



MTR 2050



Chapter 2 Regional Trends

Credit: City of Haysville

MTP 2>>1

The WAMPO region is home to 547,230 people (Census 2020). As the largest metropolitan area entirely within the state of Kansas, the WAMPO region is responsible for about 19% of Kansas's Gross Domestic Product (GDP).

Home to 70% of the WAMPO regional population, the City of Wichita is situated in the heart of 11 adjacent suburban cities. The remainder of the WAMPO region is comprised of mostly rural areas, including a collection of small towns located in Sedgwick County, western Butler County, and a portion of Sumner County.



Regional Connections

Regional connections refer to the networks and relationships of connectivity for industry and commercial development, employment, and residential areas between the cities and counties within the WAMPO region. This connectivity relies on an efficient and accessible transportation network and understanding that networks allow WAMPO's partnering agencies to plan for transportation projects that improve a municipality's local quality of life and regional connection.

Regional Growth & Connections

There are many overarching trends toward increased regionalism in the WAMPO area, which this section presents an overview of. There have been a variety of growth patterns in the WAMPO region, especially in the last two decades. This encompasses a significant jump in population between 2010 and 2020, as well as an increase in industry and jobs, residential and housing developments, and growth in commuting and transportation networks. These all necessitate evolving transportation projects and infrastructure, to which WAMPO, the Kansas Department of Transportation (KDOT), and the cities and counties in the region work together. There are several key connectors that the municipalities in the region either directly or indirectly benefit from.

CONNECTIONS BETWEEN CITIES

Connections between WAMPO cities can involve not only the transportation network but also employment opportunities, housing, and schools. First, highways and interstates deliver transportation connections around the region and provide for economic and social trade and overlap. And second, the proximity to other cities, particularly Wichita, is an integral physical connection.

Further, the employment benefits that the City of Wichita provides extend to their international industry draw, for companies such as Spirit AeroSystems and Cargill. All of these provide jobs for the WAMPO region, but also for people around the world, where the WAMPO region is carving out a place for itself as an industrial hotspot, particularly for aerospace and manufacturing.

It should be noted that all three counties' unincorporated portions are also active participants and integral components of regional connections. They are general connectors between cities and rural areas, as well as cities in general. The unincorporated county helps to bridge the gaps between smaller, more spread-out cities. Sedgwick County helps with industrial growth through freight transportation with their roads and bridges, as well as providing further residential areas for those who commute for work into the WAMPO region.

POPULATION GROWTH

The municipalities in the WAMPO region have grown in population over the decades. Comparing the 2010 Decennial Census population with the 2020 Decennial Census population, approximately 82% of the cities in the WAMPO region experienced population growth.





EMPLOYMENT GROWTH

Beyond the changes in population size, many municipalities in the WAMPO region saw changes in employment and industry. As new businesses take interest in the WAMPO region they begin to invest in cities, these investments can lead to, among other things, employment growth. Additional employment growth also comes from existing businesses expanding their operations.

One notable example of new business taking interest in the region has been the addition of the Amazon Fulfillment Center in Park City. This has provided jobs for over a thousand WAMPO residents, and even more during their peak seasons. This type of development also necessitated street improvements around the region and in Park City because of the number of new commuters this employer draws. Valley Center, to the northeast of Park City, has been one of the major suppliers of Amazon employees outside of Park City.

Several other new industrial developments or parks have been constructed in the WAMPO region in the past decade.

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RESIDENTIAL GROWTH

Generally speaking, residential growth and industrial growth go hand in hand as employers need employees and employees need housing. Residential growth has a significant impact on the community and region in many ways, one of which is the need for more comprehensive and efficient transportation systems. Much like increases in population, more residences spread out around the region coincide with a rise in commuters who need reliable roads, as well as paths, trails, and bikeways.

Haysville's city government has been particularly focused on developing new residential areas, while Goddard has seen predominantly residential growth over the past decade. Valley Center has added three new housing developments, and Maize has introduced five.

The suburban growth in WAMPO has been strong, with Derby averaging 145 new residential building permits per year from 2018 to 2023. From 2018 to 2023 Andover has averaged 87 new residential permits per year and in the past 5 years, Maize has platted 13 new housing additions with 5 new housing developments.

Transportation Growth

Employment and residential growth both contribute to increased transportation around the region and with that comes the need for transportation projects and infrastructure improvements. In terms of commuting patterns, most cities outside of Wichita see a higher number of their residents leave for work every day than they see staying or coming in for work. This is illustrated in the [WAMPO 2023 Commuter Flows Report](#).

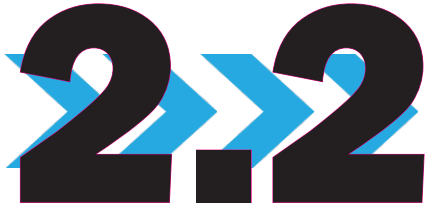
Commuting patterns illustrate the connectivity and reliance between each city and its neighbors, all feeding each other with employers and employees alike. To support the transportation needs of these commuting trips, cities must maintain and improve their transportation network. The connections between growth patterns and transportation projects are vast and far-reaching.



Credit: Google Earth - Flyover



Credit: Google Earth - Sedgwick County



Population

The US Census Bureau conducts an official count of the US population once every 10 years. The last official US Census count was conducted in 2020. The WAMPO region includes all of Sedgwick County and portions of Butler and Sumner Counties, as well as 22 cities. Table 2.2.1 shows the 2010 and 2020 populations and 2010-2020 percent change in population for each jurisdiction within the WAMPO region.

Overall, the WAMPO region has seen an approximate 5.4% increase in population from 2010 to 2020. Three out of the 22 WAMPO cities experienced a decrease in population over the decade. The City of Maize experienced the highest population growth (67.7%) followed by the City of Andover (26.4%).

Table 2.2.1: WAMPO Region Population Change

WAMPO Jurisdictions	2010 Population	2020 Population	% Change
Wichita	382,368	397,532	4.0%
Derby	22,158	25,625	15.6%
Andover	11,791	14,892	26.3%
Park City	7,297	8,333	14.2%
Haysville	10,826	11,262	4.0%
Bel Aire	6,769	8,262	22.1%
Valley Center	6,822	7,340	7.6%
Maize	3,420	5,735	67.7%
Goddard	4,344	5,084	17.0%
Mulvane	6,111	6,286	2.9%
Rose Hill	3,931	4,185	6.5%
Kechi	1,909	2,217	16.1%
Clearwater	2,481	2,653	6.9%
Cheney	2,094	2,181	4.2%
Colwich	1,327	1,455	9.6%
Sedgwick*	192	194	1.0%
Andale	928	941	1.4%
Garden Plain	849	948	11.7%
Mount Hope	813	806	-0.9%
Eastborough	773	756	-2.2%
Bentley	530	560	5.7%
Viola	130	115	-11.5%
Sedgwick County*	37,214	36,474	-2.0%
Butler County*	2,666	2,344	-12.1%
Sumner County*	1,233	1,050	-14.8%
WAMPO Region Total	518,976	547,230	5.4%

*Portion of a city within the WAMPO planning boundary

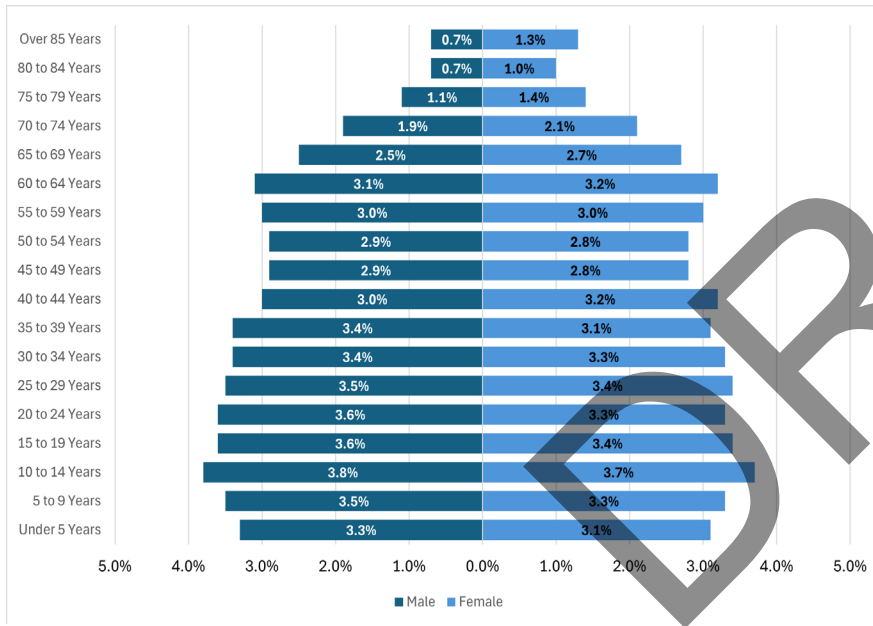
*Unincorporated portion inside WAMPO planning boundary

Population Pyramid

Figure 2.2.1, known as a population pyramid, illustrates the distribution of a population by age group and sex.

The age group with the highest population is 10 to 14 years of age for both males (21,898) and females (21,098). The percentage of the population divided amongst males (49.8%), and females (50.2%) is half and half.

Figure 2.2.1: WAMPO Population

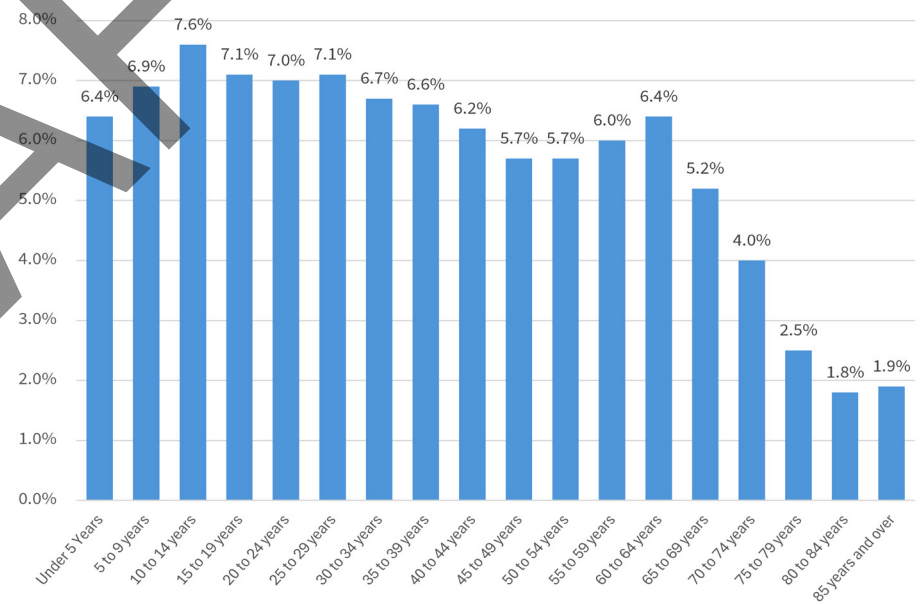


Age Group Distribution

Figure 2.2.2 illustrates population distribution by age groups.

Approximately 48.6% of WAMPO’s population is under the age of 35. WAMPO residents categorized as elderly (65 years of age or older) represent approximately 15.2% of the WAMPO population.

Figure 2.2.2: WAMPO Region Age Distribution

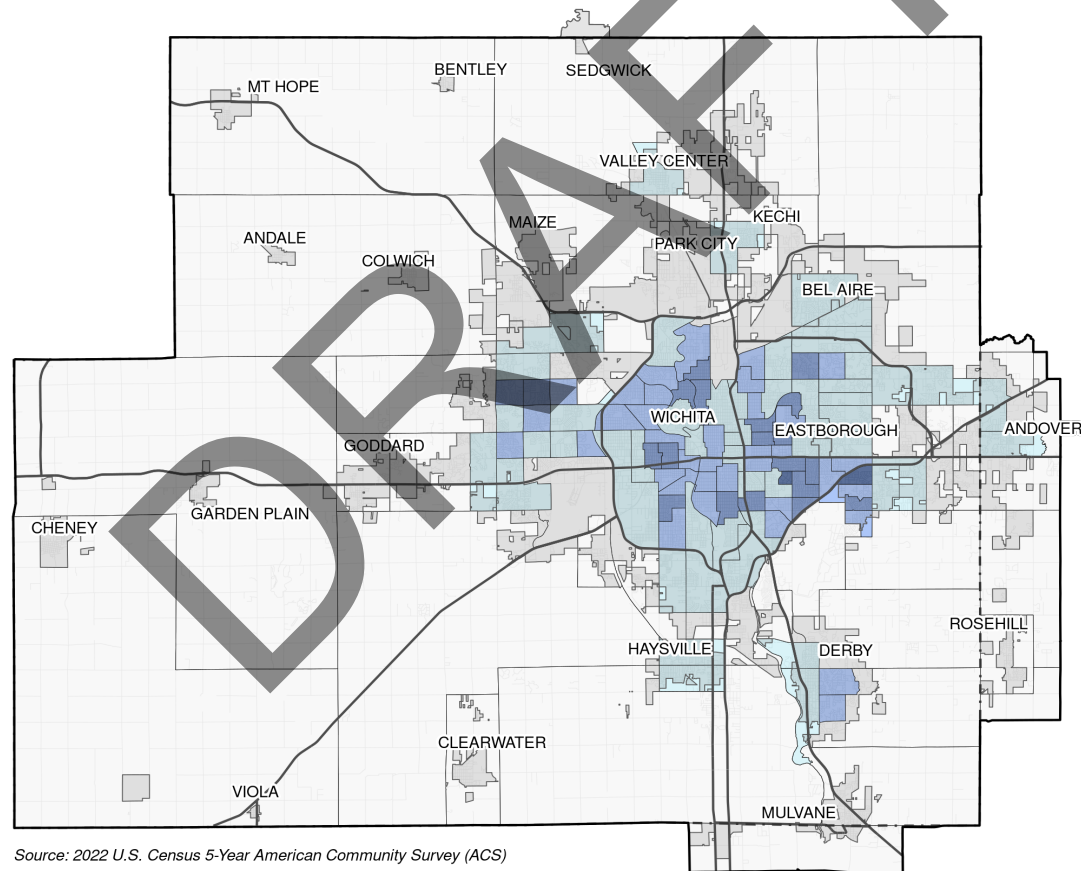


Population Density

Map 2.2.1 shows the population density per square mile for the WAMPO region by Census Tract. Census Tracts provide a stable set of geographic units for the presentation of statistical data. Census Tracts generally have a population size between 1,200 and 8,000 people. The spatial size of a Census Tract varies depending on population density.

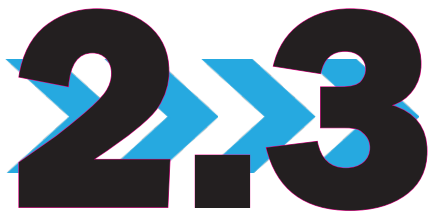
WAMPO's 2020 population was 547,230. With a land area of 1,065.7 square miles, the WAMPO region has an approximate population density of 513 residents per square mile. The most densely populated census tract is located south of east Lincoln St., east of Hillside St., north of Harry St., and west of Oliver St.

Map 2.2.1: WAMPO Region Population Density



People per Square Mile by Census Tract





Education









The WAMPO region is home to 168 Public Schools within 14 school districts and 39 private schools. The WAMPO region is also home to three four-year universities (Wichita State University, Friends University, and Newman University), as well as seven satellite campuses and four community colleges. The data in this section are from 2024.

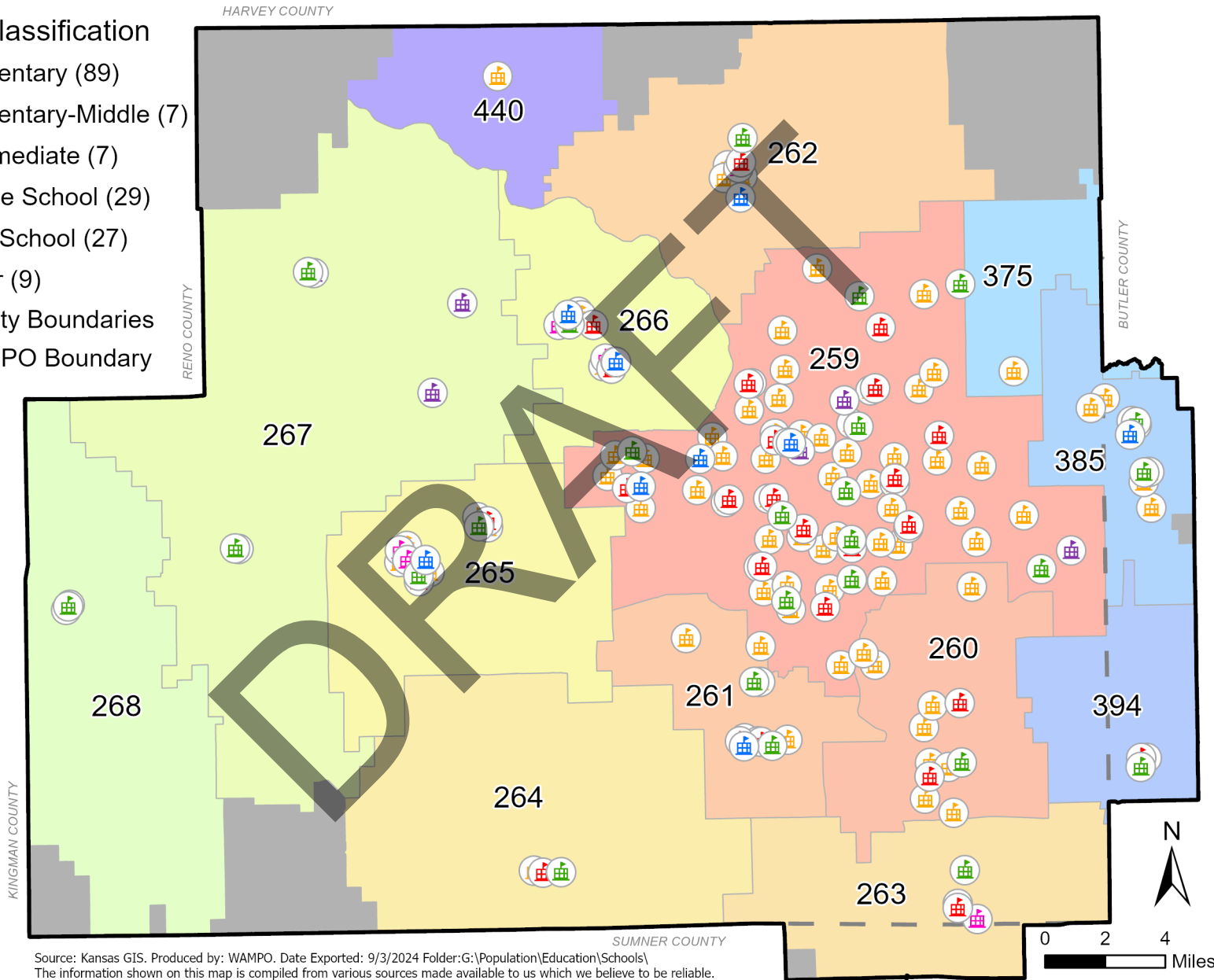
Table 2.3.1: WAMPO Region Public and Private School Districts

NAME	Schools
Wichita Unified School District 259	81
Derby Unified School District 260	12
Haysville Unified School District 261	11
Valley Center Public Schools Unified School District 262	7
Mulvane Unified School District 263	4
Clearwater Unified School District 264	3
Goddard Unified School District 265	12
Maize Unified School District 266	13
Renwick Unified School District 267	6
Cheney Unified School District 268	3
Circle Unified School District 375	1
Andover Unified School District 385	11
Rose Hill Public Schools Unified School District 394	3
Halstead Unified School District 440	1
Total Public Schools	168
Private Schools	39
Total Schools	207

Map 2.3.1: WAMPO Region Public K-12 Schools and Districts

School Classification

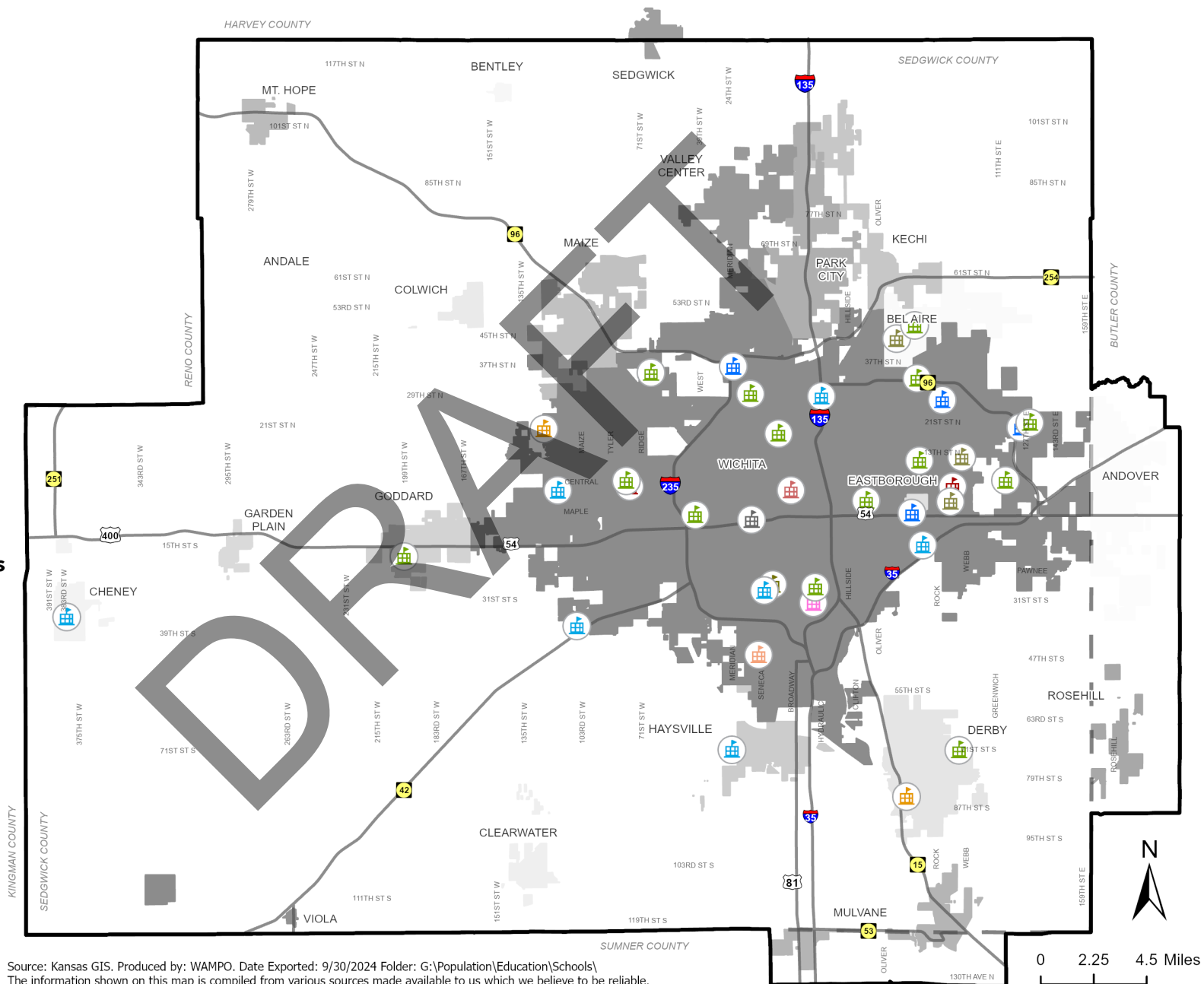
-  Elementary (89)
-  Elementary-Middle (7)
-  Intermediate (7)
-  Middle School (29)
-  High School (27)
-  Other (9)
-  County Boundaries
-  WAMPO Boundary



Map 2.3.2: WAMPO Region Private K-12 Schools

School Classification




-  **4-12 (1)**
-  **9-12 (2)**
-  **KG-10 (1)**
-  **KG-12 (4)**
-  **KG-2 (1)**
-  **KG-8 (7)**
-  **PK-12 (5)**
-  **PK-3 (1)**
-  **PK-6 (2)**
-  **PK-8 (14)**
-  **Ungraded (1)**
-  **County Boundaries**
-  **WAMPO Boundary**
-  **WAMPO Boundary**

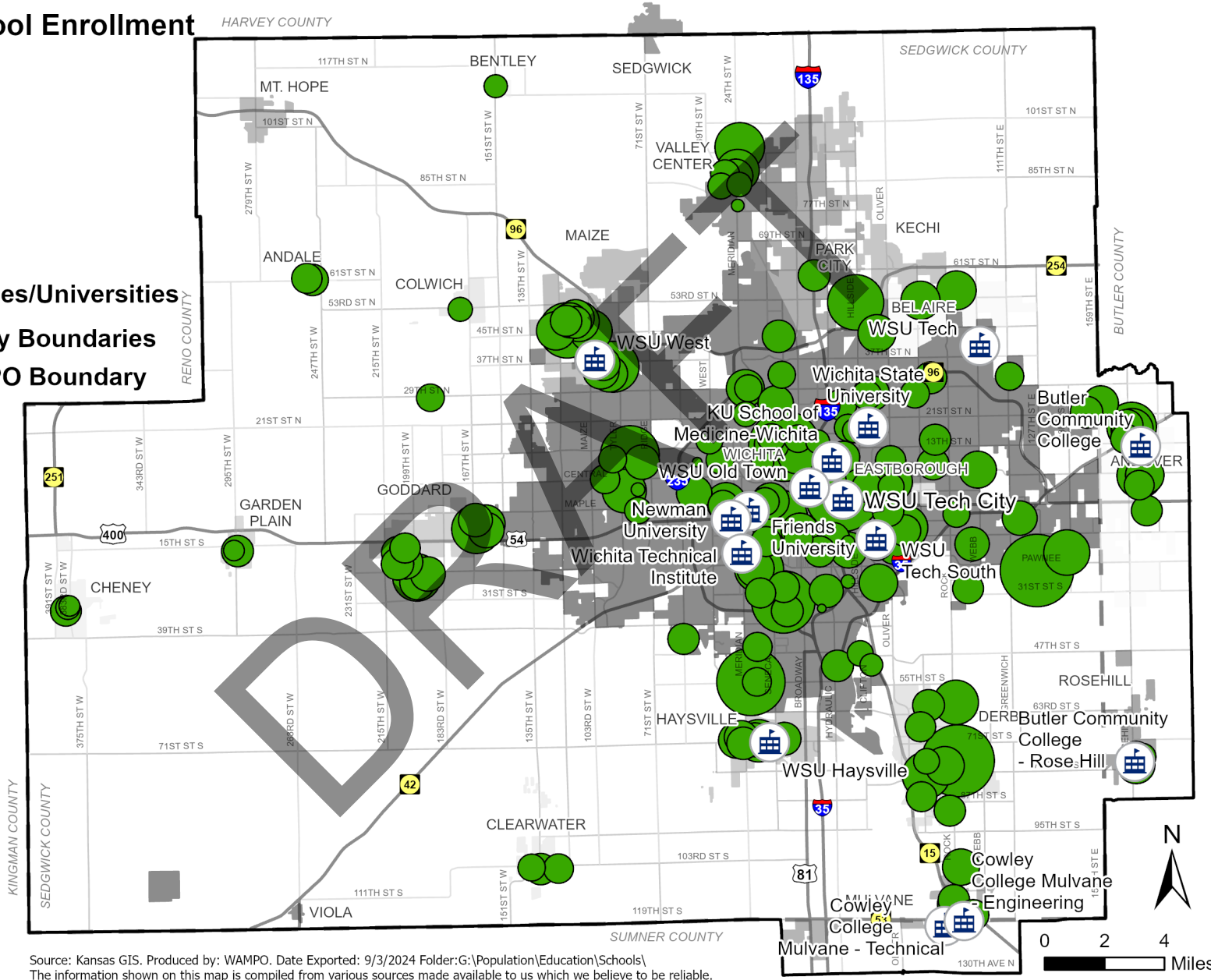


Source: Kansas GIS. Produced by: WAMPO. Date Exported: 9/30/2024 Folder: G:\Population\Education\Schools\
 The information shown on this map is compiled from various sources made available to us which we believe to be reliable.

Map 2.3.3: Schools and Colleges

K-12 School Enrollment

- 10
- 50
- 100
- 500
- 1,000
-  Colleges/Universities
-  County Boundaries
-  WAMPO Boundary



Source: Kansas GIS. Produced by: WAMPO. Date Exported: 9/3/2024 Folder: G:\Population\Education\Schools
 The information shown on this map is compiled from various sources made available to us which we believe to be reliable.

Safe Routes to Schools

Safe Routes to School is a program that aims to make it safer and easier for students to walk or bike to school. It focuses on improving infrastructure, promoting safety education, and encouraging active transportation to create healthier communities and reduce traffic congestion around schools. A large majority of the schools in the WAMPO region do not have Safe Routes to School (SRTS) plans. WAMPO has hired a consultant to work with city/county governments and schools/school districts to establish Safe Routes to School plans throughout the WAMPO region. The SRTS plans will identify areas needing safety improvements, policies, and educational programs that support active transportation. Schools with an SRTS plan that meets the federal requirements are eligible to receive funding for the identified safety improvements. Public and private schools are eligible to participate. Plans are expected to be finalized by Spring 2026.



Economy, Talent, & Quality of Place

A common theme in a variety of regional plans and studies is economic growth lags associated with attraction and retention of an educated, talented workforce. A wide variety of factors are attributed to these lags, but “talent shortfall” is by far the most commonly identified issue.

Responding to difficulties attracting and retaining educated and productive workers in the region, regional leaders have identified that today’s workforce is highly mobile with a variety of options competing for their interests (i.e., where people choose to live and work).

These connections are supported by a number of reputable universities in the region that provide both employment and training, and also prepare those who live in the WAMPO region for the future outside of employment – by creating educated, conscientious global residents. Wichita State University (WSU) and the other universities and community colleges in the region certainly serve this purpose, with WSU alone drawing in an international presence and corporate businesses that are set up on campus, all due to their engineering program, Innovation Campus, and more. The Innovation Campus has partnerships with major international corporations, such as Spirit AeroSystems and NetApp, which provide valuable partnerships, education, experience, and employment for residents and students alike. WSU is ranked number three academically in Kansas, and in the mid-200s nationally. WSU enrollment was 16,921 in 2022, the third highest in the state behind the University of Kansas and Kansas State University.



Credit: City of Andover



Credit: City of Andover

2.4

Housing

Housing characteristics are important considerations in transportation planning, as they can provide valuable information regarding transportation and trending data within the region. Characteristics such as type of housing and number of persons per household can be determinants in trip generation rates.

The following tables and figures are based on 2018-2022 US Census Bureau American Community Survey (ACS) data. ACS data provides detailed information on a community’s population and housing characteristics. Because the ACS data provides sample estimates (as opposed to official counts) based on data collected through nationwide surveys, it may not be reflective of current trends.

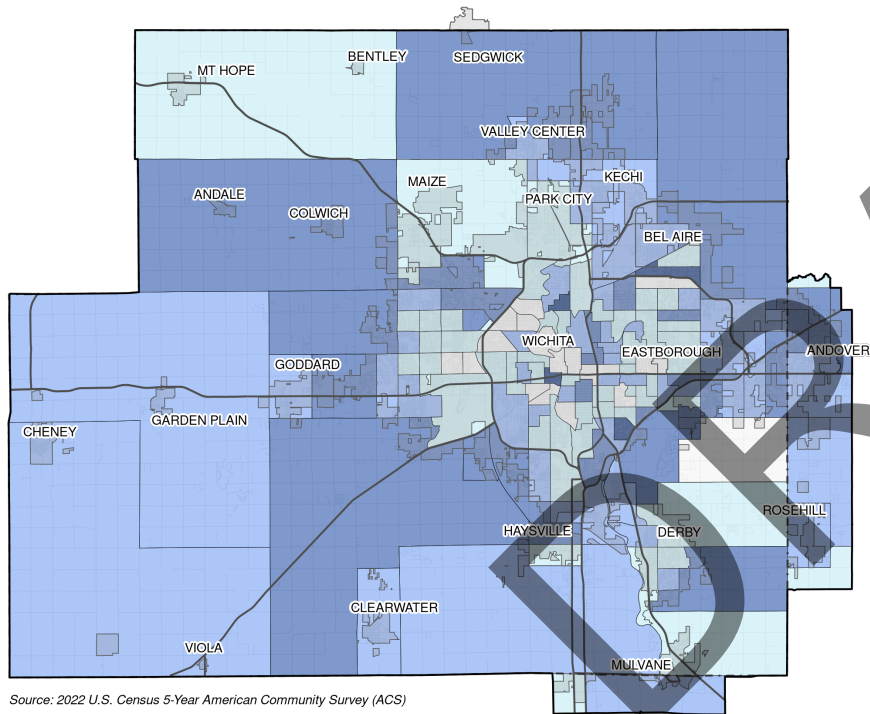
Table 2.4.1: Households and Dwelling Units

Households and Dwelling Units		WAMPO Region	State of Kansas
Average Household Size		2.6	2.4
Owner-Occupied Housing		2.7	2.6
Renter-Occupied Housing		2.4	2.1
Vacancy Rate		9.4%	9.1%
Owner Occupied		64.1%	67.7%
Renter Occupied		36.9%	32.3%
Median Home Value			
Kansas	Sumner County	Butler County	Sedgwick County
\$206,600	\$116,400	\$222,200	\$209,700

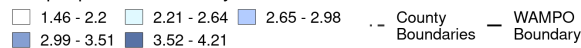
OWNER-OCCUPIED AVERAGE HOUSEHOLD SIZE

Map 2.4.1 illustrates the average household size of owner-occupied housing units by Census Tract. The region-wide average household size for owner-occupied housing is 2.7 people. The Census Tract with the highest average household size (4.2) for owner-occupied units, as shown in dark blue, is located in northeast Wichita, east of Oliver St., west of Webb Rd., south of 34th St., and north of K96.

Map 2.4.1: Household Size: Owner-Occupied Dwelling Units



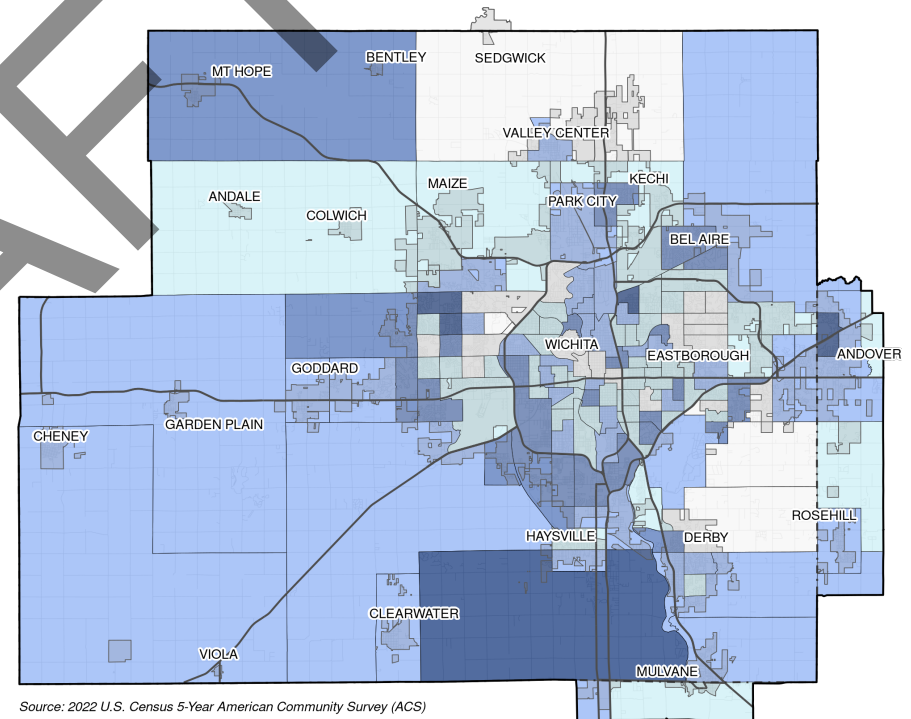
People per Household by Census Tract



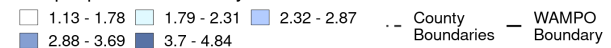
RENTER-OCCUPIES AVERAGE HOUSEHOLD SIZE

Map 2.4.2 illustrates the average household size of renter-occupied housing units by Census Tract. The region-wide average household size for renter-occupied housing is 2.4 people. The Census Tract with the highest average household size (4.8) for renter-occupied units, as shown in dark blue, is south of Haysville.

Map 2.4.2: Household Size: Renter-Occupied Dwelling Units



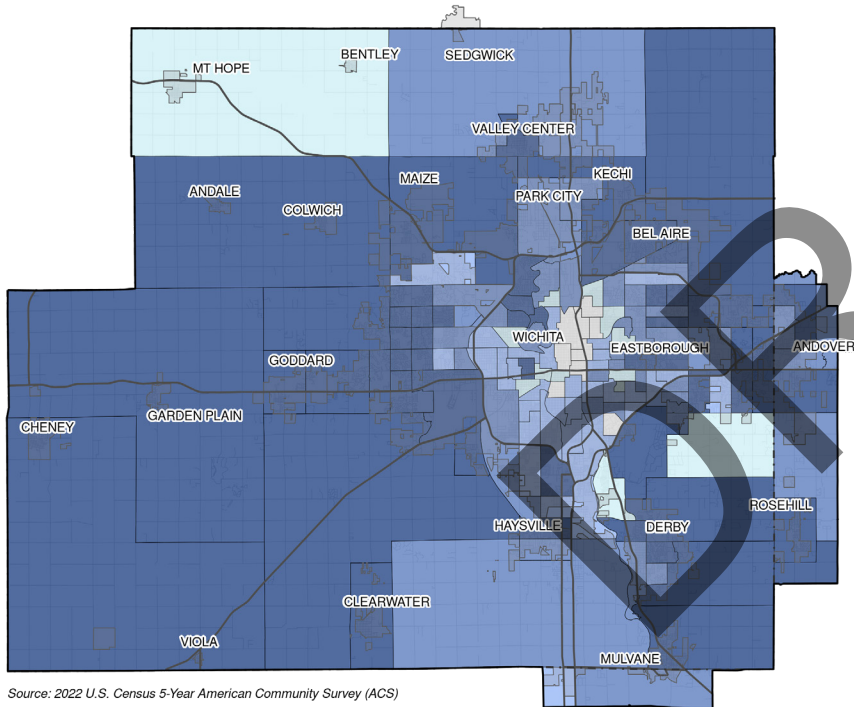
People per Household by Census Tract



OCCUPIED DWELLING UNITS

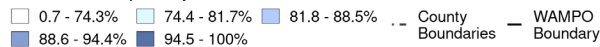
Map 2.4.3 illustrates the occupied percent of dwelling units by Census Tract. Within the WAMPO region, there are approximately 230,934 occupied housing units. Approximately 64.0% of housing units within the WAMPO region are owner-occupied and 36.0% are renter-occupied. The region's occupancy rate is slightly over 90.5% with 4 census tracts boasting 100% occupancy. Altogether these census tracts represent nearly 4,500 dwellings.

Map 2.4.3: Occupied Dwelling Units



Source: 2022 U.S. Census 5-Year American Community Survey (ACS)

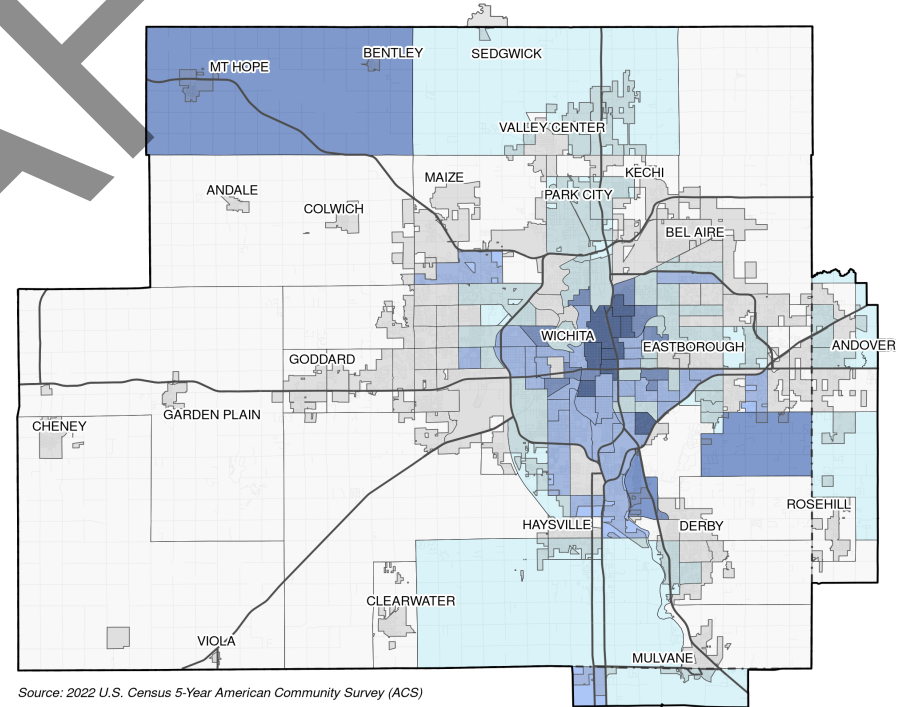
Percent Occupied by Census Tract



VACANT DWELLING UNITS

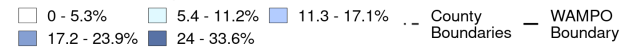
Map 2.4.4 shows housing-unit vacancy rates by Census Tract. Within the WAMPO region there are approximately 21,944 vacant housing units (9.5% vacancy rate). The Census Tract with the most vacant housing units (539), as shown in dark blue, is centrally located in Wichita, east of Waco St., west of Washington St., south of Murdock St., and north of US 54.

Map 2.4.4: Vacant Households



Source: 2022 U.S. Census 5-Year American Community Survey (ACS)

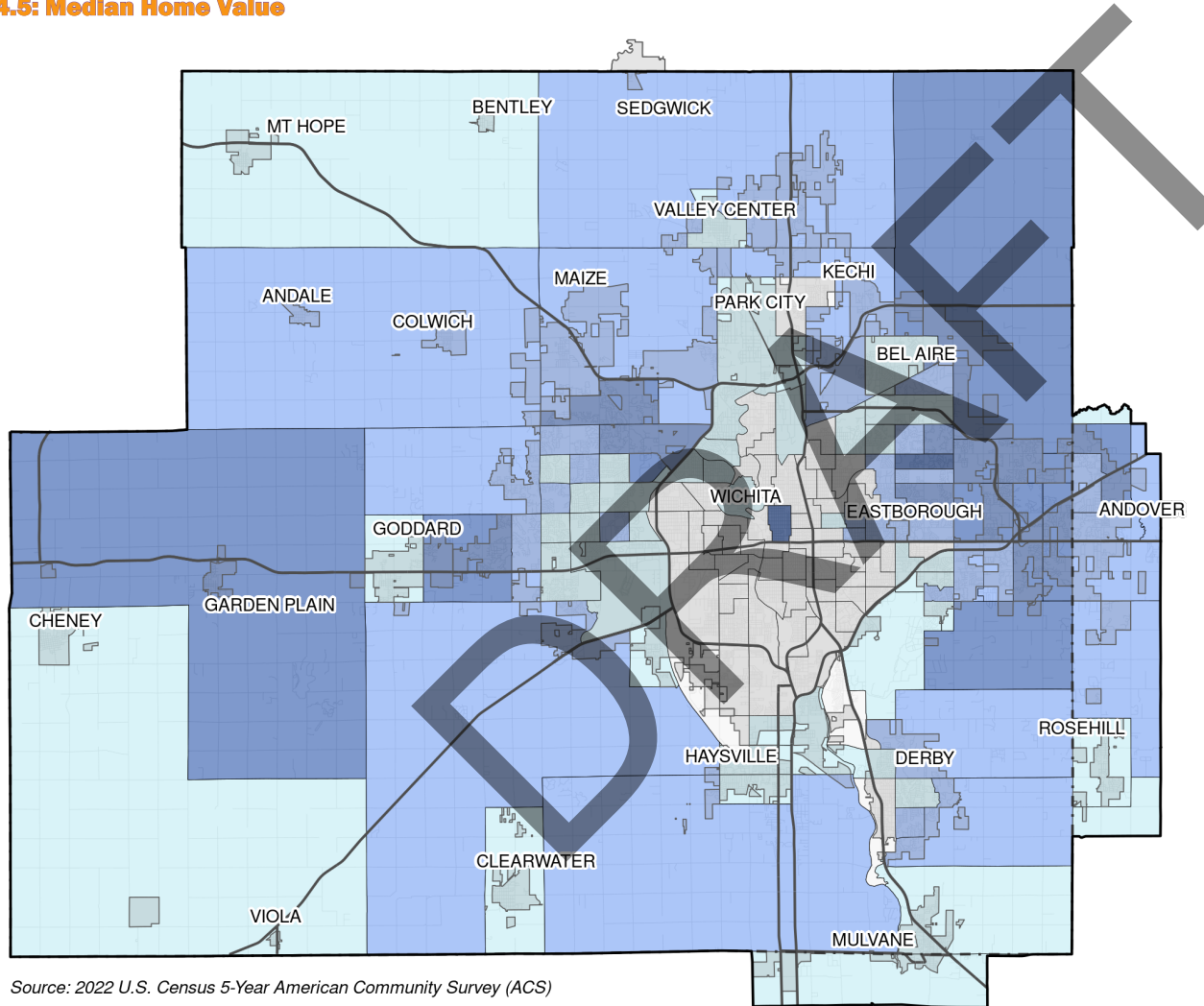
Percent Vacant by Census Tract



MEDIAN HOME VALUE

Map 2.4.5 shows median house values by Census Tract. Census Tracts with higher median home values are generally located on the perimeter of Wichita. The Census Tract with the highest median home value, as shown in dark blue, is in the City of Wichita, east of Woodlawn St., west of Webb Rd., south of 21st St., and north of 13th St.

Map 2.4.5: Median Home Value



Source: 2022 U.S. Census 5-Year American Community Survey (ACS)

Median Home Value in USD by Census Tract

- \$15,400 - \$124,600 □ \$124,601 - \$200,100 □ \$200,101 - \$283,000 - - County Boundaries - WAMPO Boundary
- \$283,001 - \$408,400 ■ \$408,401 - \$556,500



2.5

Employment & Jobs

Employment projections are an integral part of long-range transportation planning. Understanding the trajectory of a region's employment is critical in forecasting future demands on the transportation system.

Table 2.5.1: Employment Projections

Employment	2023	2025	2030	2035	2040	2045	2050
Wichita	209,741	212,488	219,856	227,647	235,075	242,701	250,327
Derby	6,962	7,364	8,386	9,422	10,447	11,480	12,513
Andover	4,227	4,344	4,742	5,251	5,702	6,191	6,696
Haysville	2,341	2,506	2,923	3,344	3,763	4,183	4,603
Park City	3,738	3,860	4,183	4,519	4,841	5,170	5,500
Bel Aire	1,744	1,869	2,179	2,490	2,801	3,113	3,424
Valley Center	1,802	1,912	2,190	2,472	2,750	3,031	3,311
Mulvane	1,707	1,739	1,813	1,890	1,982	2,069	2,157
Maize	2,509	2,618	2,892	3,169	3,444	3,721	3,997
Goddard	3,535	3,636	3,898	4,169	4,432	4,700	4,968
Rose Hill	1,244	1,276	1,359	1,447	1,535	1,620	1,706
Clearwater	701	712	741	771	801	831	861
Kechi	613	643	721	801	879	958	1,038
Cheney	879	890	920	952	983	1,014	1,046
Colwich	603	609	626	645	663	681	700
Garden Plain	208	210	215	220	225	230	235
Andale	470	477	496	516	535	554	574
Mount Hope	151	153	159	165	171	177	183
Eastborough	53	53	55	56	58	59	61
Bentley	126	128	133	138	142	147	152
Sedgwick**	43	43	44	45	46	47	48
Viola	5	5	5	5	5	5	5
Sedgwick County*	24,037	23,350	21,752	20,256	18,676	17,132	15,588
Butler County*	1,156	1,125	1,053	982	908	834	760
Sumner County*	714	719	696	656	658	648	647
WAMPO	269,310	272,730	282,038	292,030	301,520	311,296	321,098

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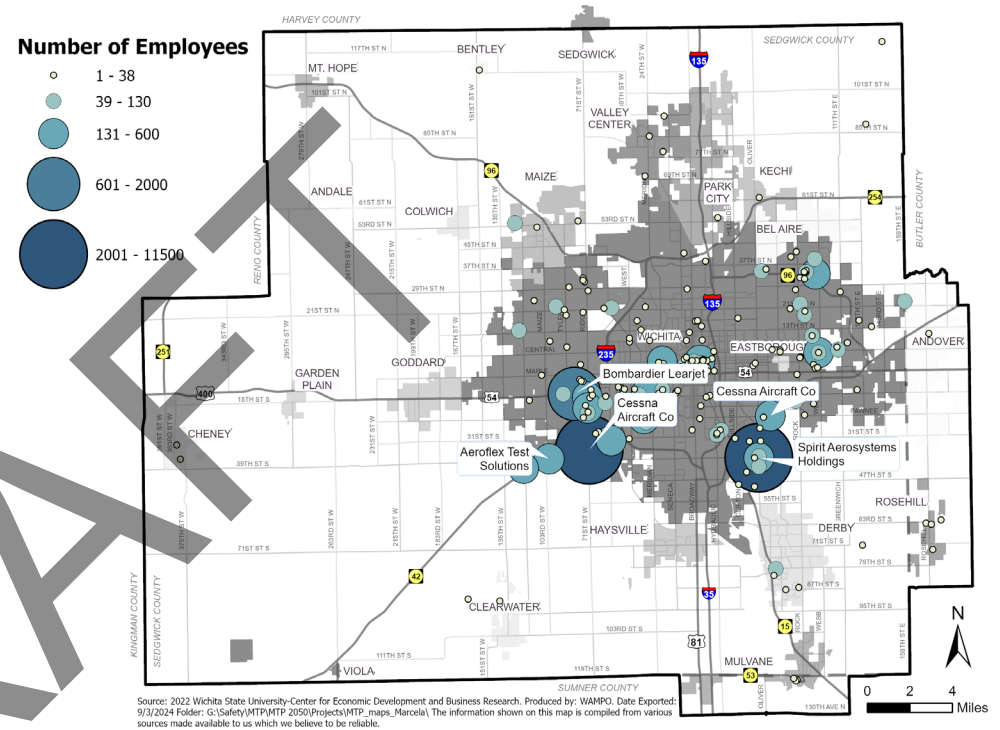
Major Industries and Employers

The aim of this section is to analyze the progress of economic development in the WAMPO region selected target sectors. The Greater Wichita Partnership has identified key development sectors as part of its economic development initiatives: advanced manufacturing, aerospace, agriculture, energy, healthcare, IT systems & support, and transportation. Each sector will be outlined in this report with an investigation into its industry landscape, labor, the balance of trade, and general trends.

AEROSPACE

The aerospace manufacturing sector in Wichita is competitive, with a high level of rivalry among existing firms. The industry plays a vital role in the local economy, offering employment opportunities and contributing to innovation and technology. Understanding the industry landscape, labor market, transportation infrastructure, balance of trade, and general trends is crucial for identifying weaknesses and leveraging growth opportunities within the aerospace sector.

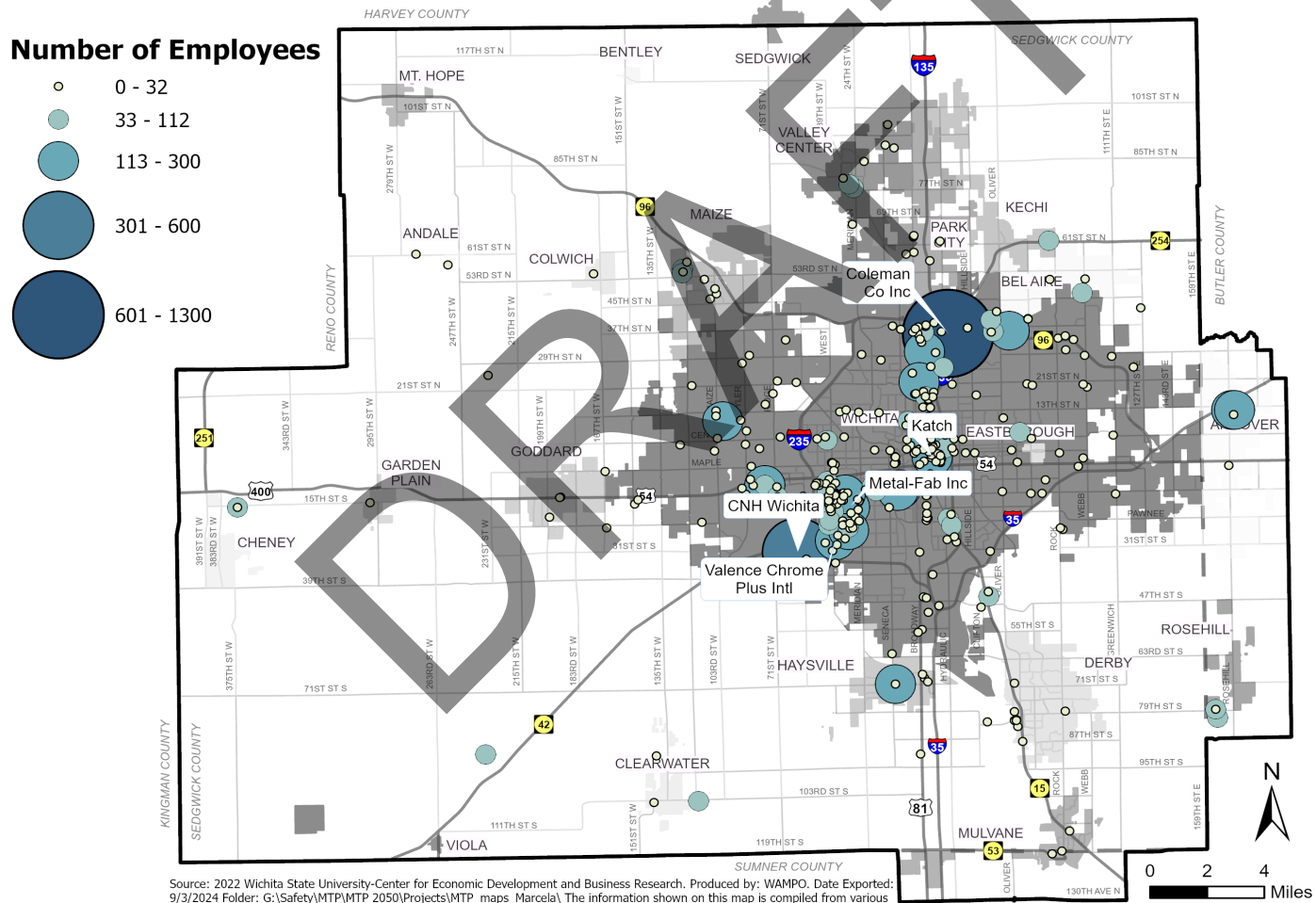
Map 2.5.1: Aerospace Employers



ADVANCED MANUFACTURING

Advanced manufacturing within the Wichita Metropolitan Statistical Area (MSA) has been in a growth cycle, increasing its relative competitiveness. The five largest subsectors are plastics, architectural metals, machine shops, coating, and agriculture machinery. The sector has a significant competitive labor advantage over its competitors, as the region has a high labor concentration in purchase agents, assemblers, machinists, and inspectors. The skills, knowledge, and abilities within this segment tend to require more education and experience than the broader manufacturing industry, as this study outlines. Therefore, the region's higher relative number of skilled laborers creates a competitive advantage over other markets.

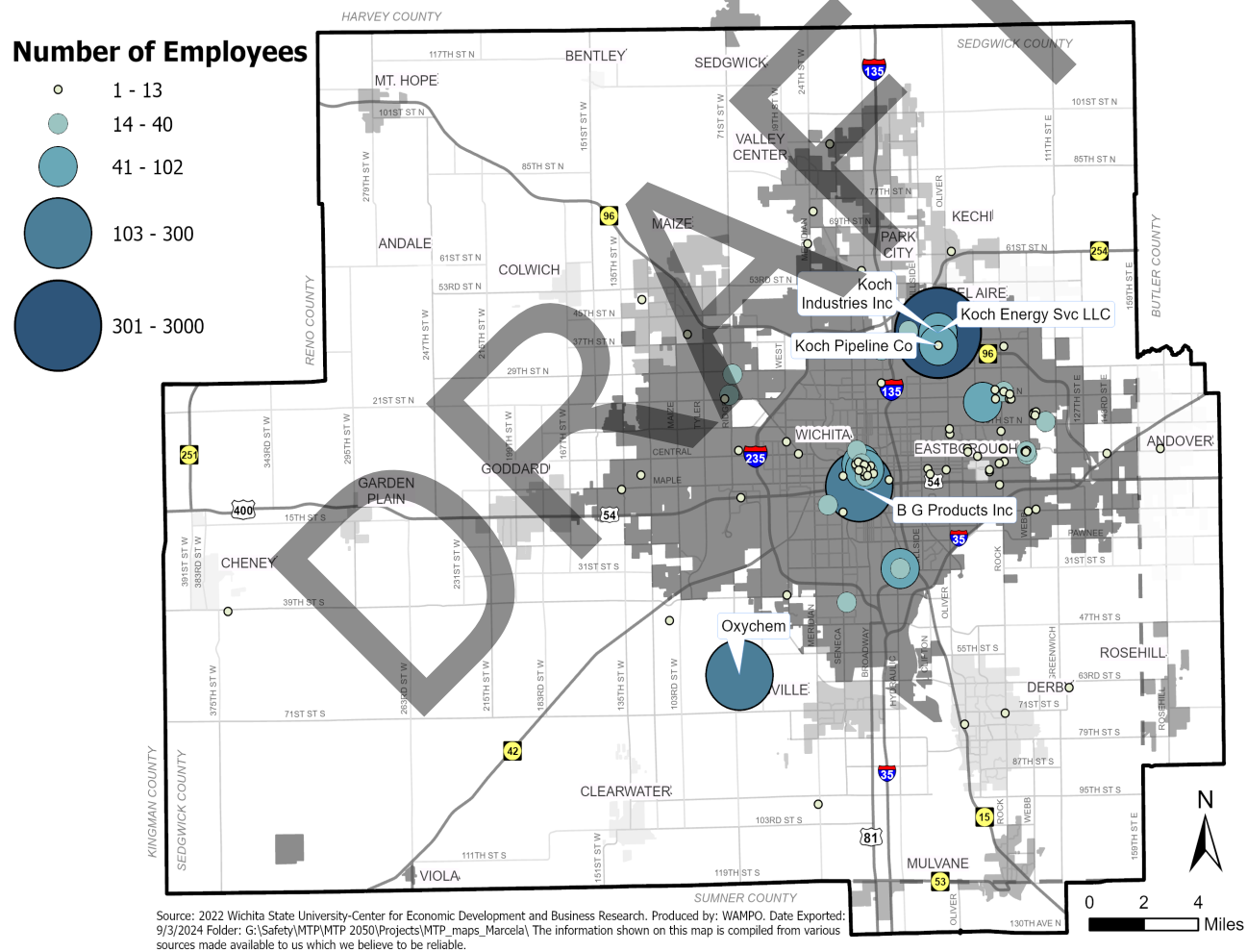
Map 2.5.2: Advanced Manufacturing Employers



ENERGY

The energy sector is a vital part of Wichita's economy, but it faces challenges such as declining employment and wage trends. Adapting to market dynamics, investing in technology, and addressing infrastructure needs are key to promoting growth and stability in the sector.

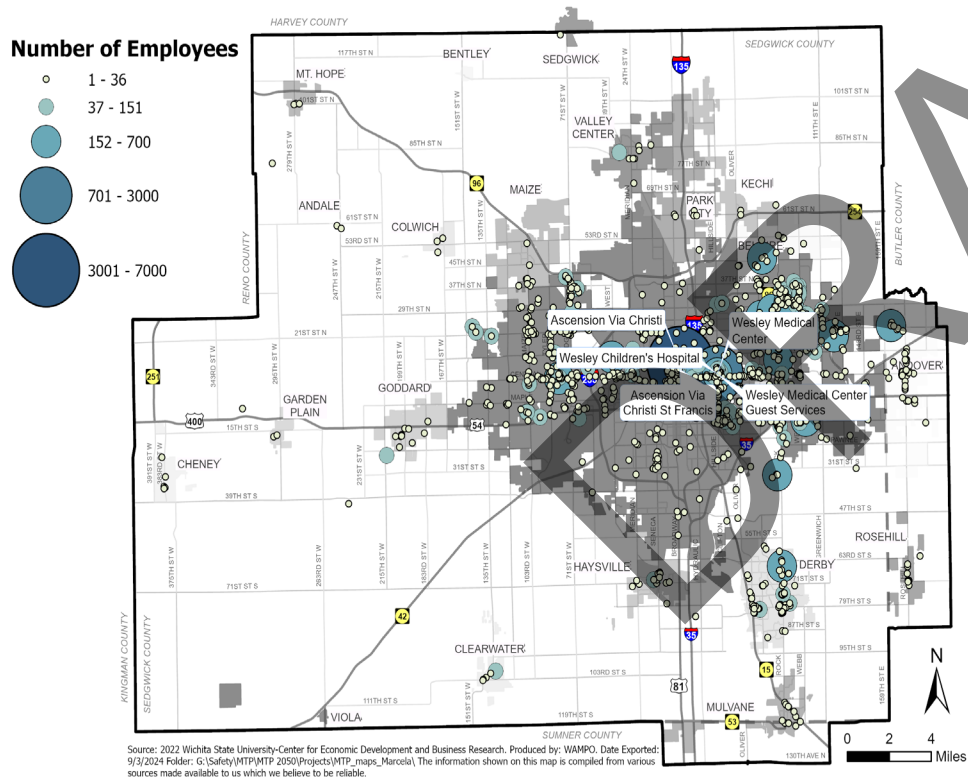
Map 2.5.4: Energy Employers



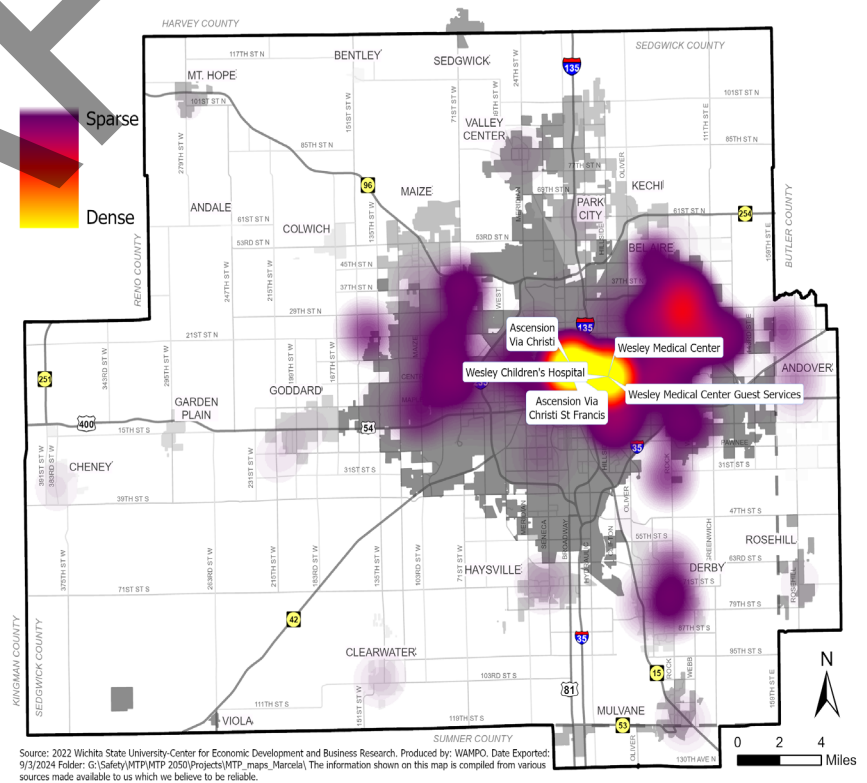
HEALTHCARE

The healthcare industry in the Wichita area has shown relatively stable employment levels from 2015 to 2021. Although there were minor fluctuations, the number of healthcare jobs remained consistent, indicating a steady demand for healthcare services in the region. However, within the healthcare sector, different areas experienced varied levels of growth. Offices of physicians and offices of dentists saw slight declines or minimal increases, while offices of other health practitioners and outpatient care centers exhibited steady growth. Other ambulatory healthcare services experienced a significant decrease, while general medical and surgical hospitals and nursing care facilities remained relatively stable. Continuing care retirement communities faced a decline. Among key healthcare occupations, licensed practical and licensed vocational nurses showed an above-average location quotient in Wichita.

Map 2.5.5: Healthcare Employers



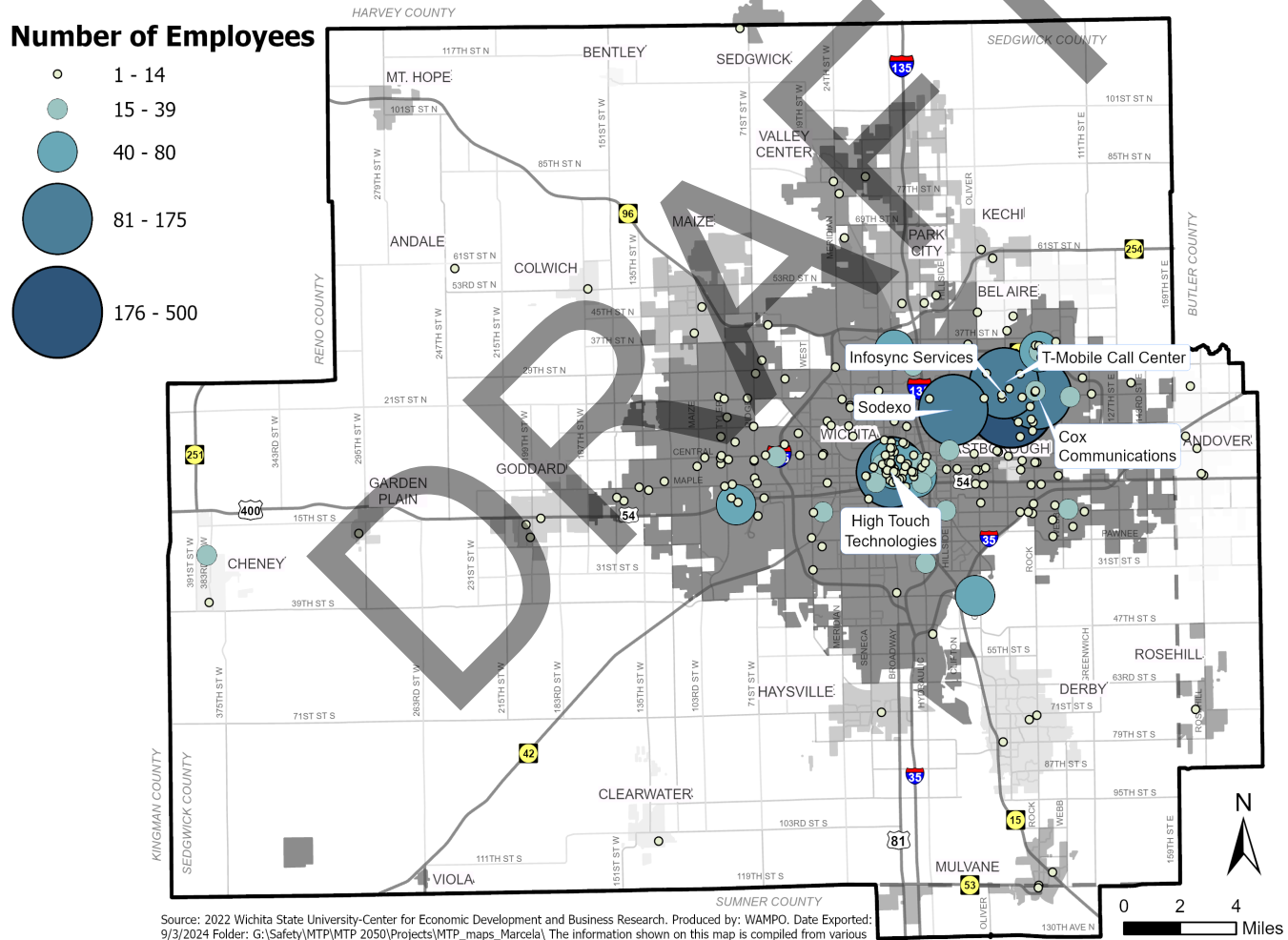
Map 2.5.6: Healthcare Employment Density



INFORMATION TECHNOLOGY AND SUPPORT

Wichita's IT systems & support industry encompasses sectors related to information, administrative services, and professional services. These sectors include data processing, cybersecurity, medical processing, and software/web development. While Wichita has seen an increase in the number of establishments dedicated to this sector, it lags behind in terms of wage growth and overall employment compared to Kansas City, which has the industry's largest employment and most competitive wage growth.

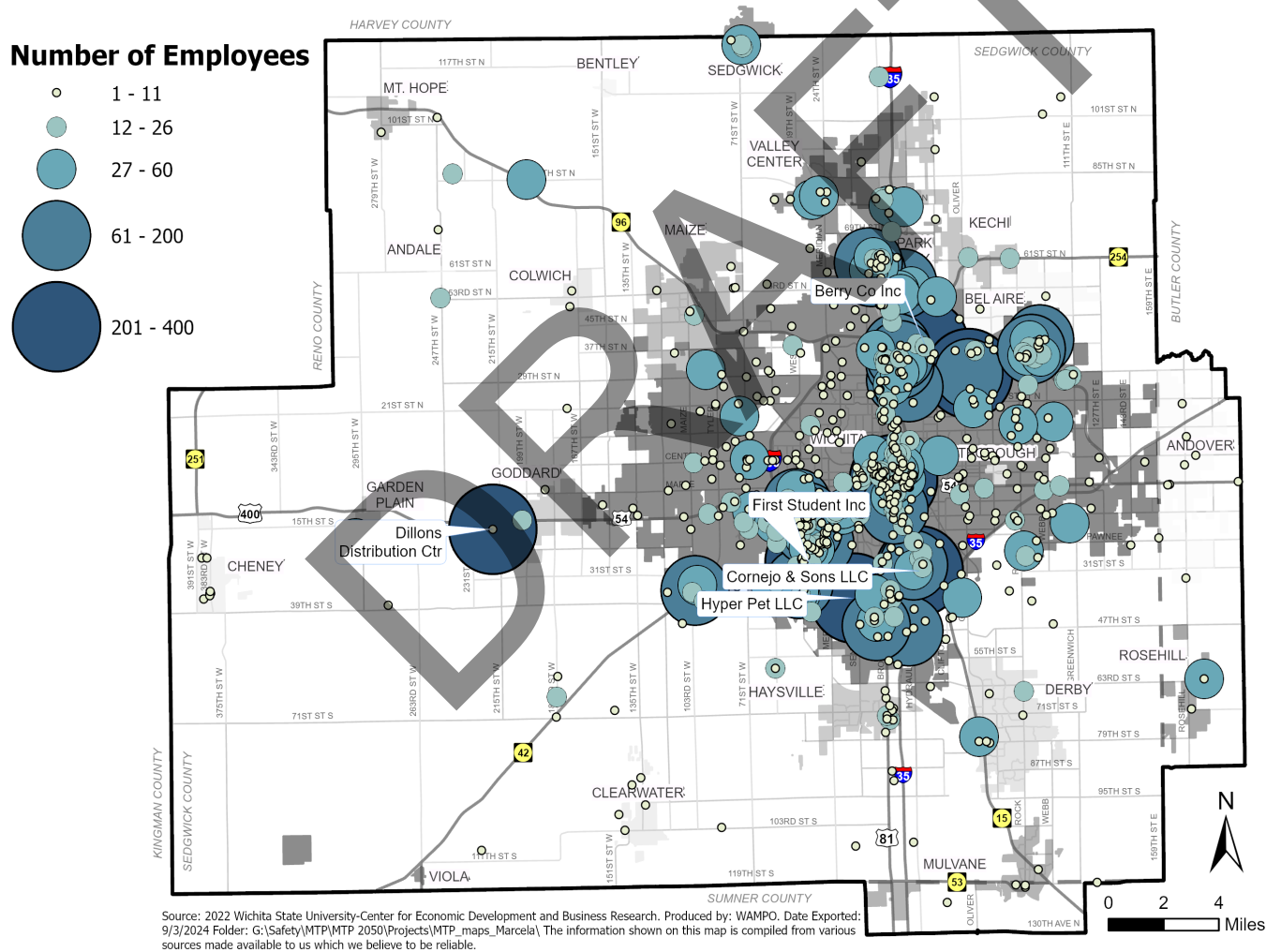
Map 2.5.7: IT Systems & Support Employers



TRANSPORTATION

The transportation industry in Wichita is a significant sector that includes various logistics sectors within wholesale and selected sectors within the traditional transportation North American Industry Classification System (NAICS) sector. Wichita had strong growth in employment and wages, ranking eighth in total employment and is among the top cities with substantial growth. The labor discussion highlighted the employment growth rates, with Wichita exceeding most comparison metro areas except for Flint and Spartanburg, SC. The analysis of the industry's competitive forces revealed moderate barriers to entry, a moderate threat of substitutes, a moderate bargaining power of buyers, and a moderate bargaining power of suppliers. However, there is high rivalry among existing firms due to the rapid growth and high demand for transportation services in Wichita.

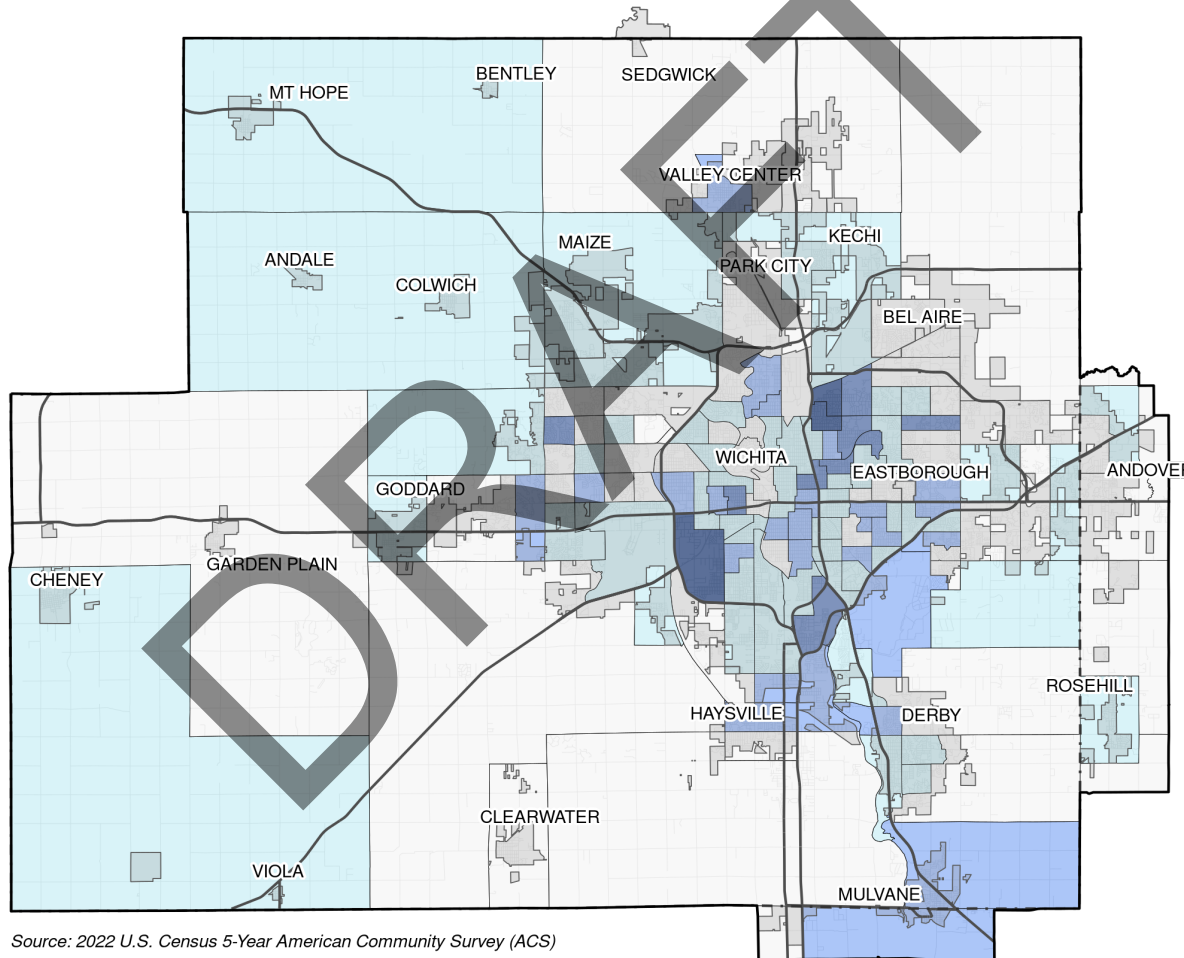
Map 2.5.8: Transportation Employers



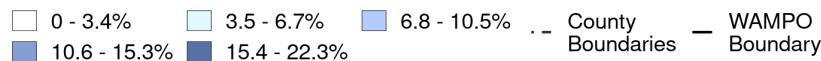
WAMPO Region Unemployment

Factors such as technological advancements, shifts in market demands, and insufficient infrastructure have further exacerbated the problem, making it challenging for individuals to secure meaningful work. Addressing unemployment in the WAMPO region requires a multi-faceted approach, including targeted initiatives to enhance workforce skills, stimulate job creation through strategic economic development projects, and foster a conducive business environment to attract investment and entrepreneurship. Map 2.5.9 shows the unemployment rates by census tract with darker shades of blue representing higher levels of unemployment.

Map 2.5.9: Unemployment



Percent Unemployed by Census Tract



2.6



Travel patterns in the WAMPO region can reveal a great deal about how people move between places and how they choose to do so. Mode choice, or the choice of transportation mode, is a key factor in understanding travel patterns and is of great importance to transportation planning. Mode share, or the relative proportion of trips made in each mode, is another important factor. By understanding mode choice and mode share, transportation decision makers can better design the network to better serve the needs of travelers.

Means of Transportation

Understanding travel trends is necessary when planning and considering transportation improvements.

Table 2.6.1 identifies the travel data for means of transportation to work, mean travel time to work, and vehicles available per household within the WAMPO region.

The following tables and figures are based on 2018-2022 US Census Bureau American Community Survey (ACS) data. ACS data provide detailed information on a community's population and housing characteristics. Because ACS data provide sample estimates (as opposed to official counts) based on data collected through nationwide surveys it may not be reflective of current trends. The population for commuting characteristics of the ACS are workers 16 years of age and older.

Table 2.6.1: Commuting and Vehicle Availability for the WAMPO region and Kansas, 2022

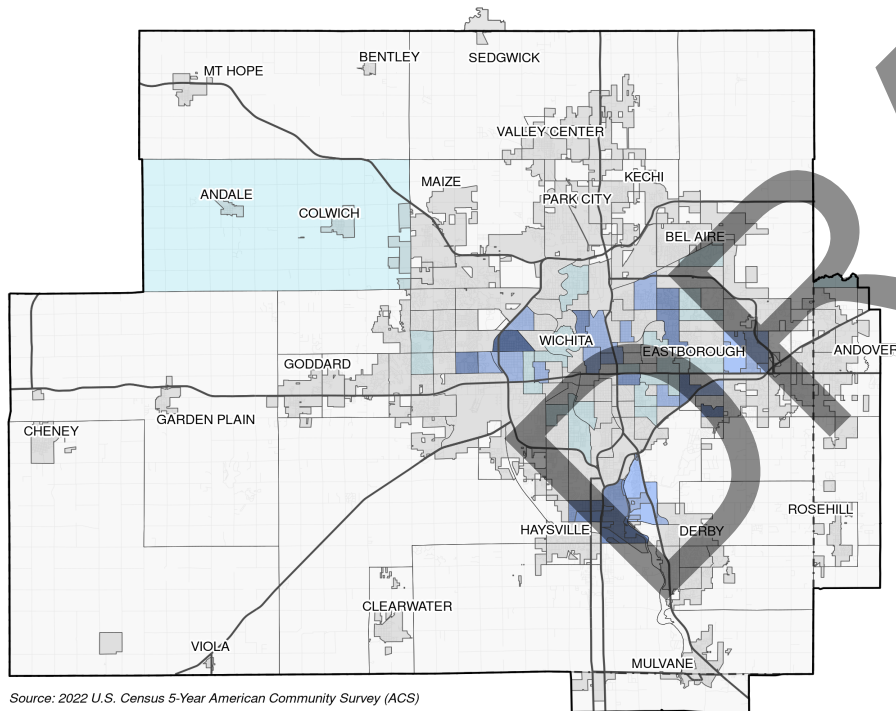
Commute Modes and Times and Household Vehicles	WAMPO Region	State of Kansas
Means of Transportation to Work		
Car, Truck, or Van - Drive Alone	80.2%	77.8%
Car, Truck, or Van - Carpooled	9.5%	8.7%
Public Transportation (excluding taxicab)	0.6%	0.4%
Walk	1.4%	2.3%
Bicycle	0.4%	0.3%
Taxicab, Motorcycle, or Other Means	1.6%	1.1%
Work from Home	6.3%	9.5%
Average Travel Time to Work	19.8 minutes	19.7 minutes
Vehicles Available per Household		
No Vehicle Available	3.2%	2.1%
One (1) Vehicle Available	20.5%	17.3%
Two (2) Vehicles Available	39.1%	40.8%
Three (3) or More Vehicles Available	37.2%	39.8%

Source: 2018-2022 US Census Bureau American Community Survey (ACS)

Means of Transportation

Map 2.6.1 shows the absolute numbers of the working population over age 16 within a Census Tract that uses public transportation to get to work. The Census Tract with the highest percent of workers for whom public transportation is the most used commute mode boasts an estimated 147 daily public transit commuters. As shown in dark blue, it is located in the City of Wichita, east of the MS Mitch Mitchell Floodway, west of W Zoo Blvd., south of W 13th St N., and north of W Central Ave.

Map 2.6.1: Means of Transportation to Work: Public Transportation



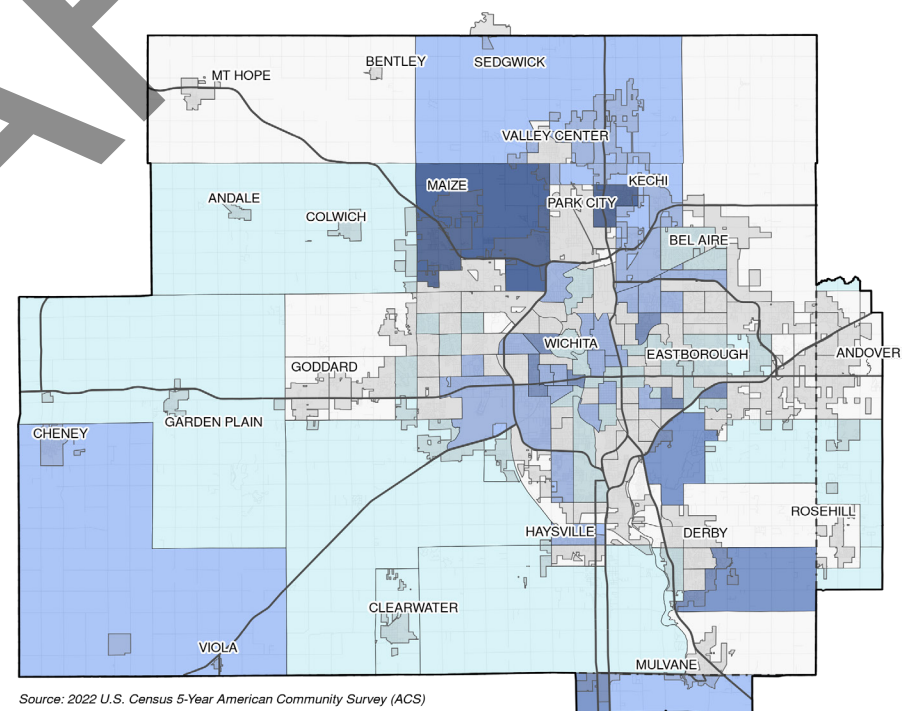
Source: 2022 U.S. Census 5-Year American Community Survey (ACS)

Number of Workers by Census Tract



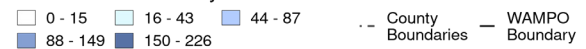
Map 2.6.2 shows the absolute number of the working population over age 16 within a Census Tract that bikes or walks as a means of transportation to get to work.

Map 2.6.2: Means of Transportation to Work: Bicycle or Walked



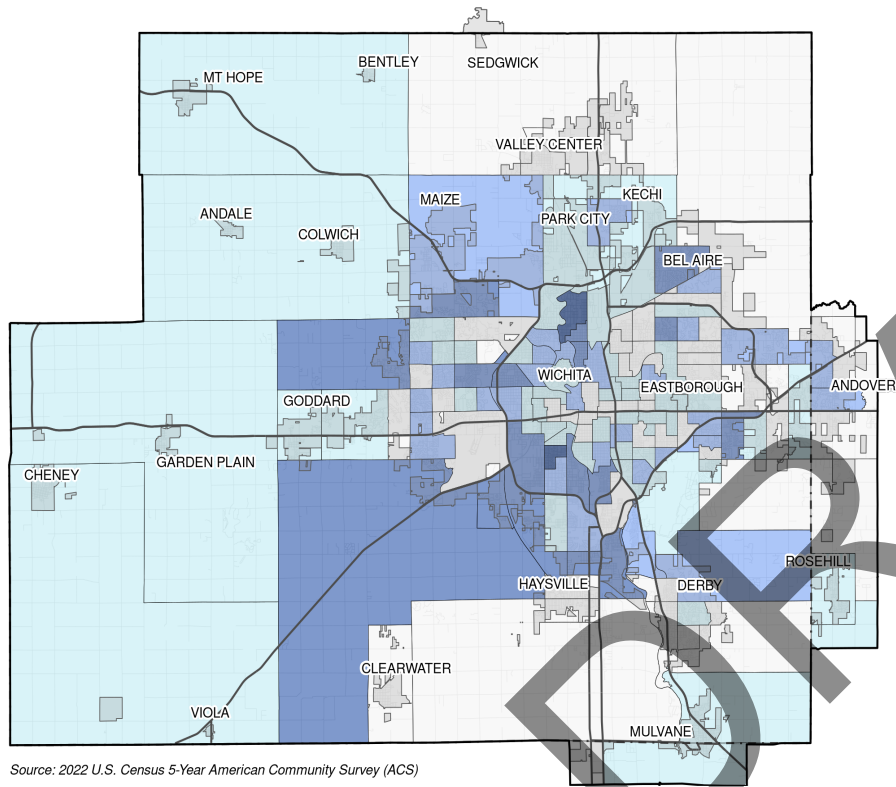
Source: 2022 U.S. Census 5-Year American Community Survey (ACS)

Number of Workers by Census Tract



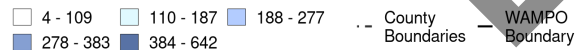
Map 2.6.3 shows the absolute number of the working population over age 16 within a Census Tract that carpools to work.

Map 2.6.3: Means of Transportation to Work: Carpooled



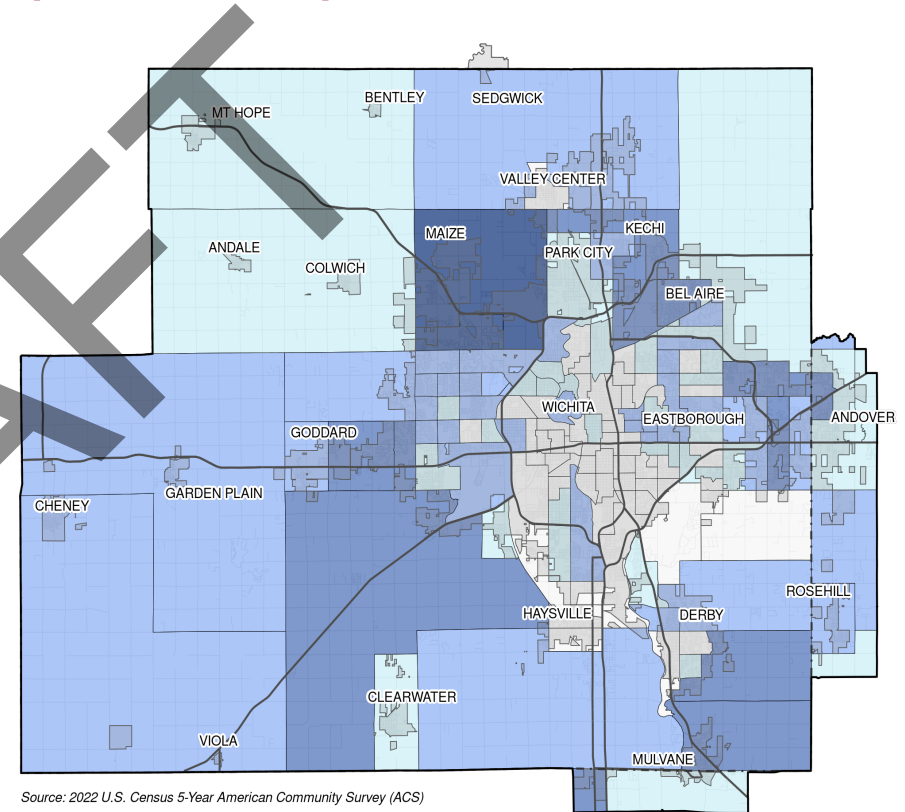
Source: 2022 U.S. Census 5-Year American Community Survey (ACS)

Number of Workers by Census Tract



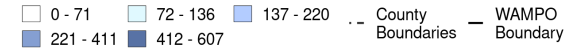
Map 2.6.4 shows the absolute number of the working population over age 16 within a Census Tract that works from home.

Map 2.6.4: Means of Transportation to Work: Work from Home



Source: 2022 U.S. Census 5-Year American Community Survey (ACS)

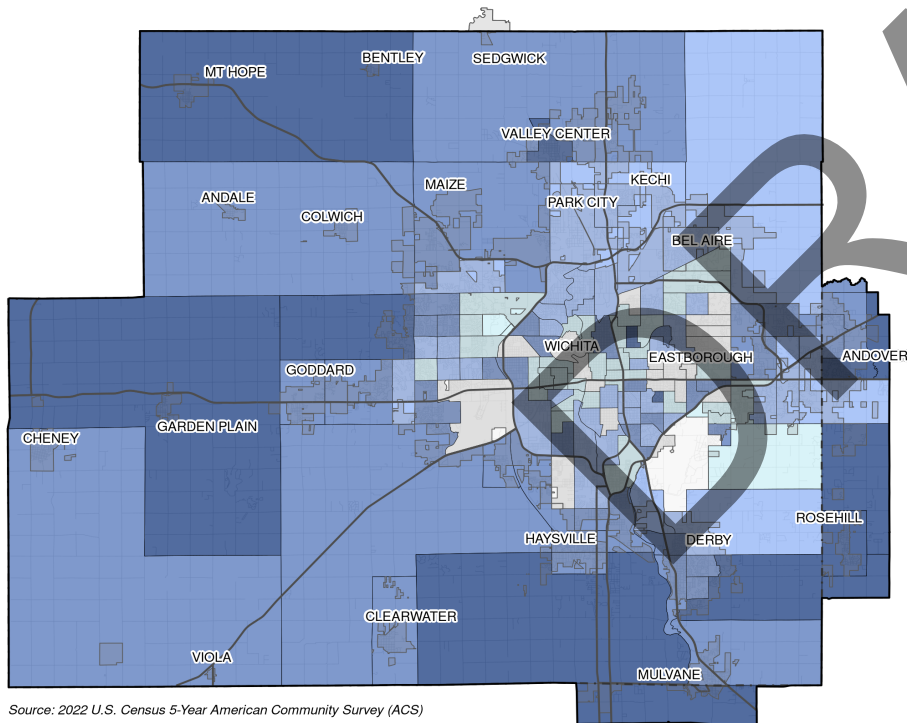
Number of People by Census Tract



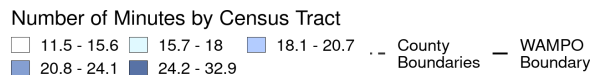
Average Travel Time to Work

Map 2.6.5 shows average travel times to work by the Census Tract where workers live. The average travel time to work in the WAMPO region is 19.8 minutes. The Census Tract with the highest average travel time to work (32.9 minutes), as shown in dark blue, is located in Butler County south of Rose Hill. The longer commute for residents within that Census Tract could be attributed to the lack of close proximity to higher functional classification roads such as interstates, freeways, and arterials. Roads designated as a high functional classification support higher traffic volumes and long trips.

Map 2.6.5: Travel time to Work



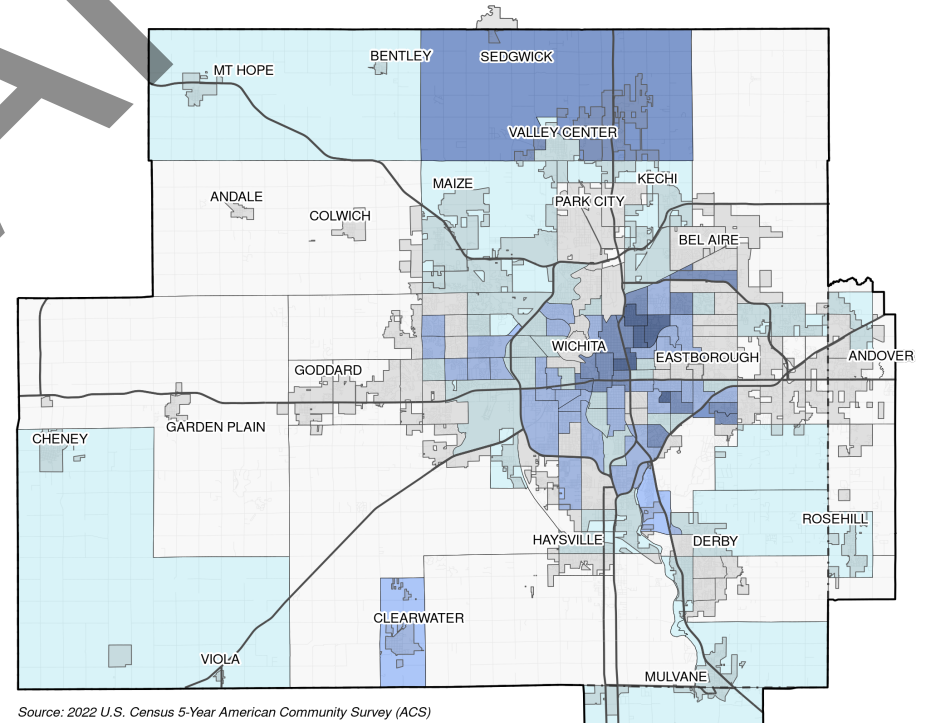
Source: 2022 U.S. Census 5-Year American Community Survey (ACS)



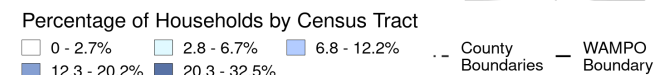
Vehicles Available Per Household

Map 2.6.6 and Map 2.6.7 show the percentages of the population of a Census Tract that have no vehicle available or one vehicle available per household, respectively. According to the most recent ACS data, an estimated 3.3 % of households in the WAMPO region have no vehicle available.

Map 2.6.6: Zero-Vehicle Households

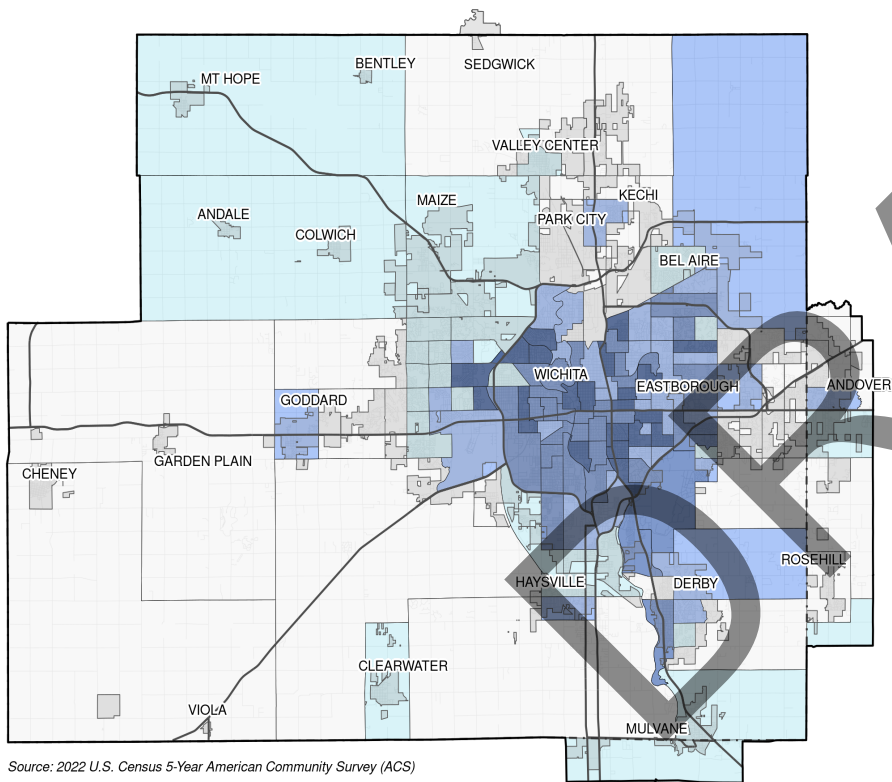


Source: 2022 U.S. Census 5-Year American Community Survey (ACS)



Recent census data estimates that 31.4% of households within the WAMPO region have access to one vehicle with an estimated 65.3 % with access to two or more vehicles.

Map 2.6.7: Single-Vehicle Households



Source: 2022 U.S. Census 5-Year American Community Survey (ACS)

Percentage of Households by Census Tract

0.5 - 17.5%
 17.6 - 26.8%
 26.9 - 37%
 37.1 - 46.2%
 46.3 - 63.1%

County Boundaries
 WAMPO Boundary



Credit: Google Earth- Park City

FIXED ROUTE TRANSIT RIDERSHIP

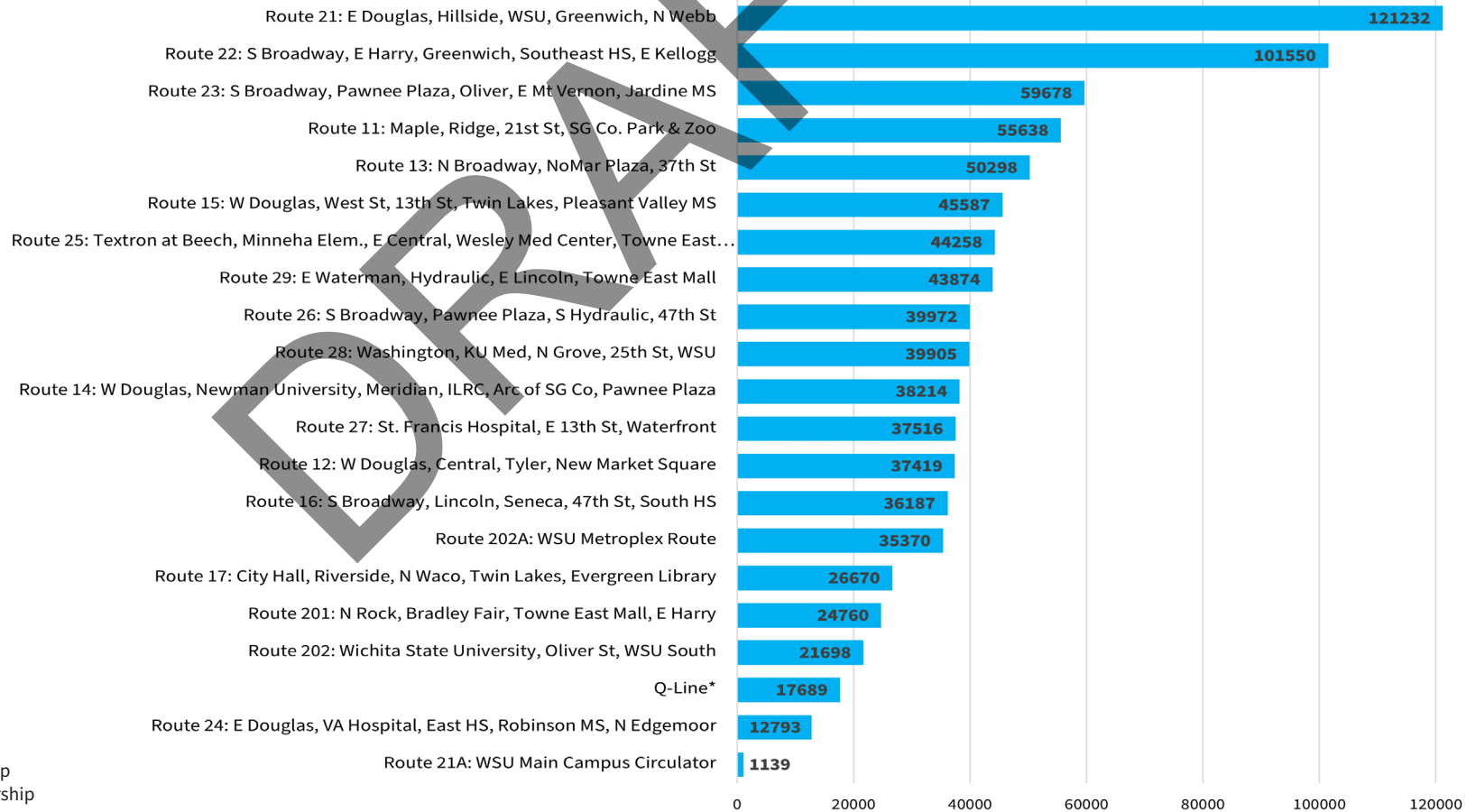
In 2023, 1,269,050 trips were recorded on Wichita Transit, including 1,181,328 on fixed routes. Despite lowered ridership numbers in 2020 and 2021, during the COVID-19 pandemic, annual ridership increased steadily in 2022 and 2023, almost reaching pre-COVID numbers. Table 2.6.2 shows the total Wichita Transit annual ridership from 2018- 2023.

Of the 1.18 million trips taken on Wichita Transit fixed routes in 2023, Route 21, serving East Douglas, Hillside, Wichita State University, Greenwich, and North Webb, saw the highest ridership with 180,175 trips recorded. Routes 21A and 202, which serve Wichita State University, do not operate during the summer months. Figure 2.6.1 shows the 2023 annual ridership numbers by route. Map 2.6.8 shows that 893 out of 1,236 stops, are located within 0.5 miles bicycle infrastructure.

Table 2.6.2: Wichita Transit Total Annual Ridership, 2018-2023

2018	2019	2020	2021	2022	2023
1,181,807	1,373,944	759,330	768,717	1,011,541	1,269,050

Figure 2.6.1: Average Annual Ridership for the Wichita Transit Fixed Route System, 2020-2023



Source: Wichita Transit

*Q-Line average annual ridership calculated from 2021-2023 ridership

BICYCLE NETWORK

The WAMPO region has a growing network of bicycle infrastructure that includes on-street bike lanes, multi-use paths, bike boulevards, and trails. The majority of the network is concentrated in Wichita, but several popular trails provide connection to outlying communities. Bicycle infrastructure is also expanding in the suburban communities. For more detailed information on biking and walking, see Section 3.3.

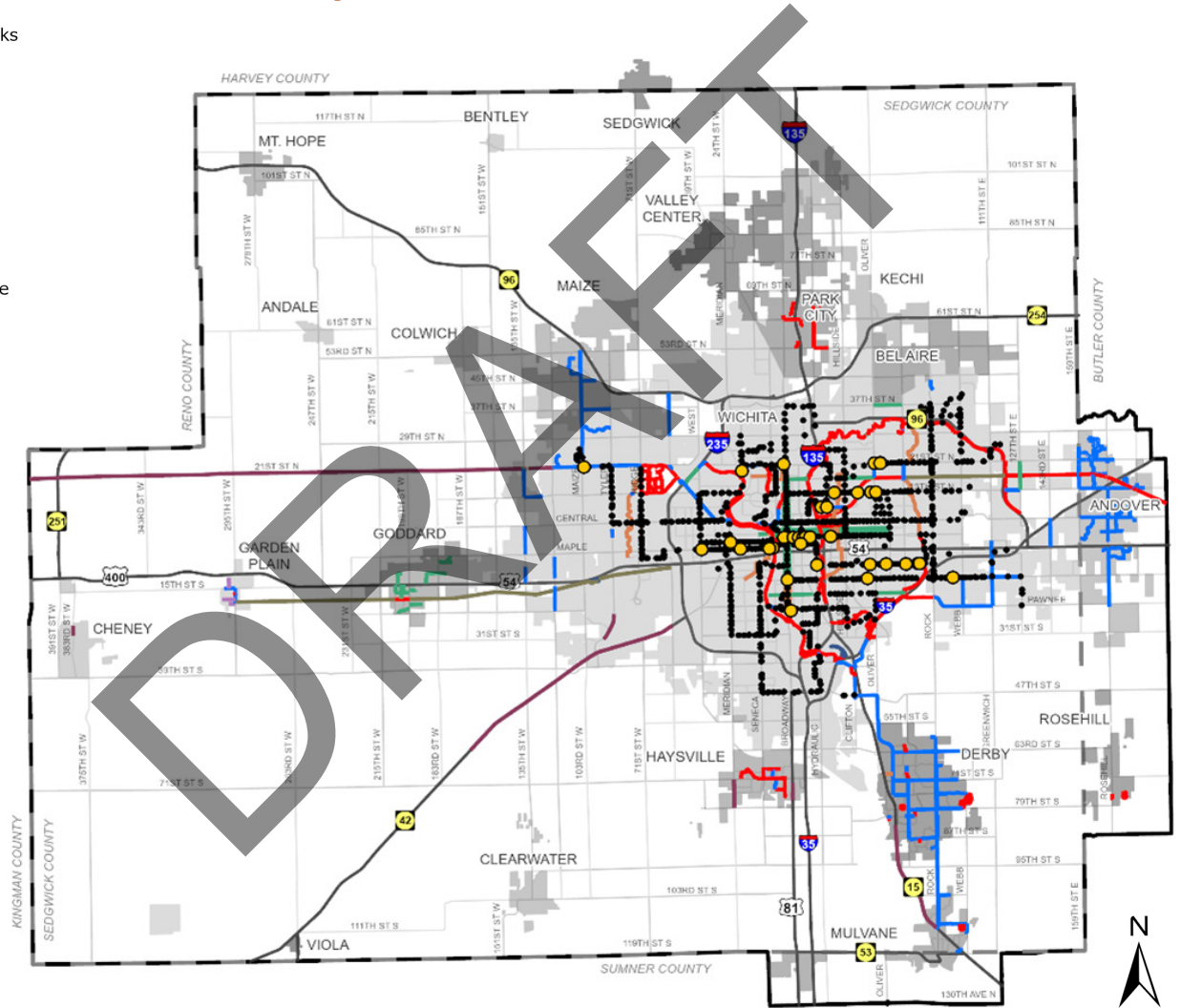
Map 2.6.8: Connections Between Fixed Transit Routes and Bicycle Network

- Transit Stops with Bike Racks (41)

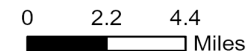
- Other Transit Stops (1178)

Bicycle Infrastructure

- Shared Use Path
- Sidepath
- Bicycle Lane
- Marked/Signed Shared Lane
- Bicycle Boulevard
- Paved Shoulder
- Unpaved Trail
- Mountain Bicycle



Source: WAMPO/Wichita Transit. Produced by: WAMPO. Date Exported: 8/9/2024 Folder: G:\Safety\MTP\MTP 2050\Projects\MTP_maps_Marcela\ The information shown on this map is compiled from various sources made available to us which we believe to be reliable.

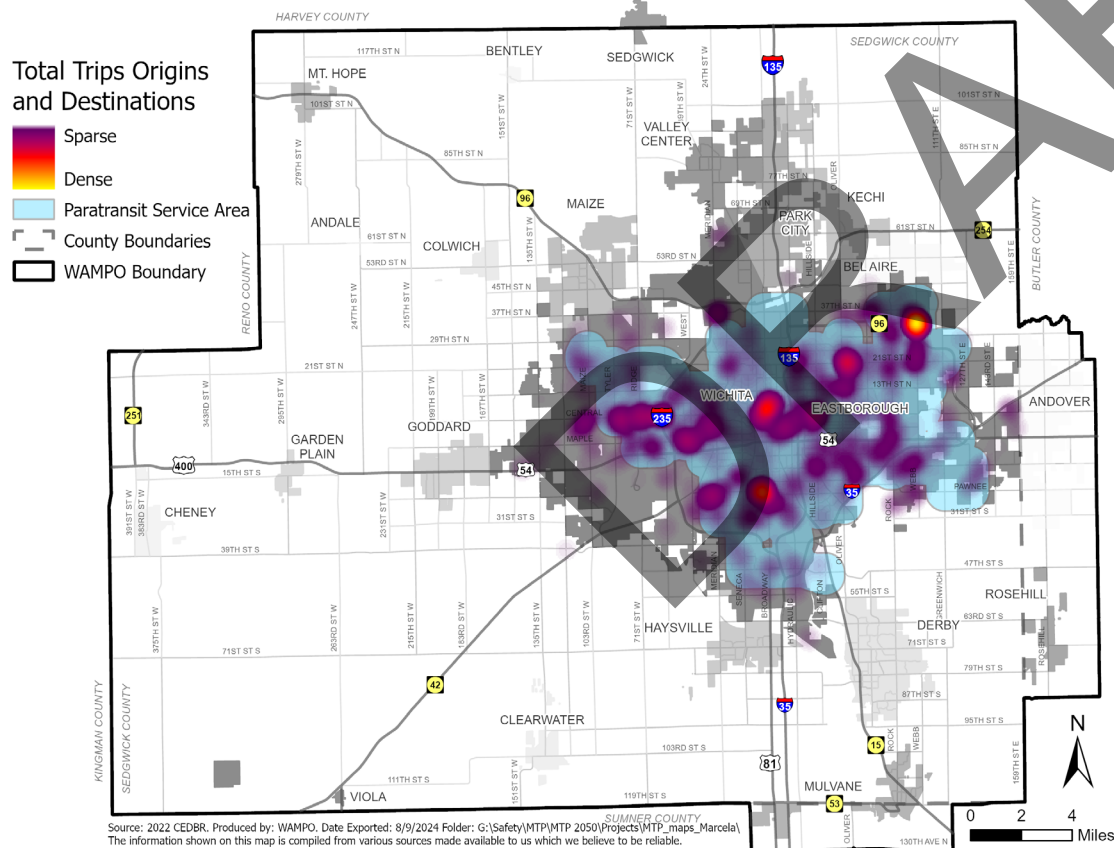


DEMAND RESPONSE TRANSIT RIDERSHIP AND ORIGINS & DESTINATIONS

Origin and destination data for trips made on Wichita Transit’s demand-response service between the years 2017 and 2022 were obtained to identify popular sites for this public transit service. Map 2.6.9 presents the paratransit origin and destination locations in terms of density of total pickups and drop-offs completed between 2017 and 2022. The bright yellow color indicates a location that had a higher number of pickups and drop-offs while the blue shade denotes locations that had fewer total trip origins and destinations. Included in Map 2.6.9 is the paratransit service boundary.

Paratransit services provide transportation for individuals with disabilities or mobility challenges who cannot use regular fixed-route public transit. These services typically offer door-to-door or curb-to-curb rides, ensuring accessibility for those who need additional support in traveling within a community. Paratransit is a vital part of inclusive public transportation, helping to meet the needs of all citizens.

Map 2.6.9: Wichita Transit Demand Response Trips: Origin and Destinations



Shared Mobility

The past several years has seen a revolution in how people travel and the types of transportation modes they use for commuting, recreation, and other trip purposes. Several of these emerging mobility technologies have made their way to the WAMPO region, such as bike share, and electric scooters. However, these transportation modes are not without their own considerations and costs, and communities are encouraged to work with the public and other stakeholders to plan for the role they desire to see these technologies play in the regional transportation system.

BIKE SHARE ICT

In May 2017, Bike Share ICT was launched with 100 bikes at 19 locations through a collaborative partnership between Blue Cross and Blue Shield of Kansas, the Knight Foundation Fund, and the City of Wichita to provide rentable bicycles for use within the WAMPO region. Bike sharing systems offer a practical and economical travel option that broadens the scope of transportation and promotes a fairer balance in mobility across communities. Bike Share ICT users must be 18 years or older and can either pay each time they rent a bicycle or sign up for a membership via a smartphone application. The cost of each rental is \$1.50 for every 30 minutes, and bicycles may be rented for up to 24 hours. Annual and Student memberships are available for a reduced cost. 40 stations are located around the City of Wichita, with approximately 200 bicycles available for rent. Users are free to return their rented bicycle to any of the 40 stations to end their rental. Trip data for the Bike Share ICT Program was analyzed to get basic statistics for ridership. The data, which was recorded between December 2020 and July 2024, indicates that 26,157 trips were taken. Table ## ranks the bike share stations with regard to the total number ending trips during the same period.



Map 2.6.12: Bike Share ICT Stations

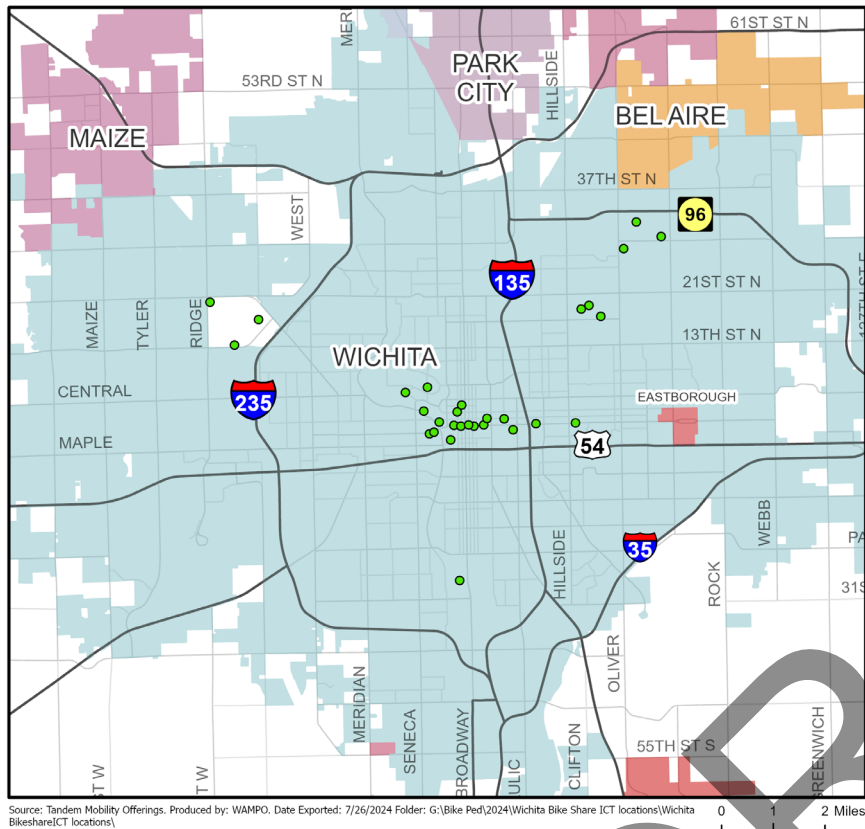


Table 2.6.3: Bike Share ICT Ridership

Station Name	# of Racks	Trip Starts	Trip Ends
Sedgwick County Park -13th St.	10	5226	5253
Great Plains Nature Center	10	2477	2455
Waterman + Arkansas River	10	2281	2266
Keeper of the Plains	10	1833	2191
Central Riverside Park	10	1753	1728
WSU - Student Center	10	1333	1331
Sycamore + Douglas	10	1235	1225
River Vista	10	1124	1009
Mead + Douglas	10	947	949
OJ Watson Park	10	769	787
Old Town - 1st+ N. Rock Island	10	697	701
Douglas + Oak	10	619	600
Sedgwick County Extention - 21st + Ridge	10	613	603
WSU - Innovation Center	10	598	564
Pop-Up Urban Park	10	535	476
Douglas + Water	10	525	427
500 block of East Douglas	10	458	470
Rutan + Douglas	10	458	503
Topeka + Douglas	10	406	404
Downtown YMCA	10	365	323
WSU - Heskett Center	10	354	346
GPNC Extension	20	345	321
Madison + Douglas	10	320	270
Zoo	10	249	226
Hyde Park	8	186	203
2nd + Main	10	138	115
WSU - Metroplex	10	131	180
Cleveland + 1st	10	93	112
Wichita Art Museum	7	89	88

ELECTRIC SCOOTERS

Electric scooters have been available in U.S. communities since 2017. Since their introduction, numerous metropolitan areas across the country have instituted pilot programs to study the effects of this mode on local transportation networks. While these scooters are a solution to the “last-mile” issue—helping connect individuals to public transit and other transportation modes to complete trips—the public safety concern related to scooter users riding in vehicle travel lanes and not wearing helmets have led communities to adopt local ordinances and other policies that limit scooter sharing operations. Further concerns over the use of electric scooters include these vehicles serving as an obstacle when parked on public sidewalks. This results in cluttering the public space and creating impediments to accessibility for sidewalk users, especially those of limited mobility (i.e., wheelchair users, walkers, strollers, etc.).

In 2019, the Wichita City Council approved an ordinance requiring scooters to enter into pilot operating agreements to operate in the city. Since then, three scooter companies – Spin, VeoRide and Bird– launched pilot programs in the region. As of 2024, VeoRide is the only remaining scooter company operating in Wichita.

➤ **VeoRide:** VeoRide operates mobility sharing programs in communities and college campuses throughout the U.S. Within the City of Wichita, VeoRide maintains a fleet of 500 scooters. Adults over 18, use the smart phone app to locate a scooter to rent. VeoRide’s cost is \$1 to check a scooter out and then an additional 15 cents per minute. Once a trip ends, users simply return the scooter to a designated area. In 2024, the company added seated scooters to the fleet to increase accessibility to individuals who are unable or prefer not to stand during their ride.



2.7 Environmental Resources

Transportation and the natural environment are closely connected. Lands, rivers, and oceans were the first transportation systems people used to get around. Today, fossil fuels found in the earth serve as the primary fuel for cars, trucks, trains, and airplanes. Over time, there has been growing interest in the short- and long-term impacts on the natural environment caused by human systems, including transportation.

The transportation system impacts on the natural environment are diverse and far-reaching across time and space. For example, emissions from motor vehicles combine with hot air temperatures to form ground-level ozone; rain carries spilled car fluids into local rivers and water bodies; trucks and trains carrying hazardous material travel our highways, roads, and rails; and urban development leads to heat island effect, increased storm water runoff, and agricultural land impacts.

In response to this, federal, state, and local governments have passed laws and regulations to balance the environmental impacts with the needs of other interests. Additionally, there has been growing interest to shift some trips to more environmentally friendly modes, like walking and biking, and in developing alternative fuels.

As part of the overall transportation planning process, it is important to assess any potential environmental impacts associated with the transportation system and, more specifically, with the projects and strategies of WAMPO's long-range Metropolitan Transportation Plan (MTP). This section documents that assessment and also inventories the natural resources in the WAMPO region, summarizes the major environmental issues facing the region, and lists some possible mitigation activities.

WATER RESOURCES

Eight watersheds cover the WAMPO region; these eight watersheds drain into the Arkansas River, the Cheney Reservoir, the Ninnescah River, and the Walnut River. Along with groundwater, the water in these rivers and reservoir compose the region's water resources. These resources provide the region its drinking water and water for industry, and are provided to users through local water utilities, rural water districts, and private wells.

AIR QUALITY

Of all of the monitored air pollutants, the only one that has posed any concern in the WAMPO region has been ground-level ozone. Ground level ozone is a major component of smog. Long-term exposure to ground-level ozone can irritate the eyes, nose, and lungs, particularly in vulnerable populations, including youth, the elderly, and those with asthma.

Ground-level ozone also damages vegetation, including crops. Unlike many other types of pollution, ozone is generally not emitted directly. Instead, it is formed when nitrogen oxides (NOx) combine with volatile organic compounds (VOC) in the presence of sunlight. NOx and VOC are therefore ozone precursors. NOx comes primarily from various types of combustion; everything from large power plants to internal combustion engines to wood-burning stoves. Motor vehicles, solvents, industrial processes, and gasoline vapors emit VOCs. It is estimated that between 50% and 70% of all VOCs and NOx emitted come from cars, trucks, and other motor vehicles traveling on roads.

The region has three air quality monitoring stations: one in central Wichita at the Wichita Health Department, a station in the city of Sedgwick, and one additional station in unincorporated Peck, Kansas on the Sumner-Sedgwick County border. As shown on the following chart and table, over the last several years, the region's ozone level has remained below the regulatory limit of 0.070 parts per million (ppm) (equivalently referred to as 70 parts per billion). Per Environmental Protection Agency (EPA) reporting guidelines, the annual ozone reported value is the rolling 3-year average of the 4th highest annual measurement.

Figure 2.7.1: Ozone Trends

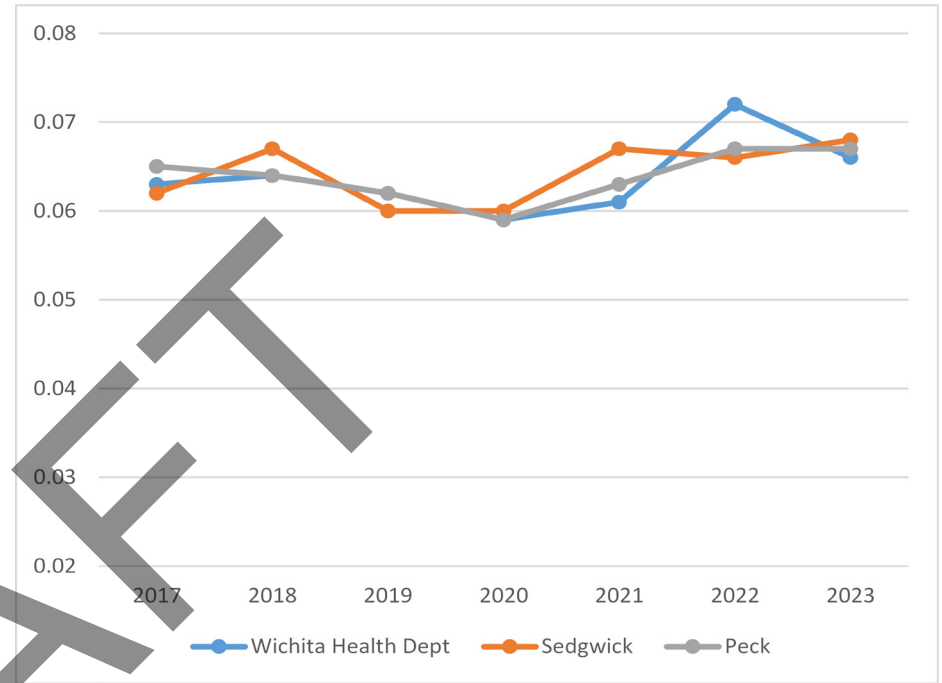


Table 2.7.1: Ozone Trends

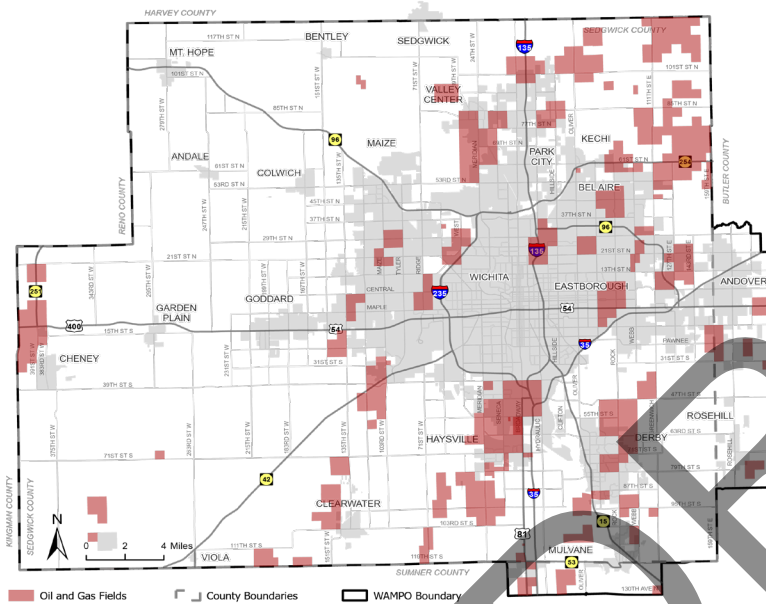
3-Year Average of the 4th Highest Annual Ozone Measurement (Parts Per Million) by Monitoring Station			
	Wichita Health Dept.	Sedgwick	Peck
2019	0.063	0.063	0.064
2020	0.062	0.062	0.062
2021	0.061	0.062	0.061
2022	0.064	0.064	0.063
2023	0.066	0.067	0.066

EPA Standard: < 0.070 Parts Per Million

OIL & GAS DEPOSITS

With the discovery of the El Dorado field near Wichita in 1915, Kansas became known as a significant oil-producing state. The WAMPO region is one of several parts of the state that contribute to the state's production of natural gas and crude oil.

Map 2.7.1: Oil & Gas Deposits

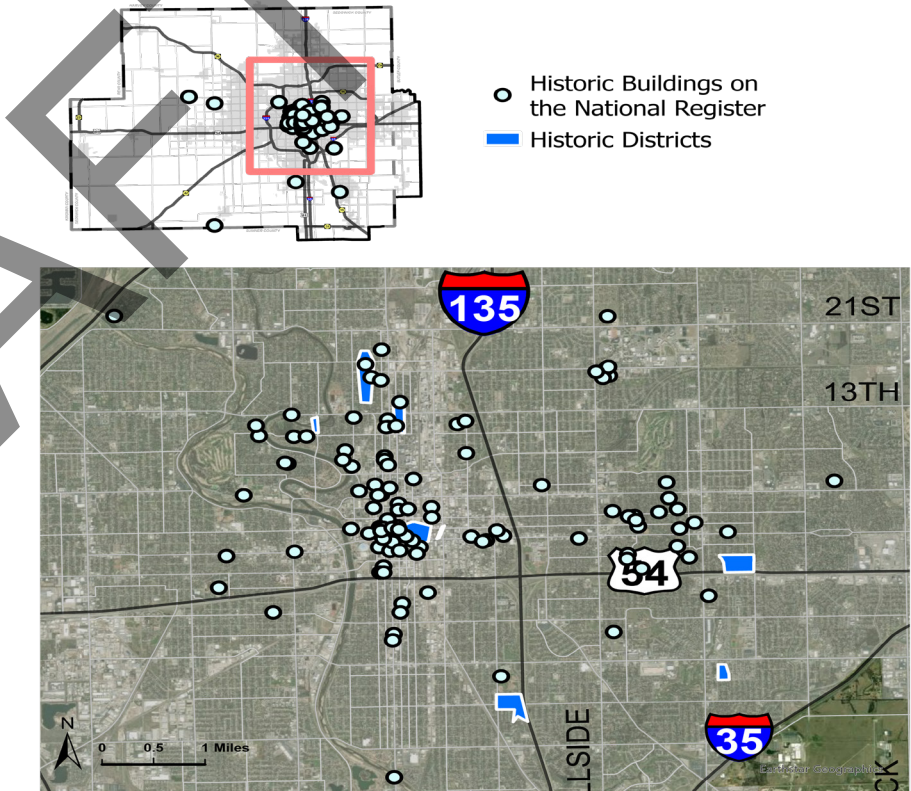


Source: Kansas Geological Survey, Produced by: WAMPO, Date Exported: 12/18/2024 Folder: G:\Environmental and Historic\Environmental and Historic
The information shown on this map is compiled from various sources made available to us which we believe to be reliable.

HISTORICALLY SIGNIFICANT PLACES

The WAMPO region has a proud heritage of buildings, districts, and sites that have been preserved and listed on the Wichita, State of Kansas, or National Registers of Historic Places. Within the City of Wichita, there are over 600 structures that are individually listed or properties within a historic district and three individual archeological sites.

Map 2.7.2: Historic Significant Places



Source: Kansas Geological Survey, Produced by: WAMPO, Date Exported: 12/15/2024 Folder: G:\Environmental and Historic\Environmental and Historic
The information shown on this map is compiled from various sources made available to us which we believe to be reliable.

NATIVE PLANTS & WILDLIFE

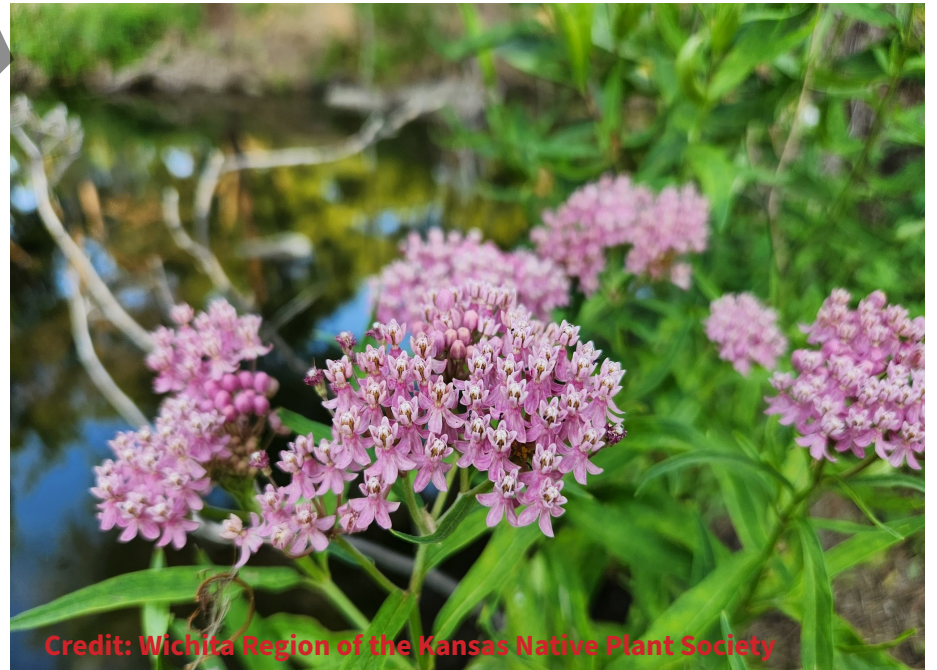
The WAMPO region is part of the Grassland Biome ecosystem, specifically one of the “mixed prairie” type, where both tall grass and short grass prairie grasses thrive. Similar to other communities, urban development and agricultural production lands replaced the native prairie for the most part. As development occurred and transformed the extent and quality of native habitat, wildlife species had to adapt, and many species dwindled in numbers. In response to dwindling numbers, the Endangered Species Act was put into place to protect the habitat for species in danger of extinction.

In the WAMPO region, there are four species with “threatened” designation, and five species with “endangered” designation. Of those, five have critical habitat (lands and waters that are designated habitat and special protections are in place) in Kansas.

Designated critical habitat in the WAMPO region includes the Arkansas River, the Ninnescah River, and its North Fork and South Fork, and drainage basins of the Cowskin Creek and Big Slough creek.



Credits Wichita Region of the Kansas Native Plant Society



Credit: Wichita Region of the Kansas Native Plant Society

Threatened & Endangered Species

The following are identified threatened and endangered species in the WAMPO region. Several additional species are listed on the State's list of "Species in Need of Conservation," which may be found by visiting www.ksoutdoors.com.

Table 2.7.2: Threatened & Endangered Species

Threatened Species	Endangered Species
Plains Minnow	Arkansas River Shiner
Eastern Spotted Skunk	Silver Chub
Piping Plover	Peppered Chub
Snowy Plover	Whooping Crane
	Least Tern

Figure 2.7.1: Threatened & Endangered Species



Environmental Issues

Similar to other metropolitan areas, there are many long-standing environmental issues facing the WAMPO region. The priority issues are listed below. Due to their long-standing nature, ongoing monitoring, research, public education, and remediation/mitigation are taking place on these issues.

Natural Disasters

The WAMPO region is located in “Tornado Alley,” a large area that covers parts of South Dakota, Nebraska, Kansas, Oklahoma, and Texas that are more likely for tornadoes. Several large, damaging tornadoes have hit the region over the years, including one in 1991 that hit Haysville, Wichita, and Andover, another in 1999 that devastated Haysville, and in 2022 that hit Andover.

Ground - Level Ozone

Ozone season runs April through October, when temperatures are high and southern winds are strong. High temperatures mix with emissions from motor vehicles to form ground-level ozone; ozone levels in the region have flirted with exceeding the allowable standard over the last several years but have not exceeded the standard to date.

Stormwater Drainage, Overland Flooding, & Groundwater Intrusion

Natural features, including the area’s relative flatness, its floodplains associated with the Arkansas River and the Ninnescah River, and the prevalence of basements make overland storm water drainage and groundwater intrusion particularly challenging problems in the region.

Hazardous Waste

Groundwater and soil contamination associated with industries in the early to middle part of the 20th century exist at three sites in the region. These areas are currently being remediated to standards.



Agricultural Chemicals Runoff

It is common practice to use herbicides, pesticides, and fertilizer in modern-day agricultural operations, residential lawns, and commercial turf management; and rain carries these chemicals to surrounding water bodies and groundwater. When unnatural levels of fertilizer runoff take place, harmful algae blooms occur and lead to unsafe water bodies.

Private Water & Sewer Systems

Private drinking water wells, irrigation wells, and septic systems are often found in rural residential areas located in unincorporated areas. Local regulations require testing prior to purchase of the property, and then individual homeowners are responsible for upkeep and testing.

Preservation

There are several current local initiatives aimed at preserving native plant species and historical buildings and sites in the region.

Earthquakes

Over the last few years, earthquake frequency has increased across northern Oklahoma and south-central Kansas. Scientists continue to study the causes and impacts.

Invasive Plants & Animals

Zebra mussels, bush honeysuckles, Johnson grass, red cedars, and many other plants have been introduced to the region and threaten native species, crops, and landscapes.

Climate Change

Like many other communities, climate change is an emerging issue in the WAMPO region too. Changes in historical climate trends, such as warmer winters and droughts that are more frequent, impact farmers, and are a general concern.

2.8 Environmental Justice

The U.S. Environmental Protection Agency (EPA) defines environmental justice (EJ) as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations and policies.

Environmental justice plays an important role in transportation planning. Transportation projects have long-lasting physical impacts on communities, and it is important to evaluate fairness and equity as part of the development of transportation policies and funding decisions. No group of people – by race, ethnicity or socio-economic status – should bear a disproportionate share of negative impacts as a result of decisions made at the federal, state, regional or local levels.

Measuring Environmental Justice

Incorporating non-discriminatory considerations and practices into the transportation planning and decision-making processes is one of the main focal areas of the efforts WAMPO has undertaken as part of Metropolitan Transportation Plan 2050 (MTP 2050). The environmental justice analysis process includes the following core elements:

Identification

Gathering data supported by descriptive statistics and mapping to describe and identify EJ populations in the region.

Assessment

Includes reviewing the planned projects in relation to EJ populations. Assessment also includes the implementation of outreach strategies designed to engage traditionally underserved populations.

Evaluation

Evaluating regional benefits and burdens through an overall assessment of the slate of planned transportation projects to determine if there are disproportionate/adverse impacts to the target populations. This also includes discussion on how any findings of disproportionate and/or adverse impacts may be addressed.

For more information on Environmental Justice, visit the following US Department of Transportation webpage: <https://www.transportation.gov/transportation-policy/environmental-justice>.

ENVIRONMENTAL JUSTICE POPULATIONS

To identify those included in this discussion as EJ populations, WAMPO considered two federal Executive Orders: Executive Order 12898 discusses Federal Actions to Address Environmental Justice in Minority and Low-Income Populations. Executive Order 13166 addresses Improving Access to Services for Persons with Limited English Proficiency (LEP). For the purposes of this analysis, minority and low-income populations are defined as “EJ populations.”

Spatial and demographic data from the U.S. Census Bureau 2018-2022 American Community Survey (ACS) Five-Year Estimates were used to identify environmental justice populations in the WAMPO region.

Race & Ethnicity

Aggregated data showing race and ethnicity were organized into the following five categories (the first four of which are classified as EJ “minority” groups):

1. Asian, which refers to people having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent - including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippines, Thailand, and Vietnam.
2. Black or African American, which refers to people having origins in any of the Black racial groups of Africa.
3. Hispanic or Latino, which includes persons of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race.
4. Other, which includes:
 - a. Native Hawaiian or Other Pacific Islander, which refers to people having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.
 - b. American Indian and Alaska Native, which refers to people having origins in any of the original peoples of North and South America (including Central America), and who maintain tribal affiliation or community attachment.
 - c. Other Races, and those identified by two or more races.
5. White or Caucasian, which refers to people having origins in any of the original peoples of Europe, the Middle East or North Africa.

Low-Income

Individuals included in the “low-income” category are identified in the analysis as “Persons Below Poverty” based on the Census definition.

Table 2.8.1: Minority and Low-Income Populations

POPULATION CATEGORIES		# OF PEOPLE	PERCENTAGE
Total Population		542,572	100%
RACE/ETHNICITY	Minority	144,286	26.60%
	Black or African American	42,491	7.80%
	American Indian and Alaska Native	4,897	0.90%
	Asian	22,895	4.20%
	Native Hawaiian and Pacific Islander	442	0.10%
	Some other race	23,881	4.40%
	Two or more races	49,681	9.20%
	[Hispanic or Latino*]	[82,578]	[15.2%]
	White	398,286	73.40%
LOW INCOME	“Persons Below Poverty”	70,903	13.30%

* Individuals with overlapping Hispanic or Latino ethnicity have been captured in one of the above-listed race categories. Source: ACS 2018-2022 5-Year Estimate (B02001, B03003)

THRESHOLDS & LIMITATIONS

Identifying environmental justice populations is useful in understanding the comparative effects of projects throughout all of the affected populations. Thresholds for EJ populations were established in accordance with policy guidance on environmental justice. Population thresholds establish the number or percentage of individuals within a geographic area that must be exceeded to identify an EJ population.

While a convenient and commonly used method to identify EJ populations, the use of thresholds can mask the presence of small pockets of minority populations or low-income populations. WAMPO is mindful that thresholds may exclude some populations from analysis, despite the potential for those populations to be affected by a proposed plan or program. WAMPO also recognizes that EJ determinations are made based on effects, not population size.

WAMPO has identified Environmental Justice areas at the level of the 1,667 Traffic Analysis Zones (TAZs) in the WAMPO Travel Demand Model (TDM, see Appendix I), some of which extend

beyond the borders of the WAMPO region. These TAZs are grouped on the basis of “degrees of disadvantage,” calculated from Census-Block-Group-level 2018-2022 American Community Survey results:

- **Zero (0) Degrees of Disadvantage (1,134 TAZs):** NEITHER the percentage of the TAZ’s population that is members of minority groups is greater than the corresponding regionwide percentage NOR the percentage of the TAZ’s population that is in households below the poverty line is greater than the corresponding regionwide percentage.
- **One (1) Degree of Disadvantage (357 TAZs):** EITHER the percentage of the TAZ’s population that is members of minority groups is greater than the corresponding regionwide percentage OR the percentage of the TAZ’s population that is in households below the poverty line is greater than the corresponding regionwide percentage.
- **Two (2) Degrees of Disadvantage (176 TAZs):** BOTH the percentage of the TAZ’s population that is members of minority groups is greater than the corresponding regionwide percentage AND the percentage of the TAZ’s population that is in households below the poverty line is greater than the corresponding regionwide percentage.

Environmental Justice Analysis

Please see Section 7.4 for a detailed explanation of how WAMPO performed the EJ analysis for MTP 2050, answering the question of whether or not the fiscally constrained transportation investments included in MTP 2050 disproportionately burden or deny benefits to EJ communities.