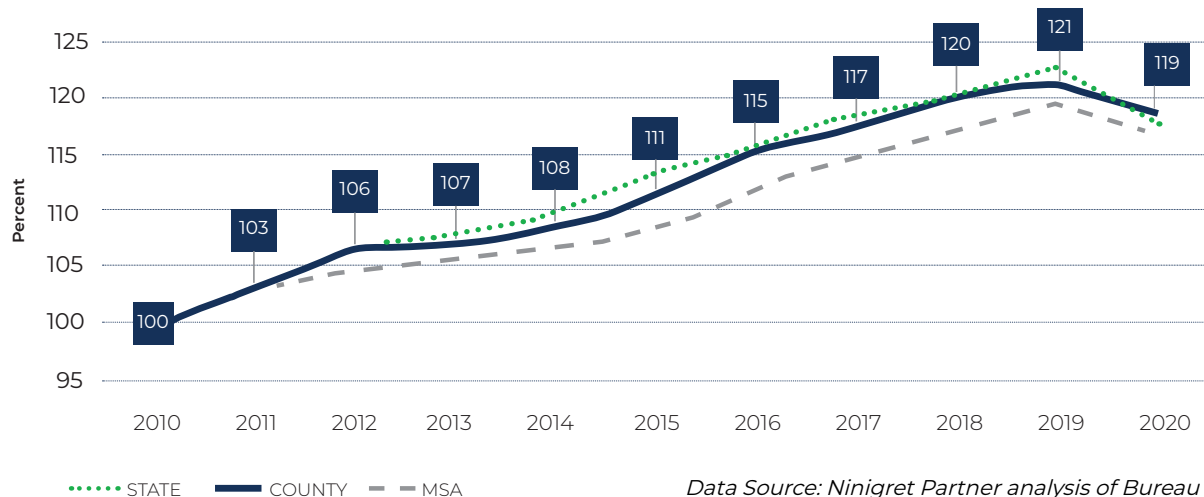
Knox County's Gross Domestic Product (GDP) is almost \$24 billion.

The GDP represents all goods and services produced in the county. This is influenced primarily by the private sector which accounts for 89 percent, or \$21.5 billion, which is consistent over time. Within the Metropolitan Statistical Area (MSA), an eight-county region, Knox County supports an estimated 61 percent of the economy. The GDP of an area is often used as an indicator of the general health and size of the economy.

The county's economy has grown faster than the MSA's, remaining resilient through COVID-19.

Prior to the COVID-19 pandemic, between 2010 and 2019, the county's economy grew at a consistent annual rate. Since 2012, gross domestic product began increasing faster in Knox County than the MSA, but somewhat less than the state overall. However, compared to both the state and MSA, Knox County's GDP experienced less of a negative impact from COVID-19, maintaining an economy that is valued slightly less than it was in 2018.

GROSS DOMESTIC PRODUCT PERFORMANCE (INDEXED TO 2010)



Data Source: Ninigret Partner analysis of Bureau of Economic Analysis (BEA) NIPA Tables

Wages and Earnings

Annual wages have seen consistent growth. The average annual wage in Knox County as of 2020 is \$53,662. This is an almost 35 percent increase since 2010, marking yearly gains leading up to and during the COVID-19 pandemic. The largest increase occurred between 2019 and 2020 when Knox County saw a seven percent increase in the average annual wage. The local average wage is slightly lower than the MSA and the state, which are \$54,086 and \$55,137 respectively.

\$53,662

Average Knox County annual wage

↑ 35%

Knox County wage growth since 2010

Employment

Employment in the county grew at a similar rate as population over the last decade. Since 2010, employment growth averaged one percent per year. Employment declined in 2020 due to COVID-19, so the 10-year change was about nine percent. Within the MSA, both Knox County and the surrounding region's employment grew at a similar rate over the last decade.

↓ 10,000

Loss of jobs between 2019 and 2020 (COVID-19)

Between 2019 and 2020, the county lost over 10,000 jobs due to the impacts of COVID-19. This number includes wage and salary earners and self-employed people.

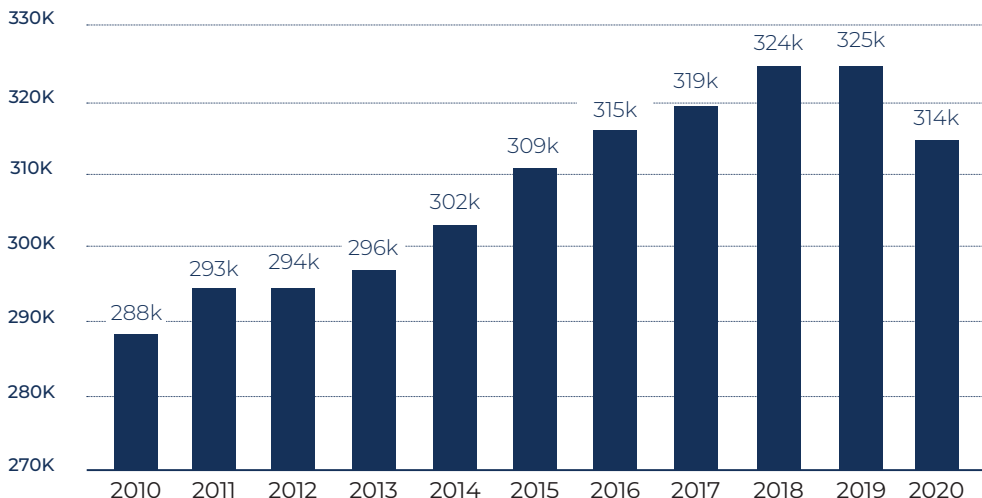
21%

Self-employed workers in Knox County

Entrepreneurs represent one out of every five employees. About 68,000 local workers are self-employed, comprising 21 percent of the county's workforce. This rate is similar to the MSA (21 percent) and state (22 percent). This group grew at a faster rate since 2010 than wage and salary jobs (nearly 14 percent compared to nine percent).

Data Source: Ninigret Partner analysis of Bureau of Labor Statistics QCEW

TOTAL KNOX COUNTY JOBS



Data Source: Ninigret Partner analysis of BEA NIPA Tables

EMPLOYMENT BY SECTOR

Healthcare and Social Services employs the largest workforce. With more than 37,000 employees, this economic sector is more than 25 percent larger than Retail Trade, the second largest sector, with 29,000 workers. Accommodation and Food Services, Educational Services and Administrative and Support Services round out the top five in Knox County. While these sectors have seen more consistent growth, Transportation and Warehousing experienced a substantial influx.

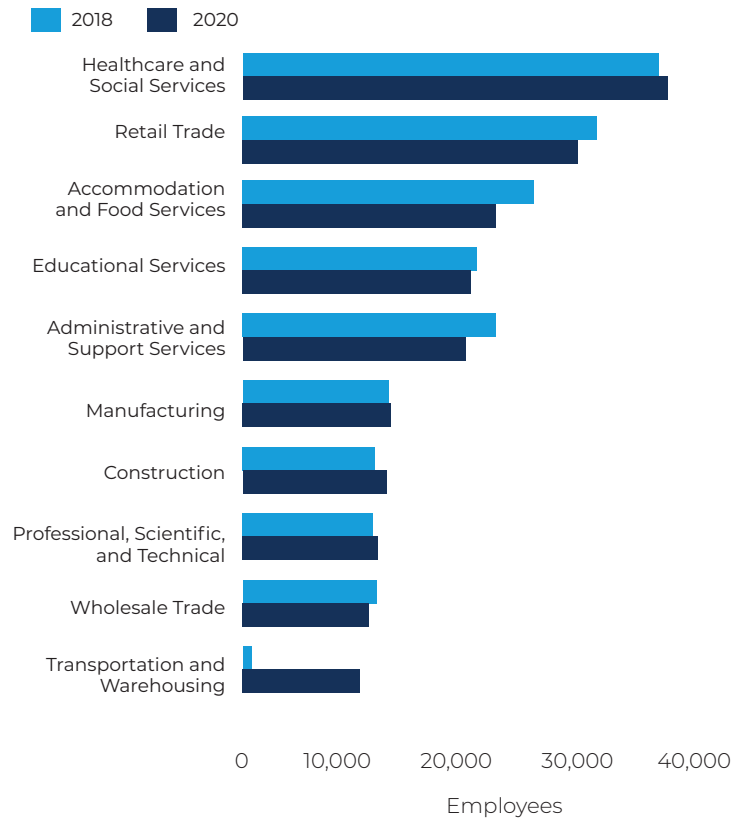
Transportation and Warehousing multiplied its employment base by 10 times in two years. Between 2018 and 2020, this sector went from 1,000 employees to more than 10,000. Transportation and Warehousing includes truck, rail, air, postal services, and warehousing and distribution. Approximately 4,000 of those jobs in Knox County are in trucking. This replaced Finance in the top 10 sectors, with the creation of 315 new businesses in this same time period. Growth in the transportation and warehousing sector is consistent with trends across the country for major metropolitan areas. Knox County's connectivity and position as the center of the MSA along with an increase in online shopping and distribution has been a key driver of this growth.

Similar expansion was realized in Healthcare/Social Services and Professional/Scientific/Technical Services which added 343 and 235 new businesses respectively. These sectors, along with Transportation/Warehousing, were the driving force behind business development, accounting for two-thirds of industry growth in Knox County.

EMPLOYMENT LOCATION

Employment districts are concentrated along major corridors. Within Knox County, several areas serve as centers for the local workforce. These are primarily

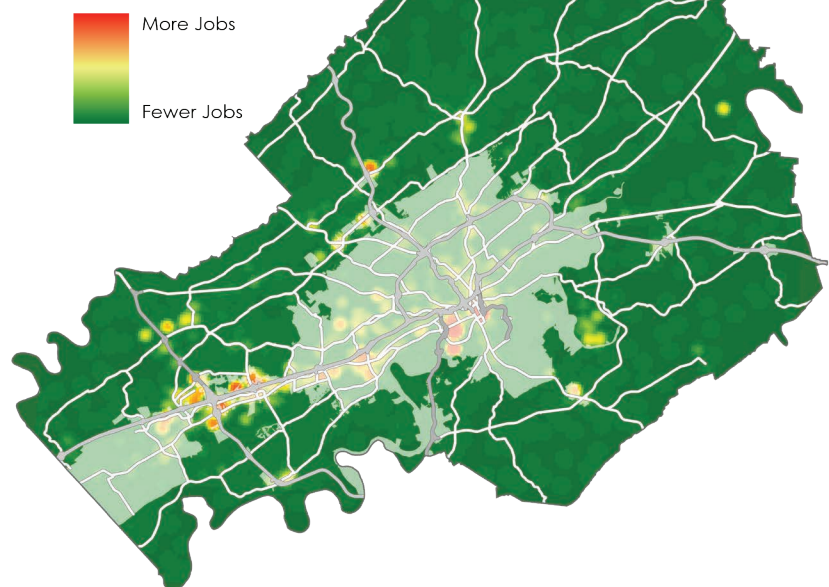
TOP 10 SECTORS IN KNOX COUNTY*



Data Source: Ninigret Partner analysis of State Labor Market Information

*Note - These refer to NAICS industry sectors as defined by the Bureau of Labor Statistics

JOBS PER SQUARE MILE



Data Source: Ninigret Partner analysis of OnTheMap.gov (2019)

located along the I-40 corridor, the intersection of I-40 and I-140, and in Downtown Knoxville.

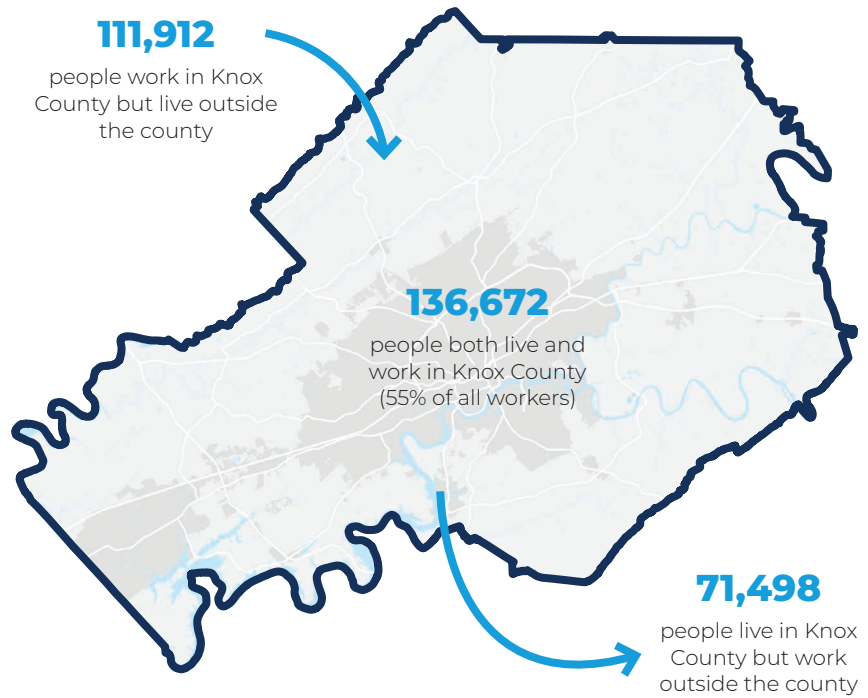
Workforce

Approximately 55 percent of people who work in Knox County also live here. Because the county serves as a major employment center in the MSA, the remaining 45 percent of workers commute in from the surrounding area. Interestingly, younger populations are more likely to both live and work in Knox County. This is true for almost two-thirds of those under the age of 29.

As growing numbers of Millennial and Gen Z increase their shares in the local workforce, they will have further impacts on travel patterns in the near future. However, the current workforce is made up of and influenced by older populations. Nine of the top 10 employment sectors - all except Accommodation and Food Services - have an older workforce, and several sectors are experiencing workers nearing retirement age. On average, 24 percent of each sectors' workers are over the age of 55. This trend is similar to the state with an older population composing around one-quarter of the entire workforce. It is a condition that will continue as Baby Boomers approach retirement age.

66%

Workers under age 29 live and work in Knox County



24%

Workforce over the age of 55

9 of 10

Top employment sectors have at least 20% of their workforce over age 55

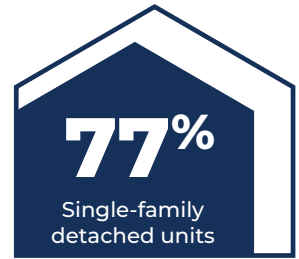
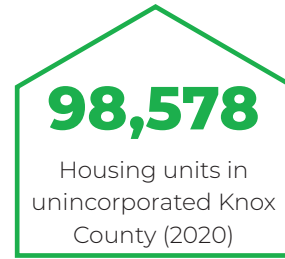
Data Source: Ninigret Partner analysis of State Labor Market Information

Housing

Inventory

Detached units lead the local housing mix. There were 98,578 housing units in unincorporated Knox County as of 2020 and 77 percent of these were single-family detached units. Six percent were single-family attached units, more than 10 percent were multi-family units, and a little more than six percent were mobile homes.

Of all housing units, 64 percent, or approximately 77,000 units, are owner occupied.

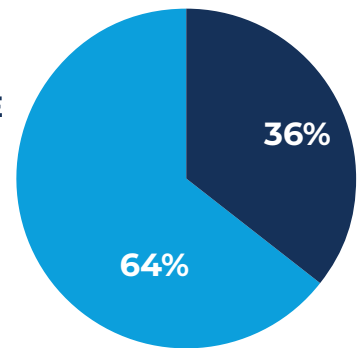


Housing Value

Housing demand and values are on the rise while inventory declines. According to the 2022 State of Housing Report released by the Knoxville Area Association of Realtors (KAAR), the median price of new homes in the Knoxville, TN metro area was \$359,502 at the beginning of 2022, meaning the average new home is affordable only to households with an income of \$81,161 or more.

KNOX COUNTY HOUSING TENURE

- Own
- Rent

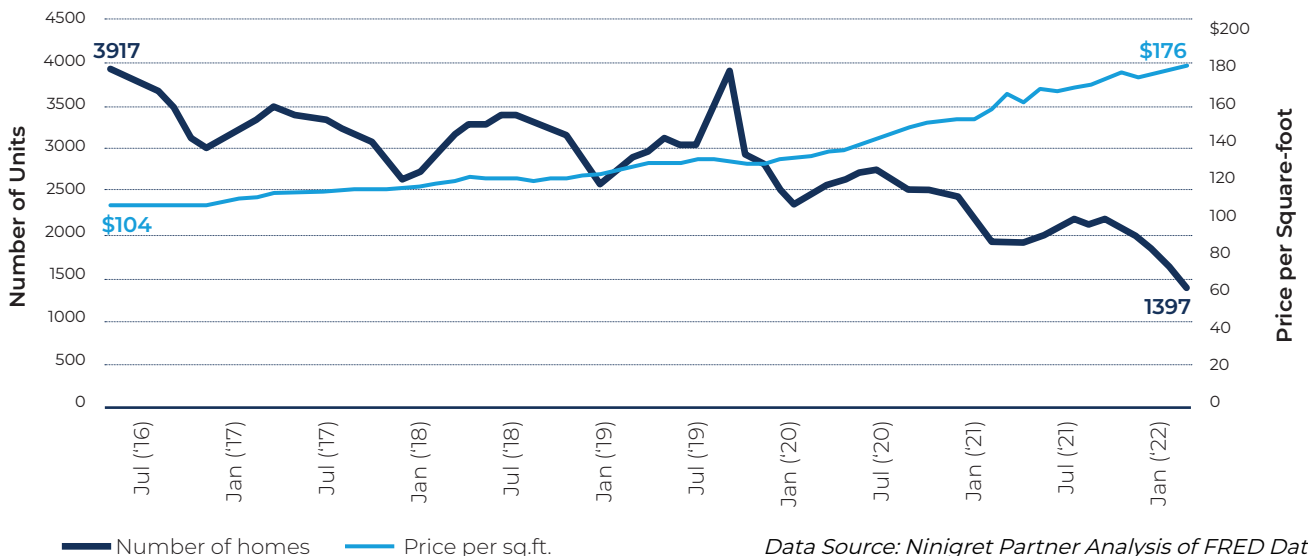


Data Source: U.S. Census Bureau, ACS 5-Year Estimates Data Profiles, 2020

\$359,502

Median Price of a New Home

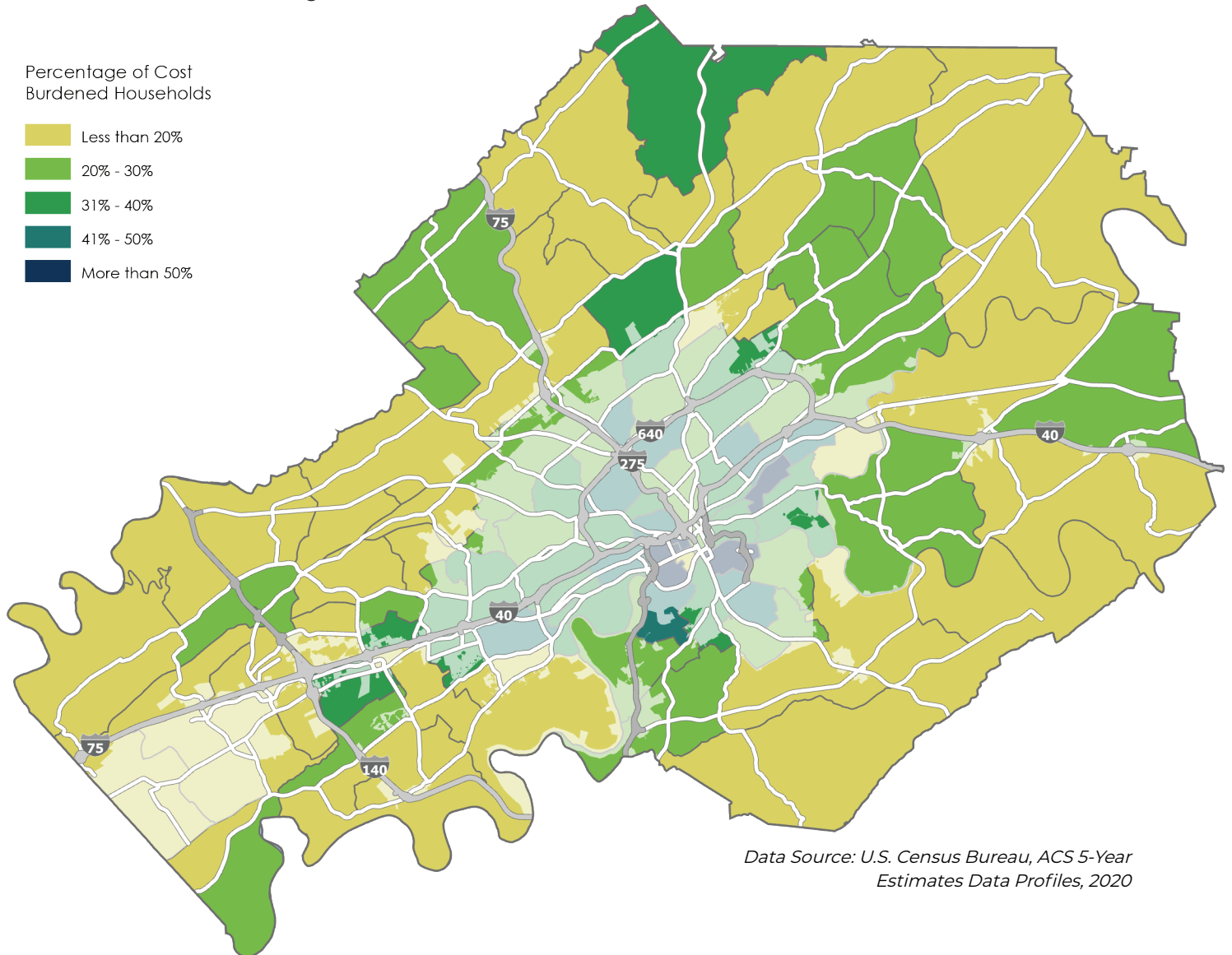
MONTHLY FOR-SALE HOUSING



Data Source: Ninigret Partner Analysis of FRED Data

THE COST OF HOUSING AND TRANSPORTATION

Knox County's historically low cost of living has been influenced by housing costs which have been rising in recent years. **The 2022 State of Housing Report by KAAR revealed that as of 2020 home prices were growing at 2.2 times the rate of wages in Knox County, and that approximately 70 percent of households in the Knoxville area cannot afford the median priced new home.** Households are considered cost burdened if they spend 30 percent or more of their income on housing.



Measures that capture housing affordability often omit transportation costs from consideration. The combined percentage of income that the average household spends on both transportation and housing is 59 percent. Household spending on transportation is roughly encompassed by the costs associated with new vehicle purchases, maintenance and repairs, insurance, fuel, and/or public transportation. **In the unincorporated portion of Knox County, the average household spends about 30 percent of income on transportation expenses alone.** Each year those costs average \$12,000 for Knox County households.

Chapter 4

Infrastructure

The following chapter analyzes the foundational characteristics that influence the existing mobility network throughout Knox County. The term mobility can be understood in a variety of ways. Stated plainly, mobility refers to the ways in which people and goods can move from place to place. The movement of people and goods can occur in a variety of ways or modes of transportation including walking, biking, driving, or taking public transit. Planning for a variety of modes is essential to promoting accessibility and mobility.

New growth and development around the county can exacerbate problems like congestion or safety on the existing mobility network. To understand these issues and gaps, this chapter explores the fundamental framework of the transportation network as an initial step in the planning process.

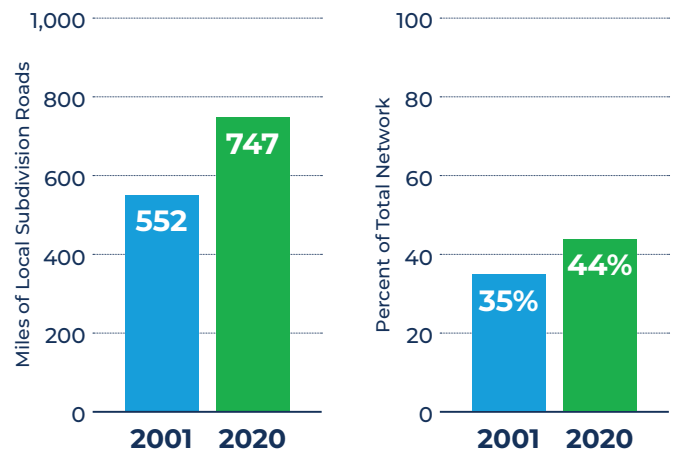
The Network

Roadways are categorized in three major classifications: arterials, collectors, and local roads. A functional classification system is applied to a road depending on the surrounding land use, volume of traffic it is intended to serve, and other factors. The classifications aid planning officials in making decisions on updates to the roadway and the surrounding area. Most TDOT-maintained roadways in Knox County are classified as arterials, while those that are county-maintained include arterials, collectors, and local roads.

FUNCTIONAL CLASSIFICATION DEFINITIONS

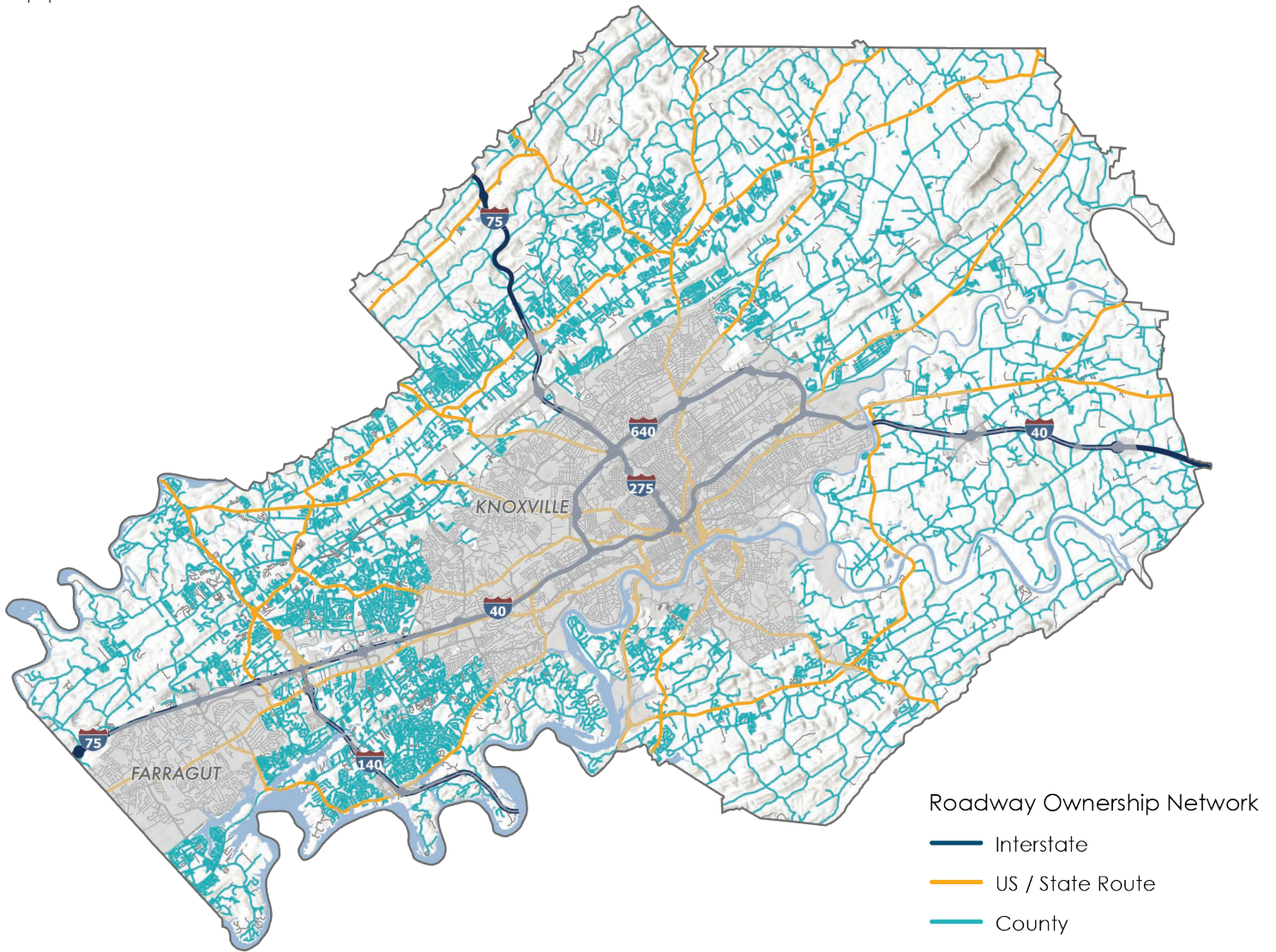
- Arterial – A street that provides major movement within the area, provides intercommunity connections to the local street system and moves through traffic between activity centers.
- Collector – A street that primarily provides for short distance traffic movement and functions to collect and distribute traffic between local streets and high-volume traffic generators and arterials.
- Local - A minor street that provides direct access to abutting land.

LOCAL SUBDIVISION ROADS



The ownership and maintenance of Knox County roadways are split between four public groups: Tennessee Department of Transportation (TDOT), Knox County, and the City of Knoxville and Town of Farragut. Roadway ownership designates the public agency responsible for maintaining roadway conditions and for initiating any road projects. Each entity has its own set of standards as it applies to design elements such as travel lanes, transit, and bicycle and pedestrian infrastructure.

Outside of the incorporated areas of Knoxville and Farragut, the Knox County Engineering and Public Works Department maintains, builds, and rehabilitates all Knox County roads, bridges, and stormwater pipes.



1,721

Miles of County-Owned Centerline Miles of Roadway

134

Number of County-Owned Bridges

381

Miles of County-Owned Stormwater Pipe

Data Source: ETRIMS

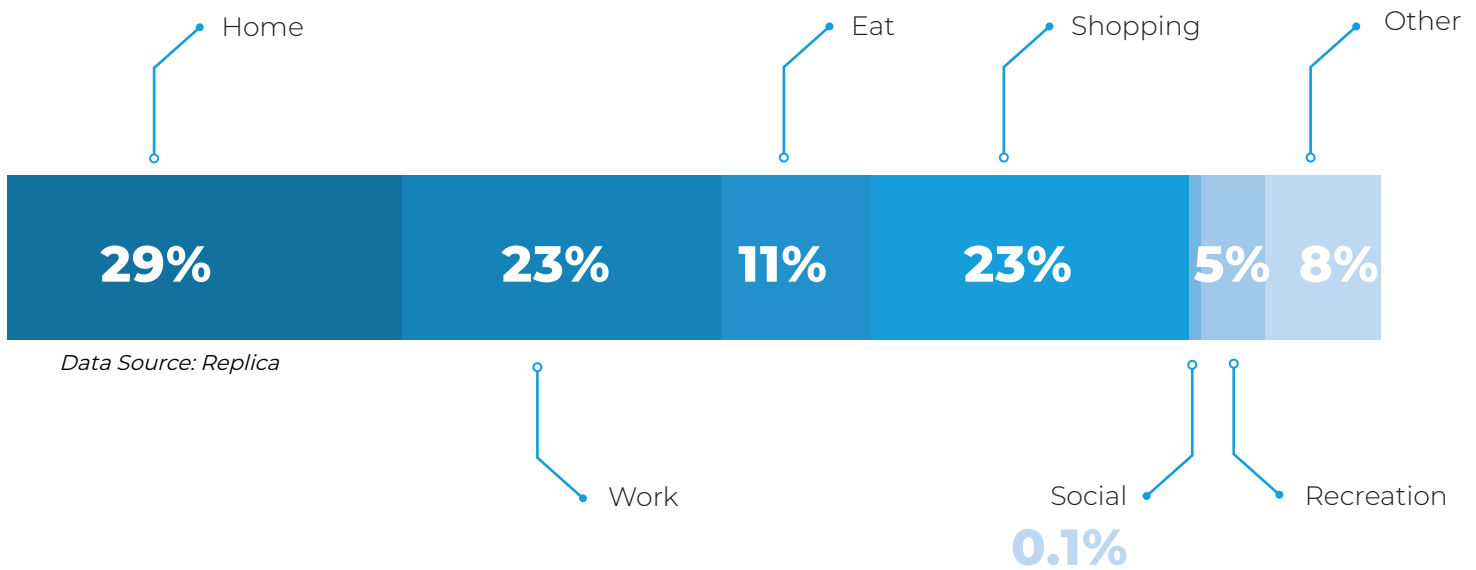
Travel Patterns

The following section assesses the patterns of the transportation system in Knox County. This assessment includes an analysis of travel patterns and existing network features.

TRIP PURPOSE

There are many different types of trips a person can take throughout the week. These trips could be to and from home, work, restaurants, shopping, social events, or recreational destinations. Understanding the type of trip a person can take provides insight into why and where people move around the county. Over 20 million trips took place in the unincorporated area of the county between August 2021 and February 2022. The data highlights all trips originating in Knox County on an average weekday by their intended destination. The graph below shows the percentage of trips in the six-month period by trip type. The trip type includes home, work, eat, shopping, social, and recreational trips. The “Other” category captures a variety of trip destinations, such as those going to school or leaving the region.

While home trips had the largest percentage of trips in Knox County (29 percent), work and shopping trips both made up 23 percent of trips each. The distribution of trips highlights the nexus between land use and transportation by showing the real-time data over the past six months.



Existing Network Characteristics

The existing network characteristics encapsulate a variety of current conditions across the mobility network. The analysis of the current conditions identifies the issues and opportunities across the transportation system that are unique to Knox County. The existing characteristics provide a multimodal snapshot of the mobility network based on existing data sources. The most recent and relevant datasets from Knox County, Knoxville-Knox County Planning, and the American Community Survey (ACS) were utilized to understand the trends throughout the region. This analysis relies on leveraging the previous planning efforts that have occurred locally and throughout the greater Knox County area. Evaluation relies primarily on the quantitative analysis of data and, where available, identifies these sources.

The existing network characteristics focus on roadway, bicycle, pedestrian, and transit conditions.

Mobility Snap Shot

The mobility snap shot outlines key data points that are relevant to transportation and mobility in unincorporated Knox County. The snapshot provides an “at-a-glance” look at how the network is serving the community and identifies potential gaps that should be explored in future analysis. The following information about sidewalks includes state routes.

51

Fatal Crashes on County-Owned Roadways (2016-2019)



23.7

Mean Travel Time to Work (in minutes)



2%

Of Households Have No Access to a Vehicle



88%

Of Road Pavement is Considered in “Fair” or “Good” Condition



6+

Miles of Bicycle Facilities



140+

Miles of Sidewalk



Life-Altering Crashes

A life-altering crash is defined as a fatal or serious injury crash. Between 2016 and 2019, there were 610 life-altering crashes reported on county-owned roads in the unincorporated area of Knox County.

353

crashes resulting in a fatality or serious injury

51

of those traffic crashes involving a fatality

302

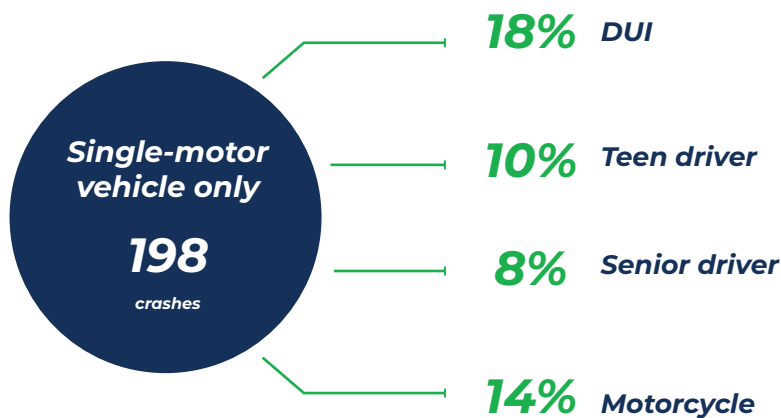
of those traffic crashes involving a serious injury

	State/US Routes	County Roads
All Crashes	257	353
Fatal	48	51
Serious Injury	209	302
Bicycle and Pedestrian Crashes	9	20
Fatal	6	2
Serious Injury	3	18
Single-motor Vehicle Crashes	71	198
Fatal	16	37
Serious Injury	55	161

MULTIPLE FACTORS

In many cases, there are multiple factors involved in a crash. The most common factors that overlap in crashes in the unincorporated area of Knox County are summarized below. Crashes involving a single-motor vehicle account for 44 percent of all life-altering crashes in the unincorporated area of Knox County.

COUNTY ROADS SINGLE-MOTOR VEHICLE CRASH DATA



Data Source: Knoxville Regional TPO Life Altering Crash Map

Vehicular Transportation

The following section focuses on vehicular mobility throughout Knox County.

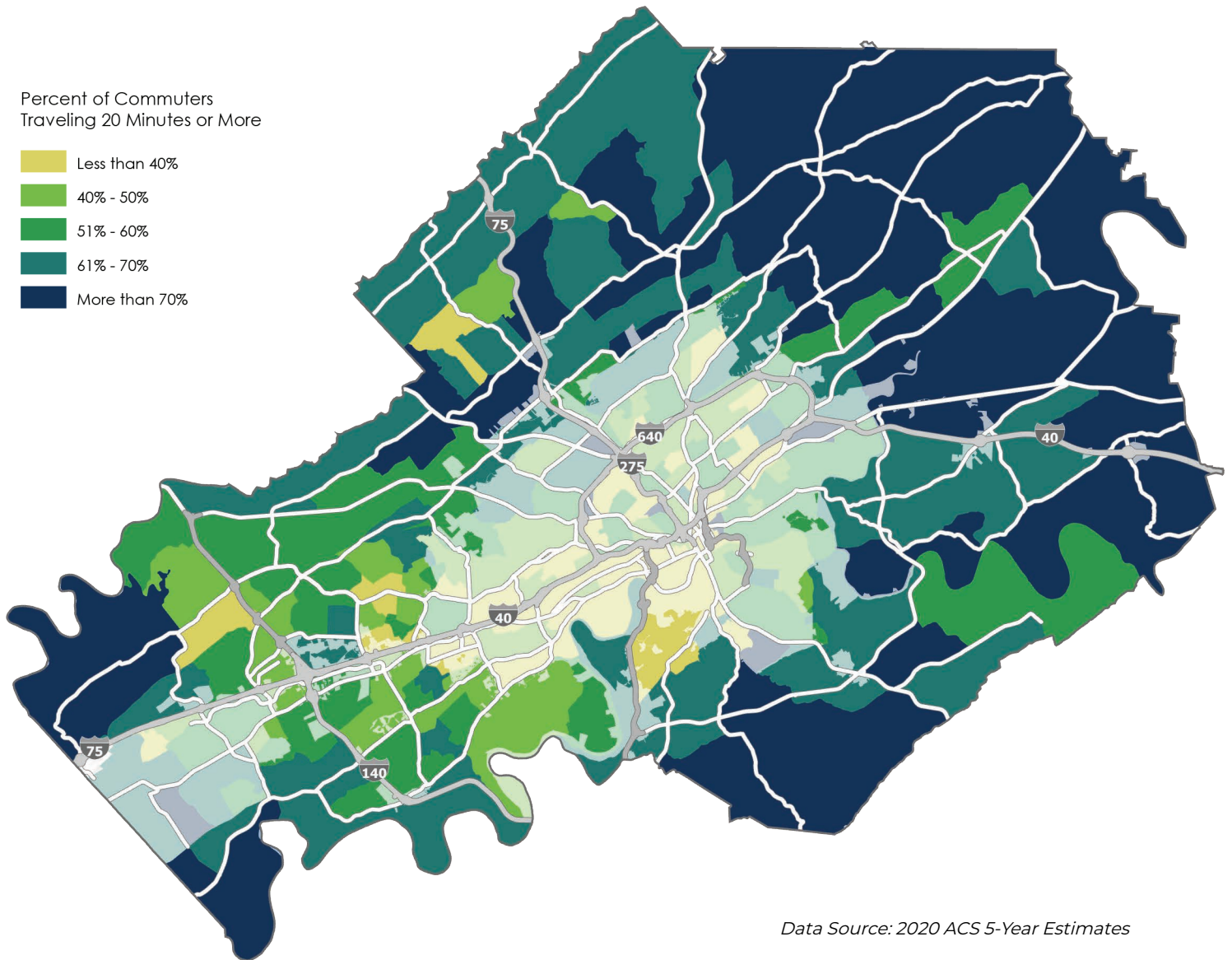
DAILY COMMUTE TIMES

A daily commute is a significant part of most people's day. Long commute times are often associated with congestion, and the more time a person spends on the road, the greater their potential exposure to life-altering crashes. Understanding daily commute patterns can identify the gaps in the existing mobility network.

About 60 percent of all working residents in the unincorporated area of Knox County travel 20 minutes or more to reach their place of employment.

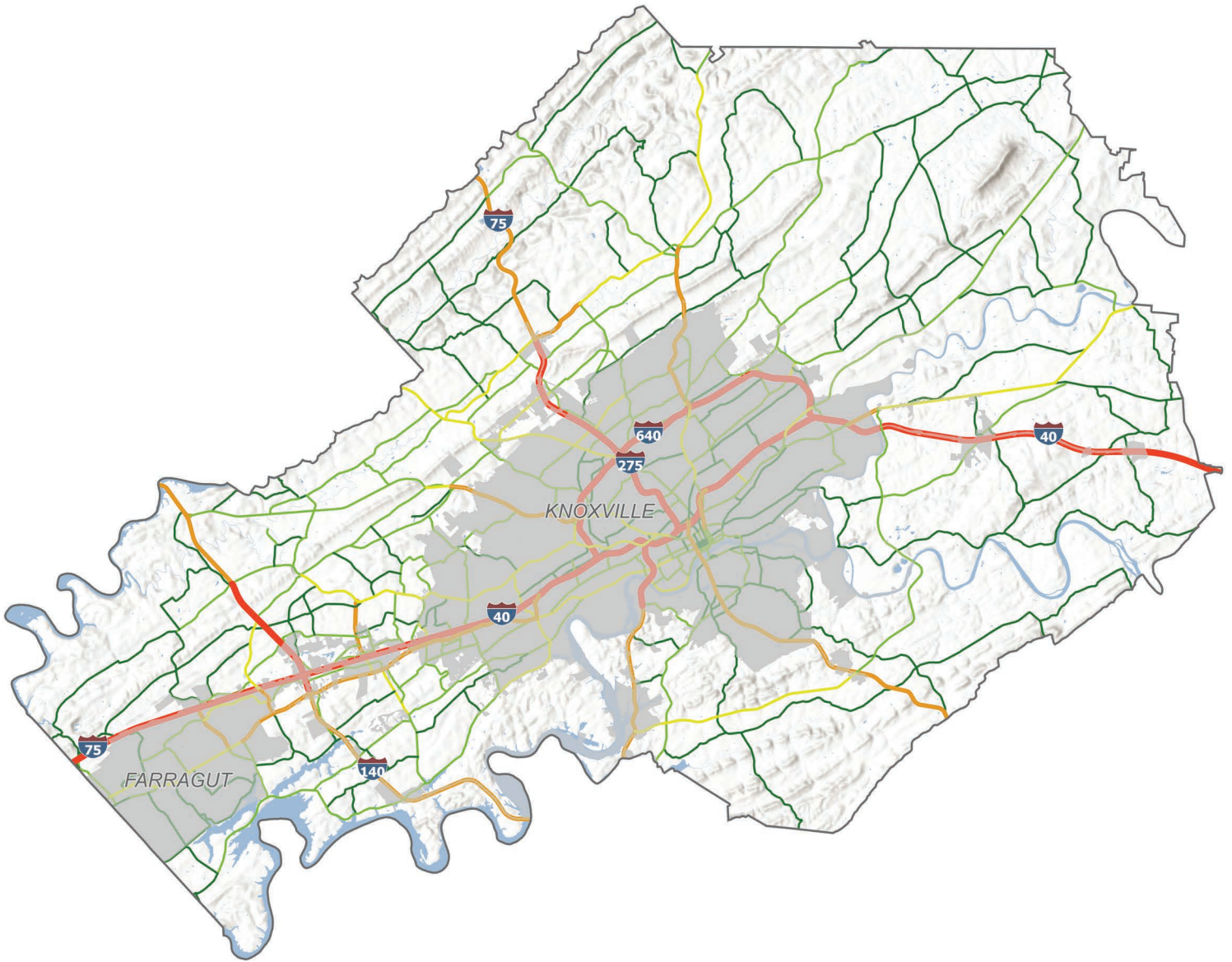
23.7 min
Mean Travel Time to Work (in minutes)

Analyzing commute times can provide insight into connections between land use and transportation as sparse employment opportunities can force individuals to travel longer towards larger employment or urbanized areas.



Average Daily Traffic
in Vehicles per Day (vpd)

- More than 55,000 vpd
- 25,000 to 54,999 vpd
- 15,000 to 24,999 vpd
- 5,000 to 14,999 vpd

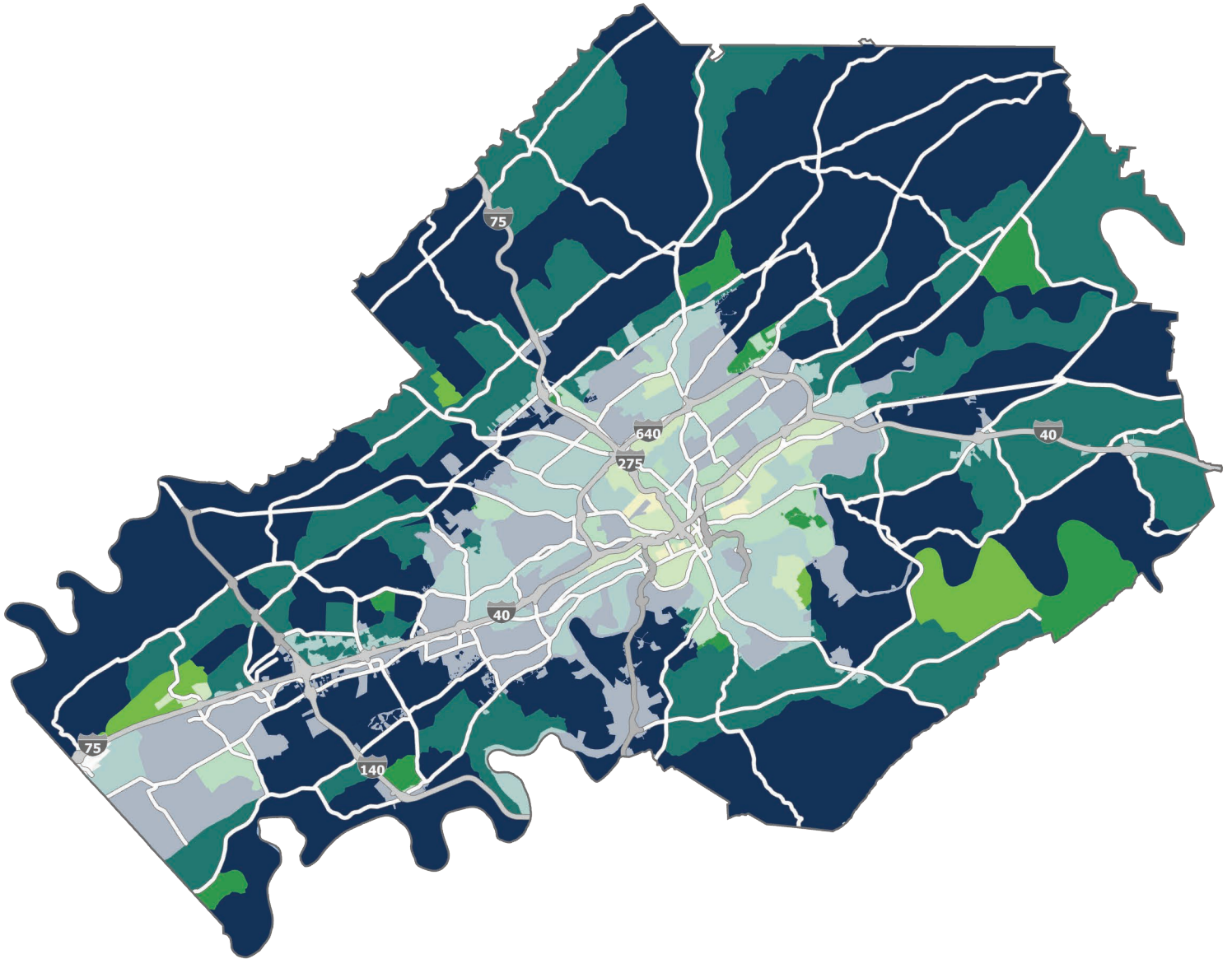
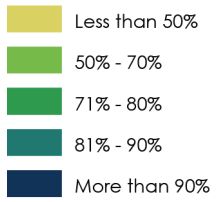


Roadway Traffic Volumes

A strong, connected roadway network provides the foundation for mobility. To further understand the mobility of the county, the average daily traffic (ADT) is used to show the average total volume of vehicles along a roadway.

Data Source: ETRIMS

Percent of Commuters Who Drive Alone

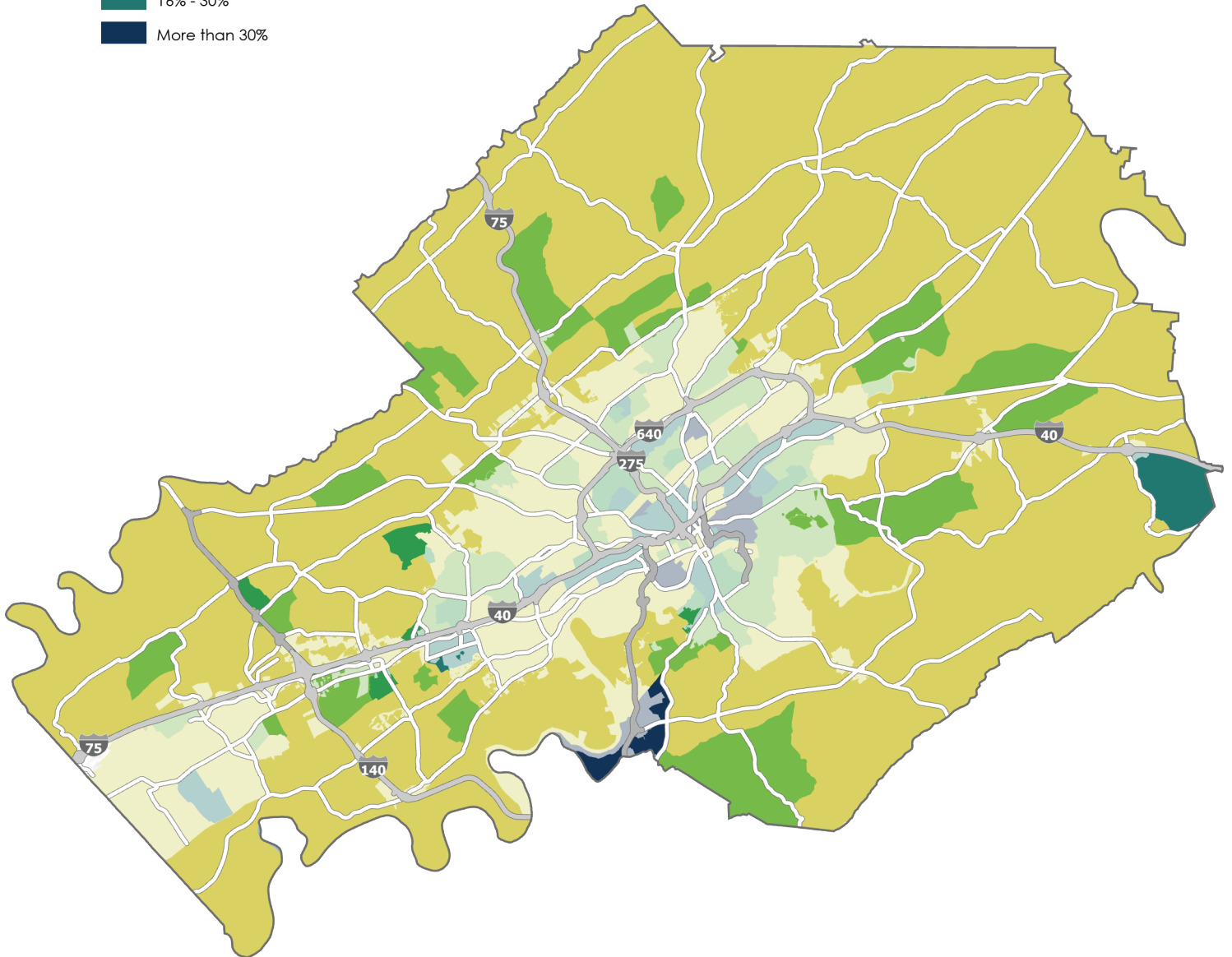
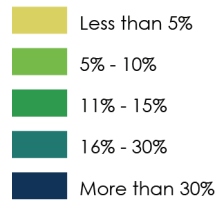


Commute Modes

Approximately 90 percent of all workers in unincorporated Knox County drive to work, either alone or in a carpool, contributing to traffic congestion and commute times. The remaining 10 percent bike, walk, take public transportation, work from home, or take another means of transport.

Data Source: 2020 ACS 5-Year Estimates

Percent of No Vehicle Households



No Vehicle Households

Out of the estimated 98,578 households within Knox County, about 2,088, or two percent, are without access to a vehicle.

Data Source: 2020 ACS 5-Year Estimates

Active Transportation

A comprehensive transportation network includes facilities for bicycles, pedestrians, and public transportation. The connectivity between destination and origin through a variety of modes is a crucial consideration for enhanced accessibility.

BICYCLE

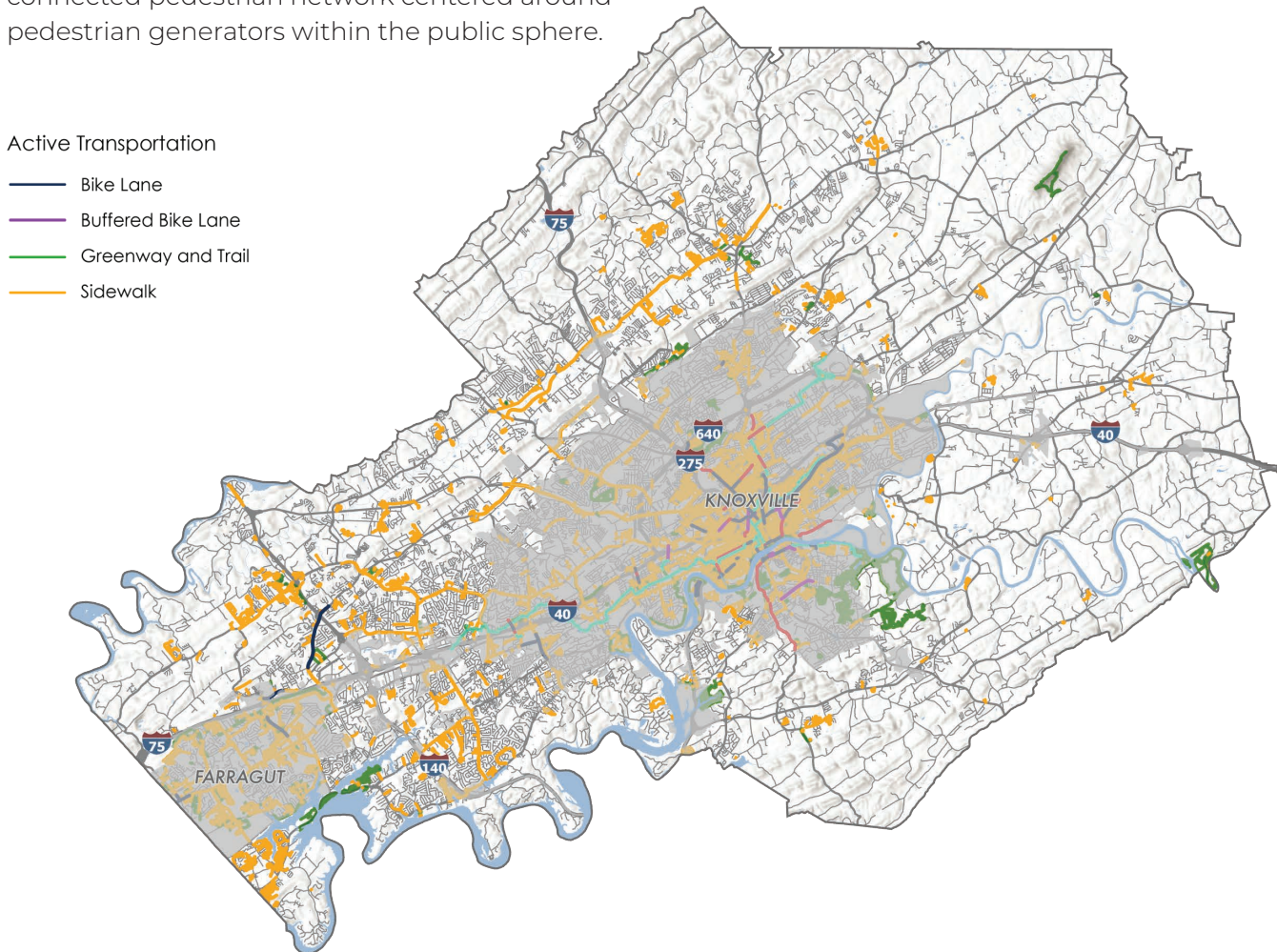
There are several types of bicycle facilities including bike lanes and shared-use pathways. In the unincorporated area of Knox County, there are approximately six and half miles of bicycle facilities.

There are over 62 miles of greenway facilities in the unincorporated area of Knox County.

PEDESTRIAN

There are approximately 187 miles of sidewalk throughout the unincorporated portion of the county. The existing pedestrian facilities are largely concentrated in neighborhoods.

The current county ordinance seeks to refocus sidewalk investments from internal subdivision roads to the frontage of new developments that are within the vicinity of schools, commercial nodes and recreational facilities. The aim of this new policy is to invest in the creation and maintenance of a connected pedestrian network centered around pedestrian generators within the public sphere.



PUBLIC TRANSPORTATION

Knoxville Area Transit, or KAT, is the area's fixed-route transit provider, but serves only the City of Knoxville. KAT also provides a door-to-door paratransit service and coordinates with two other local providers to connect county residents with services.

Knox County CAC Transit provides demand response public transportation services. Riders schedule a trip in advance and the van will pick them up at their location and drop them off at their destination. The rider then schedules the van for a return trip. A majority of CAC's trips are for medical appointments, grocery shopping, and employment and training opportunities.

As with CAC, the East Tennessee Human Resource Agency (ETHRA) provides demand response public transportation services. ETHRA provides services to 16 counties in East Tennessee, including Knox County.





ADVANCE KNOX

Engage in our land use and transportation future.