For Immediate Release: July 11, 2025

WAMPO MTP 2050 Amendment 1 Public Comment Period

-- Metropolitan Transportation Plan 2050 (MTP 2050) Amendment 1 Available for Public Comment, July 11 – 25, 2025

The Wichita Area Metropolitan Planning Organization (WAMPO) has opened the public comment period for Amendment 1 to Metropolitan Transportation Plan 2050 (MTP 2050), **July 11, 2025, through July 25, 2025**. Public comments received during this period will be reported to and considered by the WAMPO Transportation Policy Body (TPB), which will decide whether to approve MTP 2050 Amendment 1 at their August 12, 2025, meeting.

As federally designated entities, Metropolitan Planning Organizations (MPOs) are responsible for developing and maintaining a long-range Metropolitan Transportation Plan (MTP) – a blueprint for a region's transportation system that spans a minimum planning horizon of 20 years and is updated at least every 5 years. MTP 2050 serves as a guide for the expenditure of local, state, and federal transportation funds through the year 2050 and sets priorities for transportation improvements throughout the Wichita metro region (22 cities and 3 counties), including safety, reliable travel times, managing environmental and economic impacts, and improving connectivity for all modes of travel, and then lists projects to potentially utilize available funding.

Proposed MTP 2050 Amendment 1 changes include, among other things:

- The removal of supplemental appendices that are not necessary in the long-range plan.
- Language adjustments and removal of some sections to better align with updated federal guidance.
- Removal of references to rescinded Executive Orders.
- Edits to correct grammar, improve word choice, and perform other editorial changes for clarity and accuracy.

No changes are proposed to the project list in MTP 2050.

Draft MTP 2050 Amendment 1 is posted on the WAMPO website at www.wampo.org/mtp2050 for public review and comment. Paper copies of draft MTP 2050 Amendment 1 may also be viewed at the WAMPO offices, 271 W 3rd St., Suite 208, Wichita, KS 67202, and at the Wichita Advanced Learning Library, 711 W 2nd St., Wichita, KS 67203.

Comments can be submitted via email to wampo@wampo.org.

WAMPO fully complies with Title VI of the Civil Rights Act of 1964 and related statutes and regulations in all programs and activities. For more information or to obtain a Title VI Discrimination Complaint Form, see www.wampo.org or call 316.779.1313.

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MTP 2050

DRAFT

Metropolitan Transportation Plan 2050
Wichita Area Metropolitan Planning Organization

MTP 2050

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The preparation of this report has been financed in part through funds from the Federal Highway Administration and Federal Transit Administration, U.S. Department of Transportation, under the Metropolitan Planning Program, Section 104(f) of Title 23, U.S. Code. The contents of this report do not necessarily reflect the official views or policy of the U.S. Department of Transportation.

The Wichita Area Metropolitan Planning Organization (WAMPO) hereby gives public notice that it is the policy of the agency to assure full compliance with Title VI of the Civil Rights Act of 1964, the Civil Rights Restoration Act of 1987, and related statutes and regulations in all programs and activities.

Title VI requires that no person in the United States of America shall, on the grounds of race, color, or national origin, be excluded from the participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity under the control of WAMPO. Requests for special accommodation and/or language assistance should be made to wampo@wampo.org or by calling (316) 779-1313.

Any person who believes they have been aggrieved by an unlawful discriminatory practice under Title VI has a right to file a formal complaint with WAMPO. Any such complaint must be in writing and filed with WAMPO's Title VI Coordinator within one hundred eighty (180) days following the date of the alleged discriminatory occurrence. For more information, or to obtain a Title VI Discrimination Complaint Form, please visit www.wampo.org/title-vi or call (316) 779-1313.

Approved by the Transportation Policy Body (TPB) on May 13, 2025.
Amendment 1 pending TPB approval on August 12, 2025.

Credit: City of Andover

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MTP 2050

Executive Summary

Metropolitan Transportation Plan 2050
Wichita Area Metropolitan Planning Organization

Plan Purpose & Development

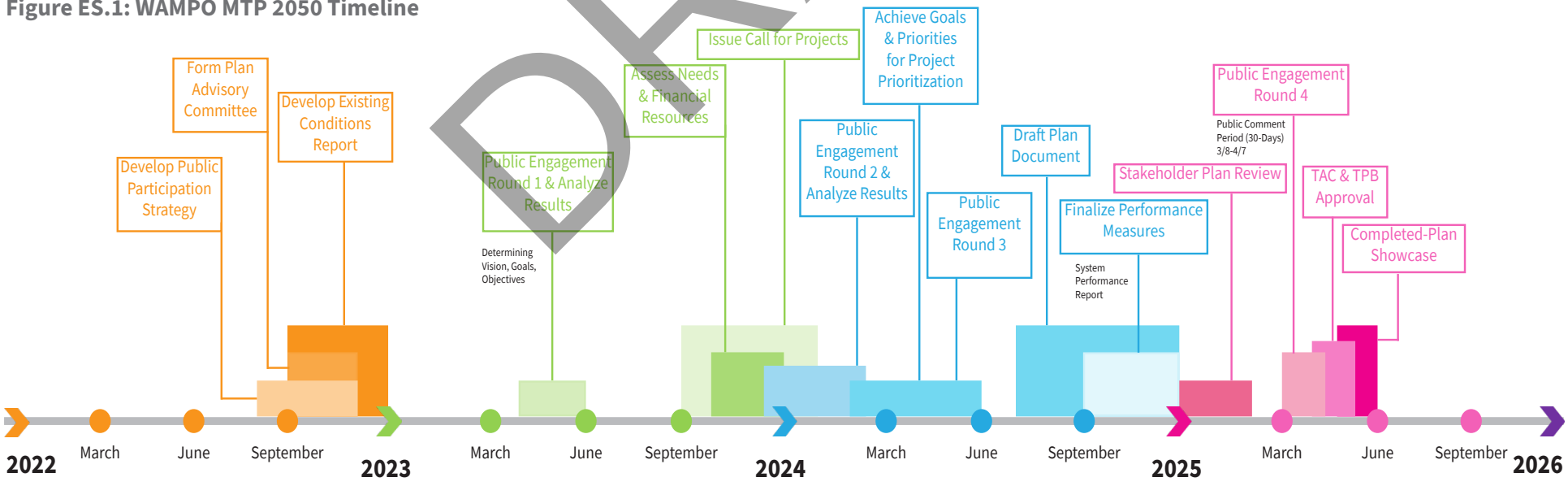
Federal regulations serve as the foundation for transportation planning in metropolitan areas, guiding the efforts of Metropolitan Planning Organizations (MPOs). As federally designated entities, MPOs are responsible for developing and maintaining a Metropolitan Transportation Plan (MTP) – a blueprint for a region's transportation system that spans a minimum planning horizon of 20 years and is updated at least every 5 years. These plans integrate long-term and short-term strategies to foster a multimodal transportation network that ensures the safe and efficient movement of people and goods.

The Wichita Area Metropolitan Planning Organization (WAMPO), in South Central Kansas, oversees transportation planning for a varied region that includes 22 cities and three counties, with a population of 547,230 as of the 2020 Census. WAMPO operates under federal mandates to implement a "3 Cs" planning process – Continuing, Comprehensive, and Cooperative. This approach brings together local governments, state and federal agencies, transit operators, and the public to ensure transportation plans reflect the needs of the community.

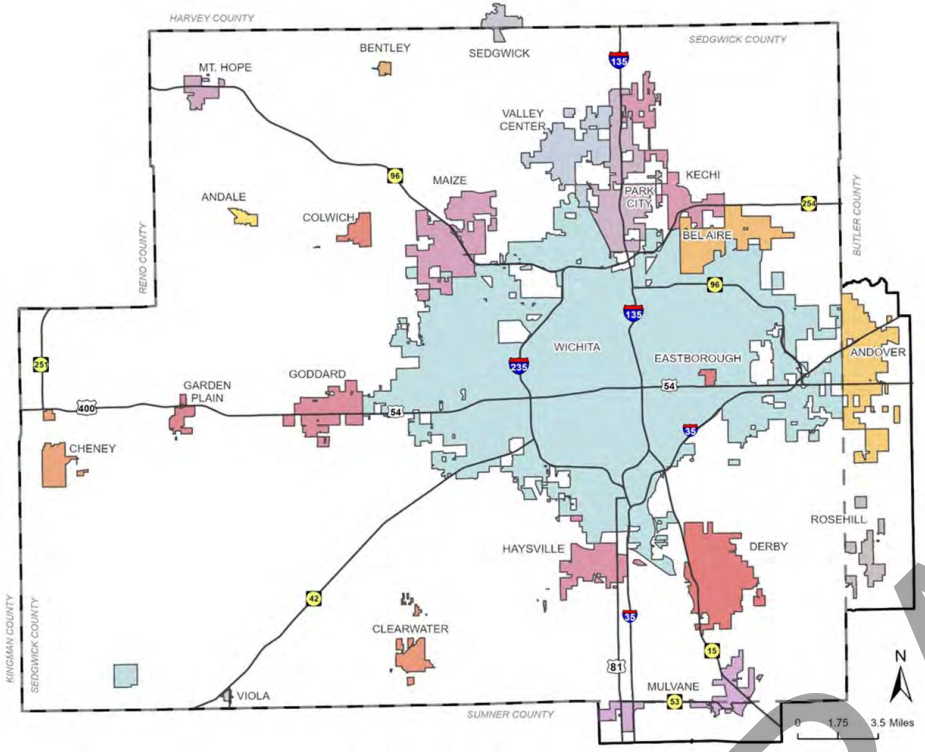
MTPs must address the interconnections between transportation and critical factors like land use, economic development, the environment, and housing. WAMPO's efforts include balancing federal compliance with a commitment to regional priorities, sustainability, and the involvement of all segments of society. The 3Cs process emphasizes collaboration, enabling stakeholders to develop strategies that align with long-term community goals. WAMPO ensures its planning process remains adaptable to evolving needs by leveraging data, public input, and performance-based measures.

Public input is essential for developing transportation policies, programs, and projects. Community outreach coincided with plan development and was designed to actively seek input. Public engagement for MTP 2050 is divided into five rounds: three rounds focused on building an understanding of public desires, a fourth round for distributing the draft plan for a 30-day public comment period, and a fifth round presenting the approved plan.

Figure ES.1: WAMPO MTP 2050 Timeline

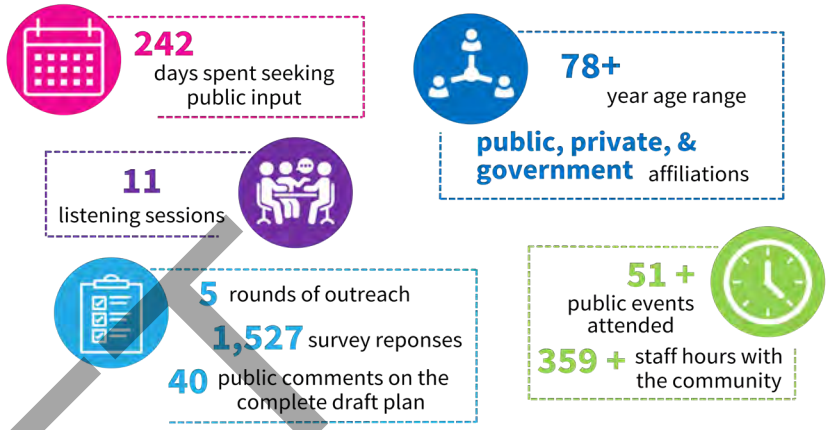


Map ES.1: WAMPO Region



A variety of outreach methods were employed to reach key stakeholders and the general public. These methods included in-person and virtual meetings; stakeholder listening sessions; pop-up events at public gatherings; presentations at community meetings; videos and social media posts; articles and interviews distributed by television, radio, and print media outlets, and surveys made available in English, Spanish, and Vietnamese, both online and on paper. Recognizing that opportunities for meaningful public participation are key to developing a sense of community and ownership among participants, WAMPO ensures an open, cooperative process, actively involving all affected parties to provide meaningful input that influences transportation decisions, while also addressing the community's varied transportation needs and concerns.

Figure ES.2: MTP 2050 Public Engagement at a Glance



Through strategic leadership and collaboration, WAMPO plays a pivotal role in shaping a resilient and sustainable transportation system for the Wichita metropolitan area. MTP 2050 reflects this commitment, providing a roadmap addressing the region's current and future transportation challenges while fostering growth and connectivity.

Figure ES.3: MTP 2050 Vision and Goals

Figure ES.4: Alignment of MTP 2050 Goals with Federal Planning Factors

	Goals			
	Safe & Reliable	**Universal & Accessible**	**Connected & Multimodal**	**Environmental & Financial Stewardship**
Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.	■	■	■	■
Increase the safety of the transportation system for motorized and non-motorized users.	■	■	■	
Increase the security of the transportation system for motorized and non-motorized users.	■		■	
Increase accessibility and mobility of people and freight.	■	■	■	
Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns.	■	■	■	■
Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.	■		■	
Promote efficient system management and operation.	■			■
Emphasize the preservation of the existing transportation system.	■	■		■
Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation.	■			■
Enhance travel and tourism.			■	■

Source: 23 CFR § 450.306(b)

Federal regulations require MPOs to integrate ten planning factors that address, among other things, safety, efficiency, connectivity, environmental stewardship, and economic vitality. Compliance with these principles is critical for regions like WAMPO to maintain eligibility for federal funding, ensuring resources are allocated to impactful projects that advance the region's mobility and quality of life.

Regional Trends

The WAMPO region is a dynamic metropolitan hub. It accounts for 19% of Kansas's Gross Domestic Product (GDP), driven by several strong economic sectors (such as aerospace, advanced manufacturing, and agriculture), residential expansion, and robust transportation networks.

Regional Growth & Connectivity

The WAMPO region is characterized by a mix of urban, suburban, and rural communities. Wichita, home to 70% of the region's population, anchors 11 suburban cities and supports significant rural areas that enhance regional connectivity. Highways, Interstates, and local roads form the backbone of this connectivity, facilitating economic trade, commuting, and social ties.

Population, Housing, & Employment Growth

Between 2010 and 2020, the WAMPO region experienced a 5.4% population increase, the cities of Maize (67.7%) and Andover (26.4%) leading the growth. Alongside population increases, the region has seen substantial housing and employment expansion. Suburban cities such as Derby, Andover, and Maize have added significant new housing developments to meet demand. Meanwhile, new and established employers have created thousands of jobs, necessitating improvements to surrounding transportation infrastructure.

Educational institutions like Wichita State University contribute to workforce development and innovation, attracting talent and driving economic growth.

Table ES.1: WAMPO Region Population Change, 2010-2020

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

Map ES.2: WAMPO Region Population Density

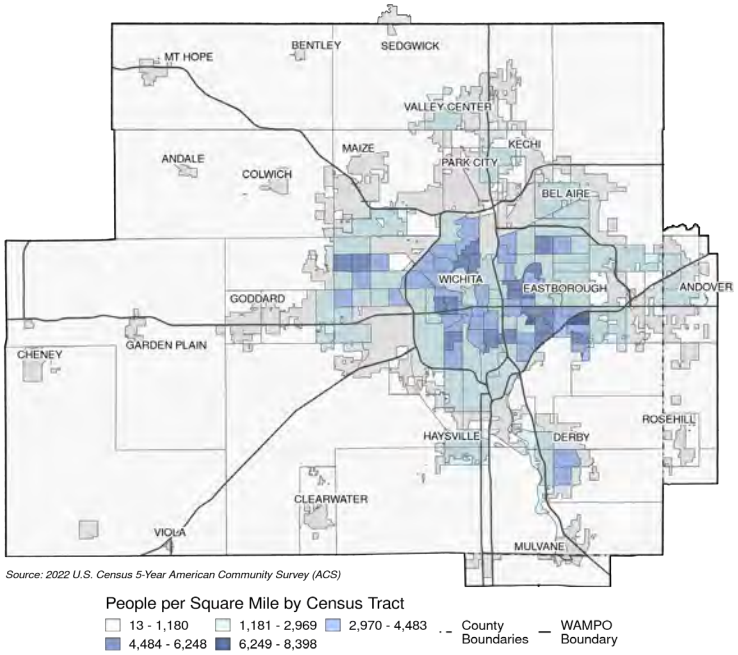


Table ES.2: Worker Commute Modes and Household Vehicle Availability in the WAMPO Region and Kansas, 2022

Commutes Modes and Times and Household Vehicles	WAMPO Region	State of Kansas
Means of Transportation to Work		
Car, Truck, or Van - Drive Alone	81.0%	77.8%
Car, Truck or Van - Carpooled	9.0%	8.7%
Public Transportation (excluding taxicab)	0.5%	0.4%
Walk	1.2%	2.3%
Bicycle	0.4%	0.3%
Taxicab, Motorcycle, or Other Means	1.4%	1.1%
Work from Home	6.5%	9.5%
Average Travel Time to Work	20.1 minutes	19.7 minutes
Vehicles Available per Household		
No Vehicle Available	5.7%	5.1%
One (1) Vehicle Available	31.4%	29.8%
Two (2) Vehicles Available	37.3%	38.5%
Three (3) or More Vehicles Available	25.7%	26.6%

Source: (2018 - 2022) American Community Survey (ACS) Estimates

Transportation & Multimodal Investments

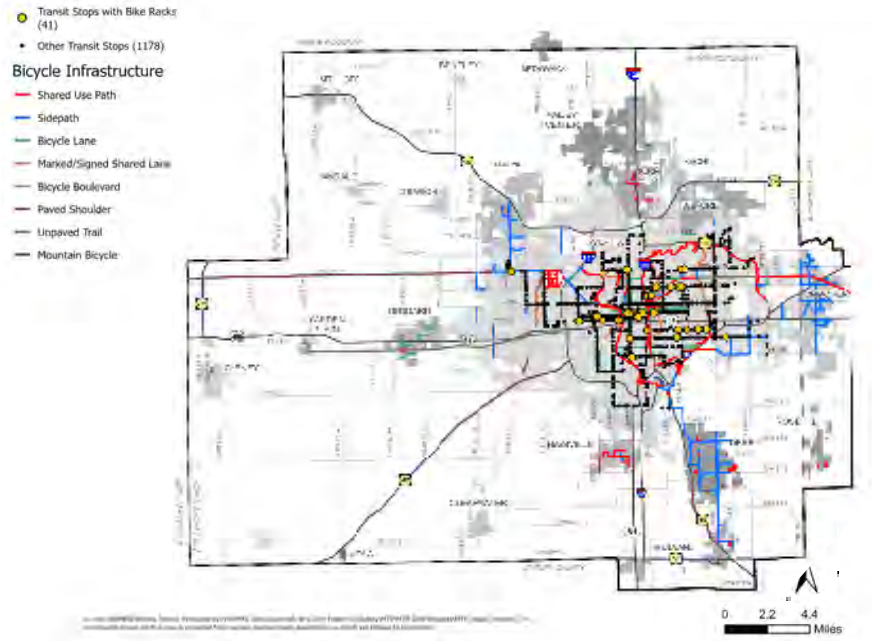
Population and employment growth have heightened the need for a comprehensive transportation system. Investments in roads, sidewalks, trails, and transit networks aim to support increased mobility, accessibility, and multimodal connectivity.

Understanding travel trends is essential for transportation planning. Table ES.2 presents commute mode shares, average travel times to work, and household vehicle availability in the WAMPO region. The average commute is 20.1 minutes, with the longest (32.9 minutes) being from home locations in a Census Tract in SW Butler County. 5.7% of households have no vehicle available and 63% have two or more available.

In 2023, Wichita Transit recorded 1.27 million trips, with 1.18 million on fixed routes. Ridership rebounded post-COVID, nearing pre-pandemic levels. Route 21 had the highest ridership (180,175 trips). Map ES.3 shows that 893 of 1,236 transit stops are within 0.5 miles of bicycle infrastructure.

Bike Share ICT and VeoRide scooters expand Wichita's mobility. Since 2017, Bike Share ICT has logged 26,000+ trips. Meanwhile, scooters aid last-mile travel but raise safety concerns.

Map ES.3: Connections Between Fixed Transit Routes and Bicycle Network



Environmental & Resource Considerations

Transportation planning in the WAMPO region emphasizes environmental sustainability and resource stewardship. Key water resources include eight watersheds, the Arkansas River, and the Ogallala Aquifer, which support the regional water supply, agriculture, and industry. The region's transportation system impacts air quality, particularly through emissions contributing to ground-level ozone.

The WAMPO region lies within the Grassland Biome ecosystem, home to a mix of native prairie grasses and wildlife. Urbanization has replaced much of this natural habitat, leading to adaptations by wildlife and protective measures under the Endangered Species Act. Critical habitats in the region include areas around the Arkansas and Ninnescah Rivers.

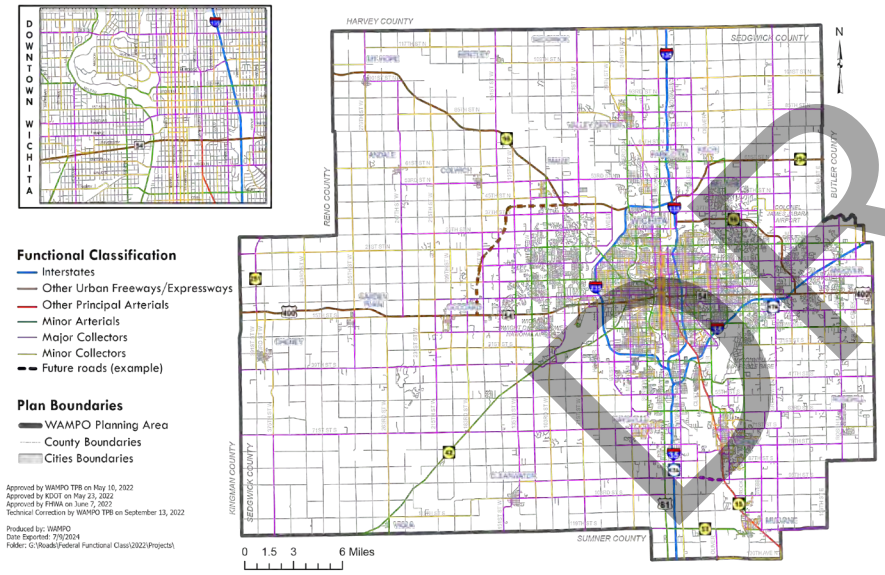
The WAMPO region faces long-standing environmental challenges, including tornadoes, ozone pollution, storm water drainage, hazardous waste, and agricultural runoff. Agricultural runoff is water that carries fertilizers, pesticides, and soil from farms into nearby waterways. Other concerns include private water systems, historical preservation, rising earthquake activity, invasive species, and climate change impacts like warmer winters and frequent droughts. Ongoing monitoring, research, and mitigation efforts address these issues.

Existing Conditions

Roadways & Bridges

The WAMPO region's nearly 4,700 miles of roadway and 1,400+ bridges form the backbone of its transportation network. Functional classifications of roadways determine funding eligibility, with major corridors like US-54 handling the highest traffic volumes. The majority of roadways within the WAMPO region are classified as local roads, just under 3,100 miles. Investments in roadway and bridge infrastructure aim to enhance safety, accommodate economic and population growth, and ensure reliable connectivity. Major roadway issues include safety, deferred maintenance, roadway upgrades, and technological updates.

Map ES.4: Federal Roadway Functional Classification



Transit & Paratransit Services

Public transit in the WAMPO region includes Wichita Transit and 24 other providers offering fixed-route and demand-response services. Challenges such as accessibility barriers, long travel times, and coordination inefficiencies present opportunities for improvement. Addressing these issues, expanding transit options, and implementing centralized mobility management can improve access for seniors, people with disabilities, low-income households, and the general population.

Bicycle & Pedestrian Travel

Walking and bicycling provide sustainable alternatives to motorized transportation, delivering health, environmental, and economic benefits. WAMPO conducts annual bicycle and pedestrian counts to monitor active transportation trends and guide infrastructure investments. These counts, based on National Bicycle and Pedestrian Documentation Project standards, highlight areas for expanding trails, sidewalks, and bike paths to improve connectivity and reduce reliance on vehicles.

Issues and opportunities related to bicycle and pedestrian travel include safety, network expansion/connection, placemaking, and data limitations. To address these issues and opportunities, WAMPO is developing a Regional Active Transportation Plan as a successor to the 2011 Regional Pathways Plan.

Figure ES.5: 2024 Top 5 Bicycle/Pedestrian Counting Locations

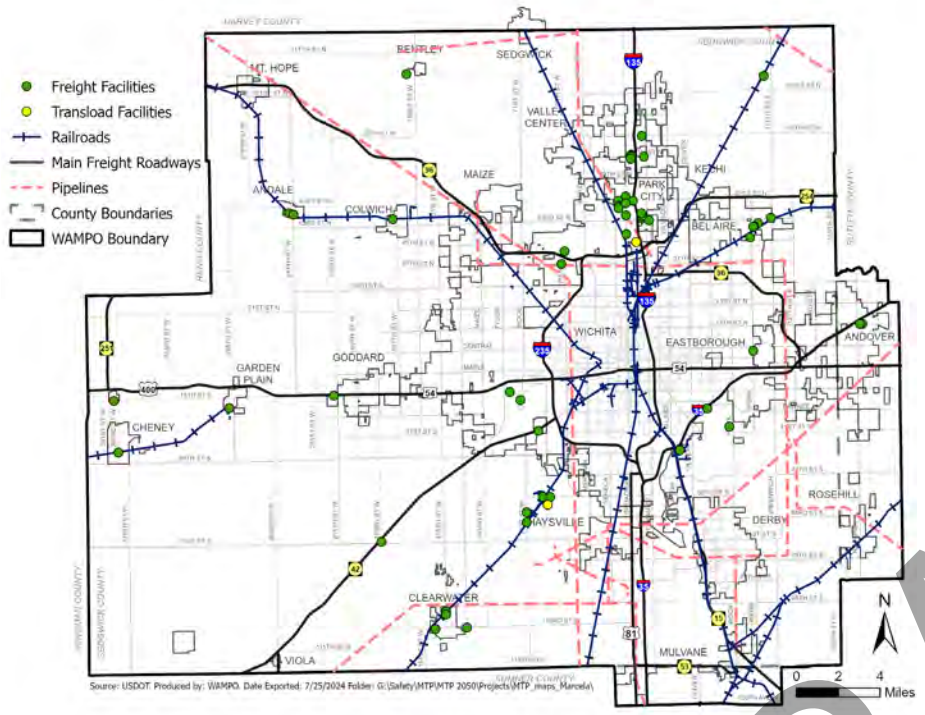
Freight

Freight transportation plays a vital role in the region's economy, with truck traffic dominating freight movement (53% by weight). Issues related to truck freight traffic in the WAMPO region include the availability of truck parking, increasing demand for "last mile" goods delivery directly to consumers' homes, and bridges that have either low clearances or low weight limits.

Railroads, including Union Pacific, BNSF, Kansas & Oklahoma, and Wichita Terminal Association, support agricultural, industrial, and consumer goods transport on 175 miles of track in the region. Rail freight issues and opportunities include outdated infrastructure that cannot carry the weight of modern train cars, addressing the 369 at-grade railroad/roadway crossings in the WAMPO region, and the evaluation by the Kansas Department of Transportation (KDOT) of the possible expansion of passenger rail service in the region, which would most likely operate on the same tracks as freight trains.

Dwight D. Eisenhower National Airport (ICT) is Kansas's largest air freight hub, accounting for 78% of the state's air cargo tonnage in 2019. Eisenhower National Airport also supports aerospace manufacturing as a place from which completed aircraft can take off under their own power for delivery to customers. There is an identified need to increase commercial air service in the region.

Map ES.5: Freight Facilities and Infrastructure in the WAMPO Region



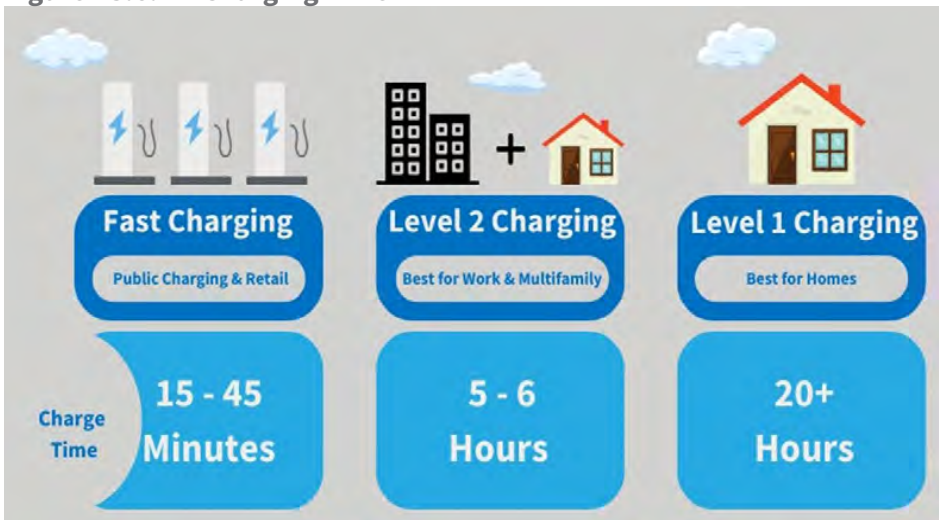
Electric Vehicles (EVs)

The WAMPO Electric Vehicle Network Plan supports the region's transition to sustainable transportation through expanded EV infrastructure, education, and collaboration. The plan aligns with national initiatives like the National Electric Vehicle Infrastructure (NEVI) program to close infrastructure gaps, promote EV adoption, and reduce greenhouse gas emissions.

The plan focuses on expanding public charging infrastructure, including Level 2 and Direct Current Fast Charging (DCFC) stations, to meet the increasing demand for EVs in the region. It emphasizes collaboration with municipalities, private industry, and environmental stakeholders to accelerate EV adoption and address infrastructure gaps. Additionally, the plan prioritizes education and awareness to highlight the benefits of EVs, such as reduced emissions, lower fuel costs, and improved public health, ensuring a smoother transition to sustainable transportation and fostering economic and environmental resilience.

As of 2023, the WAMPO region had 32 public charging stations and over 1,000 registered EVs, with plans to expand infrastructure to support future growth.

Figure ES.6: EV Charging Time



System Management

System management focuses on keeping transportation networks operating smoothly, safely, and efficiently. It encompasses the ongoing maintenance of infrastructure, the integration of advanced technologies, and the implementation of strategies to manage demand, safety, congestion, and resilience. Together, these efforts ensure that transportation systems remain reliable and adaptable to future challenges. Effective system management involves various components, including:

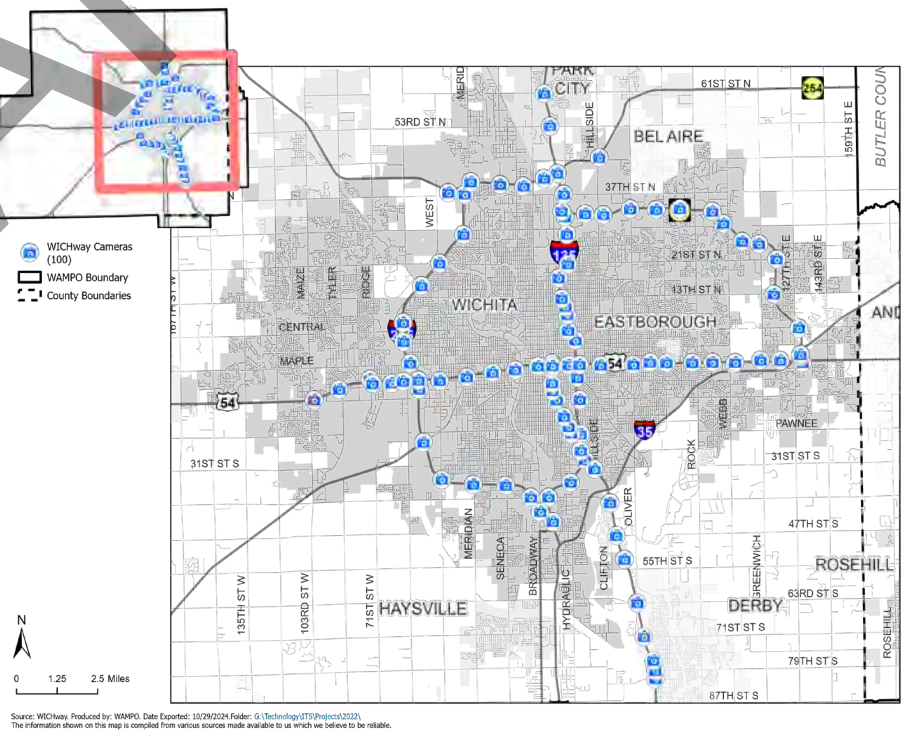
Existing Maintenance Needs & Programs

Addressing deteriorating infrastructure is critical to system reliability. In 2023, 1.6% of the region's bridge deck area was in poor condition, requiring repairs or replacements. Meanwhile, 0.6% of National Highway System (NHS) lane miles were in poor condition. The region also manages over 2,100 miles of sidewalks and bikeways, emphasizing the importance of maintaining accessible nonmotorized infrastructure. Transit assets, including vehicles and facilities, also require maintenance. Infrastructure and asset maintenance and replacement projects may receive funding from several federal programs, such as the Surface Transportation Block Grant Program, the Bridge Investment Program, the Transportation Alternatives Program, and the FTA 5339 (Grants for Buses and Bus Facilities) and FTA 5307 (Urbanized Area Formula Grants) programs, and from state programs, such as the Kansas Local Bridge Improvement Program.

Intelligent Transportation Systems (ITS)

ITS technologies, such as adaptive traffic signals, dynamic message signs, and real-time traffic cameras/sensors, optimize network performance and enhance safety. The WICHway ITS network in the Wichita region, which is owned and operated by KDOT, in cooperation with local partners, uses cameras, traffic sensors, and dynamic message signs to manage traffic conditions effectively. ITS plays a key role in regional transportation planning, improving safety and congestion management. To improve coordination, WAMPO maintains a Regional ITS Architecture.

Map ES.6: WICHway Camera Network



Source: WICHway. Produced by: WAMPO. Date Exported: 10/29/2024 Folder: G:\Technology\ITS\Projects\2022\.
The information shown on this map is compiled from various sources made available to us which we believe to be reliable.

Map ES.7: WICHway Dynamic Messaging Signs

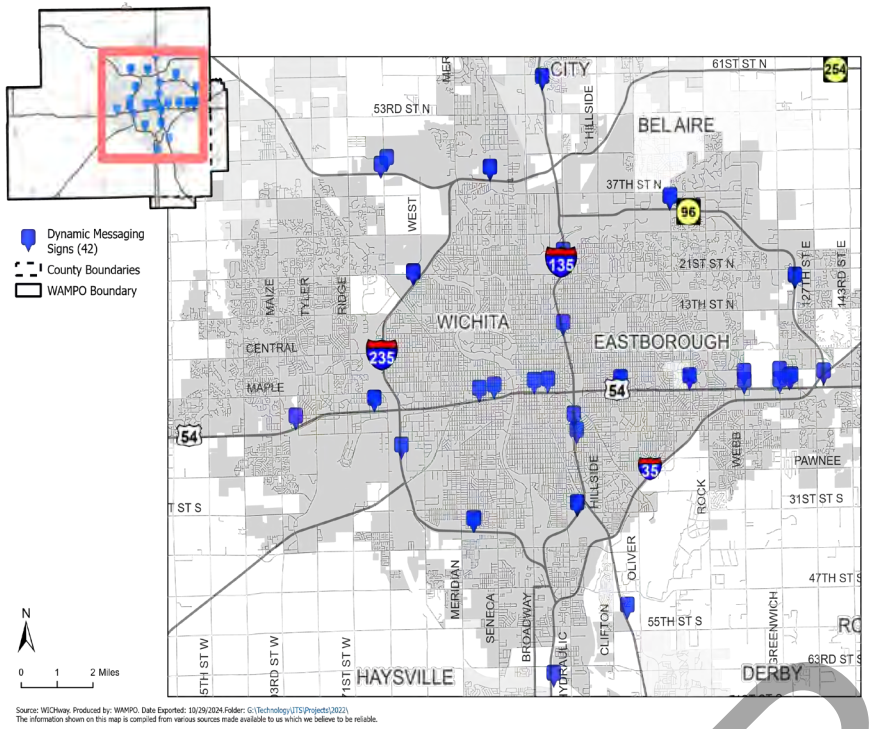


Figure ES.7: Safe System Approach

Transportation Safety

Both WAMPO and KDOT have adopted and guide their safety efforts using the USDOT's Safe System Approach, emphasizing proactive measures to prevent fatalities and serious injuries from crashes. WAMPO's Comprehensive Safety Action Plan (CSAP) identifies key emphasis areas – intersections, speed, and vulnerable road users – and identifies behavioral and engineering solutions to transportation safety problems. Meanwhile, WAMPO also supports the development of Safe Routes to School (SRTS) plans in the region, focused on the safety of students walking or bicycling to and from K-12 schools. ICT Safe: A Regional Transportation Coalition leads WAMPO-region efforts to implement roadway safety strategies, aiming to eventually reach a rate of zero crash fatalities and serious injuries.

Congestion Management & Transportation Demand Management

As is federally required for urbanized areas with populations greater than 200,000, WAMPO has an adopted Congestion Management Process (CMP), which provides a strategic framework for systematically assessing congestion mitigation efforts. It establishes a structure for monitoring the effectiveness of interventions and supports the development of future strategies. This process includes a comprehensive analysis of traffic flow, roadway capacity, and transit performance to specifically evaluate how well current measures reduce traffic congestion and improve travel efficiency. Congestion management strategies may include demand management,

infrastructure improvements, and traffic flow optimization, with interventions such as signal optimization, public transit enhancements, or roadway expansions.

Transportation demand management optimizes the use of existing infrastructure through strategies such as improved transit options, non-peak work shifts, and land-use planning. These efforts reduce traffic congestion and promote sustainable travel.

Security & System Resilience

Resilience planning addresses risks from natural disasters, climate change, and extreme weather. Initiatives include flood mitigation, hazardous material management, and emergency preparedness. Regional efforts align with the federal Infrastructure Investment and Jobs Act (IIJA) and emphasize sustainability to enhance environmental, social, economic, and financial outcomes.

System Performance Report

A performance-based planning process involves setting goals and tracking relevant data to guide future planning decisions. To support this, the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) jointly issued a Planning Rule establishing performance measures for roadway safety (PM1), pavement and bridge condition (PM2), system performance and freight movement (PM3), transit asset management (TAM), and transit safety. MPOs must either set their own targets or support those of their respective state DOTs. In 2024, the WAMPO Transportation Policy Body (TPB) chose to support KDOT's targets for PM1, PM2, PM3, and TAM. WAMPO reflects its support through project evaluation criteria that help prioritize federal funding for regional transportation projects.

PM1: Safety

The values in Table ES.3 are the PM1 regional safety-measures data that have become available since WAMPO's last MTP (*REIMAGINED* MOVE 2040) was adopted in 2020. The table shows the recent trends of the five-year rolling averages of fatal and serious-injury crash statistics available for public roads within the WAMPO region.

Table ES.3: PM1 - Five Year Rolling Average Safety Measures

	2019	2020	2021	2022	2023
WAMPO Region					
Number: Fatalities	60	63	65	68	64
Rate: Fatalities / 100 MVMT	1.32	1.38	1.42	1.47	1.38
Number: Serious Injuries	165	191	221	258	299
Rate: Serious Injuries / 100 MVMT	3.64	4.19	4.81	5.59	6.46
Number: Nonmotorized Fatalities & Serious Injuries	32	33	35	40	47

Sources: WAMPO measures from KDOT as reported by local law enforcement agencies
MVMT= Millions of Vehicle Miles Traveled

To address the rise in serious injuries and reduce fatal crashes, WAMPO uses safety as a criterion when evaluating projects for its

project-selection processes. This approach enhances regional safety and supports KDOT's PM1 targets, which call for reducing annual fatalities and serious injuries (FHWA Kansas performance measure dashboard, retrieved on 12/13/2024).

PM2: Pavement & Bridge Condition

PM2 focuses on evaluating the condition of pavement and bridges of the National Highway System (NHS). Pavement condition is rated as Good, Fair, or Poor based on metrics such as roughness and rutting, while bridge condition is assessed using the deck area and ratings of structural components. These performance measures examine the total percent of bridge and pavement in poor or good condition. Table ES.4 shows the PM2 data that have become available since WAMPO's last MTP.

Table ES.4: PM2 - Pavement & Bridge Condition Measures

WAMPO Region	2019	2020	2021	2022	2023
Interstate Pavement: **Good** Condition	58.8%	59.6%	46.1%	46.0%	60.2%
Interstate Pavement: **Poor** Condition	0.4%	0.8%	0.5%	1.0%	0.5%
Non-Interstate NHS Pavement: **Good** Condition	48.3%	44.4%	33.7%	41.0%	39.3%
Non-Interstate NHS Pavement: **Poor** Condition	1.6%	1.8%	1.9%	1.0%	0.5%
NHS **Bridge Deck: Good** Condition	53.3%	59.8%	59.2%	58.5%	58.3%
NHS **Bridge Deck: Poor** Condition	0.9%	0.0%	0.0%	0.0%	0.0%

Sources: KDOT HPMS system, National Bridge Inventory

The WAMPO region and the state rely on well-maintained NHS roads. To support this, WAMPO includes infrastructure condition as a criterion in project evaluation to help inform federal funding prioritization. This supports KDOT in achieving its 2025 PM2 targets. KDOT's targets include keeping Interstate pavement in poor condition below 0.4% and non-Interstate NHS pavement in poor condition below 1.7%, as well as ensuring NHS bridge deck in poor condition does not exceed 3% (FHWA Kansas performance measure dashboard, retrieved on 12/13/2024).

PM3: System Performance

System performance measures how reliably people and freight can travel without unexpected delays on the NHS. It includes metrics for passenger (% of person-miles that are reliable) and freight travel (Truck Travel Time Reliability Index (TTTR index)) travel. An increasing percentage of reliable person-miles suggest less frequent travel delays, while a decreasing TTTR index indicates the same for freight traffic. Table ES.5 shows the PM3 data that have become available since WAMPO's last MTP.

Table ES.5: PM3 - System Performance Measures

WAMPO Region	2019	2020	2021	2022	2023
% of person-miles on Interstates that are reliable	99.0%	100.0%	98.0%	99.0%	100.0%
% of person-miles on non-Interstate NHS that are reliable	99.0%	100.0%	97.0%	99.7%	99.0%
Truck Travel Time Reliability Index	1.21	1.19	1.18	1.17	1.17

Sources: NPMRDS INRIX (2019-2023)

The region's travel time reliability has remained high, with some years showing 100% of person-miles on the NHS as reliable. In addition, the past 4 years have shown a decline in the TTTR index, indicating increasing travel-time reliability for freight traffic. To support continued reliability, WAMPO includes congestion criteria in its project evaluation process, which informs federal funding prioritization. This also supports the state's 2025 targets, aiming for over 99% reliable person-miles on Interstates, over 98% on non-Interstate NHS routes, and a TTTR index below 1.1 (FHWA Kansas performance measure dashboard, retrieved on 12/13/2024).

Transit Asset Management (TAM)

KDOT has established annual targets for maintaining transit assets, including vehicles and facilities, to ensure they remain in good repair. WAMPO supported these targets in 2024, which are sourced from KDOT's 2022 TAM plan.

Regional Performance Measures

Regional performance measures are intended to monitor and evaluate aspects of transportation that are uniquely important to a particular metropolitan area. While not federally required, these measures complement the required federal performance measures. Recognizing their potential, WAMPO has chosen to incorporate the following regional measures into the MTP.

- Commuter Mode Shares
- Average Travel Time to Work
- Greenhouse Gas (GHG) Emissions
- Sidewalk/Multiuse Path Network Length

Commuter Mode Shares

Regional commuter mode shares examine what form of transportation people take when traveling to work. For the Wichita Metropolitan Statistical Area (MSA) The most notable recent change occurred in those who reported they work from home. This can be seen in Figure ES.7. 2020 data are missing due to challenges in US-Census-Bureau data collection during the COVID-19 pandemic.

Figure ES.8: Wichita MSA percent share of commuters working from home

Source: US Census 1-Year American Community Survey (ACS)

Average Travel Time to Work

Estimates for the average travel time to work are developed by the US Census Bureau and reported for the Wichita MSA. Other than 2017, when the average estimated travel time to work was 19.2 minutes, from 2016 to 2023, the estimate only varied from 20.1 to 20.6 minutes. Despite the regional average showing little change over that period, significant local variation exists. For example, the 2023 estimate for average travel time to work for the city of Eastborough was 15.2 minutes, while for the city of Mount Hope it was 28.7 minutes (US-Census Bureau 5-Year (2019 - 2023) American Community Survey (ACS) Estimates).

Greenhouse Gas (GHG) Emissions

The National Emissions Inventory (NEI) reports greenhouse gas (GHG) emissions every 3 years for US counties. In 2023, NEI released the emission data for 2020, which was sorted to examine the impact of mobile sources of GHG (cars, trucks, etc.). Sedgwick County showed a significant decline in emissions from 2017 to 2020, while Butler and Sumner Counties were reported to have modest increases over the same period.

Sidewalk/Multiuse Path Network Length

In 2022, WAMPO staff reviewed satellite imagery to assess sidewalk and multiuse path coverage. The analysis identified and mapped 2,164 miles of sidewalk and multiuse paths. In the future, for the benefit of regional planning, WAMPO intends to maintain and update this mapped network on a routine schedule.

Financial Plan

Federal regulations require a Metropolitan Transportation Plan to include a financial plan and be fiscally constrained, meaning the financial plan must demonstrate that the anticipated costs of the planned projects plus the anticipated costs to adequately maintain and operate the system do not exceed anticipated revenues.

In addition to ensuring that MTP 2050, overall, is fiscally constrained, WAMPO has also determined it to be fiscally constrained in terms of the transportation-related revenues and expenditures of each of three categories of public agencies: the Kansas Department of Transportation (KDOT); public transit agencies; and local governments, excluding public transit.

Besides ensuring that MTP 2050 is fiscally constrained for the overall planning horizon (2025-2050), WAMPO also determined it to be fiscally constrained in terms of revenues and expenditures during each of three (3) shorter time bands: 2025-2028, 2029-2038, and 2039-2050.

After operations and maintenance (O&M) costs and project costs are subtracted from projected revenues, there is a remaining balance of approximately $8.07 billion across all agency types for 2025-2050. In accordance with federal regulations, all monetary amounts are expressed in Year of Expenditure (YOE) dollars.

Table ES.6: WAMPO MTP 2050 Fiscal-Constraint Analysis Summary

KDOT

	2025-2028	2029-2038	2039-2050	2025-2050
Federal Revenue	$331,523,960	$850,731,154	$1,139,167,302	$2,321,422,416
State Revenue	$978,443,757	$2,623,631,571	$3,513,160,748	$7,115,236,077
Total Revenue	**$1,309,967,717**	**$3,474,362,726**	**$4,652,328,050**	**$9,436,658,493**
O&M Costs	$14,442,473	$49,469,230	$96,679,009	$160,590,713
Available for Projects	**$1,295,525,244**	**$3,424,893,495**	**$4,555,649,041**	**$9,276,067,780**
Project Costs	***$1,295,525,244***	***$50,000,000***	***$0***	***$1,345,525,244***
Balance	**$0**	**$3,374,893,495**	**$4,555,649,041**	**$7,930,542,536**

Public Transit

	2025-2028	2029-2038	2039-2050	2025-2050
Federal Revenue	$42,245,924	$111,646,459	$149,499,633	$303,392,016
State Revenue	$6,278,948	$16,835,538	$22,543,543	$45,658,029
Local Revenue	$16,257,004	$43,589,373	$58,368,132	$118,214,509
Other Revenue (e.g., fares, advertising)	$7,619,728	$20,430,526	$27,357,394	$55,407,648
Total Revenue	**$72,401,604**	**$192,501,896**	**$257,768,702**	**$522,672,201**
O&M Costs	$58,000,000	$164,211,213	$251,926,781	$474,137,994
Available for Projects	**$14,401,604**	**$28,290,682**	**$5,841,921**	**$48,534,207**
Project Costs	***$7,413,451***	***$28,290,682***	***$5,841,921***	***$41,546,054***
Balance	**$6,988,153**	**$0**	**$0**	**$6,988,153**

Local Governments (Excluding Public Transit)

	2025-2028	2029-2038	2039-2050	2025-2050
Federal Revenue	$65,933,073	$182,615,992	$244,531,032	$493,080,097
State Revenue	$105,735,261	$283,504,495	$379,625,278	$768,865,034
Local Revenue	$480,745,737	$1,133,631,196	$1,594,141,414	$3,208,518,346
Total Revenue	**$652,414,071**	**$1,599,751,683**	**$2,218,297,723**	**$4,470,463,477**
O&M Costs	$264,093,221	$913,434,304	$1,776,531,319	$2,954,058,843
Available for Projects	**$388,320,850**	**$686,317,379**	**$441,766,405**	**$1,516,404,634**
Project Costs	***$263,424,162***	***$681,453,840***	***$438,411,153***	***$1,383,289,155***
Balance	**$124,896,688**	**$4,863,539**	**$3,355,252**	**$133,115,479**

KDOT+Public Transit+Local Governments

	2025-2028	2029-2038	2039-2050	2025-2050
Federal Revenue	$439,702,957	$1,144,993,606	$1,533,197,967	$3,117,894,530
State Revenue	$1,090,457,966	$2,923,971,604	$3,915,329,568	$7,929,759,139
Local Revenue	$497,002,741	$1,177,220,569	$1,652,509,546	$3,326,732,855
Other Revenue (e.g., fares, advertising)	$7,619,728	$20,430,526	$27,357,394	$55,407,648
Total Revenue	**$2,034,783,391**	**$5,266,616,304**	**$7,128,394,475**	**$14,429,794,171**
O&M Costs	$336,535,694	$1,127,114,748	$2,125,137,109	$3,588,787,550
Available for Projects	**$1,698,247,698**	**$4,139,501,557**	**$5,003,257,366**	**$10,841,006,620**
Project Costs	***$1,566,362,857***	***$759,744,522***	***$444,253,074***	***$2,770,360,453***
Balance	**$131,884,841**	**$3,379,757,034**	**$4,559,004,293**	**$8,070,646,168**

Project Selection & List

Project Selection Process

From September 15, 2023, through February 2, 2024, WAMPO held a combined Call for Projects for MTP 2050 and the Federal Fiscal Year (FFY) 2025-2028 Transportation Improvement Program (TIP). During the Call for Projects, WAMPO member jurisdictions and planning partners were invited to submit applications for near-term projects (for the TIP) and long-term projects (for the MTP) to potentially be prioritized for funding.

WAMPO staff and the consulting firm PEC scored and ranked the submitted projects, in accordance with the evaluation criteria adopted by the WAMPO TPB on October 12, 2021. On October 3, 2024, the WAMPO Project Selection Committee (PSC) convened to recommend MTP 2050 priority transportation projects for the time bands of 2025-2028, 2029-2038, and 2039-2050. The PSC made its recommendations in consideration of projected transportation revenues and operations & maintenance costs, in order to ensure that MTP 2050 is fiscally constrained, as required by federal regulations, as well as in consideration of the projects' calculated scores and the priority rankings that a given submitter (if they submitted more than one project) applied to their own submitted projects.

On October 28, 2024, the WAMPO Technical Advisory Committee (TAC) recommended that the WAMPO TPB approve the MTP 2050 Fiscally Constrained Project List, including its assignment of projects to specific time bands, as recommended by the PSC. On November 12, 2024, the TPB voted to approve the PSC- and TAC-recommended Fiscally Constrained Project List.

Fiscally Constrained Project List

The MTP 2050 Fiscally Constrained Project List includes one hundred forty-seven (147) regional transportation projects, representing approximately $2.77 billion in investment in the region's transportation system, under a fiscally constrained scenario (i.e., the combined, estimated costs of the projects do not exceed the amount of funding projected to be available).

Most of the projects on the Fiscally Constrained Project List correspond to specific planned improvements to specific parts of the transportation system, but some are categories of projects that WAMPO and its stakeholders have deemed to be important (e.g., public transit projects, bridge projects, bicycle and pedestrian improvements, traffic flow/safety improvements, ITS projects, and regional studies). Projects that fit into these categories may be started if funding is available, even if they are not specifically listed in the MTP. Project categories are included in the list in recognition of the fact that some types of improvements to the transportation system are not planned as far in advance as others, meaning they would be less likely to make it into the MTP project list if they had to be listed individually.

KDOT Projects

The MTP 2050 Fiscally Constrained Project List includes seven (7) projects that were requested to be included by the Kansas Department of Transportation (KDOT), which would serve as the projects' lead agency. Six (6) of those projects are in the 2025-2028 time band and one (1) is in the 2029-2038 time band. Two (2) of the projects are classified as roadway reconstruction/modernization projects; three (3) are classified as roadway expansion projects (increasing through lanes); one (1) is a traffic-management-technology project; and one (1) is right-of-way acquisition for a new roadway.

The combined, estimated cost of these KDOT-sponsored projects is approximately $1.35 billion.

Public Transit Projects

The MTP 2050 Fiscally Constrained Project List includes six (6) public-transit projects, at a combined, estimated cost of approximately $41.6 million. These projects are all "category" projects (see above), with two (2) in each of the three-time bands (2025-2028, 2029-2038, and 2039-2050), making the same types of projects eligible for funding in every time band.

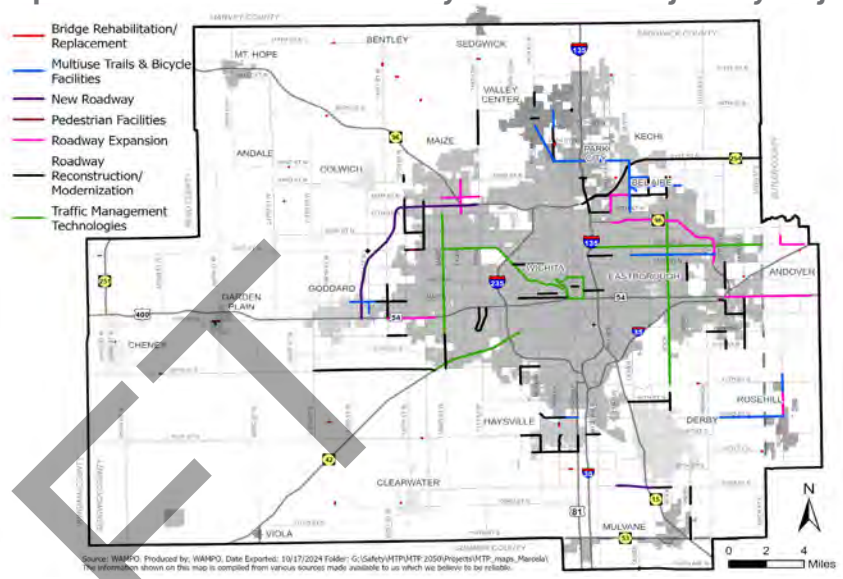
Local-Government-Sponsored, Non-Public-Transit Projects

The MTP 2050 Fiscally Constrained Project List includes one hundred and thirty-four (134) local-government-sponsored, non-public-transit projects. Sixty-three (63) of those projects are in the 2025-2028 time band, sixty-three (63) are in the 2029-2038 time band, and eight (8) are in the 2039-2050 time band; in each time band, five (5) of the listed projects are "category" projects.

Twenty-eight (28) of the projects are classified as bridge rehabilitation/replacement projects (including three (3) of the "category" projects). Sixty-seven (67) are classified as roadway reconstruction/modernization projects (including three (3) of the "category" projects). Nine (9) projects are classified as roadway expansion projects (increasing through lanes). Nine (9) projects are traffic-management-technology projects (including three (3) of the "category" projects). One (1) project is for a new roadway. Eleven (11) projects are for multiuse trails and bicycle facilities. Three (3) projects are for pedestrian facilities. Three (3) of the "category" projects are for either multiuse trails and bicycle facilities or pedestrian facilities. Another three (3) of the "category" projects are for planning studies.

The combined, estimated cost of these local-government-sponsored, non-public-transit projects is approximately $1.38 billion.

Map ES.8: WAMPO MTP 2050 Fiscally Constrained Projects by Project Type



Environmental Assessment

Assessing potential environmental impacts associated with the transportation system as a whole and with MTP 2050 is the first step in the overall project-planning and development process. This assessment is the first opportunity for potential environmental impacts associated with any particular project to be considered, as well as any mitigation activities.

The WAMPO region is a midwestern metropolitan area surrounded by rural lands in agricultural production and faces similar environmental issues as neighboring metropolitan areas—agricultural chemical runoff concerns, invasive species, habitat disruption, and stormwater drainage. Suburban and rural land development are predominant in the region. The transportation system was built, and is currently maintained, to support those development forms. The transportation system contributes to many environmental issues faced by the region, including ground-level ozone, overland flooding, and habitat disruption. Many ongoing regulatory processes are in place to monitor and mitigate these issues. As the projects on the MTP 2050 Fiscally Constrained Project List move forward, existing regulatory processes will ensure appropriate mitigation activities are implemented to ensure compliance with local, state, and federal environmental laws.

MTP 2050

Chapter 1

Plan Purpose & Development

MTP 1.1

Federal regulations play a pivotal role in shaping the transportation planning landscape, including through mandates imposed on Metropolitan Planning Organizations (MPOs). MPOs are entities designated by the federal government to lead collaborative transportation planning efforts in and around urbanized areas with populations of 50,000 or more. These organizations are tasked with developing and maintaining a Metropolitan Transportation Plan (MTP), a critical document that serves as a blueprint for the region's transportation system.

The MTP, as mandated by federal regulations, must encompass both long-range and short-range strategies. These strategies are designed to foster the creation of an integrated and multimodal transportation system. The ultimate goal is to ensure the safe and efficient movement of people and goods, addressing both present and anticipated transportation demands over a planning horizon of at least 20 years. This forward-looking approach helps anticipate and accommodate the evolving needs of a growing metropolitan area.

In addition to its temporal scope, an MTP is required to adhere to specific principles, promoting a continuing, cooperative, and comprehensive multimodal transportation planning process. This involves ongoing collaboration among various stakeholders, including local governments, transportation agencies, transit operators, and the public. The cooperative nature of the planning process ensures that a wide variety of perspectives and needs are considered, fostering a more comprehensive, responsive, and effective transportation strategy.

Federal regulations mandate that the MTP must take a holistic approach, considering a broad spectrum of issues crucial to the transportation system's development. These include the intricate interplay between transportation and land use, employment, economic development, the natural environment, and housing and community development. By addressing these multifaceted aspects, the MTP aims to create a transportation framework that not only facilitates mobility but also contributes to the overall well-being and sustainability of the metropolitan area.

Compliance with these federal regulations is essential not only for the sake of regulatory adherence but also for eligibility to receive federal transportation funding. MPOs must align their planning processes with these requirements to secure the necessary resources for implementing the envisioned transportation projects. In this way, federal regulations act as a catalyst for the development of comprehensive, forward-thinking, and public-involving Metropolitan Transportation Plans, ensuring that metropolitan areas are equipped to handle the challenges and opportunities presented by evolving transportation needs and urban growth.

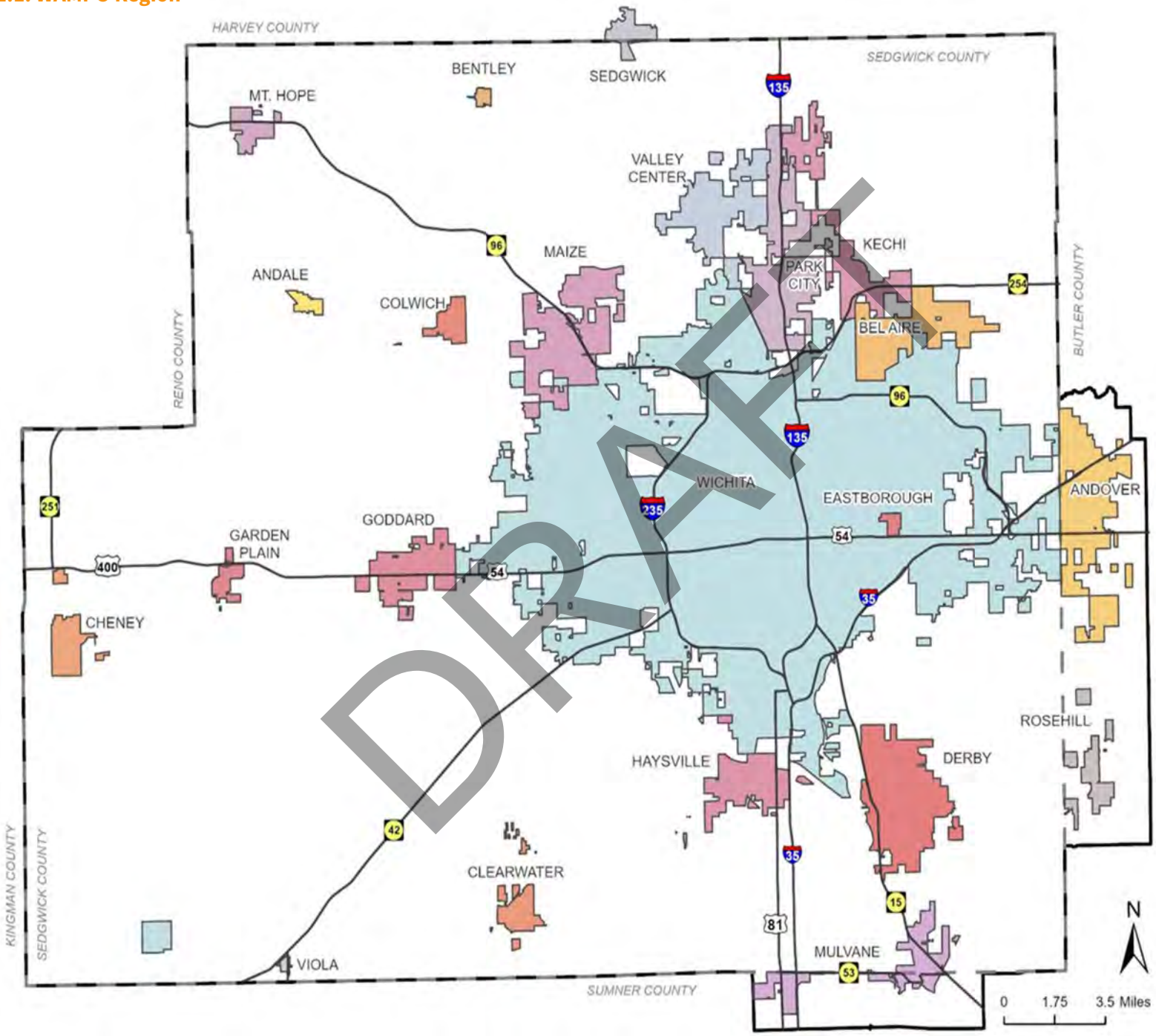
Introduction

The Wichita Area Metropolitan Transportation Planning Organization (WAMPO) serves as a vital entity overseeing metropolitan transportation planning across a substantial expanse, encompassing 22 cities and three counties in South Central Kansas, with a population of 547,230, as of the 2020 Decennial Census. In close cooperation with the State of Kansas and transit providers within the WAMPO region, the organization is tasked with orchestrating a comprehensive planning process. Under the guidance of the 24-member Transportation Policy Body (TPB), WAMPO provides a collaborative platform that brings together local governments, state authorities, federal agencies, and the public in the Wichita metropolitan area. This cooperative approach ensures a holistic and well-coordinated transportation strategy that addresses the unique challenges and opportunities inherent in the complex urban landscape.

Functioning as an independent agency, WAMPO's mission extends beyond mere coordination, aiming to lead the prioritization of regionally significant transportation investments. These investments span a spectrum of infrastructure, including roads, highways, transit systems, railways, Intelligent Transportation Systems (ITS), and facilities catering to bicyclists and pedestrians. By engaging member communities and fostering partnerships with state and federal entities, WAMPO actively contributes to the realization of the region's economic and transportation goals. Through its strategic initiatives and coordination efforts, WAMPO plays a pivotal role in shaping a resilient and integrated transportation network that not only addresses the immediate needs of the Wichita metropolitan area but also aligns with the long-term vision for sustainable growth and development.

WAMPO annually awards $10-$15 million in suballocated funding to carefully selected transportation projects. The strategic approach involves rigorous evaluation, considering regional needs and community impact. WAMPO's commitment goes beyond mere fund distribution; it aims to optimize resources for projects that enhance the overall transportation network. Through transparent decision-making and collaboration with stakeholders, WAMPO prioritizes projects aligned with long-term sustainability, economic growth, and improved quality of life for the community. WAMPO's role is pivotal in fostering a resilient and interconnected transportation system.

Map 1.1.1: WAMPO Region



What is an MPO?

Metropolitan Planning Organizations (MPOs) are part of a federally required process to conduct local transportation planning in urbanized areas. An MPO is federally required and designated to represent urbanized areas with populations over 50,000, as determined by the U.S. Census Bureau. The creation of an MPO involves a meticulous process where designation is secured through an agreement between the governor and local governments. This agreement necessitates representation from local entities that collectively account for at least 75 percent of the affected population, and includes the most populous incorporated city. Alternatively, the designation process may adhere to procedures established by applicable state or local law.

The Federal-Aid Highway Act of 1962 stands as a pivotal milestone, embedding the foundational principles that guide MPOs in their planning endeavors. This landmark legislation introduced a conditionality clause for federal funding assistance, mandating that transportation projects, initiatives, and strategies be crafted within the framework of a continuing, comprehensive, and cooperative planning process—commonly referred to as the 3 Cs.

Continuing: The requirement for continuity underscores the need for a sustained and ongoing commitment to the planning process. This ensures that transportation plans evolve in tandem with the dynamic needs of urbanized areas over time. The continuous engagement of MPOs in the planning process allows for adaptability and responsiveness to changing demographics, economic trends, and technological advancements.

Comprehensive: The comprehensive nature of the planning process necessitates a thorough examination of all facets related to transportation. MPOs are tasked with considering a wide array of factors, including land use patterns, economic development, environmental impact, and the fair treatment of all. This holistic approach ensures that transportation planning is not isolated but rather integrated into the broader context of urban development and well-being.

Cooperative: Collaboration lies at the heart of the cooperative aspect of the 3 Cs. MPOs must engage in a collaborative effort, bringing together various stakeholders such as local governments, transit agencies, community groups, and the public. This cooperative planning process seeks input from a wide variety of perspectives, fostering consensus and ensuring that transportation plans reflect the collective needs and aspirations of the community.

By adhering to the principles of the 3 Cs, MPOs contribute to the development of transportation plans that are not only federally compliant but are also dynamic, engaging of all segments of society, and responsive to the complex challenges faced by urbanized areas. This framework ensures that transportation investments align with the broader goals of sustainable development, efficient mobility, and enhanced quality of life for the residents within the designated metropolitan areas.

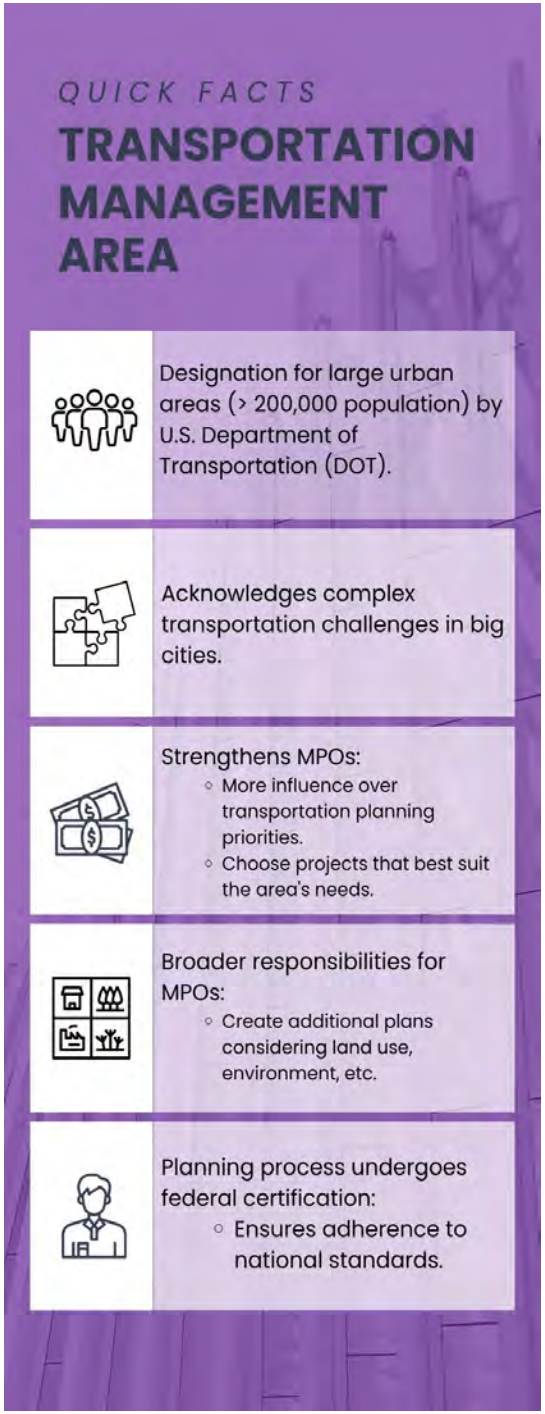
What is a TMA?

Large urban areas with populations exceeding 200,000 are designated as Transportation Management Areas (TMAs) by the U.S. Department of Transportation. This designation acknowledges the complex transportation challenges faced by these densely populated regions.

TMAs come with a more prominent role for Metropolitan Planning Organizations (MPOs). Unlike their counterparts in smaller areas, MPOs within TMAs have greater influence in shaping transportation plans. They have a stronger voice in choosing projects that best address the specific needs of the area.

The responsibilities of MPOs in TMAs are also broader. In addition to their usual duties, they must create additional planning documents that consider factors like land use, economic development, and environmental sustainability. These plans take a comprehensive approach to transportation within the TMA.

The planning processes undertaken by MPOs in TMAs are subject to rigorous certification by the Department of Transportation. This ensures adherence to federal standards and promotes consistency in transportation planning across large urban areas. Overall, TMAs recognize the unique challenges of big cities and empower local authorities with stronger planning capabilities, all under the watchful eye of federal oversight.



What is an MTP?

The Metropolitan Transportation Plan (MTP) serves as a critical guidebook for shaping the future of transportation in a metropolitan area. Looking at least twenty years into the future, this comprehensive document outlines a vision for a more efficient and sustainable way to move people and goods. Encompassing various modes of transportation – from roads and public transit to biking and walking – MTPs strive to create a variegated and well-connected network that caters to the specific needs of the region.

But MTPs go beyond simply outlining a dream transportation landscape. They are grounded in fiscal responsibility, prioritizing projects that can be realistically implemented within the constraints of available funding. The plan doesn't just propose projects; it also details how the metropolitan area intends to finance and maintain the entire transportation system over the long term. This financial transparency, achieved by including detailed information on funding sources and allocations for each project, assures stakeholders, like federal and state authorities, that the proposed improvements are achievable and won't become a financial burden. Ultimately, MTPs bridge the gap between ambitious goals and practical realities, ensuring a well-funded and sustainable transportation network that propels the metropolitan area towards a brighter future.

QUICK FACTS

METROPOLITAN TRANSPORTAION PLAN

Blueprint for Transportation: An MTP guides development and improvement of a metro area's transportation system for 20+ years into the future.

Multimodal Focus: It considers roads, public transit, biking, walking, etc. for a variegated and efficient network.

Aligned with Goals: The MTP considers economic, transportation, and development goals to create a cohesive system.

Fiscally Responsible: MTPs prioritize projects that are financially viable within available resources.

Financial Transparency: MTPs include funding sources and allocations for each project, demonstrating fiscal responsibility.

Sustainable Investment: Financial information ensures projects can be maintained long-term, protecting transportation infrastructure investments.

Credit: City of Bel Aire

1.2 Planning Process & Approach

Metropolitan transportation planning isn't a one-person show. Led by the MPO, it involves a collaborative effort with businesses, community groups, environmental advocates, and the public. Proactive public participation is key, ensuring everyone has a say, especially those who haven't been well-served by the system in the past. Skipping this step can lead to solutions that miss the mark, delays, lawsuits, and ultimately, a broken-down relationship between the public and the transportation system.

Federal Planning Factors

The U.S. Department of Transportation (USDOT) defined ten planning factors that all MTPs must consider and address; these factors signify the federal government's interest and desired outcomes for the metropolitan planning process (23 CFR 450.306(b)). The degree of consideration and analysis of the federal factors should be based on the scale and complexity of the transportation system, land use, employment, economic development, human and natural environment, and community development within the MPO planning area.

Figure 1.2.1: Federal Planning Factors

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.
- Increase the safety of the transportation system for motorized and non-motorized users.
- Increase the security of the transportation system for motorized and non-motorized users.
- Increase accessibility and mobility of people and freight.
- Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements state and local planned growth, and economic development patterns.
- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.
- Promote efficient system management and operation.
- Emphasize preservation of the existing transportation system.
- Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation.
- Enhance travel and tourism.

The Planning Process

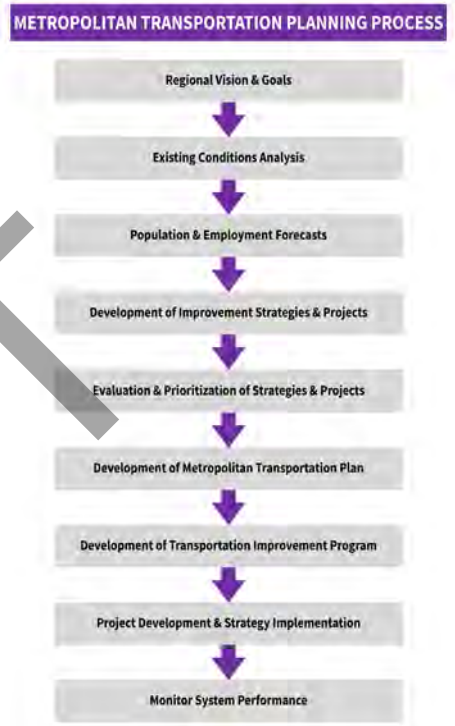
The Metropolitan Transportation Plan (MTP) is a constantly evolving document, updated every 5 years. This ensures the plan reflects changing needs and resources within a metropolitan area.

Developing an MTP involves several key steps. First, planners define goals and consider future population growth to identify upcoming transportation demands. Projects are then prioritized based on affordability and community impact.

Public input is crucial throughout the process. Planners actively seek feedback and share updates with stakeholders to build trust and transparency.

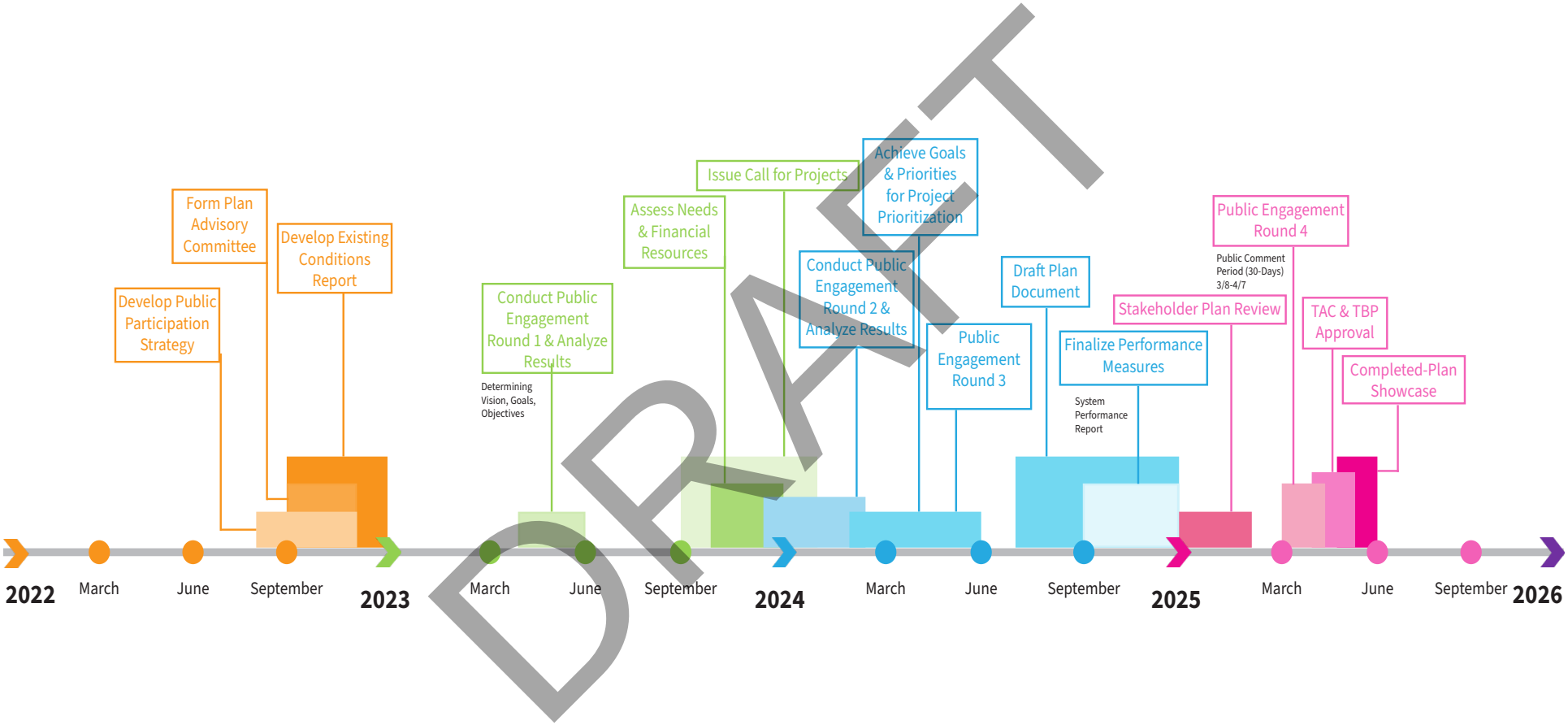
The MTP development process can be broken down into three phases. In the first phase, the MPO drafts the document, setting goals and creating a preliminary project list. The second phase focuses on identifying needs through data analysis and public engagement. The third phase establishes baseline conditions, like traffic patterns and demographics, to inform the final MTP. Finally, the final project list is selected.

Figure 1.2.2: MTP Planning Process



Credit: City of Bel Aire

Figure 1.2.3: WAMPO MTP 2050 Timeline



Plan Coordination

The MTP 2050 incorporates existing planning efforts in the WAMPO area. This includes modal-specific plans, such as transit, bicycle and pedestrian, freight, and safety plans.

TRANSIT PLANS & STUDIES

Since 2010, several studies and reports have been produced to support the regional transit system.

- **Wichita Regional Transit Plan (City of Wichita, 2010):** Prepared by University of Kansas urban planning graduate students, this plan evaluated the existing regional transit system, identified major strengths and weaknesses, and presented a series of recommended improvements based upon a comprehensive vision for the system.
  https://www.wichita.gov/1476/Transit-Access-Plan

- **Wichita Transit Sustainability Plan (City of Wichita, 2016):** Rising transit expenditures paired with flat revenues placed financial burdens on the regional transit system. This plan describes a set of strategies and priorities for the City of Wichita to consider ensuring a more financially sustainable model can be adopted.
  https://www.wichita.gov/DocumentCenter/View/23594/Wichita-Transit---Sustainability-Plan-PDF

- **Regional Transit Feasibility Study/Connecting Communities Plan (WAMPO, 2018):** This study assessed the current level of transit demand in the communities surrounding the City of Wichita. The Connecting Communities: Wichita Area Transit Feasibility Study concluded that residents in Derby, Haysville, and Maize support having transit in their cities.
  https://www.wampo.org/_files/ugd/bbf89d_93db0ccc27b64a3687a25ab1806de1b9.pdf

- **Coordinated Plan for Human Service Public Transit (WAMPO, 2023):** The 2018 KDOT Coordinated Plan for Human Service Public Transit updated a 2008 effort – it is focused on identifying the needs of those who most often lack access to transportation, including seniors, individuals with physical or mental disabilities, and lower-income persons. The plan was once again updated in 2023.
  https://www.wampo.org/_files/ugd/bbf89d_c6dff2437ace4f5089ddd74c46a5ae84.pdf

Credit: Visit Wichita

- **Assessment of Capacity to Meet Transportation Needs of Persons Who Experience Intellectual & Developmental Disability in Sedgwick County (Sedgwick County, 2019):** This study was commissioned by the Sedgwick County Developmental Disability Organization (SCDDO) to explore the transportation needs of residents with intellectual or developmental disabilities. The study found that these individuals face transportation challenges due to no available paratransit subscriptions, and the short evening hours of the fixed-route system do not meet the needs of these residents. https://www.sedgwickcounty.org/media/56956/executive-summary.pdf

- **Wichita Transit Network Plan (Wichita Transit, 2025):** This project will result in a detailed plan to guide Wichita Transit over the next decade. The plan will identify local and regional transportation needs, challenges, and opportunities, creates a cohesive planning effort, and prioritizes short to long-term transit investments. https://www.wichitatransitplan.com/

- **Regional Transit Implementation Plan (WAMPO, 2025):** This plan involves coordination and consensus building with transit agencies and decision-makers for the implementation of a regional transit network. Through analysis and public outreach, transit-related challenges and opportunities were uncovered – including short-, mid-, and long-term regional improvements to the transit system. www.wampo.org/regional-transit

ACTIVE TRANSPORTATION

The Metropolitan Transportation Plan (MTP) is a comprehensive framework that aims to enhance transportation systems within a metropolitan area, ensuring efficiency, accessibility, and sustainability. As urban centers continue to grow, it becomes imperative to prioritize modes of transportation that are not only efficient but also promote healthier lifestyles and minimize environmental impact. This is where active transportation comes into play.

Active transportation refers to human-powered modes of travel, such as walking, bicycling, or using nonmotorized scooters. It presents a viable alternative to traditional motorized transportation and offers numerous benefits for individuals, communities, and the environment. Integrating active transportation into the MTP can lead to a more balanced and holistic transportation system that meets the needs of residents, commuters, and visitors alike.

Benefits of Active Transportation

1. **Health and Well-Being:** Encouraging active transportation can improve public health by promoting physical activity. Regular walking or cycling as part of daily routines can help reduce the risk of chronic diseases, such as obesity, heart disease, and diabetes. Additionally, active transportation contributes to mental well-being by reducing stress levels and enhancing overall quality of life.

Credit: Google Earth

2. **Environmental Sustainability:** Active transportation produces zero tailpipe emissions, reducing air pollution and greenhouse gas emissions. By prioritizing walking and cycling infrastructure, the MTP can contribute to mitigating the effects of climate change and improve air quality in urban areas.

3. **Efficient Use of Space:** Active transportation requires less space compared to motorized transportation modes. Integrating walking and cycling infrastructure, such as sidewalks, bike lanes, and dedicated paths, enables efficient use of roadways and reduces congestion. This frees up valuable space for other transportation options, public amenities, or urban green spaces.

4. **Affordability and Accessibility:** Active transportation is a mode of travel that is accessible to people of all ages, abilities, and socioeconomic backgrounds. By focusing on universally accessible infrastructure and addressing barriers to active transportation, such as connectivity, safety, and affordability, the MTP can enhance accessibility and promote mobility for all within the metropolitan area.

5. **Economic Benefits:** Investing in active transportation infrastructure can have positive economic impacts. Pedestrian-friendly streets and vibrant cycling networks can attract visitors, enhance local business vitality, and contribute to the growth of a thriving urban economy.

To fully capitalize on the benefits of active transportation, it is crucial to integrate it seamlessly into the Metropolitan Transportation Plan. This integration can be achieved through:

1. **Infrastructure Development:** Prioritize the development of pedestrian and bicycle infrastructure, including sidewalks, crosswalks, bike lanes, and multi-use trails. Connect these networks to transit hubs, major destinations, and residential areas to promote seamless multimodal transportation.

2. **Safety Measures:** Implement traffic-calming measures, such as reduced speed limits, traffic signals, and well-marked pedestrian crossings. Enhance lighting and signage to ensure the safety of active transportation users, particularly during night-time.

3. **Education and Outreach:** Launch public awareness campaigns to promote the benefits of active transportation and encourage behavior change. Provide educational programs on road safety, cycling skills, and pedestrian rights to enhance user confidence.

4. **Collaboration and Partnerships:** Foster collaboration between transportation agencies, urban planners, public health departments, community organizations, and advocacy groups to ensure a holistic approach to active transportation planning. Engage with local communities to gather feedback and involve them in the decision-making process.

Integrating active transportation into the Metropolitan Transportation Plan offers a transformative opportunity to create more sustainable, varied, social, and healthier urban environments. By prioritizing walking and bicycling infrastructure, improving safety measures, and promoting behavior change, the MTP can foster a shift towards active modes of transportation, benefiting individuals, communities, and the overall metropolitan area. Embracing active transportation is not only a practical solution to transportation challenges but also a catalyst for building vibrant, livable cities of the future.

The following are active-transportation planning initiatives in the WAMPO region.

- **Regional Pathway System Plan (WAMPO, 2011):** This plan identifies future bicycle and pedestrian projects to improve local connections to the regional network based on existing conditions. It also recommends the adoption of pedestrian facility guidelines found in the American Association of State Highway and Transportation Officials (AASHTO) Guide for the Planning, Design, and Operation of Pedestrian Facilities.
  www.wampo.org/_files/ugd/bbf89d_d43509f3c90e494a9290eccacb401bea.pdf

- **Regional Active Transportation Plan (WAMPO, TBD):** The plan will be created to create an executable strategy for developing a seamless, high-quality on- and off-road bicycle and pedestrian system in the WAMPO region. The Regional Active Transportation Plan is in coordination with the Wichita Bicycle Plan.
  www.wampo.org/bicycle-pedestrian

- **Wichita Bicycle Plan (City of Wichita, 2025):** This plan was created to identify and prioritize biking improvements based on existing conditions, adopted plans, and community feedback. The Wichita Bicycle Plan contains strategies, goals, and performance measures that increase the number of bicycle riders of all ages and abilities while creating a seamless network for walking and biking.
  www.wichitabicycleplan.com/

- **Wichita Pedestrian Master Plan (City of Wichita, 2014):** Walking is the most basic form of transportation. This plan is a guide for how the City of Wichita can improve conditions for walking.
  www.wichita.gov/DocumentCenter/View/9440/01-Wichita-Pedestrian-Master-Plan-PDF

SAFETY PLANS

- **KDOT 2020 – 2024 Strategic Highway Safety Plan (KDOT, 2020):** The mission of the Kansas SHSP is to drive strategic investments that reduce traffic injuries and deaths and the emotional and economic burdens of crashes, utilizing the 4E's (education, enforcement, engineering, and emergency medical services) in a collaborative process. The SHSP covered several topics including impaired driving, intersections, occupant protection, older drivers, roadway departures, local roads, data support, and education support. The SHSP's stated goal is to reduce by half the fatalities and disabling injuries over a 20-year period (from the base five-year 2005-2009 interval). Kansas has approximately 140,000 miles of public roadways, of which only approximately 10,000 miles are state highways.
https://www.ksdot.gov/home/showpublisheddocument/412/638739383364970000

- **Comprehensive Safety Action Plan (WAMPO, 2023):** The Wichita Area Metropolitan Planning Organization Comprehensive Safety Action Plan (CSAP) reports traffic safety statistics for the WAMPO region and lists specific steps to improve safety metrics. This plan follows the Safe System Approach, acknowledging that severe crash outcomes are preventable, despite the inevitability of human error, and integrates this mindset in the pursuit of zero fatalities and serious injuries on WAMPO-area roads.
www.wampo.org/safety

FREIGHT PLANS

- **Wichita Freight Plan (WAMPO, 2010):** This plan intends to identify the transportation systems that exist in the WAMPO region that are used to move freight into, out of, and within the region. This plan also addresses the factors and trends that dictate, affect, and influence the multiple modes of traffic and the flow of freight, and the procedures for planning and programming freight-related projects through the WAMPO transportation planning process.
www.wampo.org/_files/ugd/bbf89d_027128595a3548c6afb0b32fe35e253a.pdf

- **Kansas Statewide Freight Plan (KDOT, 2017):** The Kansas Statewide Freight Plan looks at a 20-year planning horizon including freight shipping trends and prioritizes freight projects to be completed over the next 5 years. It is intended to serve the needs of KDOT and both its public sector and private sector partners to improve freight transportation in Kansas. This plan considers highway, rail, aviation, waterway, and pipeline needs. The Freight Plan also supports the freight-related strategies and recommendations in Kansas' Long Range Transportation Plan, the Kansas Statewide Rail Plan, the national multimodal freight policy goals, and other local and regional initiatives as they relate to freight mobility.
www.wampo.org/_files/ugd/bbf89d_9440f203a9c64452ac06a8d15cb91b28.pdf

- **Wichita Railroad Master Plan (City of Wichita, 2013):**
The purpose of the Wichita Railroad Master Plan (WRMP) is to develop a coordinated, comprehensive master plan outlining achievable projects that will improve transportation mobility in Wichita for highway users and railroads (operators and customers).
www.wampo.org/_files/ugd/bbf89d_4f1af48449474e68bdf16d79ad44e8eb.pdf

- **WAMPO Railroad Crossing Plan (WAMPO, 2007):**
The plan identifies and analyzes safety and congestion issues at the WAMPO region's highway-railroad grade crossings. The RRCP acts as the primary tool to deal with crossing safety and delay in the planning area and provides a framework for project identification and future integration into WAMPO's planning processes.
www.wampo.org/_files/ugd/bbf89d_cdc461ecd23846ada9f6cd2aa5a6ac17.pdf

- **Regional Growth Plan (Greater Wichita Partnership, 2018):**
The Regional Growth Plan helps the greater Wichita region and its component cities and counties achieve heightened economic growth and prosperity through increasingly refined and targeted economic development activities.
www.wampo.org/_files/ugd/bbf89d_d01c3695fdd44ebea711564eb5c8b357.pdf

- **Regional Export Plan (Global Cities Initiative, 2017):**
The Regional Export Plan was developed to address changes in the aviation industry and lead underachieving sectors into the global marketplace.
www.wampo.org/_files/ugd/bbf89d_63721bbe324b4caf9495eb73446724a5.pdf

- **WAMPO Regional Freight Plan (WAMPO, 2020):**
The Wichita Area Metropolitan Planning Organization (WAMPO) Regional Freight Plan represents an opportunity to address freight needs in a comprehensive manner and integrate freight planning into the ongoing multimodal transportation planning process.
www.wampo.org/_files/ugd/bbf89d_fde1eee6614645e6862e3be02e603c69.pdf

Credit: City of Haysville

Committees

The committees listed in this section are ongoing entities whose continued efforts have significantly contributed to the development of MTP 2050. Their work remains crucial in shaping and refining the plan's objectives and strategies.

Transportation Policy Body (TPB)
The Transportation Policy Body is the governing body, made up of local elected officials, as well as regional and state representatives. The TPB provides comments, expertise, and guidance, and votes to give final approval to transportation plans and any amendments to them. The TPB is the regional forum for transportation planning and establishes the vision for the future of the metropolitan area's transportation system.

For more information visit www.wampo.org/transportation-policy-body

Technical Advisory Committee (TAC)
The Technical Advisory Committee (TAC) reviews technical information about transportation studies and issues, as well as provides the TPB with professional recommendations on documents, plans, and activities. They also help with the adoption of transportation documents such as the biennial Transportation Improvement Program.

For more information visit www.wampo.org/technical-advisory-committee

Executive Committee
The Transportation Policy Body (TPB) first created the Executive Committee in January 2014. The Executive Committee's primary function is to provide strategic direction to staff on administrative service provision and other organizational, and administrative matters. As per the TPB bylaws, the Executive Committee includes the TPB Chair, the TPB Vice-Chair, the TAC Chair, a Wichita Metro area representative from the Kansas Department of Transportation (KDOT) and two at large TPB members appointed by the TPB Chair to serve as voting representatives.

For more information visit www.wampo.org/executive-committee

ICT Safe: A Regional Transportation Coalition
ICT Safe is an overarching coalition with several smaller entities under its umbrella, including the Active Transportation Committee and Drive Safe Sedgwick.

For more information visit www.wampo.org/ict-safe

- **Active Transportation Committee (ATC)**
  The primary activities of this committee are updating reports on pedestrian/bicycle/trail infrastructure and reviewing and updating regional data and mapping.
- **Drive Safe Sedgwick**
  The committee focuses on impaired driving and safe driving practices.

United Community Transit Coalition (UCTC)
This coalition was formed in 2023. It focused on both the urban and rural area needs, goals, and strategies of public transit. Service transportation includes a broad range of transportation service options designed to meet the needs of populations with limited transportation options, including older adults, disabled persons, and/or those with lower income. This coalition helped update and implement WAMPO's Coordinated Public Transit-Human Services Transportation Plan (found at www.wampo.org/public-transit) and UCTC Toolkit. This no longer is an active committee.
For more information visit www.wampo.org/uctc

Economic Development and Transportation Committee
The primary activities of this committee are to inform the creation of Economic Development Reports for the WAMPO region and to serve as a group of regional leaders and partners with which WAMPO can discuss economic and transportation issues moving forward.
For more information visit www.wampo.org/economic-development-committee

Natural Resource Agency Consultation

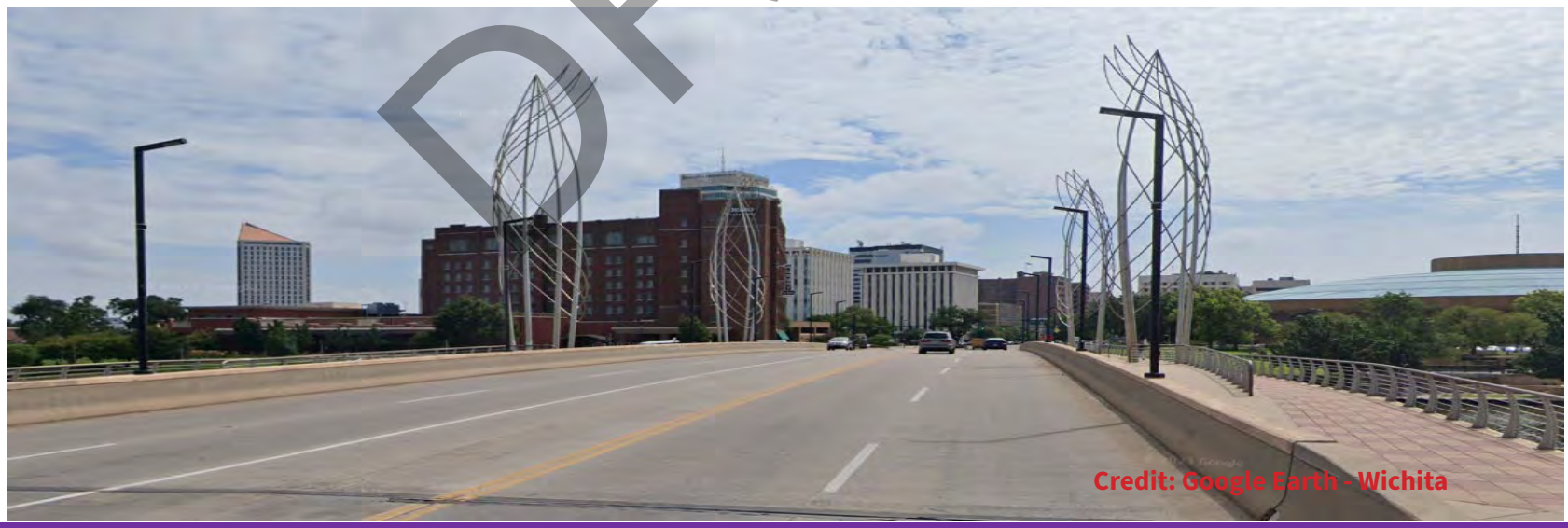
WAMPO gathered input on environmental issues from stakeholders and experts during the MTP planning process. These groups reviewed the draft plan, projects, and mitigation efforts, but no feedback was provided.

Stakeholder Groups

- Technical Advisory Committee
- Citizen's Climate Lobby
- Kansas Chapter of Sierra Club
- Individual residents expressing interest in environmental issues

Partners

- University of Kansas School of Medicine Population Health Department
- CoW Environmental Health Division
- U.S. Fish & Wild Service
- Environmental ProtectionAgency
- United States Corps of Engineers



1.3 PUBLIC INVOLVMENT

Throughout the development of MTP 2050, WAMPO recognized that opportunities for meaningful public participation are key to developing a sense of community and ownership among participants. Community outreach was designed to actively seek public input, rather than just waiting for it.

A variety of outreach methods were employed to reach key stakeholders and the general public. These methods included in-person and virtual meetings, pop-up events, videos and social media, listening sessions, and surveys.

Figure 1.3.1: Public Engagement at a Glance, May 2023 - April 2025

242 days spent seeking public input

78+ year age range

public, private, & government affiliations

11 listening sessions

5 rounds of outreach

1,527 survey reponses

40 public comments on the complete draft plan

51 + public events attended

359 + staff hours with the community

Public engagement for MTP 2050 is divided into five rounds; three rounds focused on building an understanding of public desires, a fourth round for distributing the plan for a 30-day public comment period, and the fifth round presents the approved plan. Rounds one through three coincided with the plan development process and the public input received determined the plan vision, goals, and objectives, highlighted which performance measures to track, and documented mode-usage trends within the region.

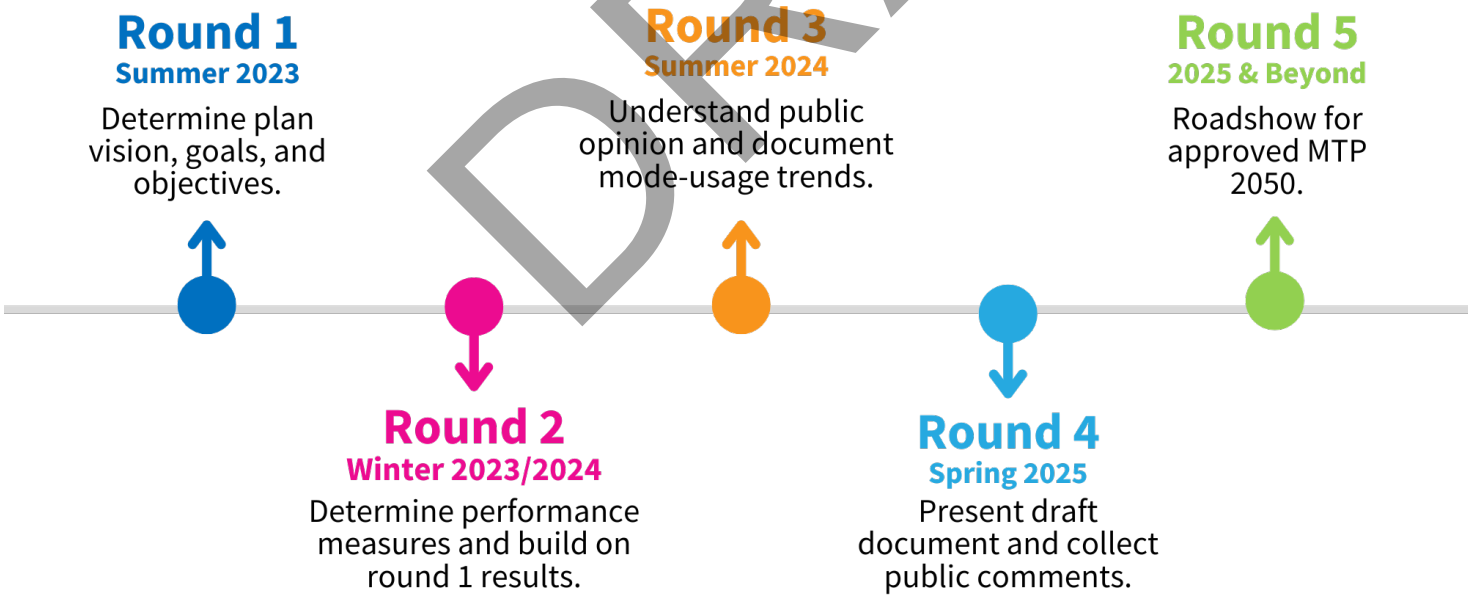
WAMPO uses its website, surveys, open house events, meetings, and social media to engage the public, share information, and gather feedback. Public participation is crucial for developing transportation policies, programs, and projects. WAMPO ensures an open, cooperative, and collaborative process, offering meaningful opportunities for the community to provide input that shapes transportation decisions.

Committed to understanding a multitude of community needs and ideas, WAMPO recognizes that effective transportation planning requires significant public input. WAMPO acknowledges that although people may be interested in their community, they may not know how to provide effective feedback on transportation plans and projects.

WAMPO boards and committees, including the Transportation Policy Body (TPB) and Technical Advisory Committee (TAC), were regularly presented with MTP 2050 development progress updates and opportunities to give feedback and comments on various planning activities.

Appendix B presents detailed engagement summaries from each round of public engagement.

Figure 1.3.2: MTP 2050 Public Engagement Timeline



MEANINGFUL ENGAGEMENT FOCUS

WAMPO is committed to meaningful regional stakeholder engagement. To aid in this process, WAMPO updated its Public Participation Plan in 2022. Updates to this plan focused on improving the accessibility of information and opportunities to make it easier for people to access information and contribute their input.

The Public Participation Plan (PPP) outlines WAMPO's strategies and techniques for informing and engaging the public throughout the continuing, cooperative, and comprehensive (3 Cs) transportation planning process. The goal and purpose of a PPP is to maximize public participation and an MPO's effectiveness at reaching audiences. Public input is essential for developing transportation policies, programs, and projects. WAMPO ensures an open, cooperative process, actively involving all affected parties to provide meaningful input that influences transportation decisions, while also addressing the community's wide-ranging transportation needs and concerns.

Ongoing Engagement Efforts

WAMPO maintains its robust public participation program by utilizing technology and collaborating with community partners. Brochures and planning materials are developed in English, Spanish, and Vietnamese, in accordance with WAMPO's Limited English Proficiency (LEP) Plan. WAMPO publishes a quarterly e-newsletter and is active on various social media platforms, including Facebook, Instagram, LinkedIn, X (formerly Twitter), and YouTube.

The agency continuously improves its website to ensure it is mobile-friendly and easy to navigate, serving as a regional information resource. Board and committee meeting materials are posted online, and meetings are accessible both in-person and virtually. Recordings of the Transportation Policy Body (TPB) and Technical Advisory Committee (TAC) meetings are available on YouTube and linked on WAMPO's website.

WAMPO's commitment to engaging with all segments of society is reflected through the organization's policy to assure full compliance with Title VI of the Civil Rights Act of 1964, the Civil Rights Restoration Act of 1987, and related statutes and regulations in all programs and activities. WAMPO ensures fair and meaningful engagement with populations that public-engagemen efforts often miss. This includes hosting public meetings in strategic locations, coordinating with local organizations, considering transit access for meetings, providing materials in multiple languages, and having bilingual staff present when possible. Meeting notices and information are shared through print media, targeted outreach, and partnerships with grassroots organizations.

For more information and to view the most recent information about WAMPO public participation, please visit www.wampo.org/public-participation.

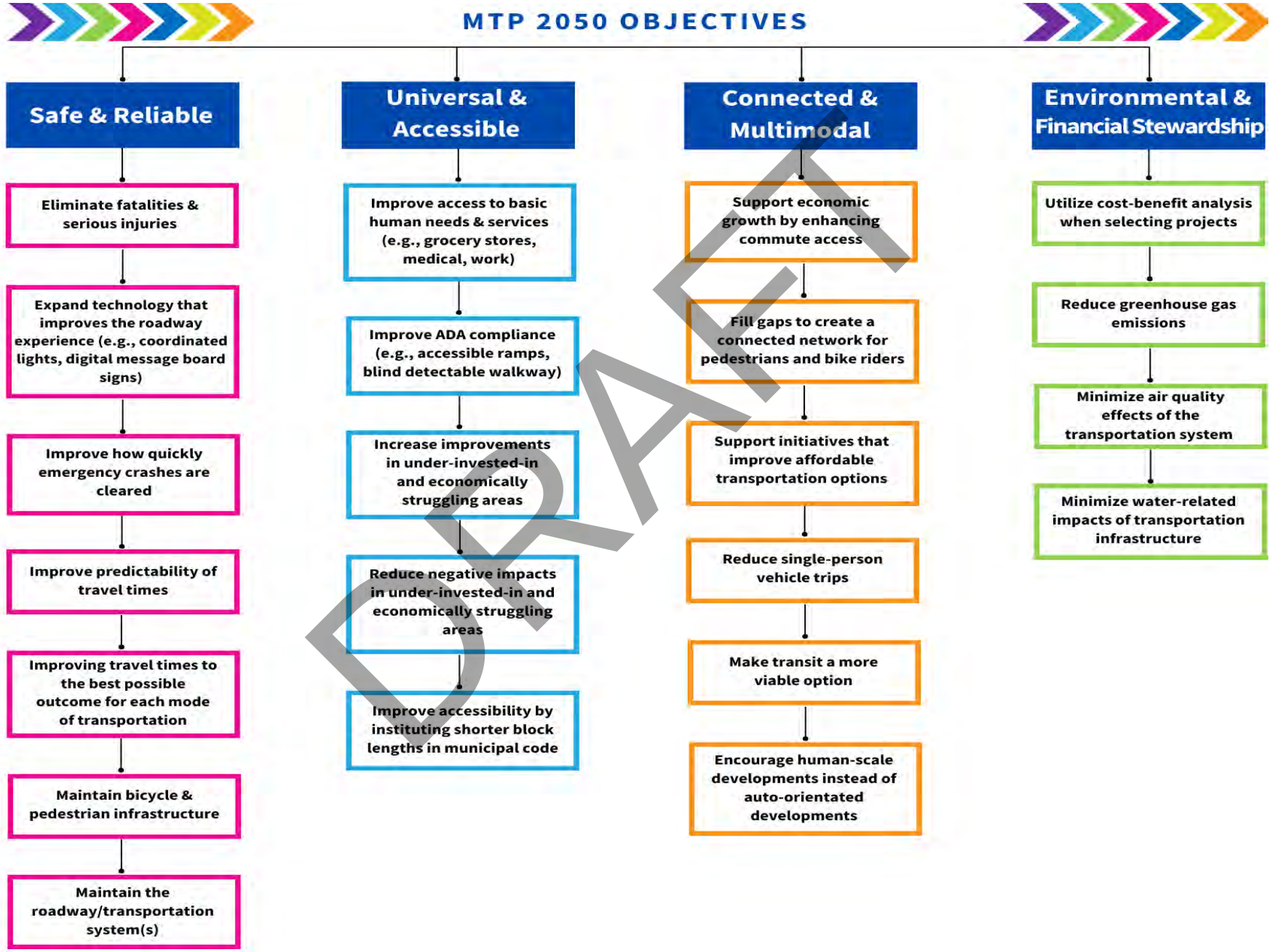
For more information and to view the most recent information about WAMPO's Title VI Program Manual and Limited English Proficiency Plan, please visit www.wampo.org/title-vi.

1.4 VISION, GOALS, & OBJECTIVES

Figure 1.4.1: MTP 2050 Vision and Goals

Objectives are specific, measurable actions to help WAMPO achieve the MTP's goals and vision (see Figure 1.4.1).

Figure 1.4.2: MTP 2050 Objectives By Goal



ALIGNMENT WITH FEDERAL PLANNING FACTORS

Federal regulations require MPOs to "develop long-range transportation plans and TIPs through a performance-driven, outcome-based approach to planning for metropolitan areas." The ten federal transportation planning factors are considered and reflected in the metropolitan transportation planning process.

Figure 1.4.3 shows the ten federal planning factors and how the WAMPO Metropolitan Transportation Plan has incorporated them into the MTP goals.

Figure 1.4.3: Federal Planning Factors

	Goals			
	Safe & Reliable	**Universal & Accessible**	**Connected & Multimodal**	**Environmental & Financial Stewardship**
Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.	■	■	■	■
Increase the safety of the transportation system for motorized and non-motorized users.	■	■	■	
Increase the security of the transportation system for motorized and non-motorized users.	■		■	
Increase accessibility and mobility of people and freight.	■	■	■	
Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns.	■	■	■	■
Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.	■		■	
Promote efficient system management and operation.	■			■
Emphasize the preservation of the existing transportation system.	■	■		■
Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation.	■			■
Enhance travel and tourism.			■	■

Source: 23 CFR § 450.306(b)

MTP 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.


Credit: World Atlas

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, on 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.

Credit: Google Earth - Maize

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.

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 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 2024 Commuter Flows Report (see Appendix H).

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.

2.2 Demographics

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, 2010-2020

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

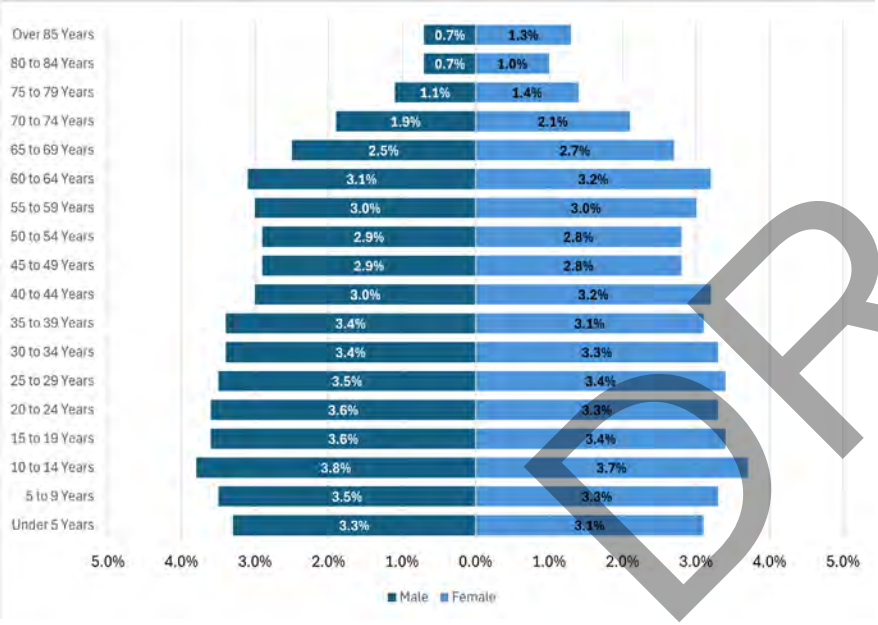
Source: Decennial Census

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 total population divided amongst males (49.8%), and females (50.2%) is half and half.

Figure 2.2.1: WAMPO Population Pyramid



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.

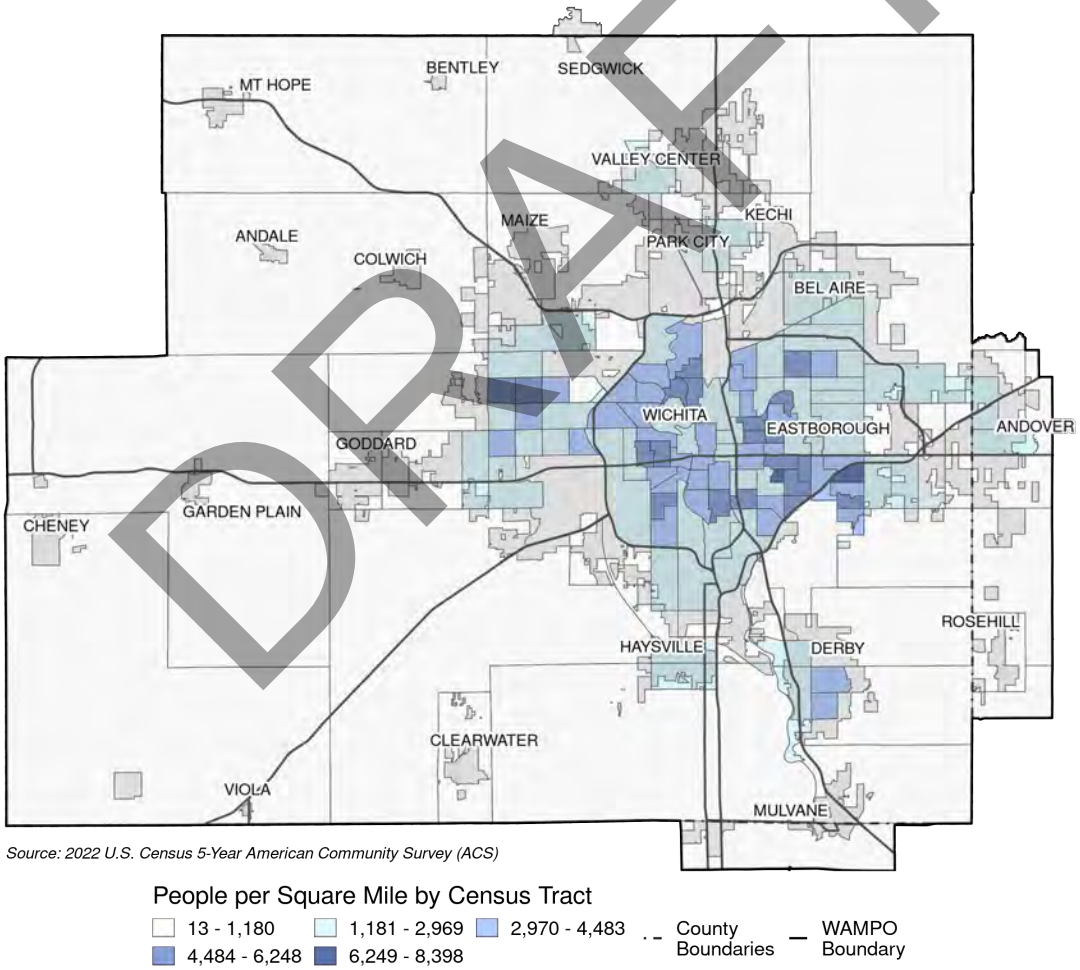
Figure 2.2.2: WAMPO Region Age Distribution

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



2.3 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

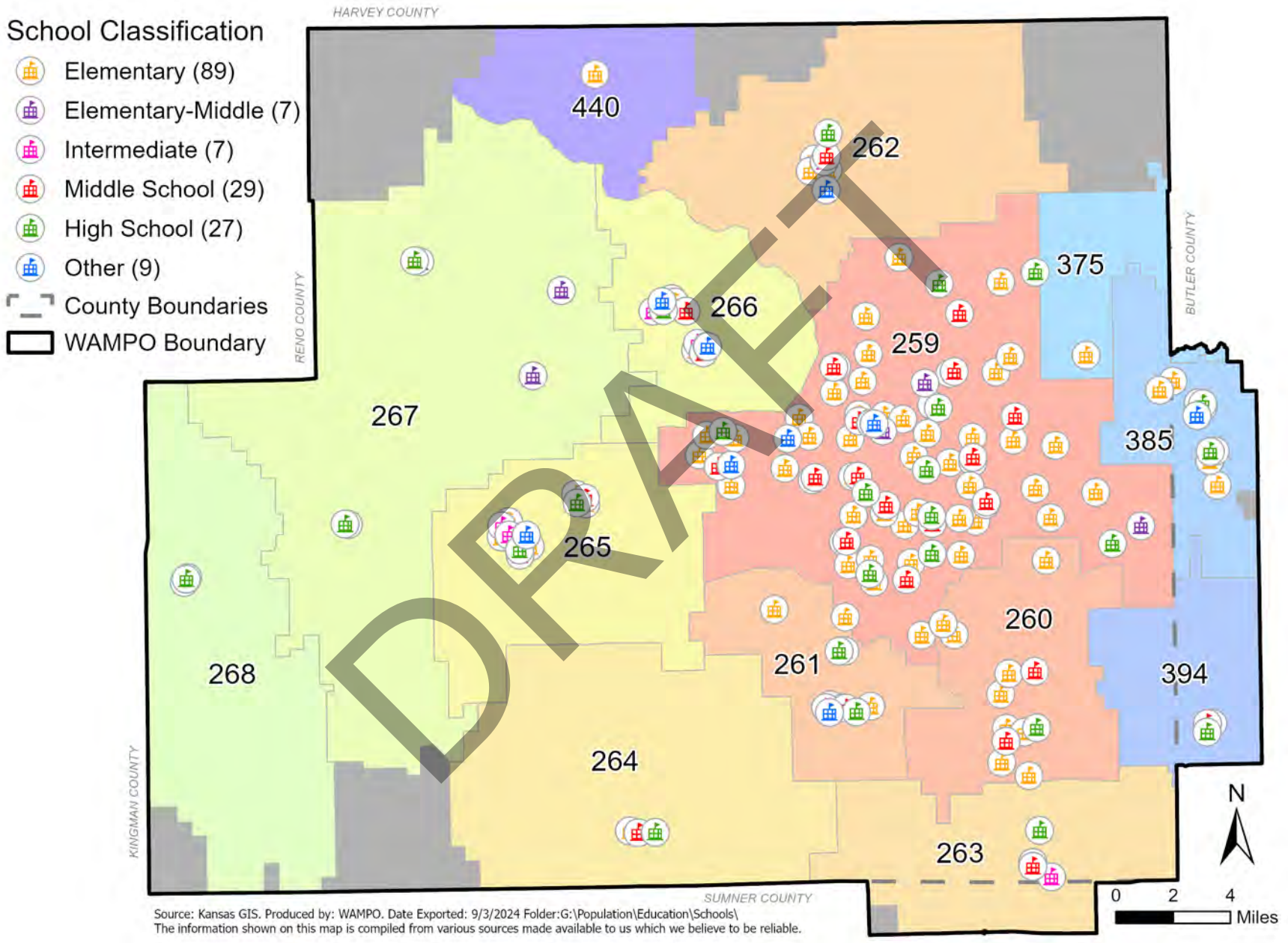
NAME	Schools
Wichita Unified School District 259	81
Derby Unified School District 260	12
Haysville Unified School District 261	11
Valley Center Public Schools Unified School District 262	7
Mulvane Unified School District 263	4
Clearwater Unified School District 264	3
Goddard Unified School District 265	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**

Credit: Andale High School

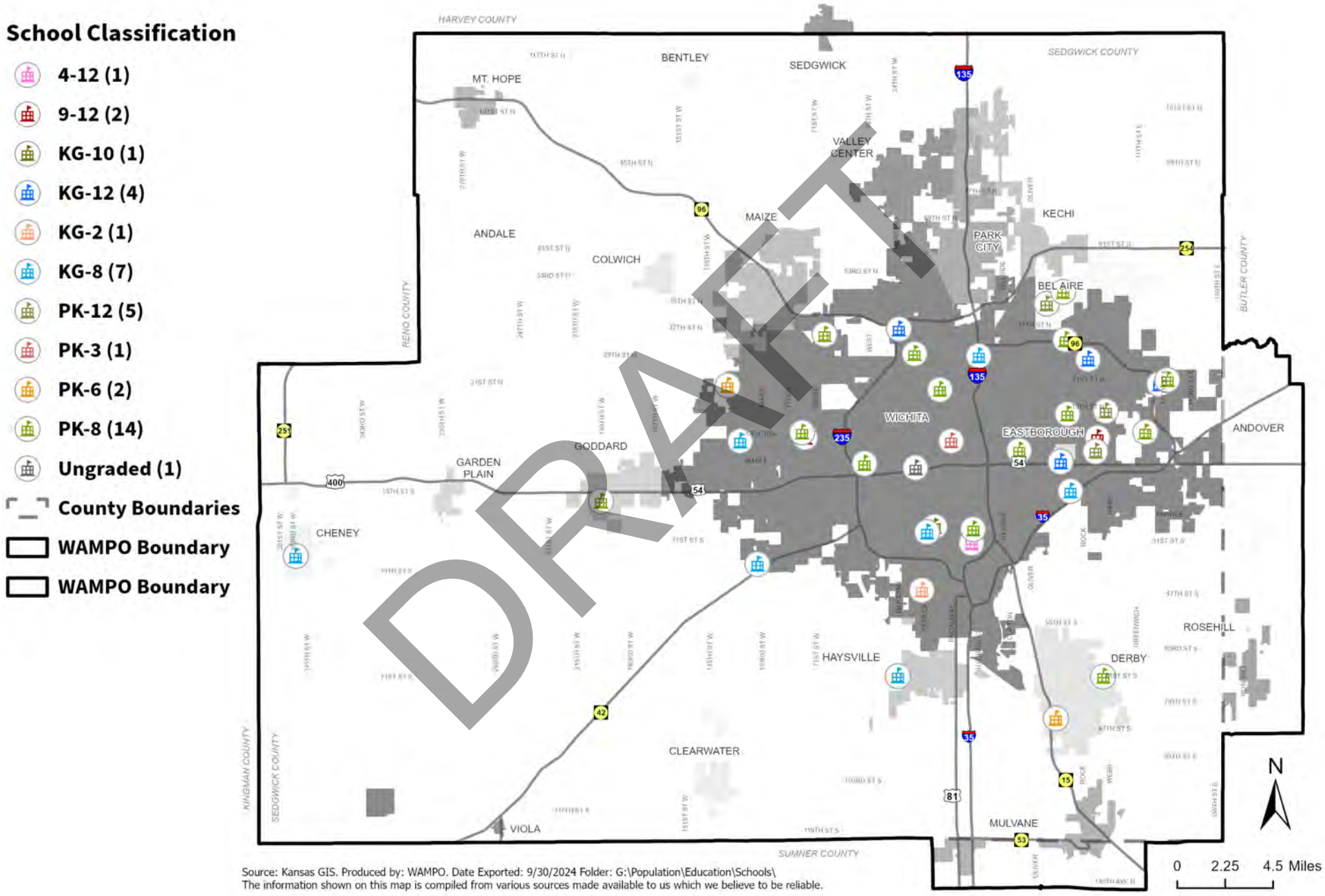
Credit: Derby Public Schools

Credit: BMC

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

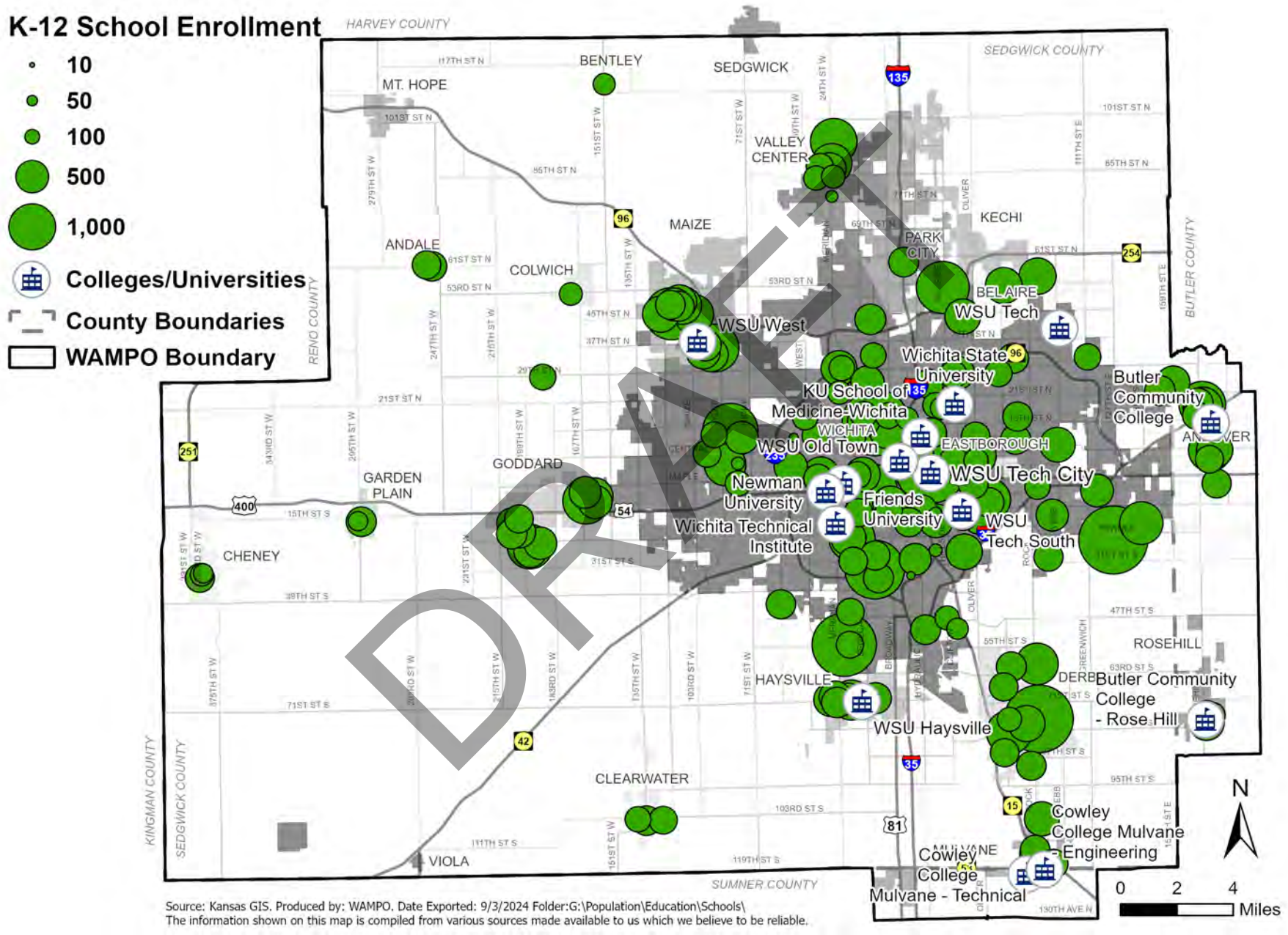


Map 2.3.2: WAMPO Region Private K-12 Schools



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



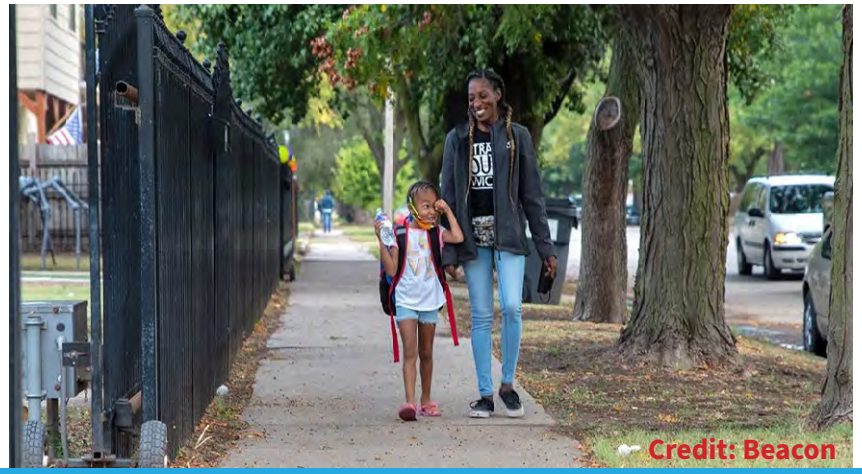
Safe Routes to School

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 the end of 2026.

Credit: USD 259


Credit: Alex Unruh


Credit: Bike Walk Wichita


Credit: Beacon

Economy, Talent, & Quality of Place

Economic growth lags associated with the attraction and retention of an educated, talented workforce is a recurring theme in many regional plans and studies. 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

Credit: WSU - Innovation Campus

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.

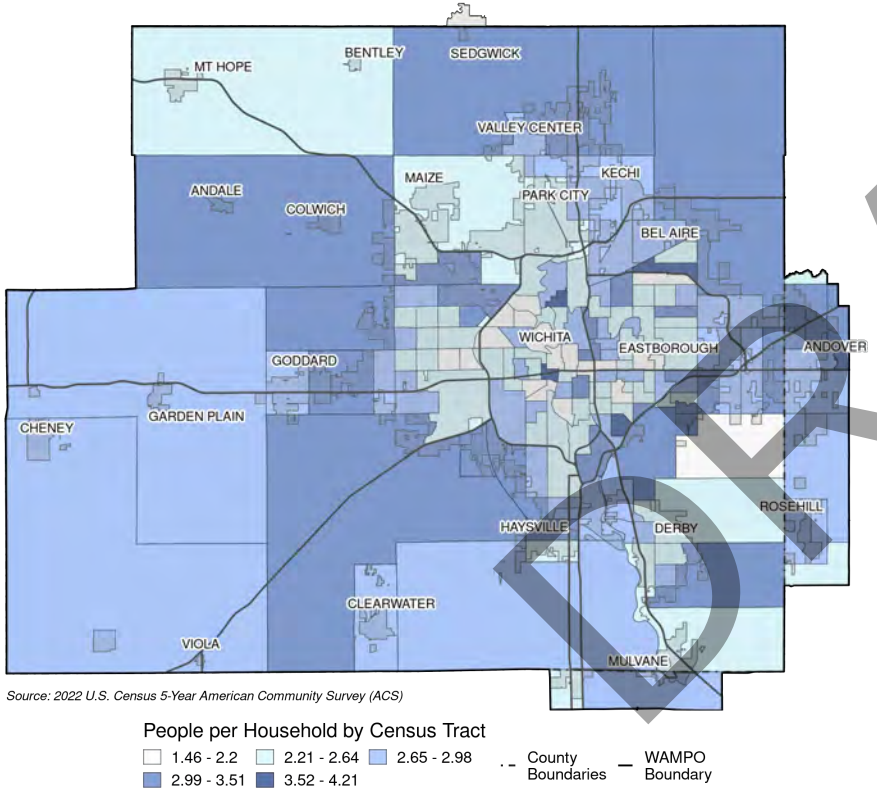
Table 2.4.1: Households and Dwelling Units

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.

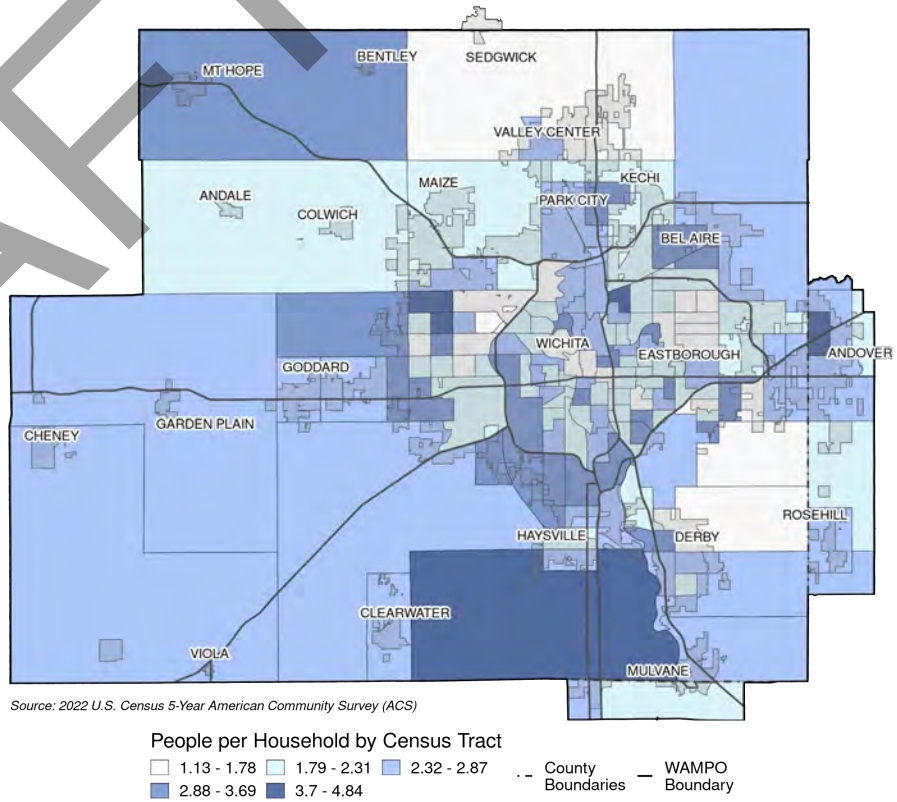
Map 2.4.1: Household Size: Owner-Occupied Dwelling Units



RENTER-OCCUPIED 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.

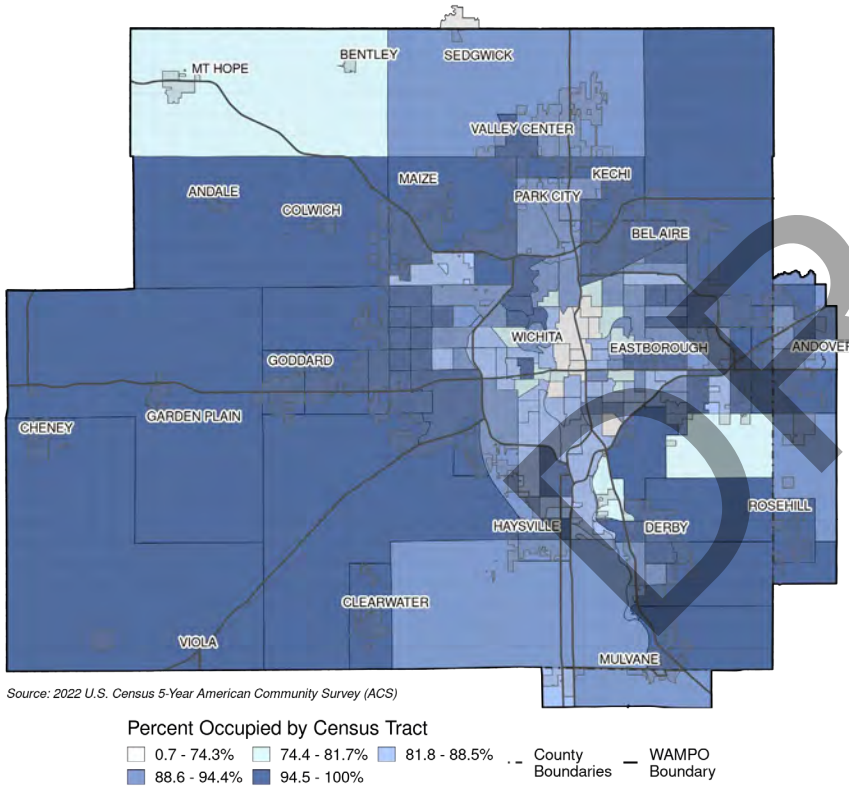
Map 2.4.2: Household Size: Renter-Occupied Dwelling Units



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.

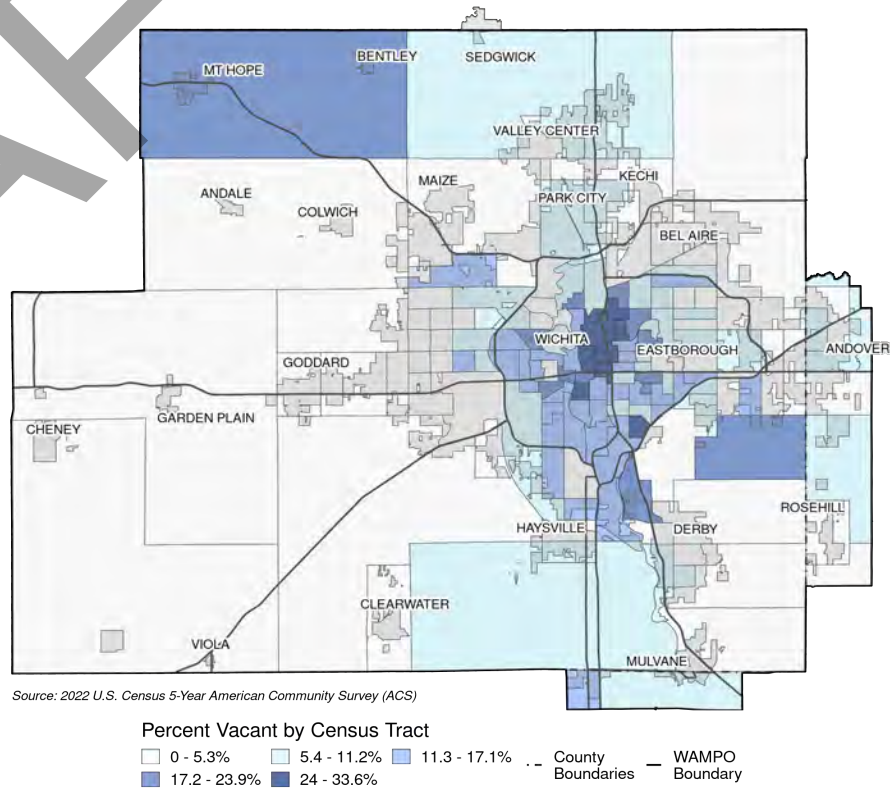
Map 2.4.3: Occupied Dwelling Units



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.

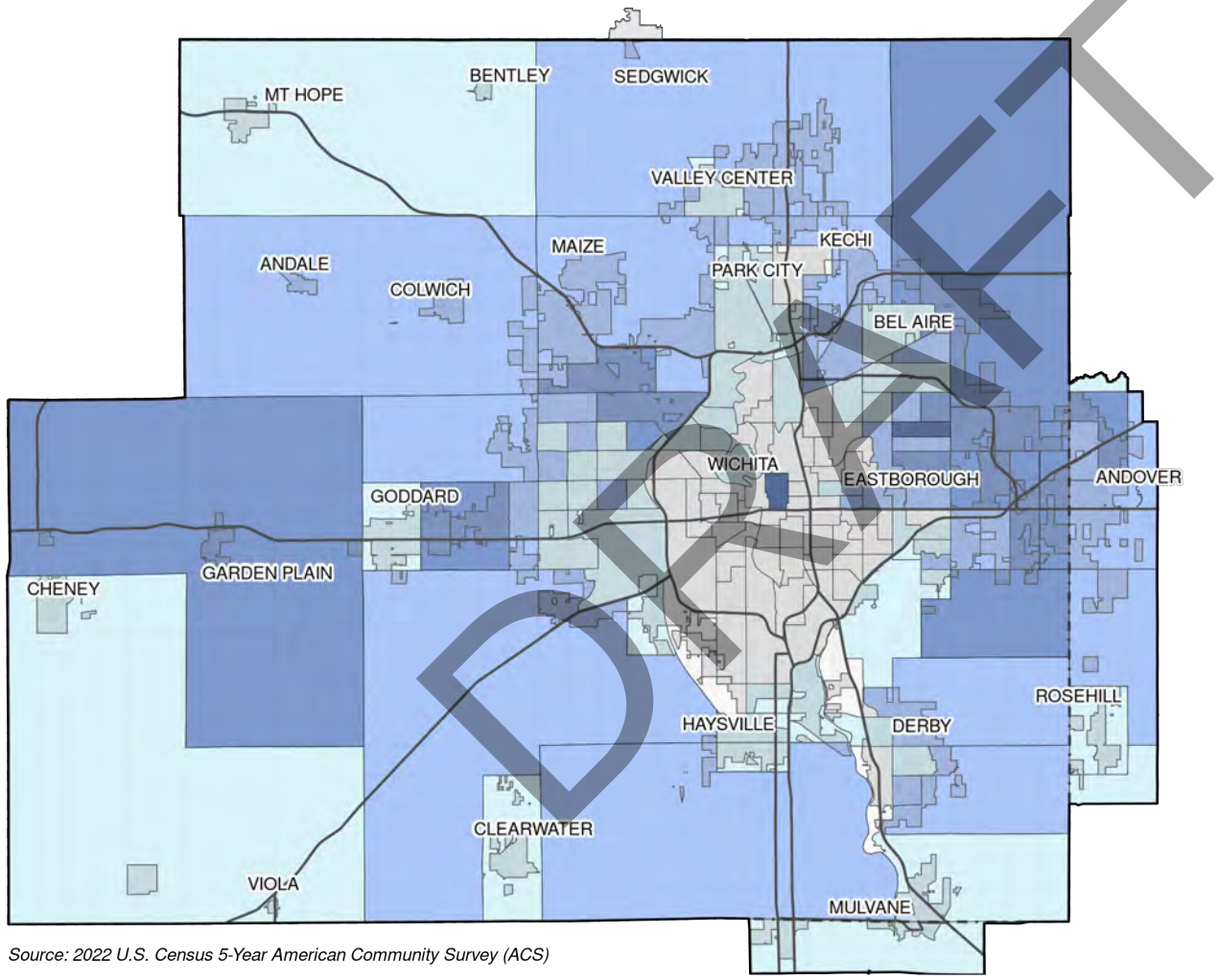
Map 2.4.4: Vacant Households



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.

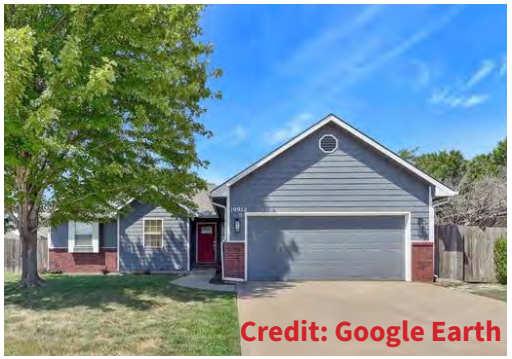
Map 2.4.5: Median Home Value



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 | $283,001 - $408,400 | $408,401 - $556,500 | County Boundaries | WAMPO Boundary



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. The Midwest offers unique advantages for employers looking to expand or relocate, including a lower cost of living, which enhances employee retention and satisfaction. Additionally, the region benefits from robust transportation infrastructure, providing strong connections to major markets across the U.S. via highway, rail, and air networks. These factors make the Midwest an attractive hub for businesses, further driving employment growth and influencing future transportation needs.

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

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.

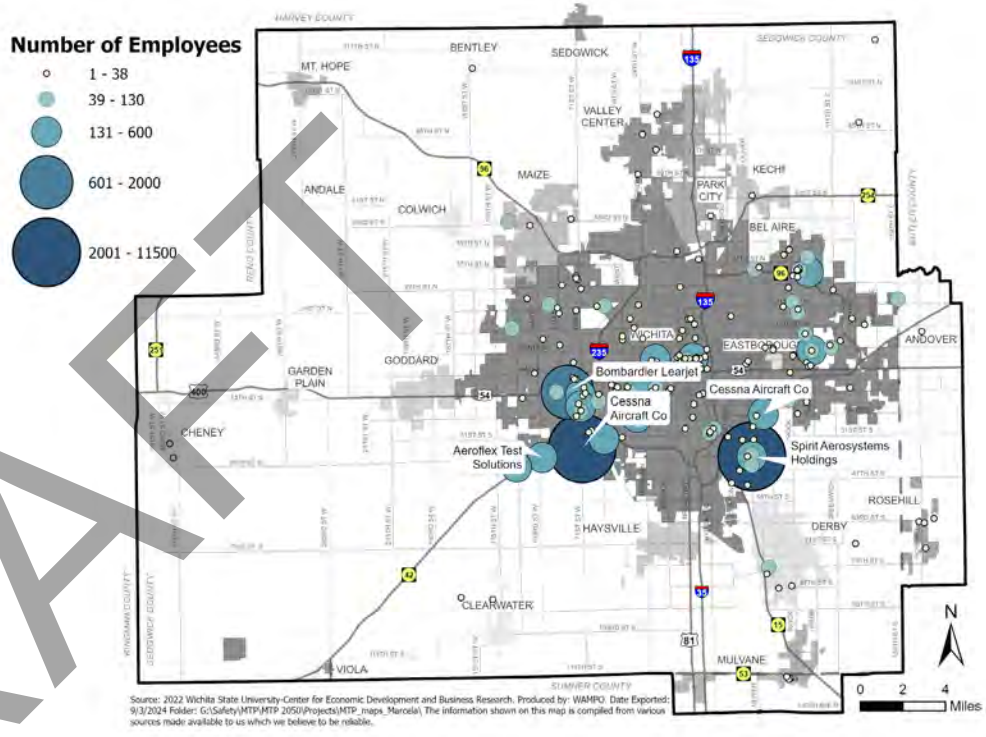
AEROSPACE

The aerospace manufacturing sector in Wichita is a cornerstone of the local economy, with a significant concentration of industry players and a substantial workforce. The city is home to major manufacturers such as Textron Aviation (encompassing Cessna and Beechcraft), Spirit AeroSystems, and Bombardier Learjet, alongside over 450 aerospace supply chain companies. (Greater Wichita Partnership)

This robust industry presence translates into a considerable economic impact. Wichita's aerospace manufacturing employment concentration is 33 times higher than the U.S. average, with over 30,000 workers employed in the sector. (Brookings Institute) This workforce represents a significant portion of the national aerospace labor market, underscoring Wichita's pivotal role in aircraft production.

Understanding the dynamics of Wichita's aerospace sector—including its industry landscape, labor market, transportation infrastructure, and prevailing trends—is essential for identifying potential challenges and capitalizing on growth opportunities within this vital industry.

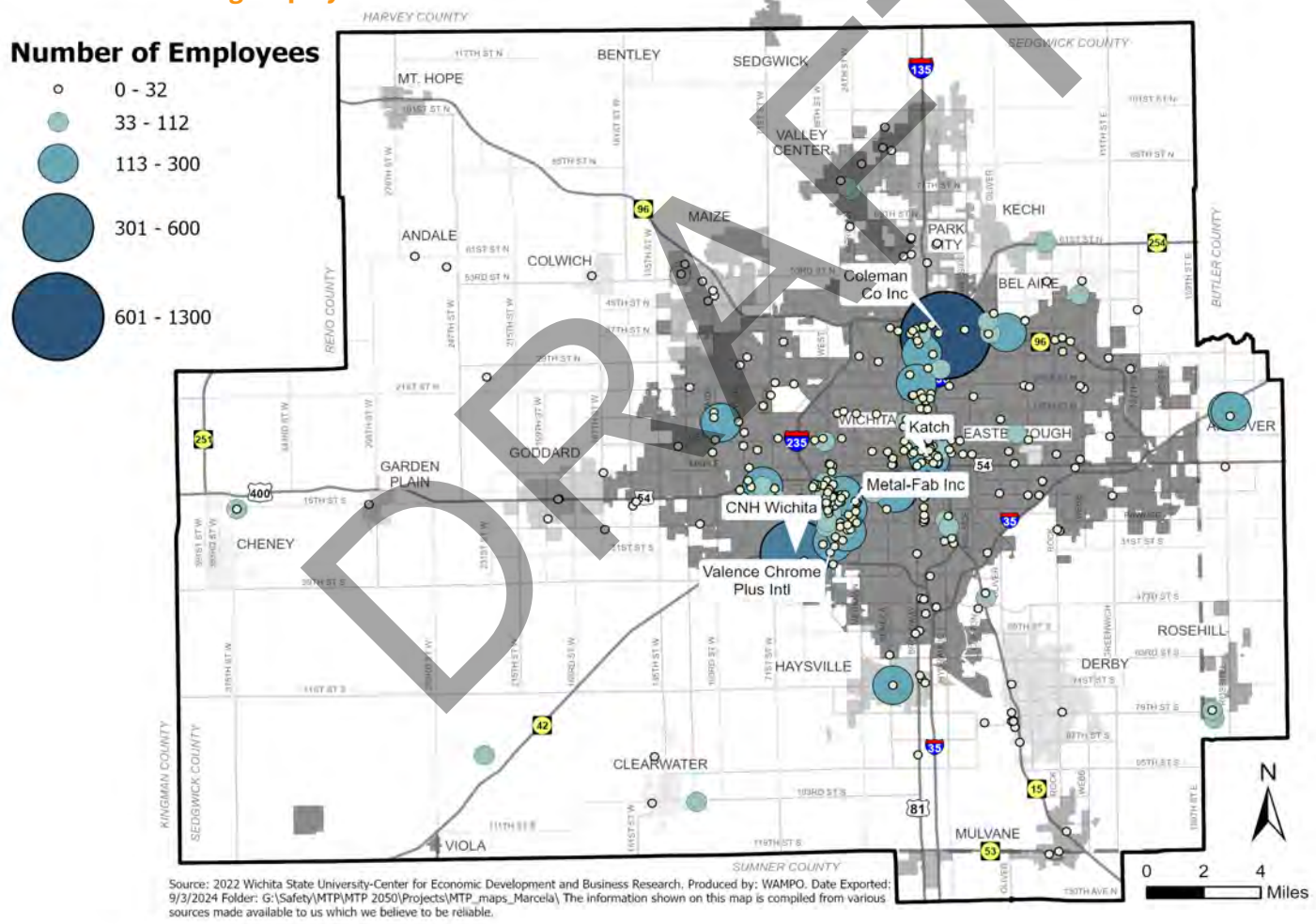
Map 2.5.1: Aerospace Employers



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.

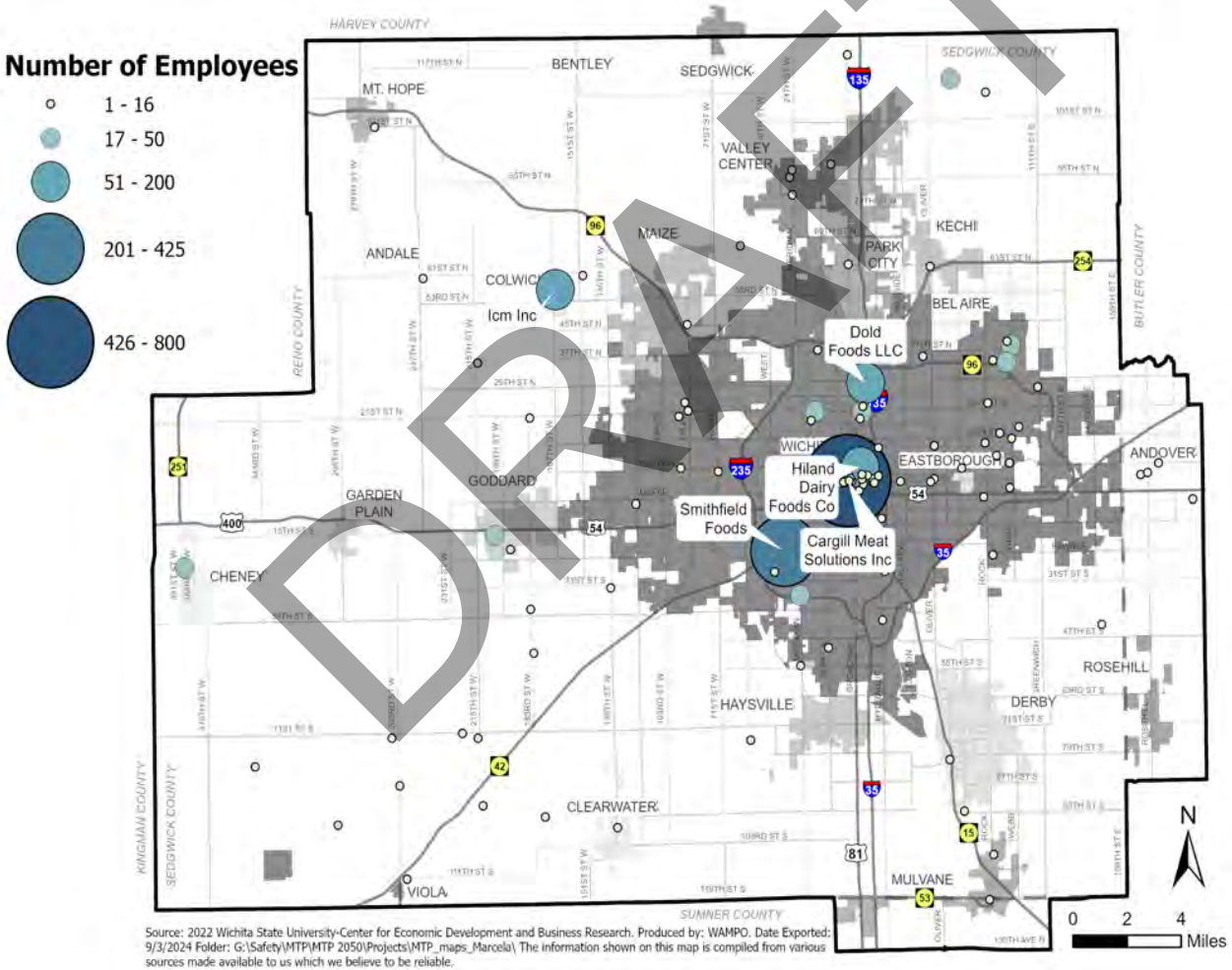
Map 2.5.2: Advanced Manufacturing Employers



AGRICULTURE

The agricultural industry is a vital part of the Wichita economy and a major employer in the area. The industry is also a source of food for the nation and the world, and it plays an important role in the national and global economy. The competitive landscape for the agricultural sector is strong, as only two companies maintain a proportion greater than 1% of the sector. Cargill is a key player to consider for the Wichita economy, as their global headquarters are located here. Per Data Axle, Cargill employs 800 people in the Wichita area. Their presence includes a beef processing plant, protein ingredients plant, feed mill, and multiple office and support facilities. It should also be noted that Cargill has deep economic ties across the state, US, and world wide.

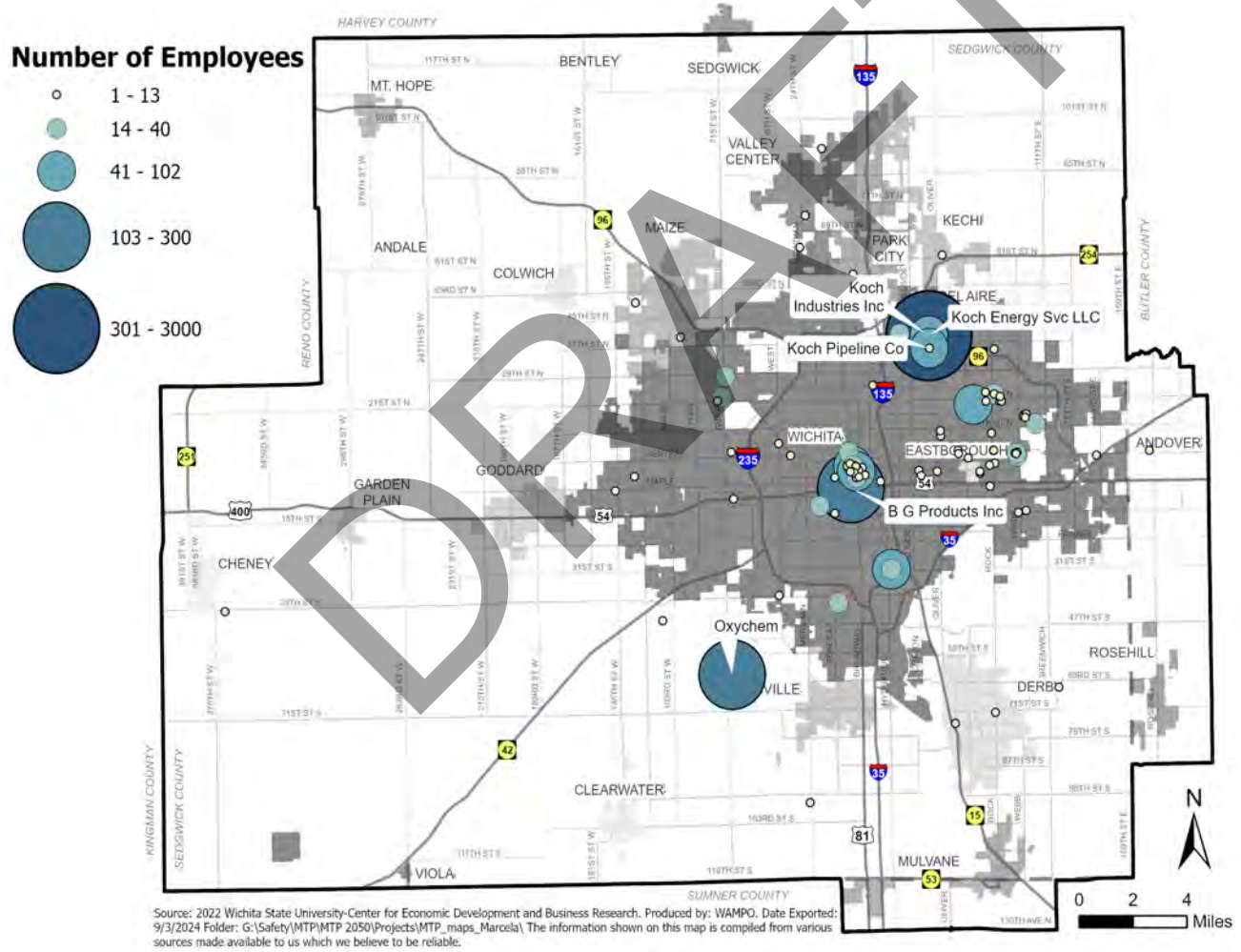
Map 2.5.3: Agriculture Employers



ENERGY

The energy sector is a vital part of WAMPO'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.

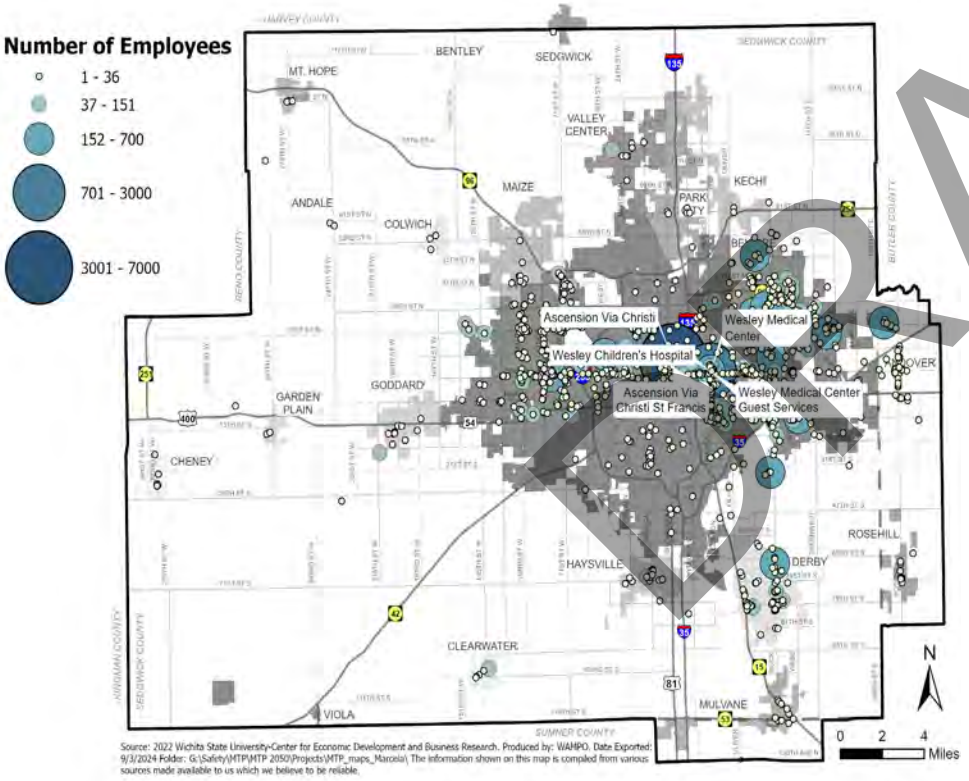
Map 2.5.4: Energy Employers



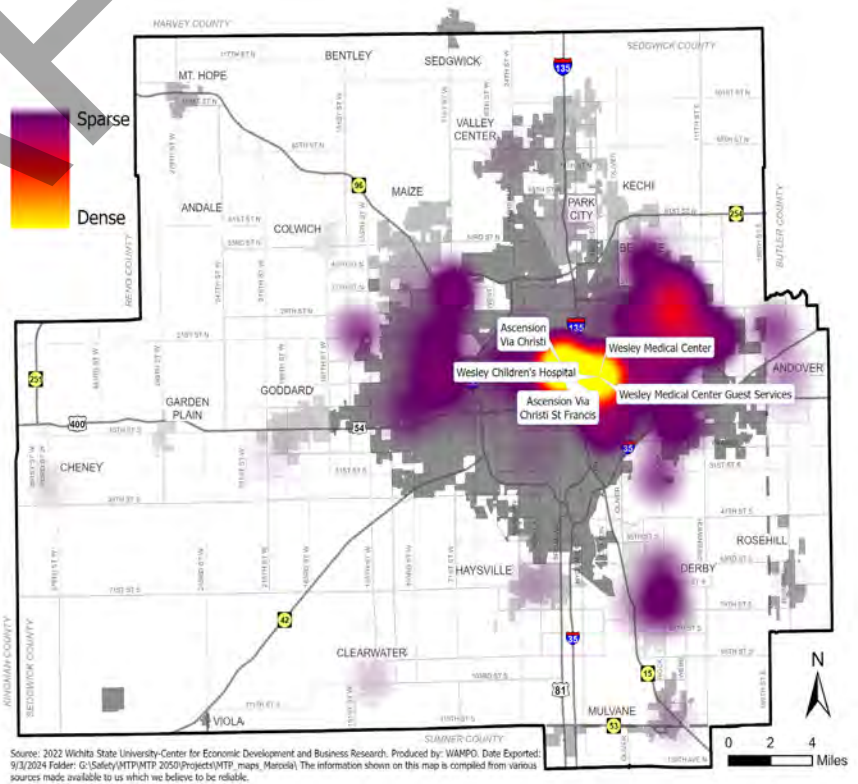
HEALTHCARE

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, Wichita has an above average concentration of licensed practical and licensed vocational nurses.

Map 2.5.5: Healthcare Employers



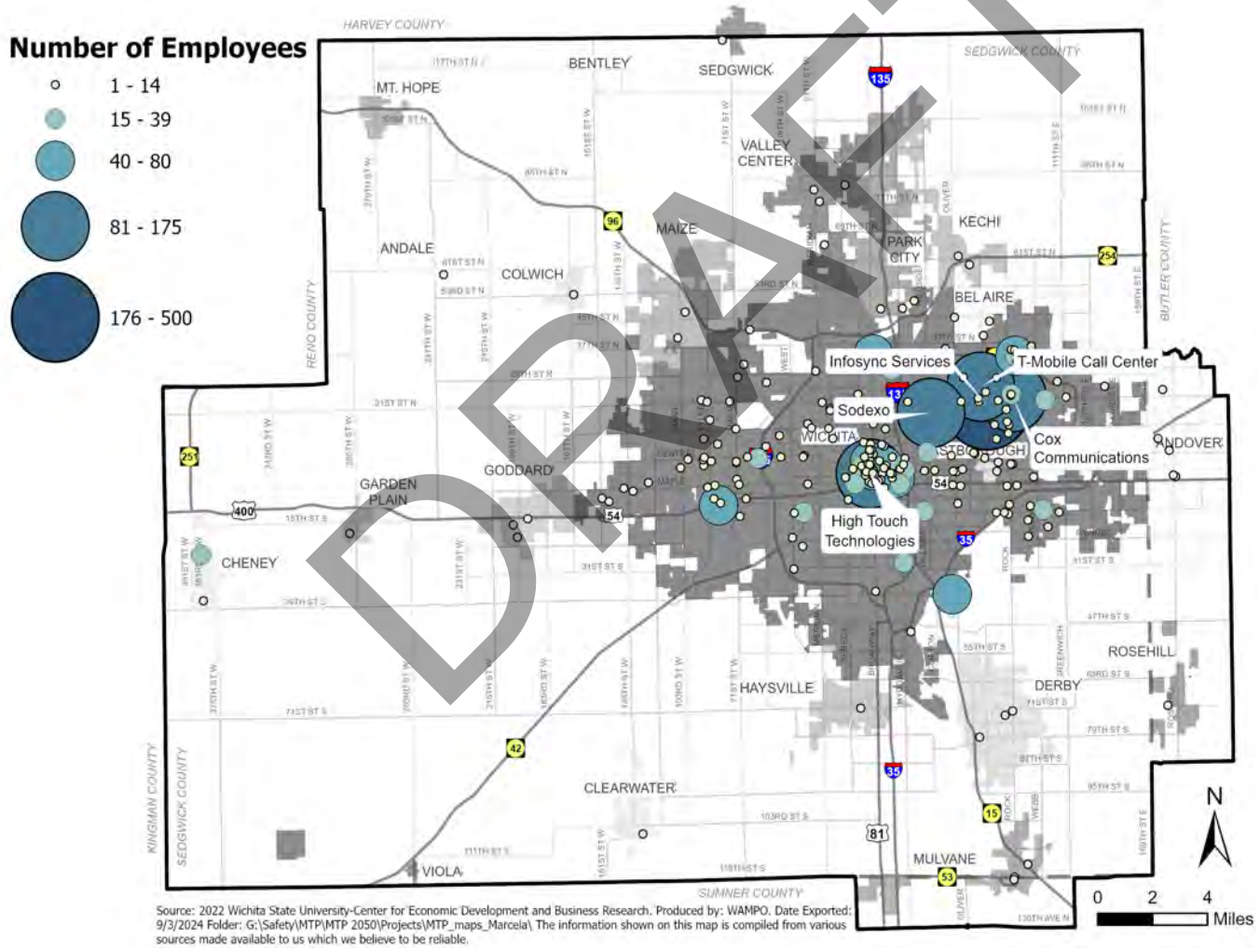
Map 2.5.6: Healthcare Employment Density



INFORMATION TECHNOLOGY AND SUPPORT

WAMPO'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.

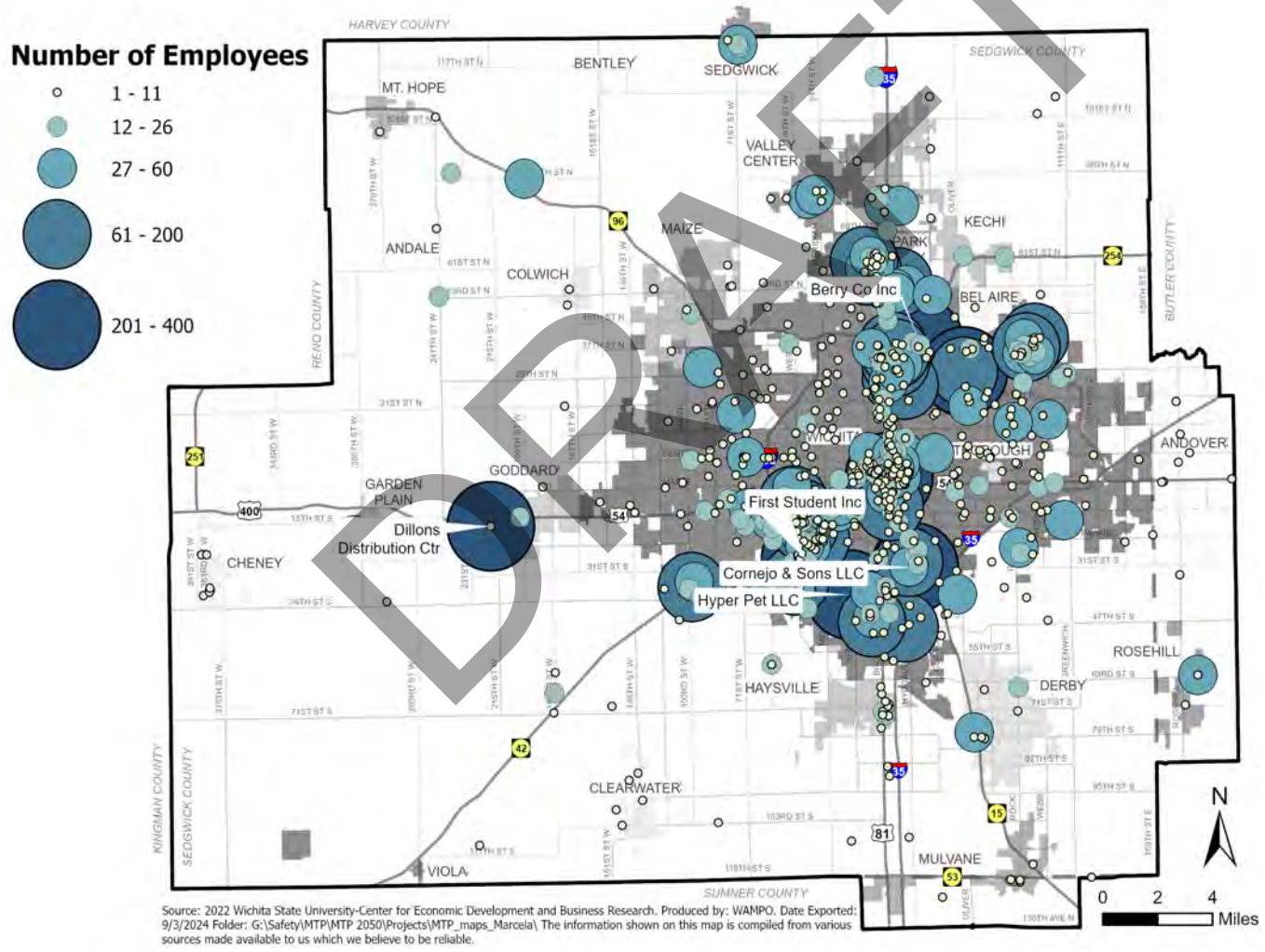
Map 2.5.7: IT Systems & Support Employers



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.

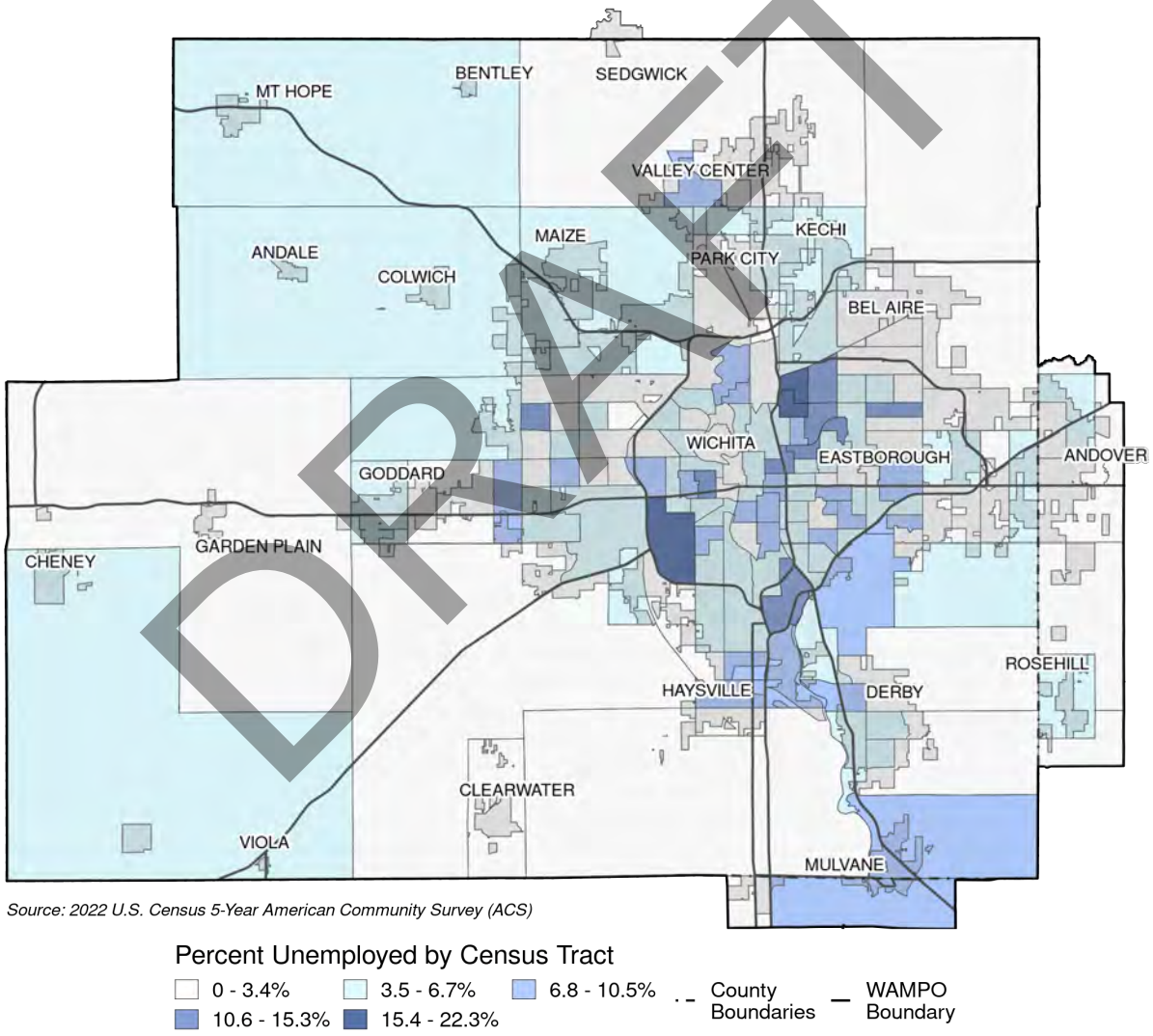
Map 2.5.8: Transportation Employers



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



2.6 Travel

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: Worker Commute Modes and Household Vehicle Availability in the WAMPO Region and Kansas, 2022

Commutes Modes and Times and Household Vehicles	WAMPO Region	State of Kansas
Means of Transportation to Work		
Car, Truck, or Van - Drive Alone	81.0%	77.8%
Car, Truck or Van - Carpooled	9.0%	8.7%
Public Transportation (excluding taxicab)	0.5%	0.4%
Walk	1.2%	2.3%
Bicycle	0.4%	0.3%
Taxicab, Motorcycle, or Other Means	1.4%	1.1%
Work from Home	6.5%	9.5%
Average Travel Time to Work	20.1 minutes	19.7 minutes
Vehicles Available per Household		
No Vehicle Available	5.7%	5.1%
One (1) Vehicle Available	31.4%	29.8%
Two (2) Vehicles Available	37.3%	38.5%
Three (3) or More Vehicles Available	25.7%	26.6%

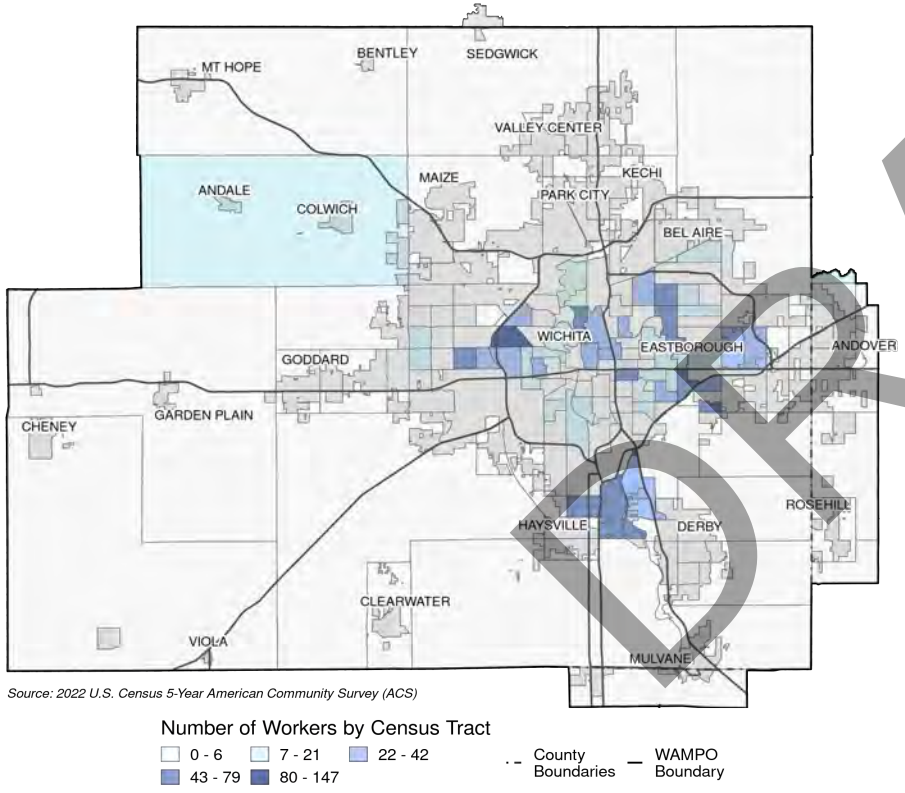
Source: 2018-2022 US Census Bureau American Community Survey (ACS)

Credit: Derby

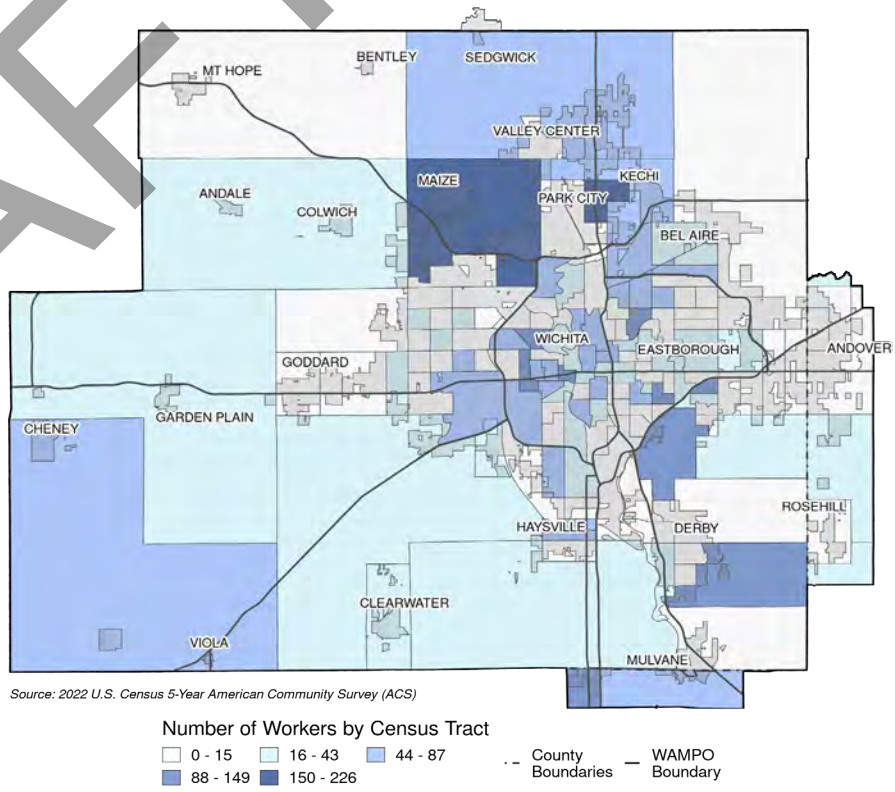
Map 2.6.1 shows the absolute numbers of the working population over age 16 within a Census tract that uses public transportation to get to work. The Census tract with the highest percent of workers for whom public transportation is the most used commute mode boasts an estimated 147 daily public transit 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 2.6.2 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 2.6.1: Means of Transportation to Work: Public Transportation



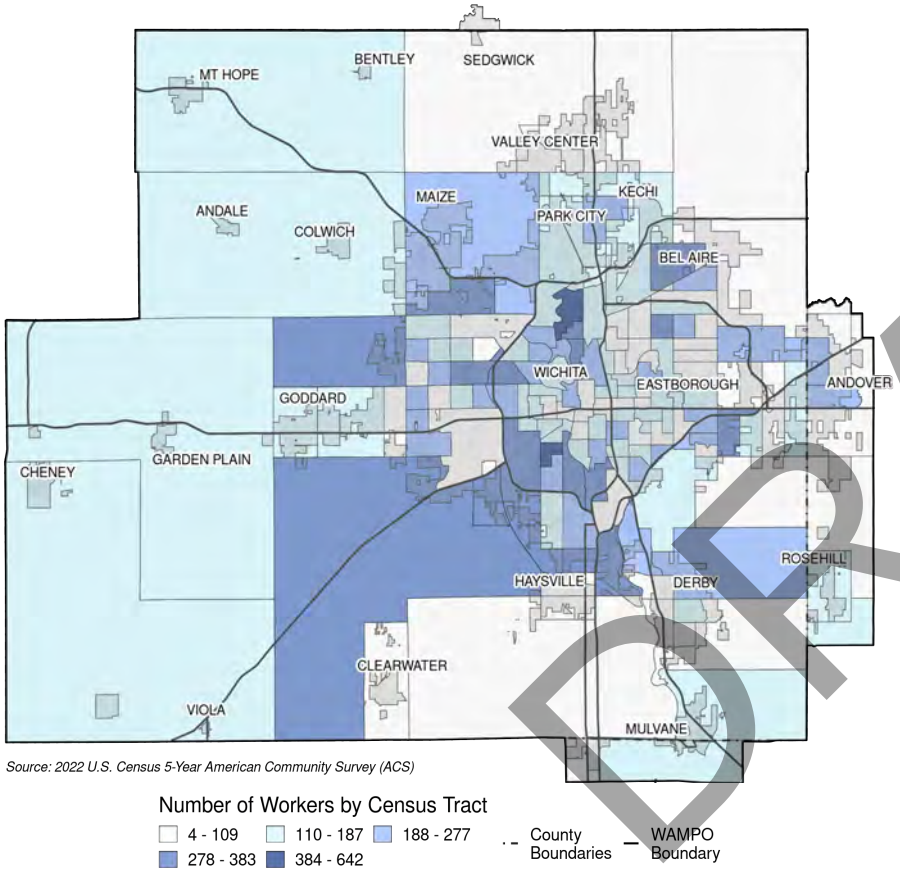
Map 2.6.2: Means of Transportation to Work: Bicycle or Walked



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

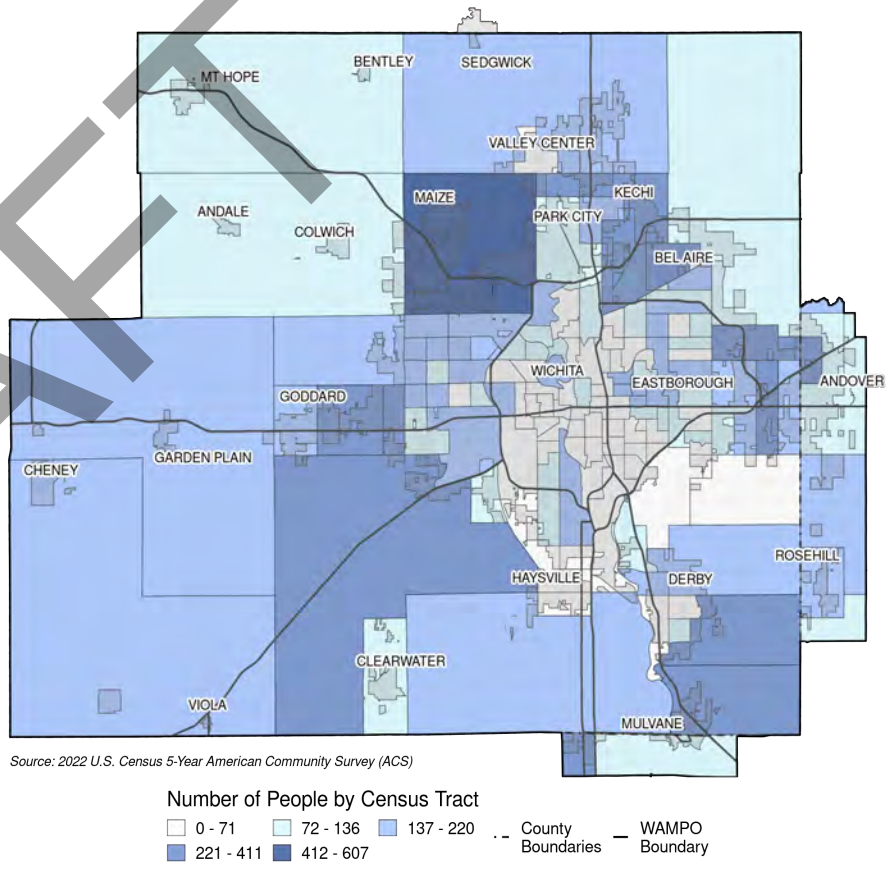
Map 2.6.4 shows the absolute number of the working population over age 16 within a Census tract that works from home.

Map 2.6.3: Means of Transportation to Work: Carpooled



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

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

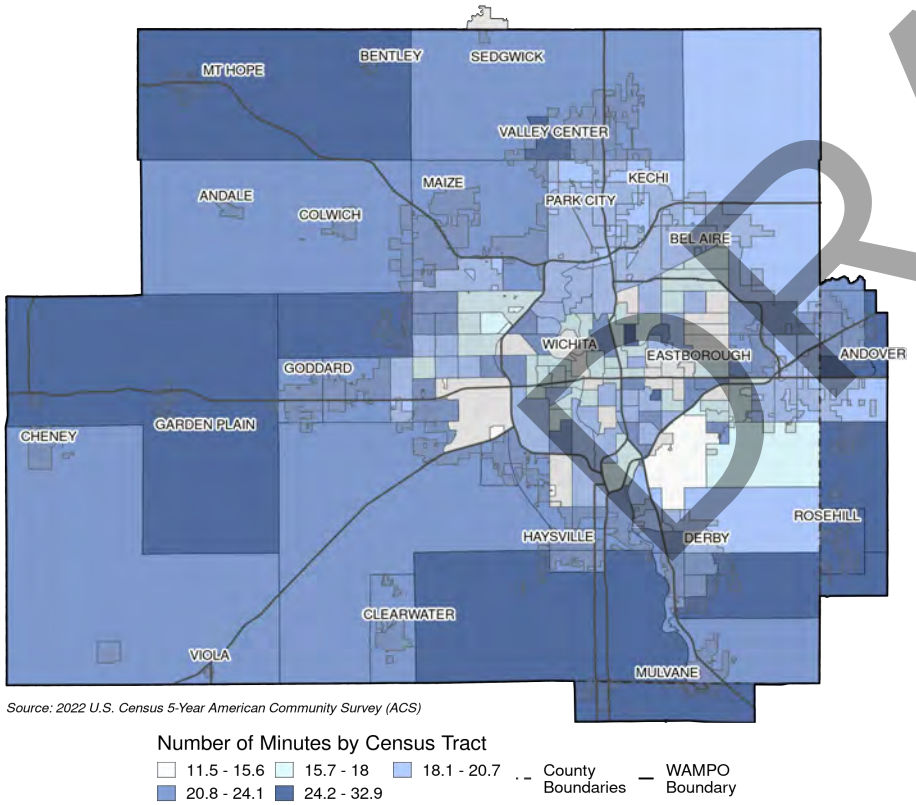


Source: 2022 U.S. Census 5-Year American Community Survey (ACS)

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 classifications roads such as interstates, freeways, and arterials. Roads designated as a high functional classification support higher traffic volumes and long trips.

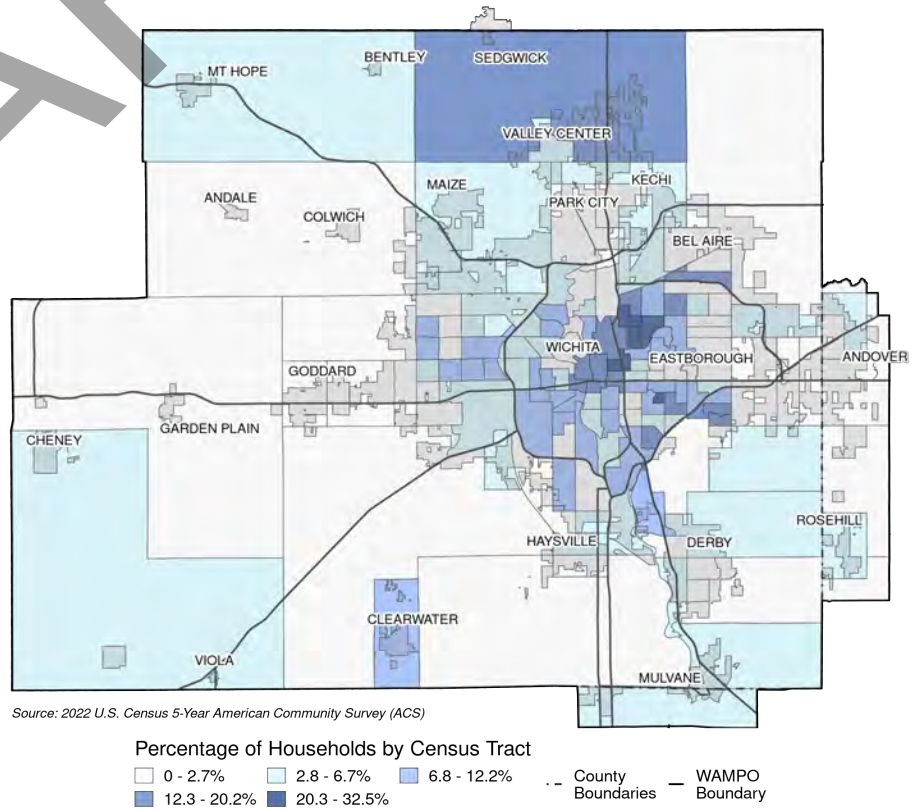
Map 2.6.5: Travel time to Work



Vehicles Available Per Household

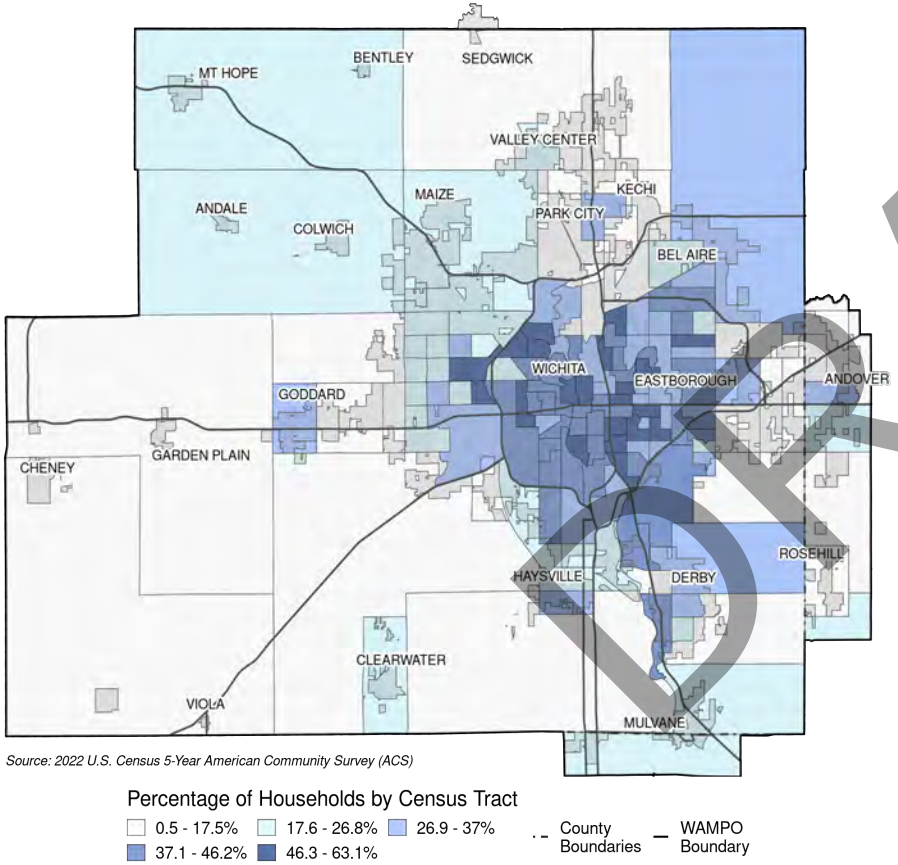
Map 2.6.6 and Map 2.6.7 show the percentages of the population of a Census tract that have no vehicle available or one vehicle available per household, respectively. According to the most recent ACS data, an estimated 3.3 % of households in the WAMPO region have no vehicle available.

Map 2.6.6: Zero-Vehicle Households



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



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 decreased 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.

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

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.

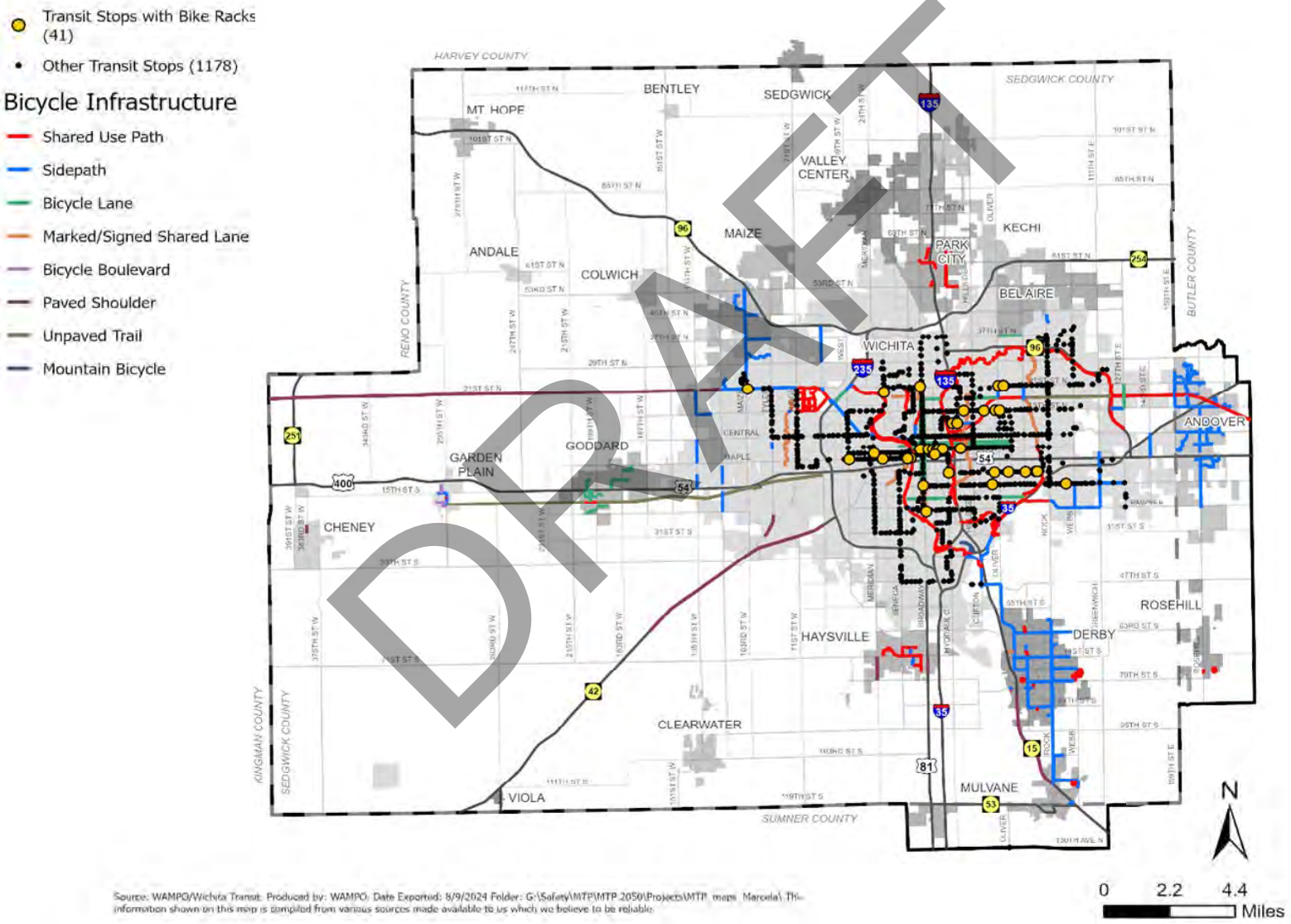
Figure 2.6.1: Average Annual Ridership for the Wichita Transit Fixed Route System, 2020-2023

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



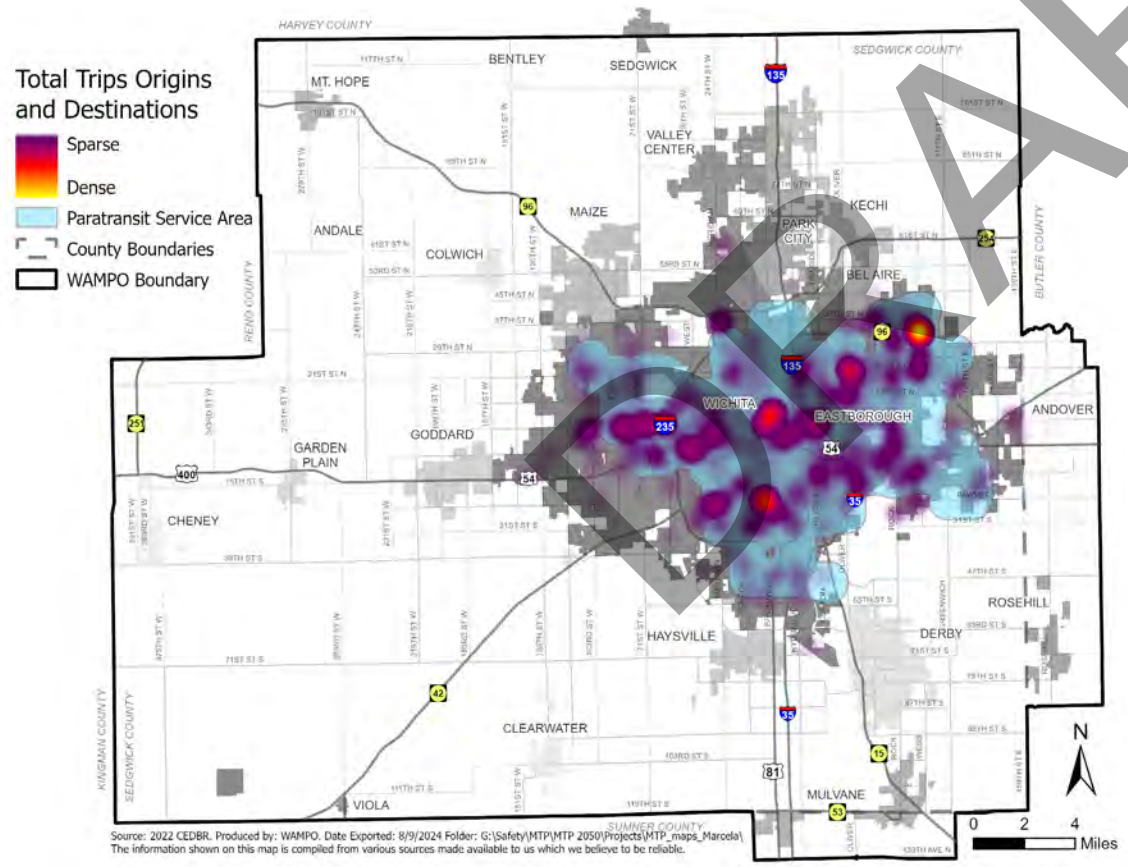
Source: WAMPO/Wichita Transit. Produced by: WAMPO. Date Exported: 8/9/2024 Folder: G:\Safety\MTP\MTP 2050\Projects\MTP maps Marcella\ The information shown on this map is compiled from various sources made available to us which we believe to be reliable.

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 coloring 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 public transportation, helping to meet the needs of all citizens.

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



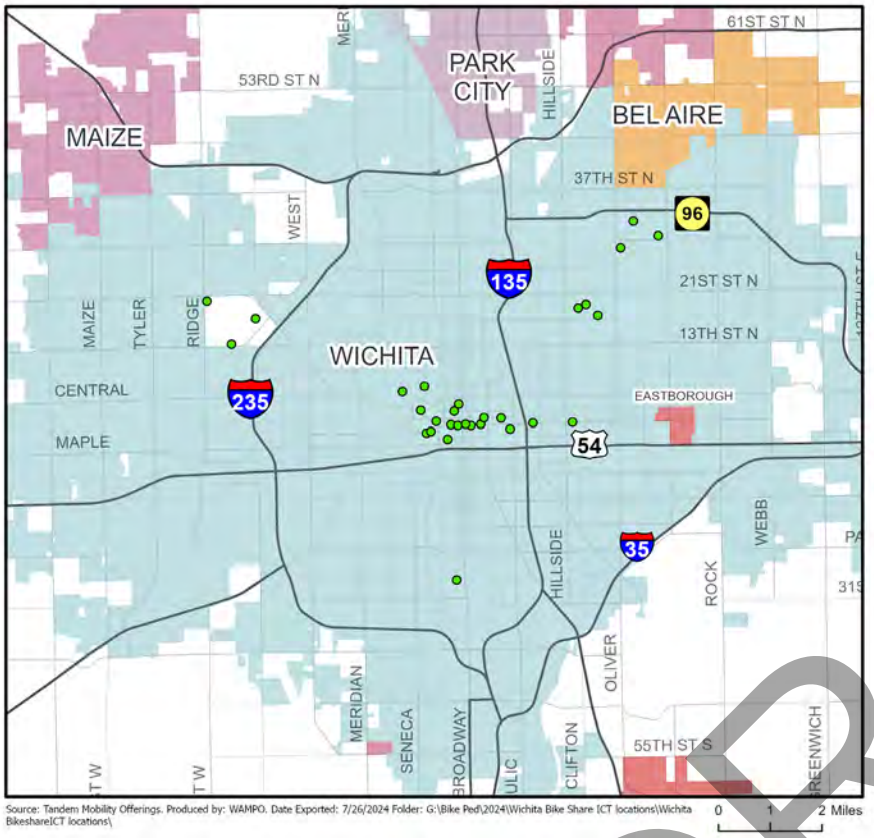
Shared Mobility

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 2.6.3 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



Source: Tandem Mobility Offerings. Produced by: WAMPO. Date Exported: 7/26/2024 Folder: G:\Bike Ped\2024\Wichita Bike Share ICT locations\Wichita Bikeshare\ICT locations\

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.


Credit: Travis Heying

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 varied and far-reaching across time and space. For example, emissions from internal combustion engine (ICE) vehicles react to sunlight 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.

In addition to surface water, the Ogallala Aquifer plays a crucial role in supporting agriculture and industry in parts of the region. As one of the largest aquifers in the world, the Ogallala underlies portions of western Kansas and extends into several other states. While the aquifer lies primarily west of the WAMPO region, its influence on regional water availability and agricultural output is significant, highlighting the importance of sustainable groundwater management for long-term resource security.

AIR QUALITY

Of all of the monitored air pollutants, the only one that has posed any concern in the WAMPO region to date is 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. ICE 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 ICE 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 in Figure 2.7.1 and Table 2.7.1, over the last several years, the region's ozone level has remained below the National Ambient Air Quality Standards (NAAQS) 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

Source: U.S. Enviromental Protection Agency retrieved September 2024 from https://aqs.epa.gov/aqsweb/airdata/download_files.html#Annual

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

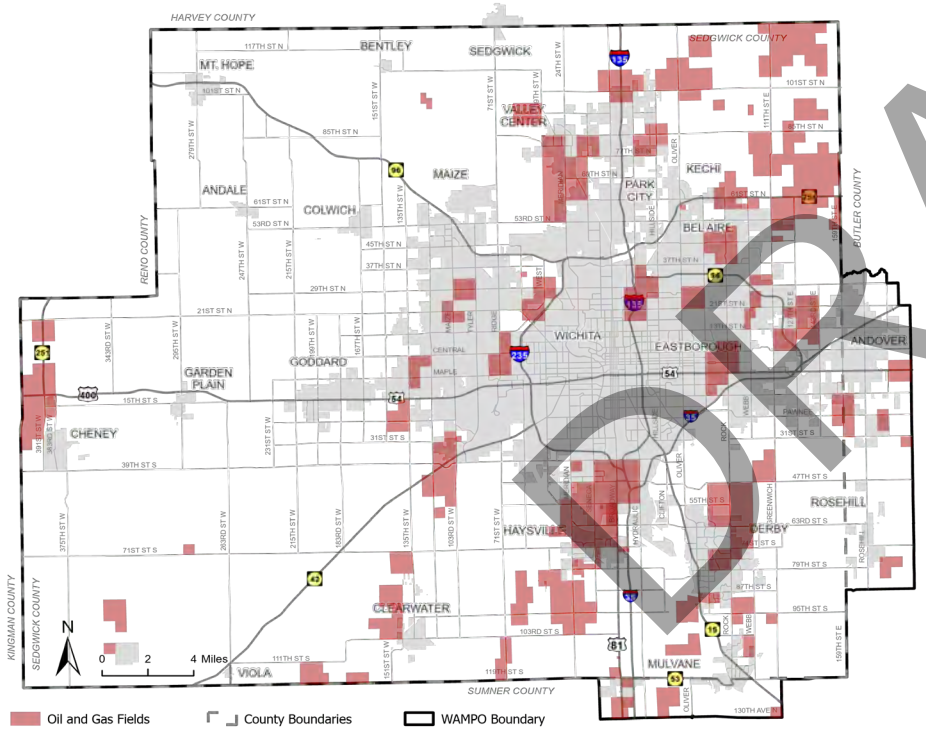
EPA Standard:	< 0.070 Parts Per Million

Source: U.S. Enviromental Protection Agency retrieved September 2024 from https://aqs.epa.gov/aqsweb/airdata/download_files.html#Annual

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. Proximity to deposits of these resources is a consideration in transportation project planning.

Map 2.7.1: Oil & Gas Deposits

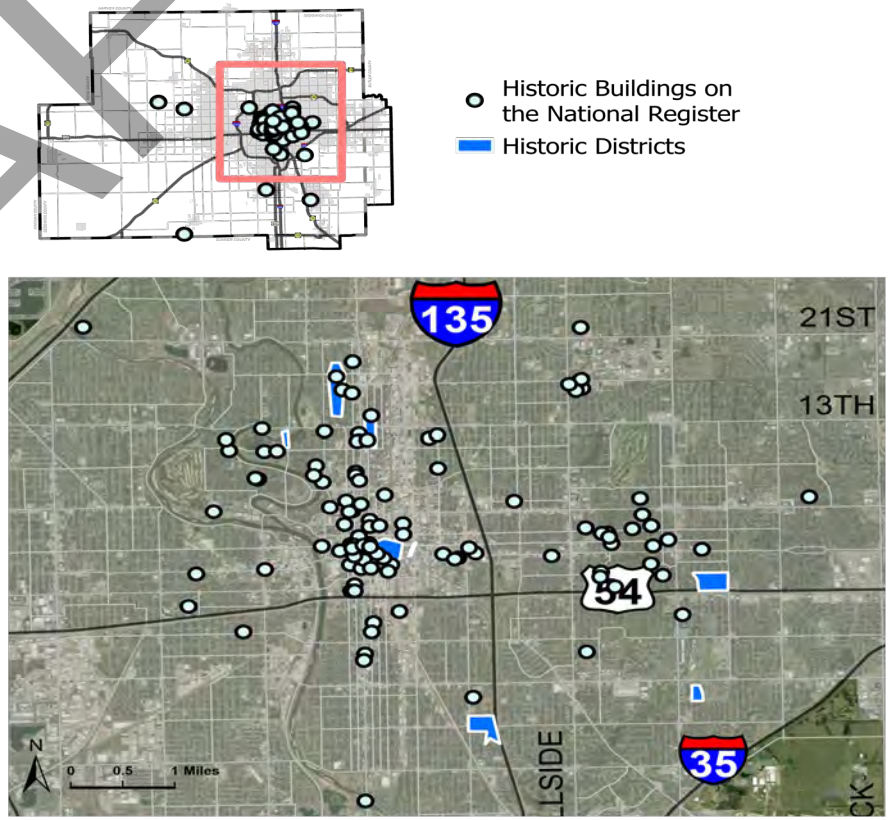


Source: Kansas Geological Survey GIS Data and Maps. Retrieved October 2024 from https://kgs-gis-data-and-maps-ku.hub.arcgis.com/search?tags=gas%2Coil

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. Proximity to these sites, properties, and structures is a consideration in transportation project planning.

Map 2.7.2: Historic Significant Places



Source: Stutts M. 2024. National Register of Historic Places. National Park Service. Retrieved October 2024 from https://irma.nps.gov/DataStore/Reference/Profile/2305746

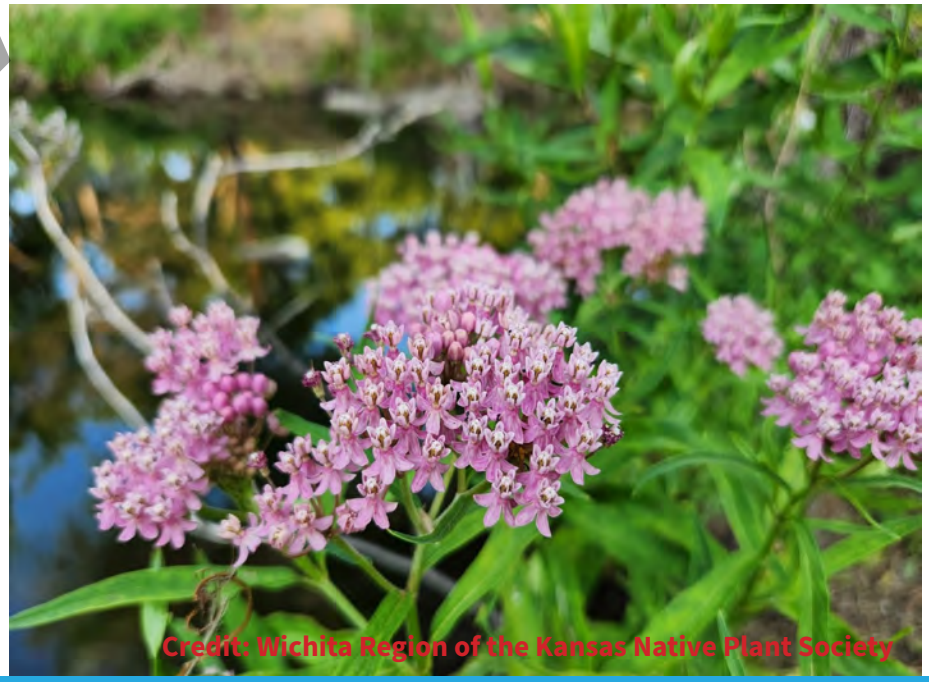
NATIVE PLANTS & WILDLIFE

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.

Credit: 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.

Potential effects on the habitats of such species are among the considerations included in environmental reviews for planned transportation projects

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. Wildfires are also a significant hazard in the region.

Ground - Level Ozone

Ozone season runs March 1-October 31, when temperatures are high. Hot, dry, stable air and NOx and VOC emissions from ICE vehicles together create ideal conditions for the formation of ground-level ozone; ozone levels in the region have approached 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

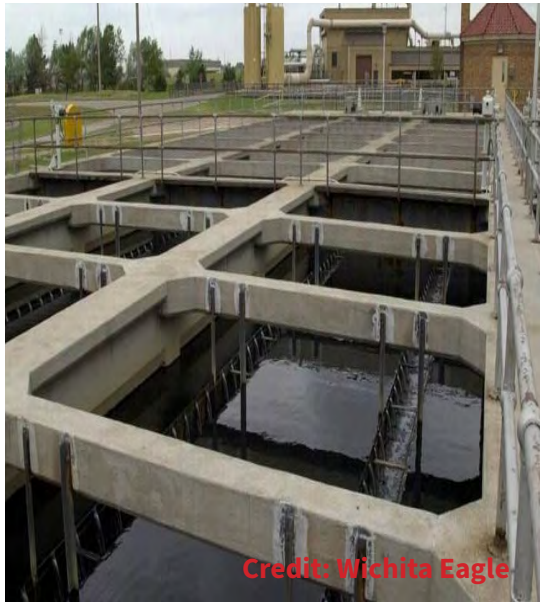
Over the last few years, earthquake frequency has increased across northern Oklahoma and south-central Kansas. Scientists continue to study the causes and impacts.

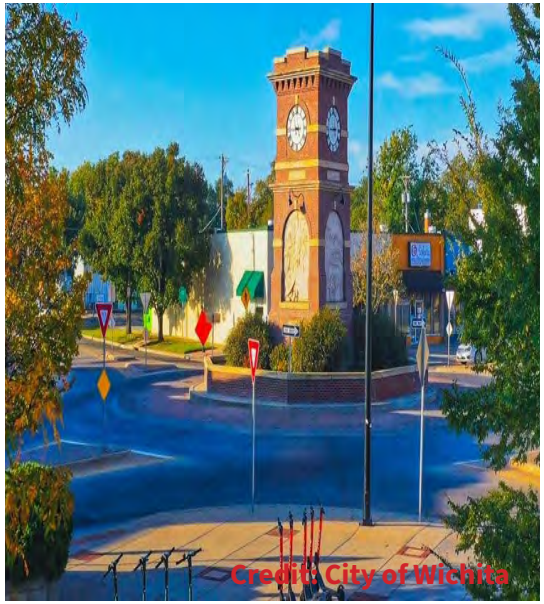
Invasive Plants & Animals

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.


Credit: Wichita Eagle


Credit: City of Wichita

MTP 2050

Chapter 3

Existing Conditions

Credit: City of Andover

MTP 3.1

Roadways & Bridges

Roadway Issues & Opportunities

Roadway issues and opportunities play a pivotal role in shaping the infrastructure and connectivity of the WAMPO region. One of the primary challenges facing the area is the safety of existing road networks to accommodate the growing population and economic activities. Poor road conditions, inadequate signage, and limited access to transportation hubs hinder not only daily commuting but also the movement of goods and services, impacting local businesses and industries.

- **Safety:** Increases in the incidence of fatalities on regional highways and roads are a critical area of concern for future transportation planning and investment.
- **Deferred Maintenance:** The costs of deferred maintenance on a regional scale are unknown. Understanding the full costs of deferred maintenance is key to building future spending practices and policies.
- **Roadway Upgrading:** Investment in the local street system is needed across the region to enhance safety and bring the roadway system up to current standards.
- **Technology:** Exploration and investment in technological updates to the regional transportation system can be transformative to the future of transportation.

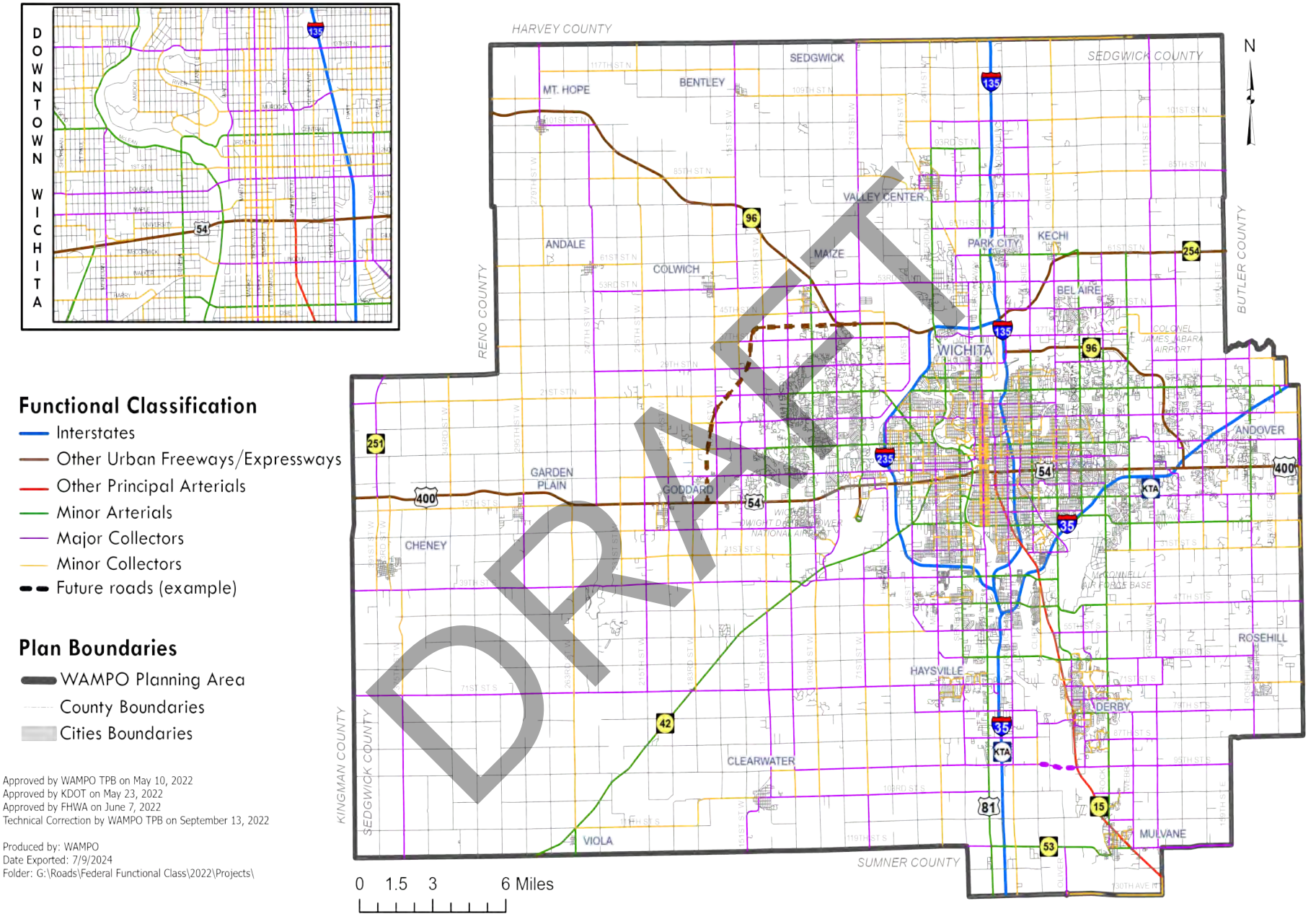

Credit: Google Earth - Sedgwick

Current Roadway System

ROAD NETWORK & FUNCTIONAL CLASSIFICATION

The 2023 Federal Highway Administration (FHWA) guidance defines roadway classifications and establishes procedures to update these systems at the local and state levels. Roadways are generally grouped into the following categories: Interstate, Arterial, Collector, or Local. Subcategories such as Principal, Major, and Minor may be applied to better define the roadway and reflect road usage. Roadways that are functionally classified as Interstate, Arterial, or Collector are eligible to receive federal transportation funds. Map 3.1.1 shows the functional classifications of roadways within the WAMPO region that are classified as minor collectors or higher.

Map 3.1.1: Federal Roadway Functional Classification



The majority of roadways within the WAMPO region are classified as local roads, just under 3,100 miles.

Centerline Miles by Functional Classification

Functional Classification	Miles
Interstate	69
Urban Freeway/Expressway	117
Principal Arterial	29
Minor Arterial	257
Major Collector	618
Minor Collector	445
Local	3092

Centerline Miles by Jurisdiction

Jurisdiction	Interstate	Urban Freeways	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local	Total
Wichita	38	28	4	148	187	137	1497	2038
Derby	-	-	6	8	14	15	82	124
Andover	2	3	-	6	10	4	59	83
Park City	7	-	-	6	12	0	42	67
Haysville	-	-	-	2	8	5	37	53
Bel Aire	-	-	-	3	9	-	33	46
Valley Center	-	-	-	4	8	6	33	51
Maize	-	-	-	2	9	5	23	39
Goddard	-	3	-	-	5	2	18	29
Mulvane	1	0	3	4	2	5	27	42
Rose Hill	-	-	-	-	3	1	18	22
Kechi	-	4	-	2	6	2	12	26
Clearwater	-	-	-	-	2	0	15	17
Cheney	-	-	-	-	0	4	15	19
Colwich	-	-	-	-	1	2	9	12
Sedgwick	-	-	-	-	0	1	1	2
Andale	-	-	-	-	0	1	5	6
Garden Plain	-	0	-	-	1	1	7	10
Mount Hope	-	2	-	-	2	0	7	10
Eastborough	-	-	-	1	1	0	6	8
Bentley	-	-	-	-	0	1	3	4
Viola	-	-	-	1	-	-	2	2
Unicorporated	21	79	16	70	338	255	1141	1919
Total	69	117	29	257	619	447	3093	4631

Credit: Google Earth - Wichita

Vehicle Miles Traveled (VMT)

Vehicle Miles Traveled (VMT) is a measure used to quantify the total distance traveled by vehicles within a specified period, often over a day or year. VMT is crucial for understanding the cumulative impact of transportation activities on infrastructure wear, fuel consumption, emissions, and overall road usage patterns.

Annual Average Daily Traffic (AADT)

Annual Average Daily Traffic (AADT) is a useful and basic measurement that indicates how busy a point on a road segment is. AADT estimates the total volume of vehicle traffic, in both directions, for a given location along a roadway on an average day during a given year. AADT is one of the most widely used data elements in transportation planning and traffic engineering. There are many uses for AADT in supporting various agency functions related to planning, design, operations, safety, and maintenance.

Daily VMT and AADT on Major WAMPO State Corridors

In 2024, WAMPO developed a daily VMT and AADT report, with data from 2023, to inform and illustrate to the public and stakeholders traffic volumes on seven (7) of WAMPO's major state corridors. These corridors include:

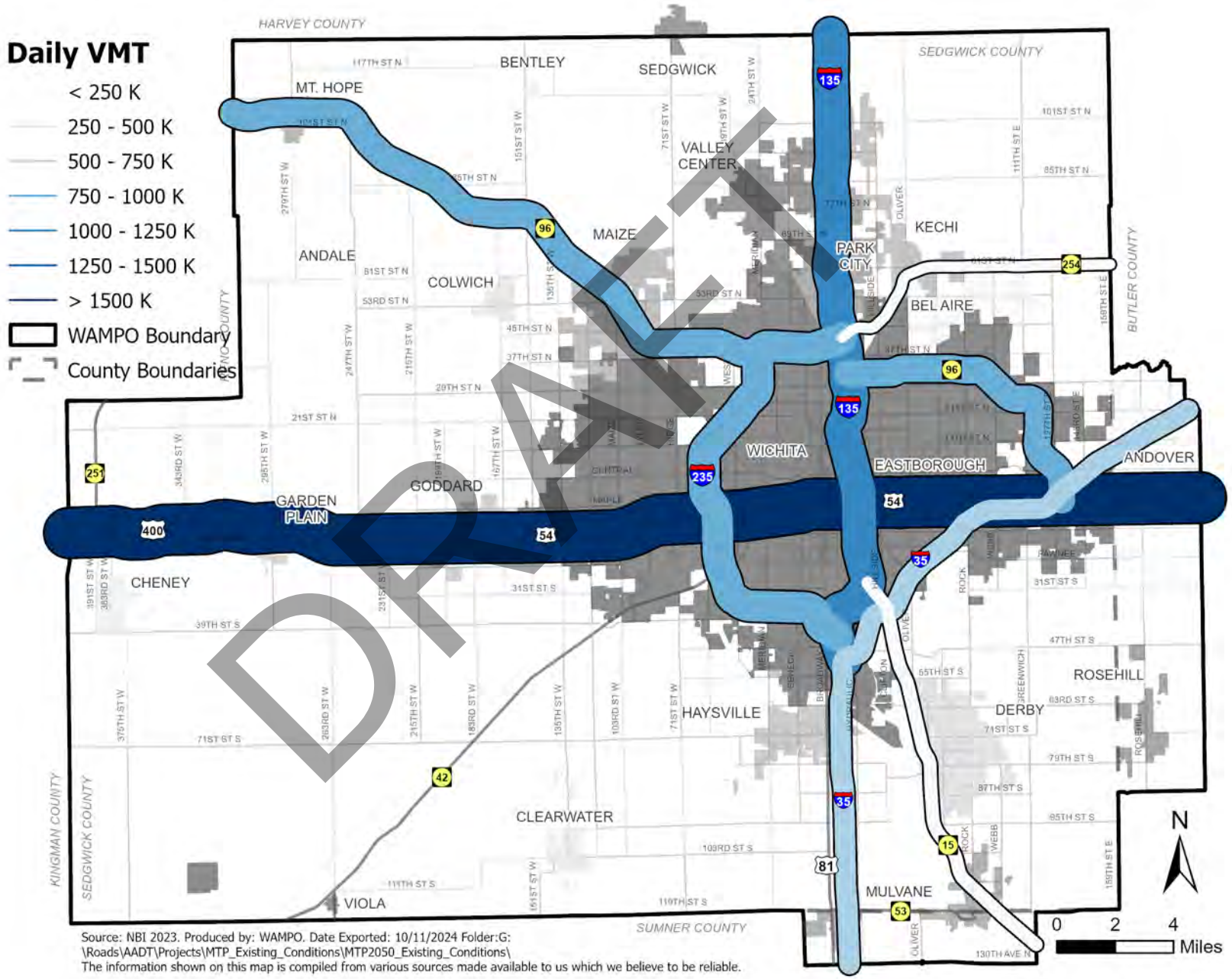
- **I-35**
- **I-135**
- **I-235**
- **US-54/Kellogg**
- **K-15**
- **K-96**
- **K-254**

Map 3.1.2 compares which major corridors are most heavily traveled relative to one another by daily VMT. Figure 3.1.1 lists specific Daily VMT numbers for each corridor. When comparing all seven (7) corridors, US-54 is the most traveled corridor in the WAMPO region. US-54 provides a continuous east-west connection for drivers whether traveling out of and/or into Wichita and through Wichita.

Map 3.1.3 compares the relative AADT volumes of each corridor by road segment. Figure 3.1.2 identifies the busiest road segment by peak AADT along each of those seven (7) corridors. Several segments with the highest traffic volumes are near or at junctions, specifically those with I-135.

To learn more about AADT, daily VMT, and data collection, please view the 2024 Daily Vehicle Miles Traveled (VMT) and Annual Average Daily Traffic (AADT) Report.

Map 3.1.2: Daily VMT



Map 3.1.3: Annual Average Daily Traffic

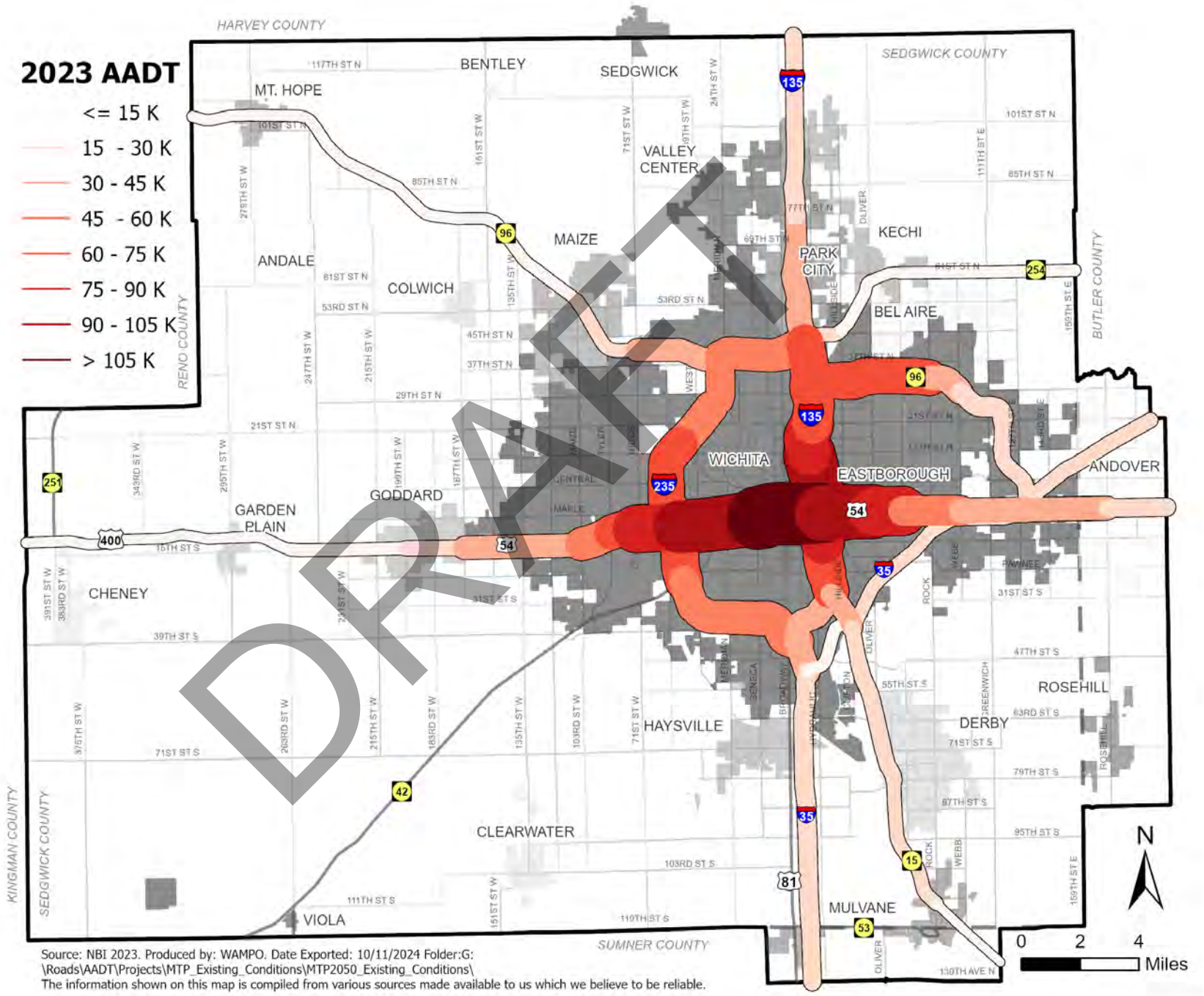


Figure 3.1.1: Daily Vehicles Miles Traveld by Corridor

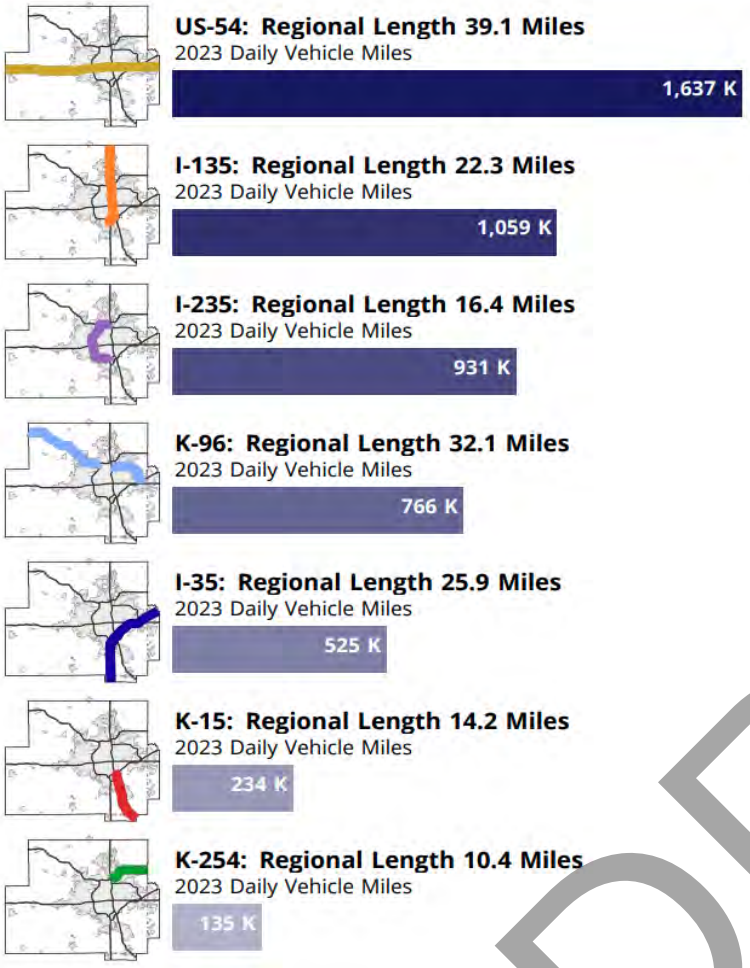
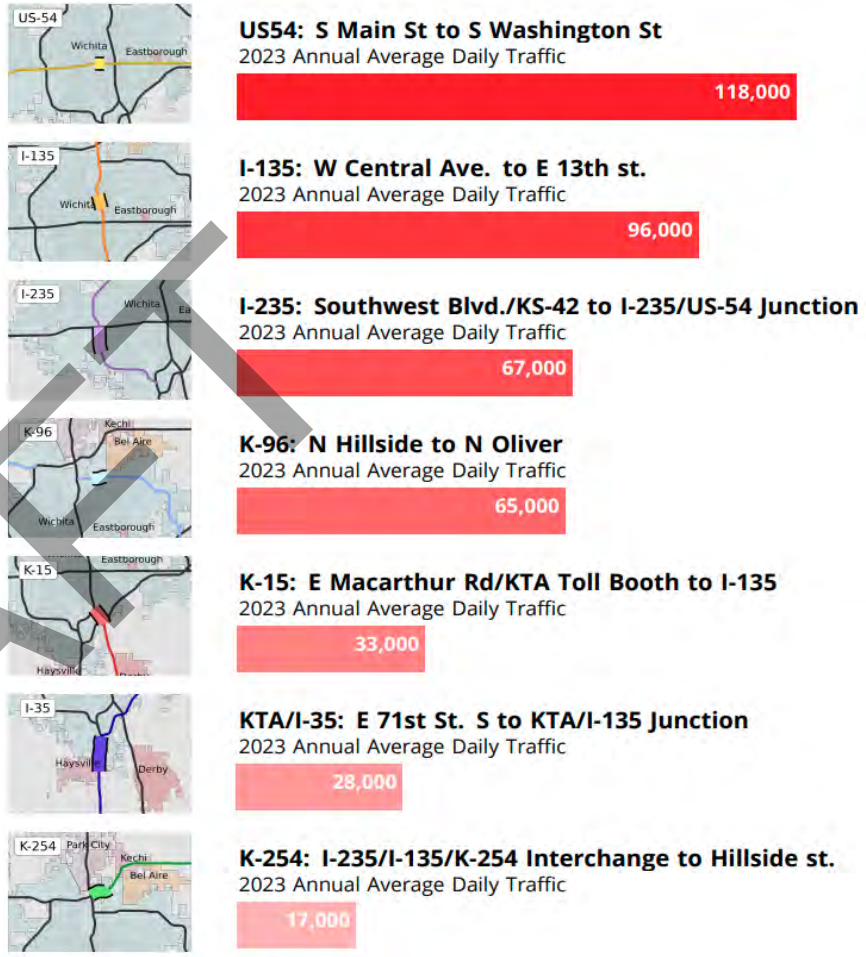


Figure 3.1.2: Peak AADT Road Segments by Corridor



Bridges

Bridges and other structures are key components of the roadway network that provide transportation connectivity to safely cross features such as waterways, railways, roadways, and other obstacles. The Federal Highway Administration manages and defines bridge sufficiency ratings using the National Bridge Inspection Standards (NBIS). NBIS are the standards established for the safety inspections of highway bridges on public roads throughout the United States. Periodic and thorough inspections of bridges are necessary to maintain safe bridge operation and prevent structural and functional failures.

Within the WAMPO region, there are more than 1,400 bridges on federal, state, and local roads.

Table 3.1.1 illustrates the number of bridge structures by jurisdiction owner. Slightly over two-thirds (62%) of bridges in WAMPO are maintained by Sedgwick County. The second-highest maintainer of bridges (29%) in WAMPO is the City of Wichita.

Table 3.1.1: Bridge Structures Maintained by Local Governments

Owner/Maintainer	# of Structures
City of Andover	16
City of Bel Aire	4
Butler County	18
City of Derby	12
City of Maize	4
City of Park City	7
Sedgwick County	595
Sumner County	10
City of Valley Center	14
City of Wichita	282
Total	**962**

Table 3.1.2: Bridge Structures Maintained by Non-Local Authorities

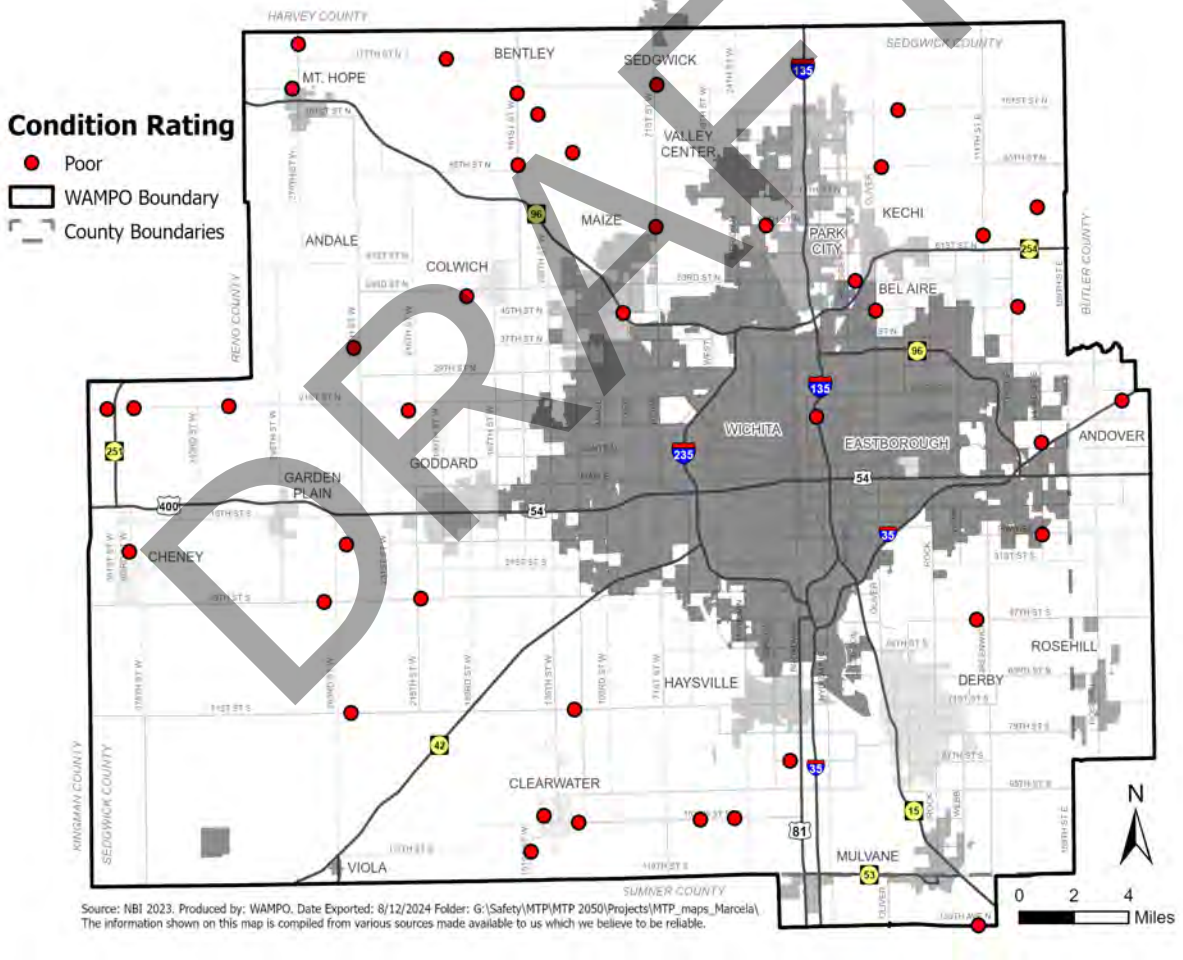
Owner/Maintainer	# of Structures
KTA	65
Railroad	3
State Highway Agency	376
Total	**444**

Bridge Conditions

Bridge conditions are another critical aspect of roadway infrastructure in the WAMPO region. Currently, approximately 97% of the bridges in the area are classified as in either 'Good' (69%) or 'Fair' (28%) condition. While this indicates a relatively favorable state for the majority of bridges, it's essential to address the remaining 3% classified as 'Poor' to ensure overall safety and functionality.

Investing in bridge maintenance and rehabilitation programs is paramount to prevent deteriorating conditions that could lead to disruptions in transportation and potential safety hazards. Regular inspections, timely repairs, and strategic upgrades based on engineering assessments can prolong the lifespan of bridges and mitigate risks associated with aging infrastructure. Map 3.1.4 shows bridges classified as in poor conditions by the National Bridge Inventory.

Map 3.1.4: Bridges in Poor Conditions



3.2 Transit & Paratransit

Transit service within the WAMPO region is currently offered by 25 providers. Of these 25 providers, 8 are categorized as public transit agencies: Wichita Transit, Butler County Regional Transit Program, Derby Dash, Haysville Hustle, Cowley County Council on Aging, Mulvane Senior Center, Park City Senior Center, and Sedgwick County Transportation. The remaining 17 providers are nonprofit organizations offering transit services for various groups in the region. This section provides a general overview of each public transit provider, including information pertaining to service areas, hours of operation, route information, and rider eligibility, where applicable.

Providers of paratransit services, also referred to as demand response services, offer safe, accessible transportation to various destinations for seniors and people with disabilities. Regional paratransit service providers include the Butler County Regional Transit Program, Derby Dash, Haysville Hustle, Sedgwick County Transportation, Wichita Transit, and other community-based providers (both for-profit and non-profit).

TRANSIT ISSUES & OPPORTUNITIES

- **Travel Time:** One regional goal is to decrease the large gap in overall trip travel time between transit and car.
- **Coordination:** There are inefficiencies in coordinating trips among transportation service providers, and a need to institute centralized mobility management to streamline coordination efforts among transportation service providers.
- **Accessibility:** There are accessibility barriers for many system users, and a need to remove barriers that make accessing and using public transportation prohibitive for older adults, people with disabilities, and low-income households.

Wichita Transit

Wichita Transit is operated by the City of Wichita and provides both fixed-route and demand-response transit services within the city limits. Serving over 160 square miles and a population of approximately 400,000 residents as of the most recent estimates, Wichita Transit remains the largest and sole provider of fixed-route transit services within the Wichita Area Metropolitan Planning Organization (WAMPO) region.

TRANSIT SERVICE & FARE SCHEDULE

Fixed-Routes

The fixed-route system consists of 18 routes, running 5 AM to 7 PM Monday through Friday and 6 AM to 6 PM on Saturdays. Most routes operate with frequencies of 45 minutes during weekdays and 60 minutes on Saturdays.

Wichita Transit maintains a tiered fare structure with discounted fares available for eligible groups. In addition to single-ride fares, there are multiple unlimited-ride pass options available, detailed in the current fare schedule.

Demand Response

Wichita Transit provides origin-to-destination paratransit service, also known as demand response service, to any destination within the City of Wichita. All fixed routes including the circulator (i.e. Q-Line) provide ADA complementary paratransit service Monday-Saturday. Extended evening service is available within ¾ of a mile from fixed routes.

Users have two options for scheduling demand-response rides — subscription service and standard trips. The subscription service allows riders to schedule recurring trips to and/or from the same location for a period of up to 30 days for purposes such as school, work, religious services, medical appointments, etc, while the standard trip service allows users to schedule a one-time trip to any location with at least one-day advance notice. Riders are able to schedule rides by calling Wichita Transit's Administrative Offices.

Since paratransit service is reserved for individuals with a disability that prevents them from using the fixed-route service, an eligibility application for using the service must be submitted to Wichita Transit. Eligibility for the service falls into three categories, and an eligible user must meet the criteria for at least one of the three categories to be deemed eligible for paratransit services:

- **Category 1:** Individuals who cannot get on, ride, or get off a bus because of their disability.
- **Category 2:** Individuals with a disability who can ride accessible fixed-route transit, but there is no accessible transit on the route they need to use. For example, an individual requiring an accessible fixed-route vehicle when the vehicle is out for maintenance may use the paratransit service.
- **Category 3:** Individuals with a disability that prevents them from getting to/from a transit stop, including built barriers such as curbs or environmental conditions such as distance.

ANNUAL FARE REVENUES, OPERATING EXPENSES AND OPERATING STATISTICS

Fixed Routes

In 2022, Wichita Transit, part of the City of Wichita government, provided transit services across a geographic coverage area of 227 square miles, with a service area encompassing 164 square miles. The agency managed a fleet of 76 revenue vehicles and 8 service vehicles, with all 76 revenue vehicles available for maximum service. The total operating expenses for the year amounted to $10,669,898, with $1,707,289 in fare revenues. The annual passenger miles traveled reached 5,414,758, and the operating expense per vehicle revenue mile for bus services was $6.29.

Geographic Coverage

This refers to the total physical or spatial area that an entity (such as a plan, network, or policy) encompasses. It's a broader term that could include everything within a specific region, whether or not services are provided to all parts of it. For instance, a geographic coverage area might include areas beyond where active services are available, such as rural zones that are physically included but not served.

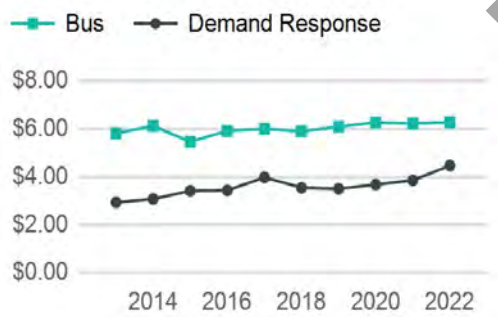
Service Area

This is more specific and refers to the portion of the geographic area where actual services are provided. For example, in transportation, the service area would be where transit, deliveries, or other specific services are actively offered. The service area is often a subset of the geographic coverage area, defined by where the provider's resources are deployed.

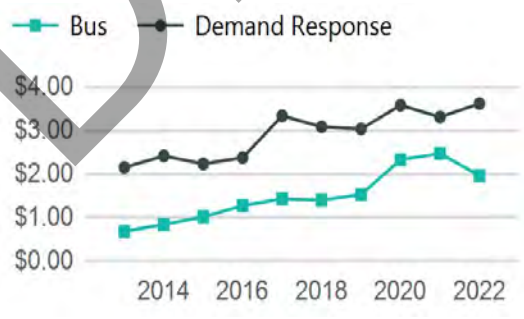
Demand Response

Wichita Transit managed 22 directly operated vehicles in maximum service (VOMS) for demand response. The total operating expenses for these services were $2,761,632, with $245,654 in fare revenues. The annual passenger miles traveled for demand response services reached 760,219, with an operating expense per vehicle revenue mile of $4.48.

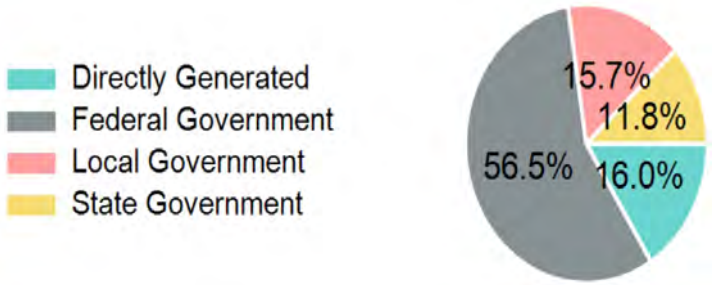
Graph 3.2.1: Operating Expenses per Vehicle Revenue Mile



Graph 3.2.2: Operating Expenses per Passenger Mile



Graph 3.2.3: Operating Funding Sources



https://www.transit.dot.gov/sites/fta.dot.gov/files/transit_agency_profile_doc/2022/70015.pdf

SERVICE EFFICIENCY & EFFECTIVENESS STATISTICS

The FTA publishes additional statistics in the National Transit Database (NTD) that assess the efficiency and effectiveness of transit agency operations by calculating six measures; operating expense per vehicle mile, operating expense per vehicle revenue hour, operating expense per passenger mile, operating expense per passenger trip, passenger trips per vehicle revenue mile, and passenger trip per vehicle revenue hour.

Table 3.2.4: City of Wichita Service Supplied

Service Supplied	
Annual Vehicle/Passenger Car Revenue Miles (VRM)	2,314,083
Annual Vehicle/Passenger Car Revenue Hours (VRH)	148,773
Vehicles Operated in Maximum Service (VOMS)	65
Vehicles Available for Maximum Service (VAMS)	76

Table 3.2.5: Service Efficiency and Effectiveness

Metrics	Service Efficiency		Service Effectiveness			
Mode	OE per VRM	OE per VRH	UPT per VRM	UPT per VRH	OE per PMT	OE per UPT
Demand Response	$4.48	$93.28	0.1	2.6	$3.63	$36.54
Bus	$6.29	$89.54	0.6	8.4	$1.97	$10.66
Total	**$5.80**	**$90.28**	**0.5**	**7.2**	**$2.18**	**$12.48**

3.3 Bicycle & Pedestrian

Walking and bicycling, which are considered two of the more common modes of active transportation, have clear public health benefits due to the physical activity required. However, active transportation modes have proven to offer benefits beyond improved public health. By providing active transportation infrastructure, communities can offer residents opportunities beyond private vehicle travel that can alleviate traffic congestion and improve travel reliability. Furthermore, walkable communities that contain a mix of land uses have been shown to create many economic benefits, such as increased property valuations and increased business revenues related to higher levels of pedestrian traffic, as well as decreased household transportation and healthcare costs.

Bicycle & Pedestrian Counts

WAMPO facilitates an annual bicycle and pedestrian count event in which volunteers count the number of bicyclists, pedestrians, and other nonmotorized transport users (i.e., scooters, skateboards, roller skaters, etc.) over specific periods at specific locations. These counts are recorded following National Bicycle and Pedestrian Documentation (NBPD) methodology, https://bikepeddocumentation.org, which accounts for weather and other community events that may influence the amount of active transportation users recorded on the regional bicycle and pedestrian network at the time of the counting event.

Since 2012, WAMPO has counted bicycle and pedestrian traffic at dozens of specific locations throughout the region. The counts are conducted during five two-hour time slots in September: two weekday mornings, two weekday evenings, and a Saturday afternoon (a complete count at a given site includes data from one weekday morning, one weekday evening, and one Saturday afternoon). The days were chosen based on recommendations from the National Bicycle and Pedestrian Documentation Project. Each site is either a screenline or an intersection; at an intersection, the direction of travel of each counted person is recorded. A screenline is is a conceptual or physical boundary used in transportation planning and traffic studies to measure the flow of vehicles, pedestrians, or other forms of traffic across a defined area. By placing this boundary, transportation planners can "screen" or capture the movement of traffic entering or exiting specific zones, providing data for analysis of travel patterns, congestion, and overall network usage.

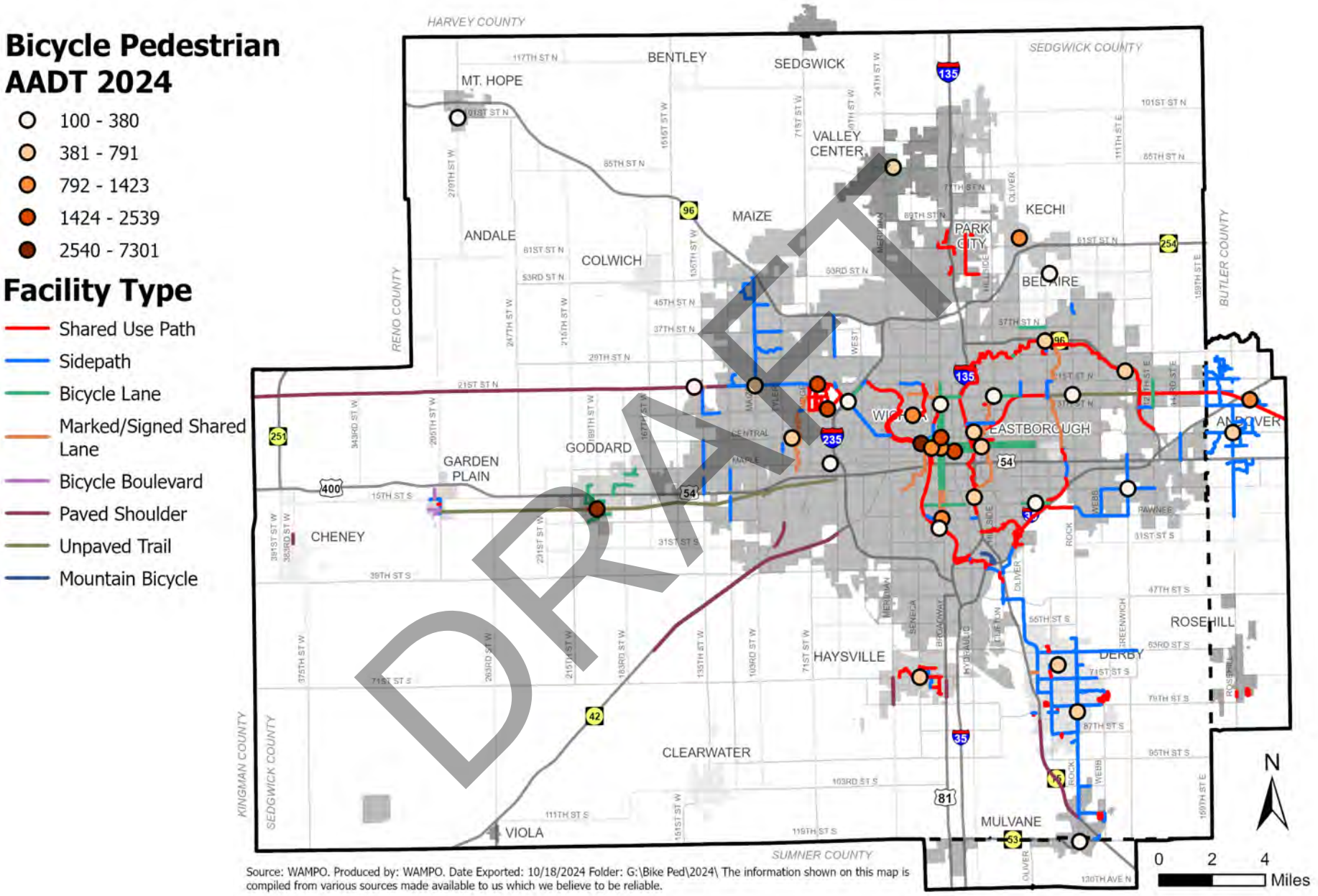
Between the years 2012 and 2024, volunteers recorded counts at 42 different sites across the region. However, all 42 sites were not included in each year's counting event due to varying numbers of volunteers. Map 3.3.1 displays the region's bicycle and pedestrian counts for 2024.

Figure 3.3.1: 2024 Top 5 Counting Locations

In 2024, counts were conducted at 36 locations throughout the WAMPO region. Daily projected bicycle and pedestrian traffic at these individual sites ranged from 100 to 7,301 trips. Across all locations, the average for the Annual Average Daily Traffic (AADT)—which represents the estimated number of daily trips based on the count data—was 971, while the median was 462. AADT is a projection that helps account for variations in data by estimating the typical number of daily trips at a given location over the course of a year.

Figure 3.3.1 highlights the five locations with the highest bicycle and pedestrian AADT in 2024. For the previous two years, the intersection of Douglas Ave. and Washington St. in Wichita held the top spot for the highest bicycle/pedestrian AADT. However, in 2024, the highest count location shifted to the Arkansas River Path at the Keeper of the Plains.

Map 3.3.1: 2024 Bicycle and Pedestrian Count Projections



Source: WAMPO. Produced by: WAMPO. Date Exported: 10/18/2024 Folder: G:\Bike Ped\2024\ The information shown on this map is compiled from various sources made available to us which we believe to be reliable.

Benefits of Bicycling & Walking Infrastructure

The WAMPO region has made significant investments in a variety of bicycle and pedestrian infrastructure, including standalone facilities and multi-use paths alongside surface streets.

Biking, walking, and other forms of active transportation are important alternatives to automobiles in the WAMPO region, promoting healthy living, reducing emissions, and serving as the primary means of travel by those who do not have the option of motorized transportation. People's ability to use these nonmotorized modes is largely dependent upon the availability of sidewalks and/or paved trails between their intended origins and destinations.

There are several benefits associated with walkable and bikeable communities.

- **Economic:** Several studies have shown that walkable and bikeable neighborhoods lead to economic benefits. According to a 2019 study from Smart Growth America and George Washington University, the benefits of walkable neighborhoods include attracting a more educated workforce, more broadly shared access to opportunities, and higher levels of economic productivity.
- **Greenhouse Gas Reduction:** When bicycle and walking trips are substituted for motorized vehicle trips, vehicle emissions from transportation are reduced, including greenhouse gas emissions. A 2015 study from the Institute for Transportation and Development Policy estimates that a shift in urban transportation to more bike trips could reduce carbon dioxide emissions from urban passenger transport by nearly 11% in 2050.
- **Community Health:** Walkable and bikeable communities by design encourage their residents to exercise more and improve overall resident health. Creating more walkable neighborhoods is part of a Center for Disease Control and Prevention (CDC) initiative created by its Community Preventive Services Task Force. People who use active transportation are, on average, more physically fit, less obese, and have a reduced risk of cardiovascular disease compared to people who use only motorized transportation. The CDC stated that walking is the most common form of physical activity; community and street scale designs that improve walking and bicycling infrastructure lead to increases in physical activity rates. It is estimated that obesity costs the U.S. healthcare system $147 billion a year; improvements that promote walking and bicycling may help to reduce that cost by improving rates of obesity and obesity-related diseases like heart disease, stroke, type 2 diabetes, and certain types of cancer.

Bicycle/Pedestrian Issues & Opportunity

- **Safety:** WAMPO will be focusing on safety concerns, particularly the rise in fatalities and serious injuries among bicyclists and pedestrians, in the Regional Active Transportation Plan.
- **Network Expansion & Connection:** The need and preference for an expanded and connected bicycle and pedestrian network within and between communities was a frequently-expressed theme during WAMPO public engagement.
- **Place-Making Considerations:** Effective place-making at both the local and regional levels is critical for creating a quality living environment to support, attract, and retain people and jobs. Focusing on place-making will inform future land use and transportation planning.
- **Data:** One of the greatest challenges for bicycle and pedestrian planning is the lack of usage and demand data and documentation. Without accurate and consistent demand and usage information, it is difficult to measure the positive benefits of investments in these modes, especially when compared to other transportation modes such as the private automobile. While current information sourced from the annual point-in-time counts is valuable, enhancing this data with additional ongoing sources is useful for future planning.
- **Regional Pathways Plan Update:** WAMPO is updating the Regional Pathways Plan into a new 'Regional Active Transportation Plan.' The last update was in 2011, and this effort will involve revising associated strategies with input from partners and community-based stakeholders. A key part of this work will include identifying missing linkages on regional pathways. The new plan will be titled 'Regional Active Transportation Plan.'

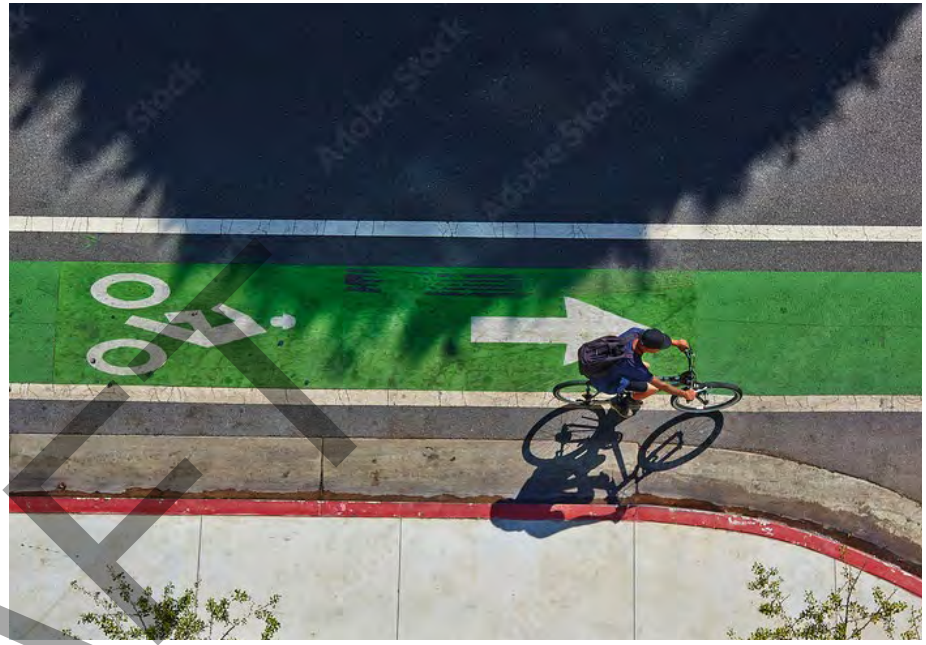
Credit: Bike Walk Wichita

Credit: Bike Walk Wichita

Bicycle Network Inventory

The existing bicycle network in the WAMPO area consists of four types of facilities—bike lanes, bike boulevards, shared roadways, and shared-use path— designed to connect the City of Wichita with the surrounding communities, and create connections between communities. These facilities can be categorized into on-street facilities (bike lanes, bike boulevards, and shared roadways) and off-street facilities (shared-use paths) that are located adjacent to roadways or as trails through recreational areas. Within the WAMPO region, the on-street and off-street facilities are defined as:

- **Bike Lane:** A portion of a roadway which has been designated by striping, signing, and pavement markings for the preferential or exclusive use by bicyclists.
- **Bike Boulevard:** A low-speed and low-volume street bicycle route shared with vehicles. These boulevards incorporate additional markings and improved crossings to facilitate safer bicycle travel.
- **Shared Lane/Roadway:** A roadway open to both bicycle and motor vehicle travel.
- **Shared-Use Path:** A bikeway physically separated from motorized vehicular traffic by an open space or barrier, and either within the right-of-way or within an independent right-of-way. Also shared with pedestrians.
- **Mountain Bike Trail:** A designated off-road path or route specifically designed for mountain biking.
- **Unpaved Trail:** A path or route that does not have a hard, artificial surface like asphalt, concrete, or other paving materials.



EXISTING AND FUTURE BIKEWAYS MAP

WAMPO created a bikeways map for the region. It can be found at www.wampo.org/bicycle-pedestrian#bikepedmap. The map consists of shared use paths, sidepaths, bicycle lanes, marked/signed shared lanes, bicycle boulevards, unpaved trails, mountain bicycle trails, and planned future paths.

Pedestrian Network Inventory

A pedestrian network is a system of interconnected pathways and infrastructure designed to support safe, efficient, and convenient walking and other forms of pedestrian travel within a community or region. It is made up of various components, including:

- **Sidewalks**
- **Crosswalks**
- **Trails and paths**
- **Footbridges and overpasses**
- **Pedestrian signals**
- **Curb ramps**
- **Plazas and pedestrian zones**
- **Stairways and ramps**
- **Lighting and signage**

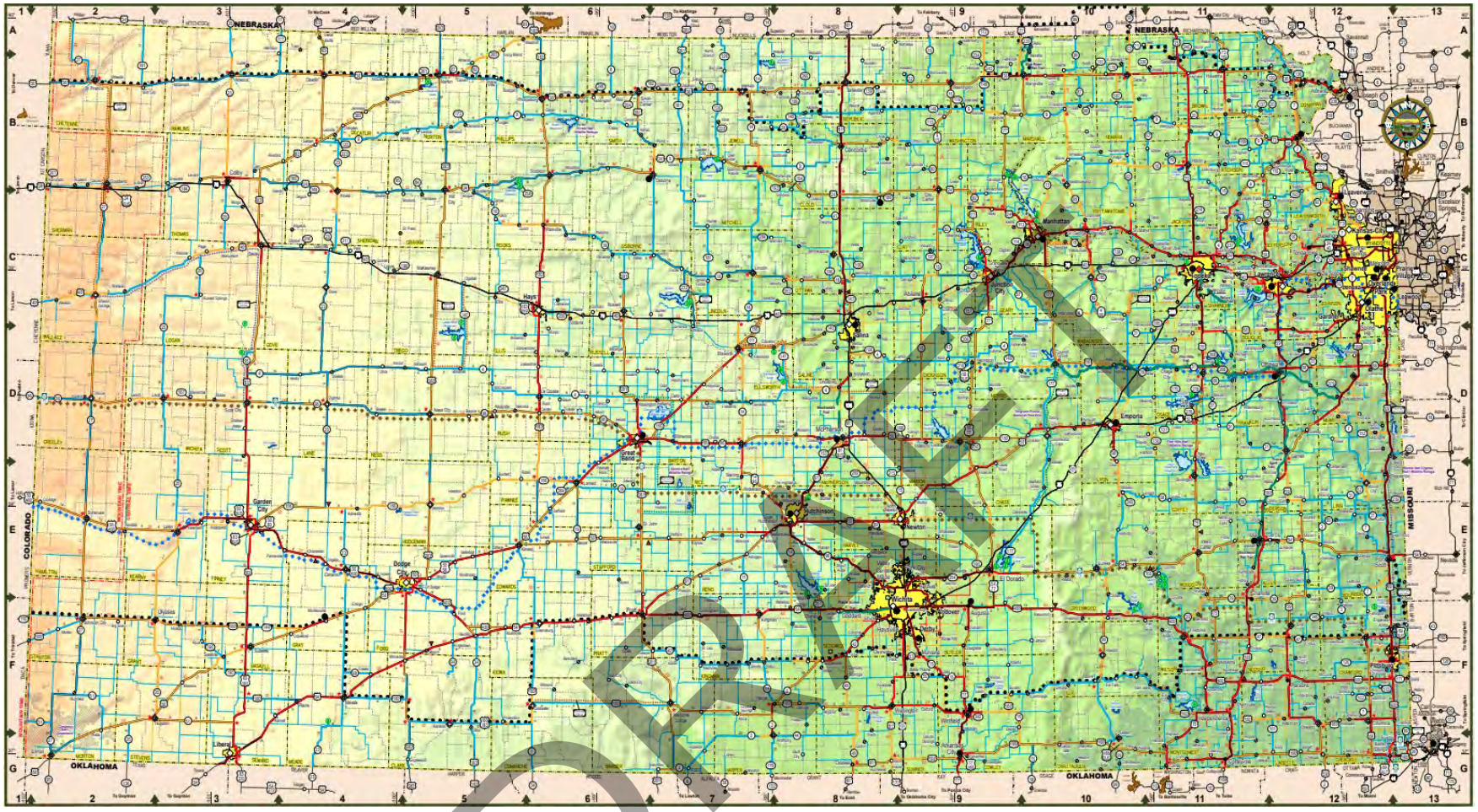
To determine how connected and accessible the WAMPO region's sidewalk/trail network is, WAMPO staff have developed a comprehensive map of all sidewalks and paved trails in the region. WAMPO member jurisdictions were given access to the draft ArcGIS feature class for review. They were asked to inform WAMPO staff of any omissions or inaccuracies in the existing sidewalk map. The existing sidewalk map provides an account of the locations of off-road active transportation facilities in the WAMPO region, which assists in the planning and prioritization of future active transportation projects by providing a way to assess how much connectivity is improved by any given project. This map is used to identify gaps in the active transportation network, help travelers plan their routes, and identify critical links in the system.

Statewide Bicycle & Pedestrian Network

The State of Kansas maintains several statewide bicycle and pedestrian routes that connect cities and towns and major recreational opportunities, bridging gaps between the state's urban and rural areas. The major route traversing the state is the U.S. Bicycle Route 76 trail, which begins in Western Kansas and extends east to the town of Frontenac on the border of Kansas and Missouri. This route lies just north of the city of Wichita, crossing through the city of Newton.

Two state bicycling routes have been dedicated as part of the annual Bike Across Kansas (BAK) event that began in 1975 as a way to promote health, wellness, and the enjoyment of the natural and cultural amenities of the state. Although the BAK route changes each year, the routes are based on one of two general paths, either crossing the northern part of the state or through the southern half. Map 3.3.2 shows the locations of the Statewide Bicycle and Pedestrian System. As shown, state bicycling routes run near the Wichita metro area. Additional trail connections within the metro area have the potential to connect the region to the wider statewide bike network.

Map 3.3.2: Kansas Bicycle Map 2023-2025



3.4 Freight

In general, Kansas' economy is more reliant on goods-dependent industries than the overall economy of the United States. Goods-dependent industries, which rely on transportation infrastructure to receive raw materials and manufacturing goods and to send their refined/finished products to market, represented about 42.3% of Gross Domestic Product (GDP) in Kansas in 2023, compared to 38.8% nationwide (U.S. Bureau of Economic Analysis, 2023).

Despite an overall decline of goods-dependent industries in the WAMPO region, the region's economy is still heavily reliant on them, especially relative to other metropolitan areas.

The WAMPO region is home to several industries that rely on the movement of commercial goods to, from, and through the region using a combination of truck, rail, air, and pipeline transportation. Goods-dependent industries in the region have historically been a major source of employment, but these local industries have been declining, leading to slower GDP growth relative to the United States, overall, compounded by slow population growth and the aging of the population in the region.

Eight freight-reliant industry sectors are important to the WAMPO region's economy: Agriculture, Mining, Utilities, Construction, Manufacturing, Wholesale Trade, Retail Trade, and Transportation and Warehousing.

The WAMPO region remains a critical hub for agricultural shipments moving from western Kansas to national and international markets. Recent data indicate the most significant commodities moving to, from, and within the region are cereal grains (by weight) and mixed transportation equipment (by value).

FREIGHT ISSUES & OPPORTUNITIES

The economic fabric of Kansas and the WAMPO region is intricately woven with goods-dependent industries reliant on efficient transportation networks. From advanced manufacturing to agricultural exports, these sectors form the backbone of the region's economy, facing both challenges and promising opportunities. As we delve into freight issues and opportunities, we uncover the vital role of transportation infrastructure in shaping economic growth and resilience in the WAMPO area.

- **Truck Parking:** Truck parking can be an issue, in light of increased truck traffic and electronic-logging-device rules for truck drivers that increase accountability for following hours-of-service limits. These requirements can lead to truck drivers using unapproved parking lots, side roads, shoulders, or freeway ramps for parking to stay out of service for the required periods. In 2019, Kansas was one of eight Midwest states to participate in the implementation of the Traffic Parking Information and Management System (TPIMS), which collects and shares truck-parking availability information at nearly 150 select lot locations along major freight corridors in the eight covered states. The closest TPIMS parking lot to the WAMPO region is located on I-135, at the Harvey County Rest Area (Mile Marker 23). There are currently no TPIMS locations on I-35 in Kansas.

- **Last Mile Deliveries:** There are issues connecting freight hubs and warehouses with customer-end "last mile" goods deliveries. Shippers capable of executing first-mile and last-mile transportation are better positioned to control costs, ensure delivery speed and accuracy, and enrich the customer-service experience. Home delivery growth is the most noticeable impact of e-commerce, as consumers switch to online purchases, especially for discretionary goods. Transportation systems are seeing a reduction in consumer travel to stores and an increase in deliveries by parcel services. The demand placed on last-mile logistics by growing parcel deliveries is changing roadway-system usage and needs.

- **Bridge Restrictions:** Truck traffic in the region can be impeded by barriers such as low overpass clearances and weight restrictions on bridges. There is currently one weight-restricted bridge located on the freight network in the WAMPO region, on N. Prairie Creek Road over I-35, about two miles east of the Sedgwick County line.

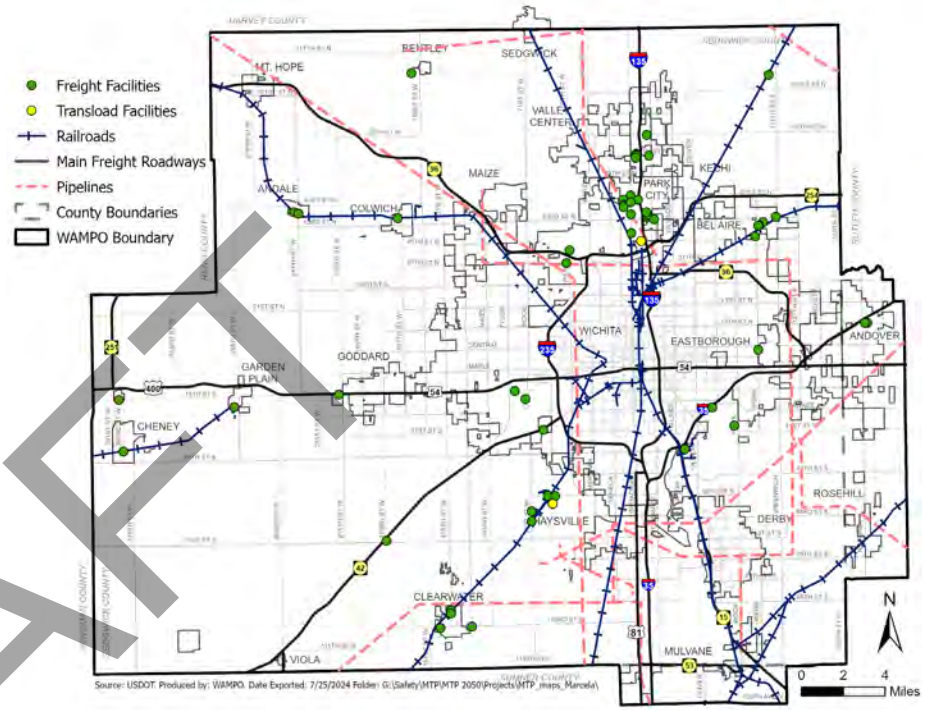
Highway Network & Facilities

Freight transportation infrastructure in the WAMPO region includes highways, railroads, airports, and pipelines. There are no navigable freight waterways in the region. Freight movement is most concentrated around facilities that require input or output of goods to market. These freight facilities include transload facilities, distribution centers, bonded warehouses, grain elevators, and more. Freight facilities and their location relative to the freight transportation network are shown in Map 3.4.1.

TRANSLOAD FACILITIES

Transload facilities are multimodal sites where products move from one mode of transportation to another. For instance, products may be transferred from a truck to a rail car. Products are unloaded from one mode and then loaded onto another mode at a transload facility, as distinct from an intermodal facility, where products remain in the same shipping container for all legs of their journey. Transload facilities are important in markets with bulk shipments, warehouse products, or dimensional products (e.g., steel beams, wind-power components, pipes). A truck-rail transload facility may be as basic as an unpaved storage area adjacent to a set-out or siding track, but can be built with permanent storage facilities or in proximity to other railyard operations. Equipment used to transfer loads ranges from forklifts to specialized cranes.

Map 3.4.1: Freight Facilities and Infrastructure in the WAMPO Region



In 2015, the Kansas Department of Transportation (KDOT) prepared a Transload Facility Site Analysis to identify statewide facility needs. Through this analysis, KDOT reviewed 111 sites around the State and selected sites in Great Bend and Garden City for funding. The number of sites that were evaluated illustrates that transportation options in Kansas are important to shippers and economic development agencies. KDOT continues to support investment in rail infrastructure through the State Rail Service Improvement Fund.

Transload services offer companies the long-haul economy of rail shipment and the direct service of trucks. This is beneficial when the production or consumption point is not near a railroad or if shipment variability does not make investment in a dedicated facility practical.

There are two transload facilities in the WAMPO region, both for the Burlington Northern and Santa Fe (BNSF) Railway. United Warehouse Company is located near the North Junction (interchange of I-135, I-235, and K-254), has multiple loading docks, and consists of one large warehouse building. Garvey Public Warehouse is located south of the Dwight D. Eisenhower National Airport, has six loading docks, and is made up of eight buildings. These facilities are shown in yellow in Map 3.4.1.

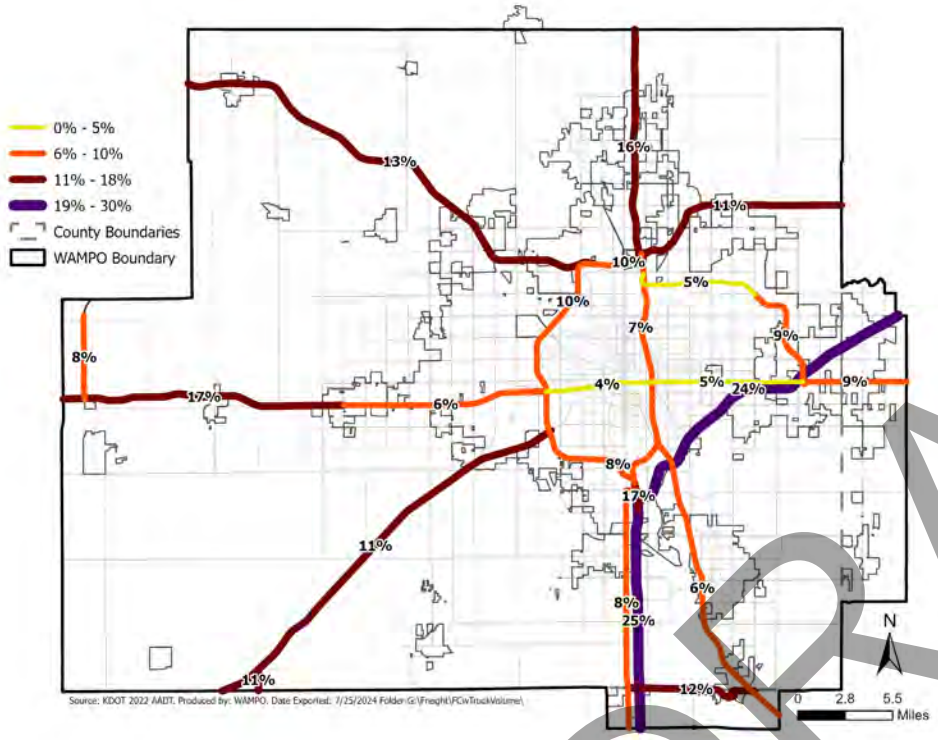
To determine whether or where additional transload facilities are appropriate within the WAMPO region, WAMPO and its partners (Class I railroads, shortline railroads, economic development agencies, shippers, and KDOT) should review current facilities to determine if they have the capacity and facilities to serve existing and potential customers. Additional awareness of existing transload options may address the needs of the region. If such an inventory reveals a need for more facilities, a targeted market study, evaluation of additional sites, further marketing of existing sites, or other solutions could be advanced.

HIGHWAYS

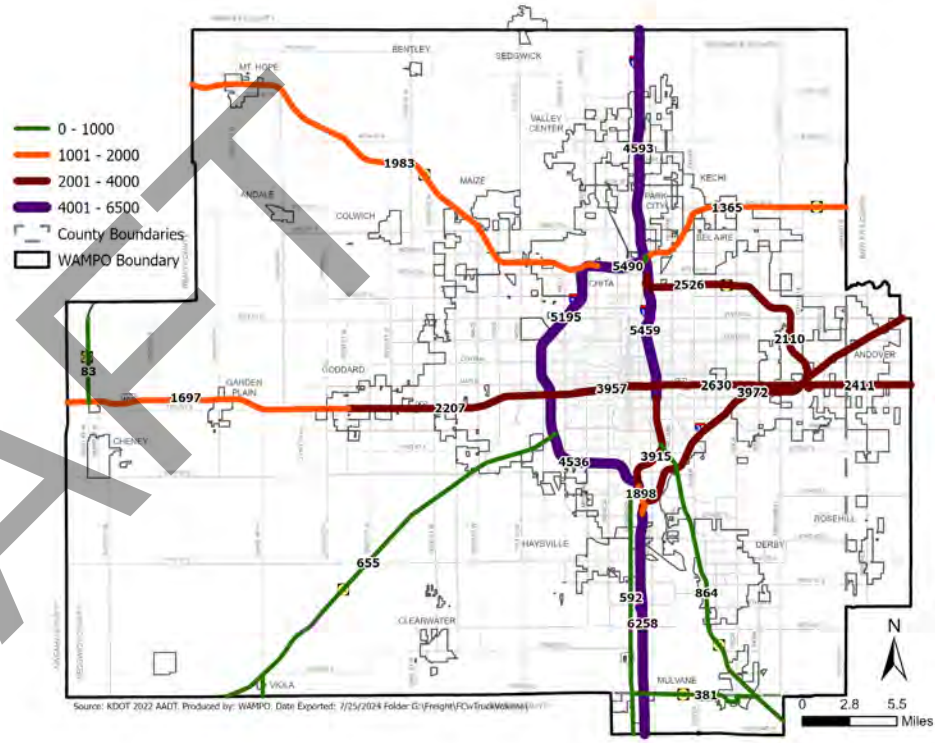
Of the nearly 4,700 roadway centerline miles in the WAMPO region, approximately 440 miles are in the WAMPO Multimodal Freight Network. Interstates (I-35, I-135, I-235) provide north-south access and a partial beltway around the City of Wichita. Other key federal or state highway routes (US-54/400, K-96, K-254, K-42, K-15, K-53) provide connections with other urban centers and states outside of the WAMPO region. An estimated 90% of freight movements into, out of, and through the region are via truck, on highways and other roadways.

The WAMPO region has high truck traffic volumes, particularly on the I-35 corridor, with truck Annual Average Daily Traffic (AADT) greater than 4,500. Rural regions and major highways have the highest percentage of truck traffic, while increased passenger traffic in urbanized areas results in fewer trucks traveling through them. Percentages of overall AADT on major WAMPO-region highways that are truck traffic are shown in Map 3.4.2. Annual average daily heavy commercial traffic is shown in Map 3.4.3.

Map 3.4.2: Freight Share of Total AADT (%)

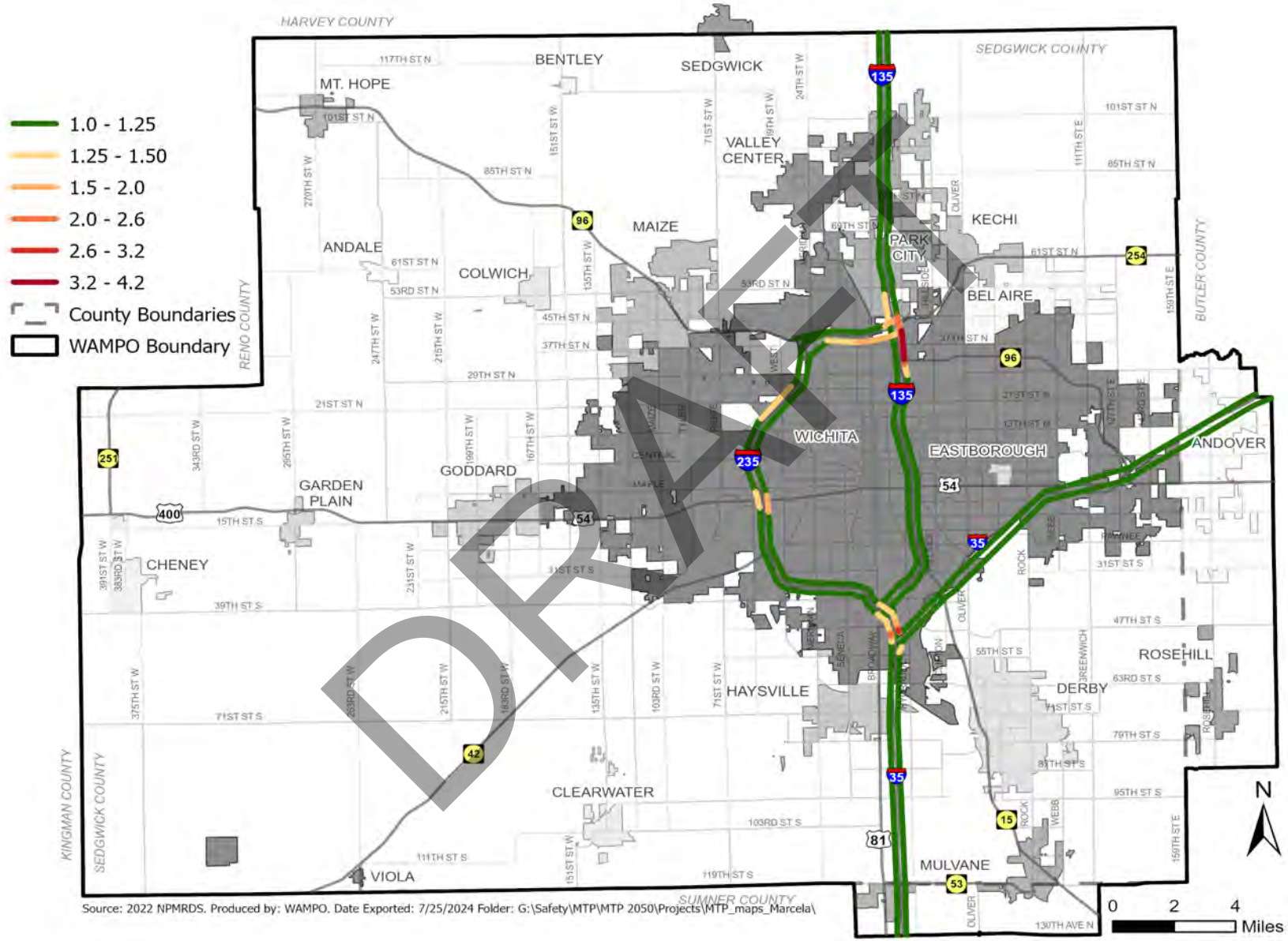


Map 3.4.3: Annual Average Daily Heavy Commercial Traffic



In general, WAMPO does not experience much traffic congestion. For freight, this is measured through the Truck Travel Time Reliability (TTTR) Index and has been calculated for WAMPO's Interstate Highways. This index is a ratio of the median time it takes a truck to cross a section of road to the 95th percentile time for that same road segment. In other words, it compares the travel time that a truck might expect on an average day (the median truck travel time) to the worst day of congestion in a given month (The 95th percentile truck travel time). For most of the WAMPO Interstate system, this ratio is less than 1.25. This means that, for most of the region's Interstate system, even on the worst day of congestion in about a month, the time it takes a truck to cross a given section of road is extended by less than 25%, relative to the median. This implies truck travel times on the region's Interstate system are reliable. The TTTR indices for WAMPO's Interstates are shown in Map 3.4.4. More information can be found in Chapter 5: Performance Measures.

Map 3.4.4: Truck Travel Time Reliability Index



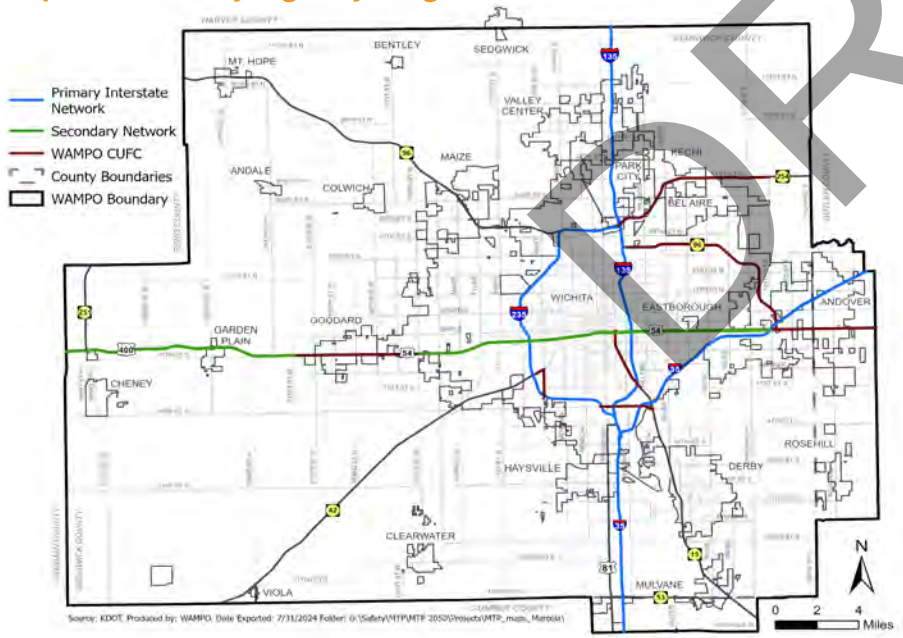
National Highway Freight Network

The National Highway Freight Network includes: the Primary Interstate Network, the Secondary Network, Critical Urban Freight Corridors (CUFCs), and Critical Rural Freight Corridors (CRFCs). Map 3.4.5 and Map 3.4.6 show the National Highway Freight Network corridors in the WAMPO region. There are no Critical Rural Freight Corridors in the WAMPO region.

The Primary Highway Freight Network (PHFN) includes those highways identified as the most critical on the U.S. freight transportation system. In the WAMPO region, the PHFN includes:

- **I-35/ KANSAS Turnpike**
- **I-135**
- **I-235**

Map 3.4.5: Primary Highway Freight Network



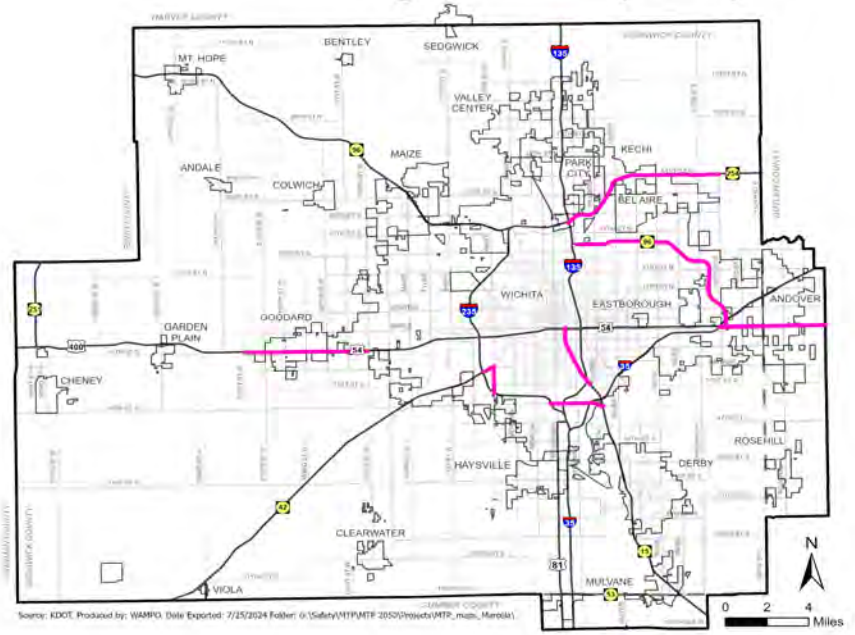
Critical Urban Freight Corridors

Critical Urban Freight Corridors (CUFCs) are public roads in urbanized areas that provide access to the Primary Highway Freight Network/Interstates, with connections to important ports or intermodal facilities. Nine of the twenty-four CUFCs in Kansas are located in the WAMPO region, highlighting the importance of the region's roadway network to the movement of freight. The official CUFCs in the WAMPO region are as listed in Table 3.4.1.

Table 3.4.1: Critical Urban Freight Corridors in the WAMPO Region

Road Name	From	To	Miles
US-54/400	231st St. W	135th St. W	6.0
US-54/400	I-35 Interchange	Meadowlark Rd.	5.1
K-254	I-135	127th St. E	8.4
K-96	US-54/400	I-135	10.6
MacArthur Rd.	I-235	K-15	2.5
Southeast Blvd.	US-54/400	I-135	3.0
K-42	I-235	West St.	0.6
West St.	K-42	I-235	1.4

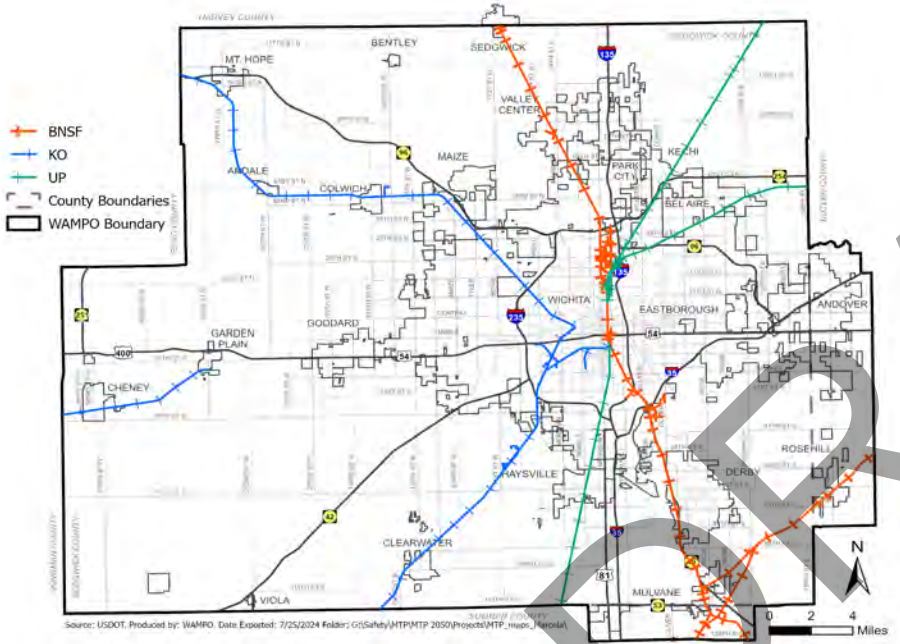
Map 3.4.6: Critical Urban Freight Corridors (CUFCs)



RAIL

Four railroads operate on approximately 175 miles of track in the WAMPO region: Union Pacific Railroad (UP), BNSF Railway (BNSF), Kansas & Oklahoma Railroad (K&O), and Wichita Terminal Association (WTA). The Wichita Termimal Association (WTA) operates as a switching and terminal railroad. All railroads in the WAMPO region are visualized in Map 3.4.7.

Map 3.4.7: Railroads in the WAMPO Region



The main commodities by revenue transported by Union Pacific are intermodal, grain, and energy. BNSF's main commodities by revenue are consumer products, industrial products, and agricultural products. The top commodities of each company reflect their entire networks. Both of these railroads are capable of maximum loaded car weights of 286,000 pounds or more, with no clearance restrictions.

The Kansas & Oklahoma Railroad has trackage radiating north, west, and southwest from its headquarters in Wichita. The main commodities it transports are grain products and industrial products such as chemicals and petroleum gas. The Wichita Terminal Association is a switching and terminal railroad owned by a partnership between UP and BNSF. It operates nine miles of UP and BNSF track on which it primarily moves grain, grain-related products, and scrap steel.

Issues related to the movement of goods by freight railroad include track weight, highway-railroad crossings, and rail location. Various railroad/roadway intersections have been identified as needing upgrades to their crossing devices. The WAMPO Freight Plan (2010) also identified three locations for possible upgrades to highway-railroad crossing condition, seven locations for upgraded warning devices, six candidate locations for crossing consolidation, and eight candidates for grade separation. All seven locations identified for upgraded warning devices have since been addressed.

Rail transit times between the Wichita area and other destinations in the contiguous United States range from one to seven days. Given sufficient volume, dedicated trains can be scheduled, potentially saving two days in transit time to either coast. Each railroad has a class based on revenue per year attached to it: Class I – Greater than $250M/year; Class II – $20M/year - $250M/year; Class III – Less than $20M/year. The classifications of the railroads in the WAMPO region are as follows:

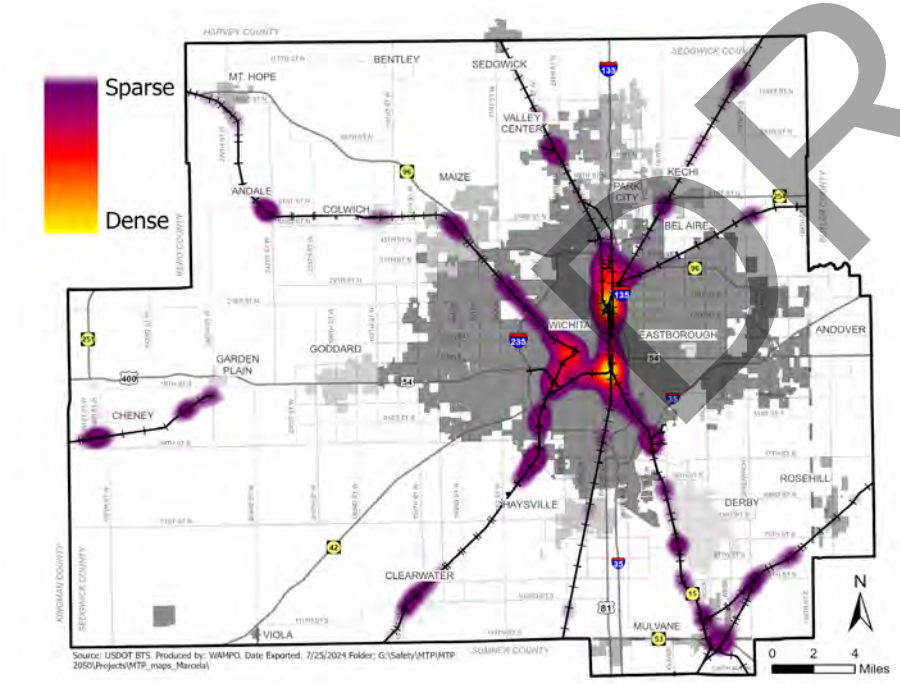
1. Class I - Union Pacific Railroad and Burlington Northern Santa Fe Railroad
2. Class II - Kansas & Oklahoma Railroad and Wichita Terminal Association

Rail Freight Issues & Opportunities

Some of the challenges that freight rail transportation faces in the WAMPO region include:

- **Infrastructure Condition:** Outdated infrastructure (e.g., tracks, bridges, sidings) that is not capable of carrying the weight of modern train cars.
- **Conflicts with Roadways:** There are currently 369 at-grade railroad/roadway crossings in the WAMPO region, as shown in Map 3.4.8.
- **Passenger Rail Service:** The Kansas Department of Transportation is updating its Passenger Rail Service Development Plan (SDP) and evaluating the expansion of passenger rail in South Central Kansas. Most passenger trains operate on the same tracks as freight trains.

Map 3.4.8: Density of At-Grade Railroad/Roadway Crossings



WATER

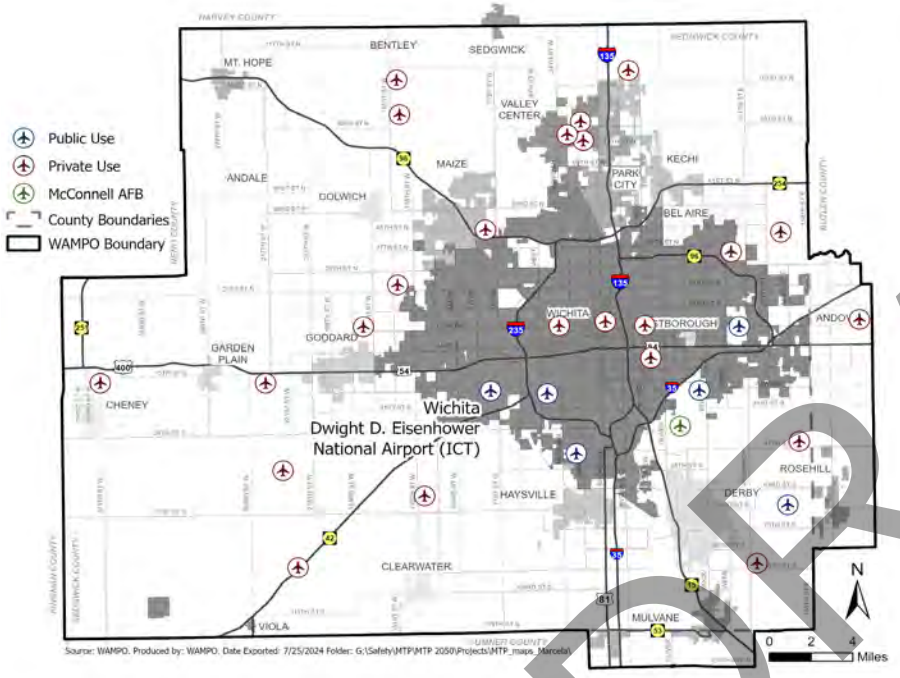
The WAMPO region has access to the U.S. Inland Waterway System via Interstate highways and railroads at the following ports:

- **Port of Kansas City:** Located 200 miles northeast of Wichita, this port provides access to the Mississippi River system via the Missouri River.
- **Tulsa Port of Catoosa:** Located 170 miles southeast of Wichita, this port provides access to the Mississippi River system via the Arkansas River.

AIR

There are 31 airports in the WAMPO region offering commercial passenger service, freight service, military service, and/or general aviation service: twenty-three private general aviation facilities, seven public civilian airfields, and one military airfield. All airport locations are shown in Map 3.4.9.

Map 3.4.9: Airports in the WAMPO Region



Wichita's Dwight D. Eisenhower National Airport (ICT), ranked 3rd best small hub airport in the United States by USA Today's Readers' Choice in 2020 and 2023, is located in southwest Wichita, approximately six miles (12 minutes) from downtown, via a four-lane, limited-access highway. Easily accessible to the region, Eisenhower National Airport served more than 1.7 million passengers in 2023.

Of the airports in the WAMPO region, only Eisenhower National Airport is equipped to handle substantial freight operations on three runways (6,300 feet, 7,300 feet, 10,300 feet). As one of only three airports in Kansas that supports scheduled air cargo service, it accounts for the majority of air cargo tonnage shipped into and out of Kansas (78% of all air inbound and outbound cargo tonnage in Kansas in 2019). Eisenhower Airport is not only the air freight hub of Kansas, but it is also the gateway for planes and aerospace products manufactured in the region to depart under their own power.

Immediate proximity to the interstate highway system provides access to suppliers and markets. Air cargo activity at Eisenhower Airport is significant, including UPS, FedEx, and DHL, with more than 26,000 tons of cargo flying in or out in 2023.

Industrial areas host aircraft companies such as Cessna and Bombardier. Customs Service offices and a Postal Service General Mail Facility are also located at Eisenhower National Airport. Commercial air service to the Wichita region is provided through Eisenhower Airport by six airlines with direct flights to 16 destinations (mostly airlines' major hub airports). McConnell Air Force Base primarily conducts in-air refueling and airlift operations. The airfield receives approximately 2 million gallons of fuel per month via pipeline to complete these activities. McConnell Air Force Base accommodates a workforce of more than 5,500 employees, as well as approximately 6,700 family members and 8,500 retirees.

Air Freight Isues & Opportunities

There are currently no road-congestion issues around Eisenhower National Airport that would substantially delay the shipment or delivery of freight in the region. The KDOT 2016 Aviation System Plan did not identify any access issues at the airport, and it stated that the goal should be to maintain cargo facilities to continue to be able to support large freight aircraft operations. The ICT 2005 Airport Master Plan, produced by Coffman Associates, Inc. for the Wichita Airport Authority, recommended an expansion of air cargo facilities and the air cargo apron and the extension of a runway from 7,300 feet to 8,700 feet, which could facilitate larger aircraft.

- **Customs Facility:** A new customs facility is needed to accommodate more international air travel in and out of the region.
- **Commercial Air:** There is an identified need to increase commercial air service (airlines and routes out of Eisenhower National Airport).
- **Air Service:** Opportunities to collaborate with the business community can enhance Wichita's passenger and freight air service competitiveness.

PIPELINES

There are relatively few pipelines in the WAMPO region, offering limited commodity movement. The most significant pipeline provides fuel to McConnell Air Force Base for aircraft refueling operations. In 2017, a pipeline disruption caused a temporary shift to trucking. During this outage, 123 trucks were needed weekly to supply the base with the quantity of fuel normally transported by pipeline daily.

Only a very limited number of commodities are moved by pipeline, predominately petrochemical and petroleum products, often to a modal transfer point. In 2022, improvements to Eisenhower Airport's fuel farm, which receives airplane fuel via pipeline were completed.

Commodity Flow Analysis

In 2017, The Federal Highway Administration conducted a commodity flow survey. Based on that data, they made projections that currently go out to the year 2050. This section looks at the inbound, internal, and outbound movement of commodities/goods in the WAMPO region. Inbound freight movement starts elsewhere and ends in the Wichita region, internal freight movement starts and ends in the Wichita region, and outbound freight movement starts in the Wichita region and ends elsewhere.

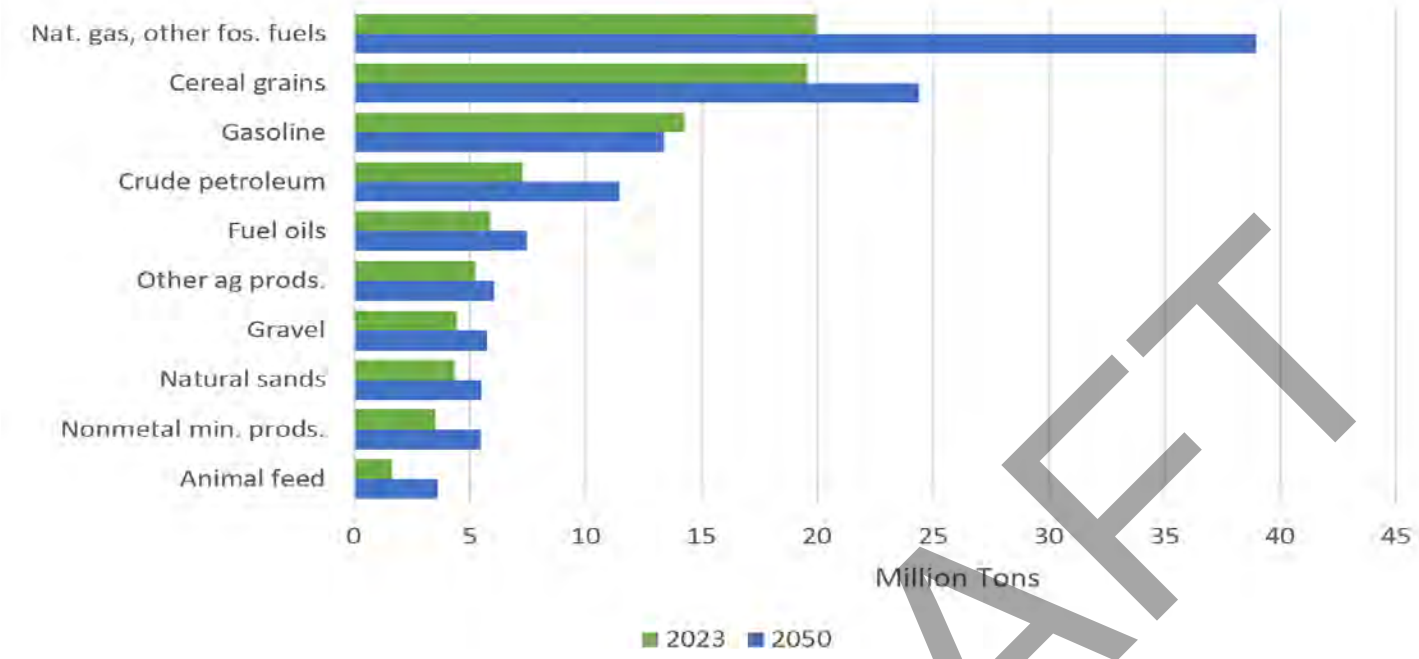
The commodity-flow analysis from the Federal Highway Administration's (FHWA's) Freight Analysis Framework (FAF5) includes historical 2023 and forecasted 2050 data for the Wichita region. The analysis examines freight modes, commodities, trade flows, and connections to trading partners within and outside of the United States. International trade partners are classified by regions around the world (i.e. Europe and East Asia), with the exceptions of Canada and Mexico who were classified by their countries' names. Domestic trade partners are states and territories around the country; the only exception is Kansas, which includes everywhere in Kansas except the Wichita area. In 2023, about 99 million tons of freight moved over the Wichita area's transportation system, valued at about $106 billion. By 2050, it is projected that the Wichita area's transportation system will carry 149 million tons of freight annually, valued at around $183 billion in 2023 dollars, an increase of 50% by tonnage and 72% by value.

TOP COMMODITIES

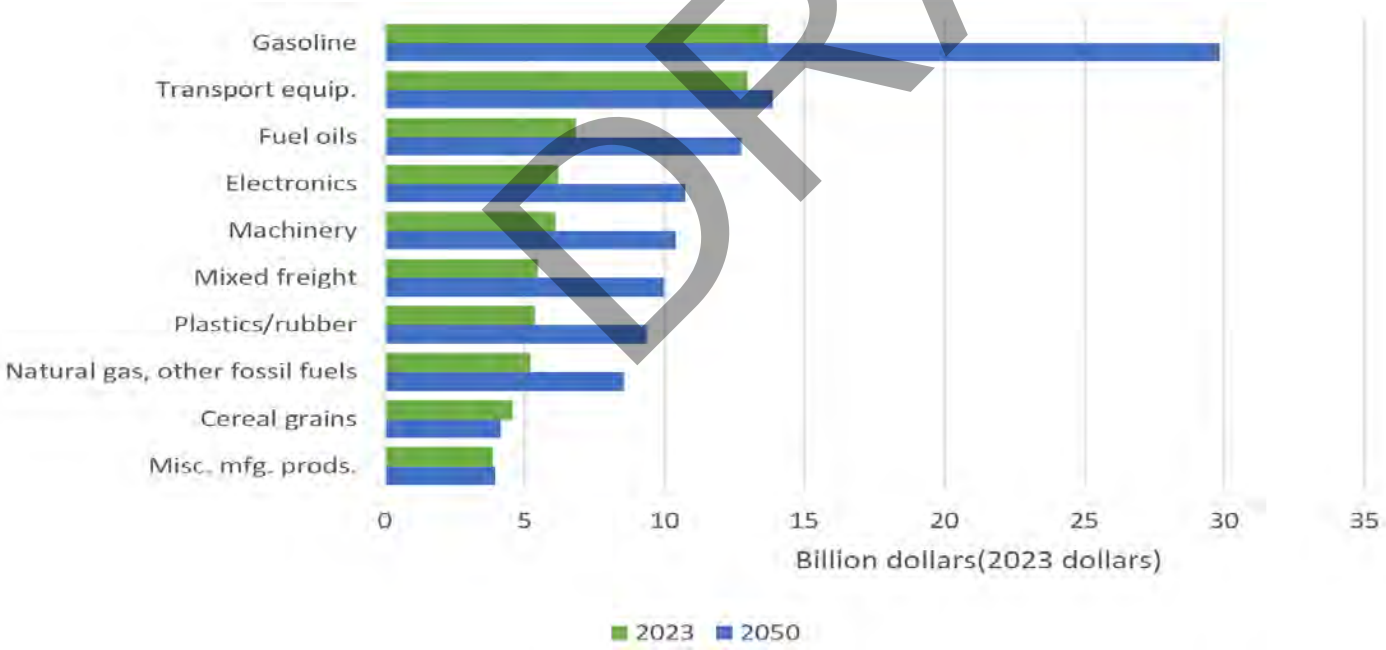
The WAMPO region is a critical hub for agricultural shipments moving from western Kansas to national and international markets. In 2023, the top commodity moved into, out of, or within the Wichita area by weight was natural gas and other fossil products (20%). The other top five commodities by weight were cereal grains, gasoline, crude petroleum, and fuel oils. The top five commodities by weight made up 67% of the total tonnage in 2023. By value, the top commodity moved was gasoline, followed by transportation equipment, fuel oils, electronics, and machinery. Shipments of these five commodity types in the Wichita area were valued at about $46 billion in 2023, 43% of the total value of goods moved in area in that year.

In 2050, the top five commodities by weight are projected to be transportation equipment, plastics/rubber, electronics, machinery, and miscellaneous manufacturing products, accounting for 64% of all goods by weight. The top commodity by value in 2050 is also projected to be transportation equipment, followed by plastics/rubber, electronics, machinery, and miscellaneous manufacturing products. These five commodities combined are expected to account for 42%, or about $78 billion, of the total value of all goods moved. Top commodities by weight and value in 2023 and 2050 are shown in Figure 3.4.1 and Figure 3.4.2.

Graph 3.4.1: Critical Commodities by Weight, 2023 and 2050



Graph 3.4.2: Critical Commodities by Value, 2023 and 2050



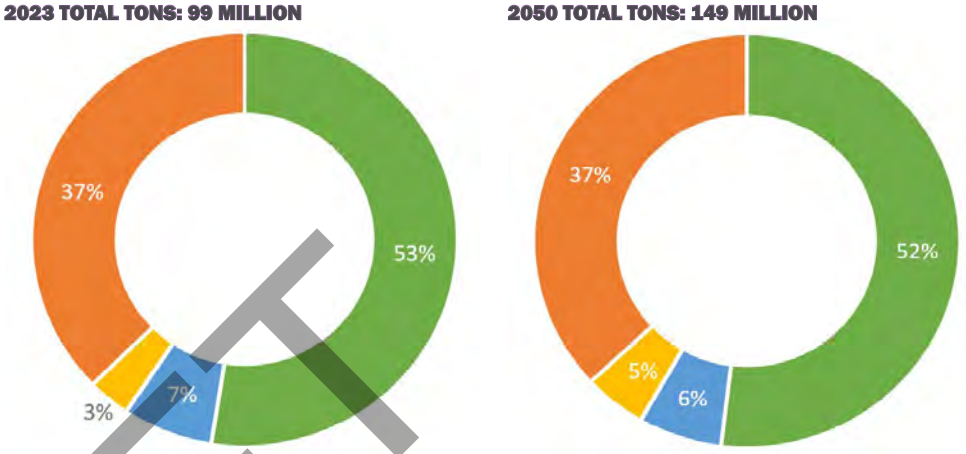
MODAL SPLIT

In 2023, trucks were the dominant mode utilized for freight movement in the region, carrying 53% of the total weight of goods. Pipelines had the second-greatest modal share by weight, at 37%. Rail had the third-greatest modal share by weight, at 7%.

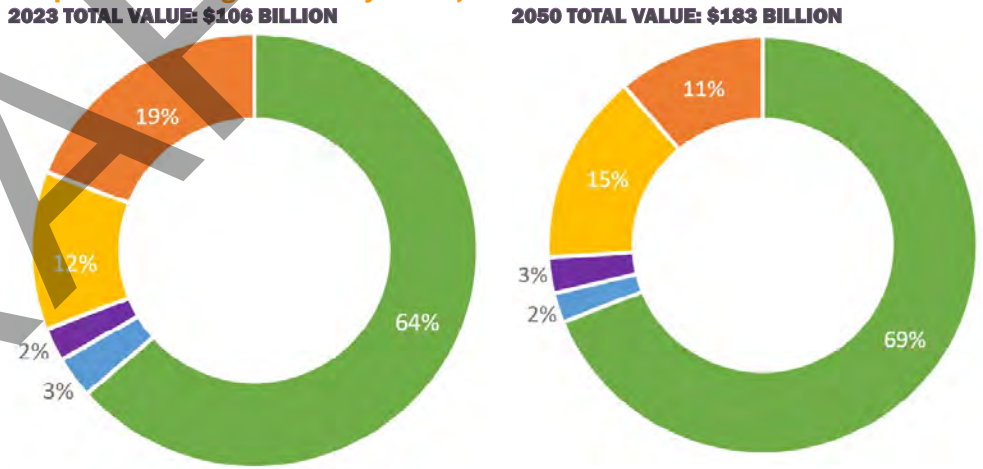
Measuring by value, trucks transported about $68 billion in goods in 2023 (64% of the regional total). Pipelines had the second-greatest share by value, at about $20 billion in goods (19%). Transportation by multiple modes and/or by mail, including package delivery services like the U.S. Postal Service and FedEx, had the third-greatest modal share by value, at $13 billion (12%).

The movement of agricultural, mineral, and food products is projected to grow substantially by 2050, contributing to a significant increase in freight volumes. Trucks are expected to remain the dominant mode, projecting to account for 52% of freight movement by weight and 69% by value. The share of freight moved by multiple modes/mail is expected to increase and reflects the projected continued growth of e-commerce. Modal splits by weight and value in 2023 and 2050 are shown in Graph 3.4.3 and 3.4.4. Projected 2023-2050 percent increases in the weights and values of freight moved by each mode are shown in Graph 3.4.5.

Graph 3.4.3: Freight Weight by Mode, 2023 and 2050



Graph 3.4.4: Freight Value by Mode, 2023 and 2050



Graph 3.4.5: 2023-2050 Percent Increases in Freight Weight and Value by Mode

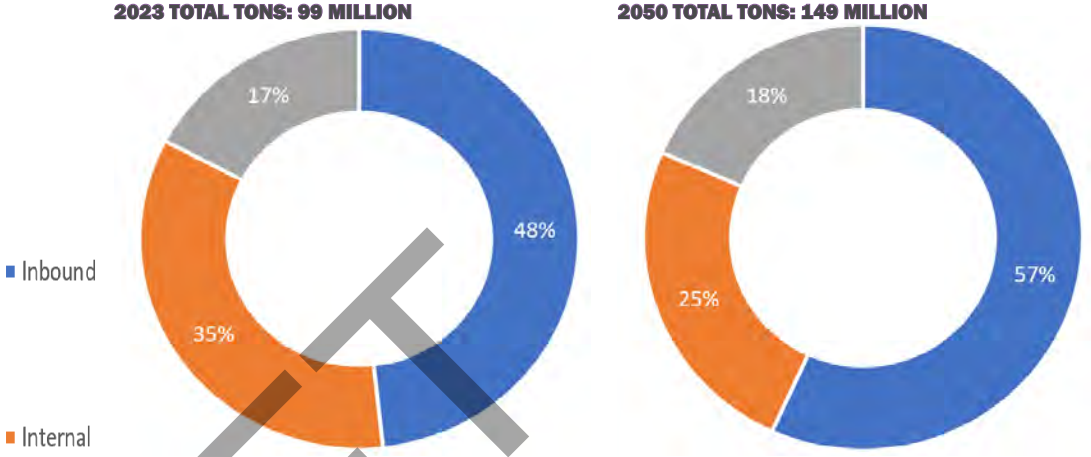
DIRECTIONAL SPLIT

In 2023, inbound shipments accounted for 48% of the approximately 99 million tons of freight moved in the Wichita area, internal shipments accounted for 35%, and outbound shipments accounted for 17%. The imbalance between inbound and outbound goods can be explained by the presence of aircraft manufacturers in the region, which account for the delivery of a large portion of general aviation aircraft built in the United States. These manufacturers require the input of multiple parts and materials to construct their aircraft, but the final product is then flown out under its own power.

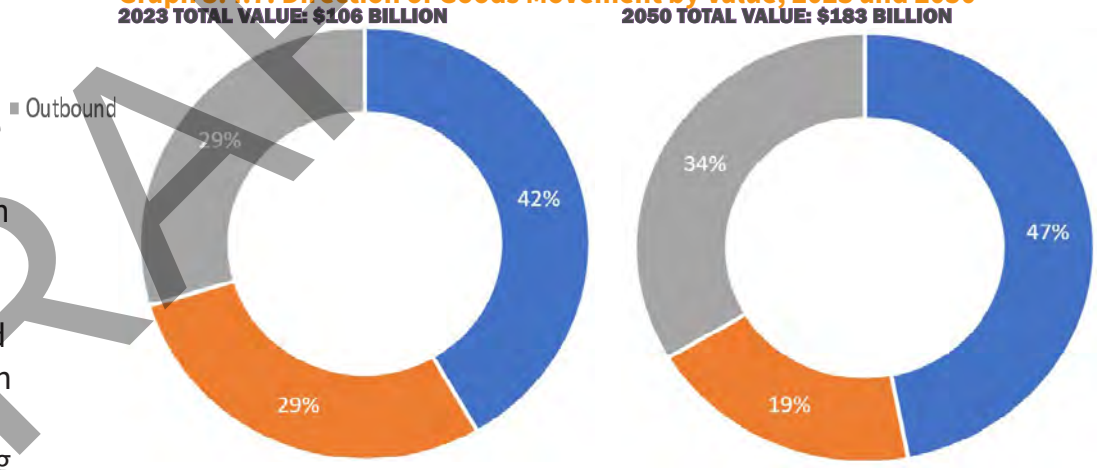
Measured by value, inbound shipments accounted for 42% of the Wichita area's freight movement in 2023. Due in part to the high value of finished aviation products, the outbound share of freight movement by value was 29%. The remaining 29% of the overall value of goods moved in the region is attributable to internal goods movement.

In 2050, freight-movement directional splits are projected to remain largely consistent with current trends, as shown in Graph 3.4.6 and 3.4.7. Inbound-goods movement is projected to grow the fastest during 2023-2050, increasing by 76% in terms of weight and 94% in terms of value. Internal-goods movement is expected to grow the least, increasing by only 8% in terms of weight and 16% in terms of value. Outbound-goods movement is expected to increase similarly to inbound-goods movement, with an increase of 60% in terms of weight and 95% in terms of value. Graph 3.4.8 illustrates these projected 2023-2050 percentage changes in weights and values of freight into, out of, and within the region in a given year.

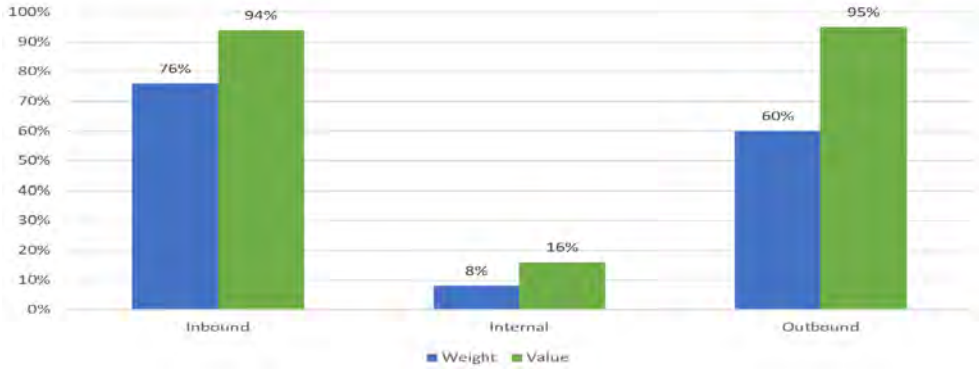
Graph 3.4.6: Direction of Goods Movement by Weight, 2023 and 2050



Graph 3.4.7: Direction of Goods Movement by Value, 2023 and 2050



Graph 3.4.8: 2023-2050 Percent Increases in Freight Weight and Value by Direction



Domestic Trading Partners: Inbound Goods

The WAMPO region receives goods from trading partners across the country. In 2023, almost 48 million tons of goods were shipped to the Wichita area. The top domestic origins by weight were the rest of Kansas (34%), followed by Oklahoma (28%), Texas (12%), Nebraska (6%), and Colorado (5%). The top five origins by weight accounted for about 40 million tons of goods shipped to the Wichita area in 2023. In 2050, the only projected change to the top five is North Dakota replacing Colorado as the fifth top trading partner.

The top five origins of goods by value accounted for about $27 billion of the total value of goods shipped to the Wichita area in 2023. The top domestic origins of goods by value were the rest of Kansas (20%), Texas (13%), Oklahoma (13%), California (7%), and Colorado (5%). Projections for the year 2050 show a swap of positions for Texas and Oklahoma in the top five, but with both of them still at approximately 13%.

Domestic Trading Partners: Outbound Goods

Goods shipped from the region travel to a wide variety of U.S. destinations. The top five destinations by value accounted for about 14 million tons of goods (83%). The top domestic destinations by weight were the rest of Kansas (45%), followed by Texas (25%), Oklahoma (7%), Missouri (4%), and California (3%). No change in the top five destinations by weight is projected by 2050.

The top domestic destinations of Wichita-area goods by value in 2023 were dispersed across the country, indicating that high-value goods reach farther markets than high-weight goods. The top five destinations by value accounted for about $18 billion (58%) of the total value of outbound goods in 2023. The top domestic destinations by value were the state of Washington (20%), the rest of Kansas (13%), Texas (10%), California (8%), and Oklahoma (7%). Washington is the top domestic destination for goods by value because Spirit AeroSystems ships aircraft components to Boeing's final assembly facility in Renton, Washington by truck and rail. In 2050, Washington is expected to remain the top domestic destination by value. California is projected to switch places with Texas to be the number-three destination by value.

International Trading Partners

In 2023, international trade accounted for nearly 3 million tons of goods shipped to and from the Wichita area, with a total value of about $5.5 billion. By weight, 24% of international shipments were imports and 76% were exports. By 2050, total international shipments to/from the Wichita area are projected to rise to about 13.6 million tons of goods, worth about $16.3 billion (in 2023 dollars). By 2050, the shares of international imports and exports are projected to flip: 75% of international shipments will be imports and 25% will be exports.

In 2023, the top three international destinations by weight for Wichita-area exports were Mexico, Canada, and Eastern Asia. The top export to Mexico was cereal grains, the top export to Canada was natural gas and other fossil products, and the top export to Eastern Asia was meat/seafood. These three destinations accounted for 88% of the nearly 2.3 million tons of exported goods by weight. By value, Canada is the top international export destination, followed by Mexico and Eastern Asia. The top exports by value to Eastern Asia and Mexico were the same as those by weight (meat/seafood and cereal grains, respectively), while the top export by value to Canada was electronics. The top overall export by value was meat/seafood to Eastern Asia. These three destinations accounted for 58% of the nearly $2 billion in goods exported

to outside of the United States from the Wichita area in 2023. In 2050, Mexico is projected to remain the top export destination by weight, followed by Eastern Asia and Canada. In terms of value, Eastern Asia is projected to become the top export destination, followed by Canada and Europe.

In 2023, the top three origins of international imports to the Wichita area by weight were Canada, Eastern Asia, and Europe. The top import from Canada was crude petroleum, while the top import from both Eastern Asia and Europe was machinery. These three origins accounted for about 590,000 tons of imports by weight, 83% compared to a total of about 720,000 tons of imports. The value of imports to the Wichita area totaled just over $2.1 billion in 2023. The top three import origins by value were Eastern Asia, Europe, and Canada, accounting for about $1.5 billion (70%) of imported goods. By value, the top import of all three was machinery, highlighting the Wichita region's aerospace and manufacturing sectors. In 2050, Canada is projected to remain the top country for imports by weight, increasing from 320,000 tons in 2023 to about 9.5 million tons. Canada is projected to be followed by Eastern Asia and Southeast Asia & Oceania in terms of imports by weight. The total value of international imports is projected to more than quadruple by 2050, to over $9 billion (2023 dollars). By 2050, Canada is projected to surpass Eastern Asia and Europe for imports to the Wichita area by value. The number one commodity imported from Canada is projected to be crude petroleum, surpassing all other international imports to the Wichita area in 2050 and constituting the primary driver of Canada's projected future status as the Wichita area's number-one international trade partner. The top imports from Eastern Asia and Europe by value are projected to change to electronics and machinery, respectively.

3.5 Electric Vehicles

WAMPO's Electric Vehicle Network Plan was developed to support the growing market for plug-in electric vehicles (PEVs) in the region by enabling municipalities and others to address immediate needs and long-term planning objectives so the WAMPO region will become an electric vehicle (EV) destination, corridor, and gateway.

The Electric Vehicle Network Plan outlines the first steps the region can take to support and encourage electric vehicle adoption. It delivers a comprehensive course of action to provide EV charging infrastructure and remove barriers to further EV adoption in the WAMPO region efficiently and effectively. This plan serves as a starting point for private and public entities to grow familiarity with the opportunities and challenges with EVs, charging infrastructure, and adoption.

The Electric Vehicle Network Plan supports Metropolitan Transportation Plan 2050 and the Charge Up Kansas National Electric Vehicle Infrastructure (NEVI) Plan, by advancing the use of EVs to improve air quality and fostering economic development. WAMPO has an opportunity to adapt to emerging technologies by closing EV charging infrastructure gaps and removing barriers to EV adoption.

The nation is beginning to significantly advance in EV adoption after the 2021 federal Infrastructure Investment and Jobs Act (IIJA) was enacted. It provides investments to help modernize infrastructure assets and support emerging technologies, including electric vehicles (EV). There will be long-lasting infrastructure and mobility improvements by developing a national network of EV chargers.

In Kansas, private industry has played a crucial role in establishing charging station infrastructure across the state. However, a majority of this infrastructure is not situated near Kansas' interstate system, and many existing stations do not adhere to NEVI (National Electric Vehicle Infrastructure) guidelines.

BENEFITS OF ELECTRIFIED MOBILITY

Electrifying transportation opens doors to revolutionize mobility, offering eco-friendly and budget-conscious travel choices, all while advancing energy self-sufficiency.

A lack of general awareness and education, coupled with the higher initial prices of new electric vehicles, has contributed to misconceptions about the total cost of ownership. However, with substantially reduced maintenance costs and zero visits to the gas station, the long-term expenses associated with EVs are expected to decrease.

One energy sector fuel source (for electricity generation) is natural gas. Natural gas is becoming more popular and is a cleaner fuel source compared with coal-based electricity. At the same time, Missouri utilities are rapidly investing in renewable energy sources, which could further reduce an EV's carbon footprint.

The absence of redundancy in transportation energy sources can result in an excessive dependence on particular energy providers. This vulnerability exposes the Wichita region to shifts in the global energy market, such as price fluctuations and availability. Electric vehicles (EVs), on the other hand, can be powered by a variety of energy sources.

The automotive industry is among the primary sources of greenhouse gas emissions (GHGs).

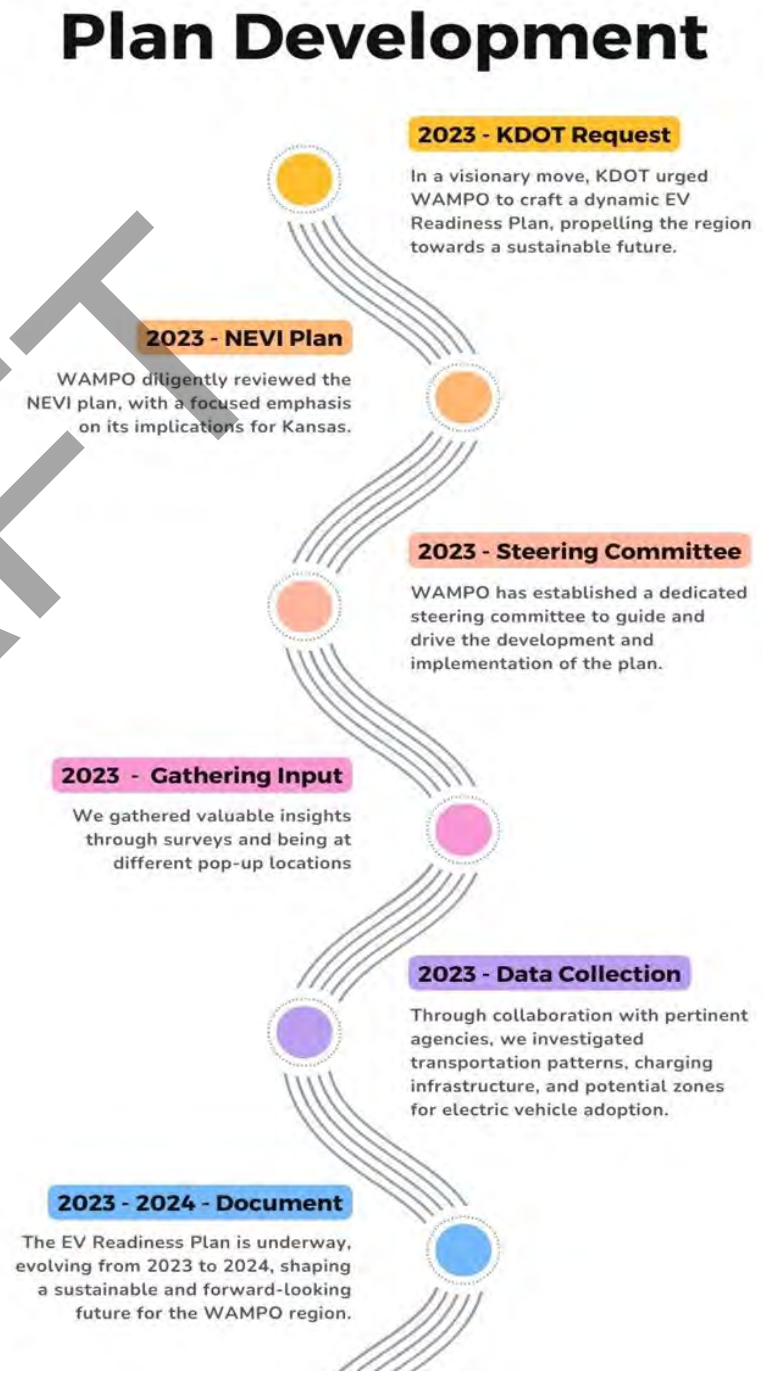
Why EVs in Cities?

City and county officials have the chance to take bolder actions, enact changes more expeditiously, and attain significant outcomes more swiftly compared to their counterparts at the state and federal levels. Immediate advantages for local governments include a reduction in emissions, lower operational expenses, and benefits tied to advancements in health, affordability, economic growth, and energy security. Policies promoting transportation electrification can additionally contribute to other objectives, such as diminishing air pollution, hastening the integration of renewable energy, achieving decarbonization, and enhancing certainty regarding future fuel costs.

Plan Development

The development of the WAMPO Electric Vehicle Network Plan represents a collaborative effort led by WAMPO, with many different stakeholders contributing their expertise. Engaging with representatives from Wichita, Wichita Transit, Sedgwick County, Kechi, Derby, Valley Center, Kansas Department of Transportation, environmental specialists, airport authorities, and workforce representatives, the planning process has garnered insights from multiple perspectives. Over several months, the dedicated efforts of these stakeholders have laid the groundwork for a comprehensive plan poised to capitalize on expanding the EV market for the benefit of the WAMPO region.

Data collection and analysis form the bedrock of the plan's development. Collaborating with relevant agencies, the plan delves into current transportation patterns, charging infrastructure, and potential areas for EV adoption. This empirical foundation enables the formulation of informed strategies to harness the economic, environmental, and social benefits of electric vehicle integration in the WAMPO region.



Electric Vehicles

Electric vehicle technology is advancing, making EVs more affordable and available in more makes, models, styles, builds, and configurations. They use electricity instead of gasoline, reducing emissions. Types include Battery Electric Vehicles (BEVs), Plug-in Hybrids (PHEVs), Hybrids (HEVs), and Fuel Cell Vehicles (FCEVs). This overview covers EV types and supporting infrastructure.

BATTERY ELECTRIC VEHICLE (BEVs)

Fully powered by electricity; they have no internal combustion engine, and they produce zero tailpipe emissions. More efficient compared to hybrids and plug-in hybrids.

BEV technology runs entirely on a battery-powered electric drivetrain. The electricity is stored in a large battery pack which can be charged by plugging it into the electricity grid.

PLUG-IN HYBRID ELECTRIC VEHICLE (PHEV)

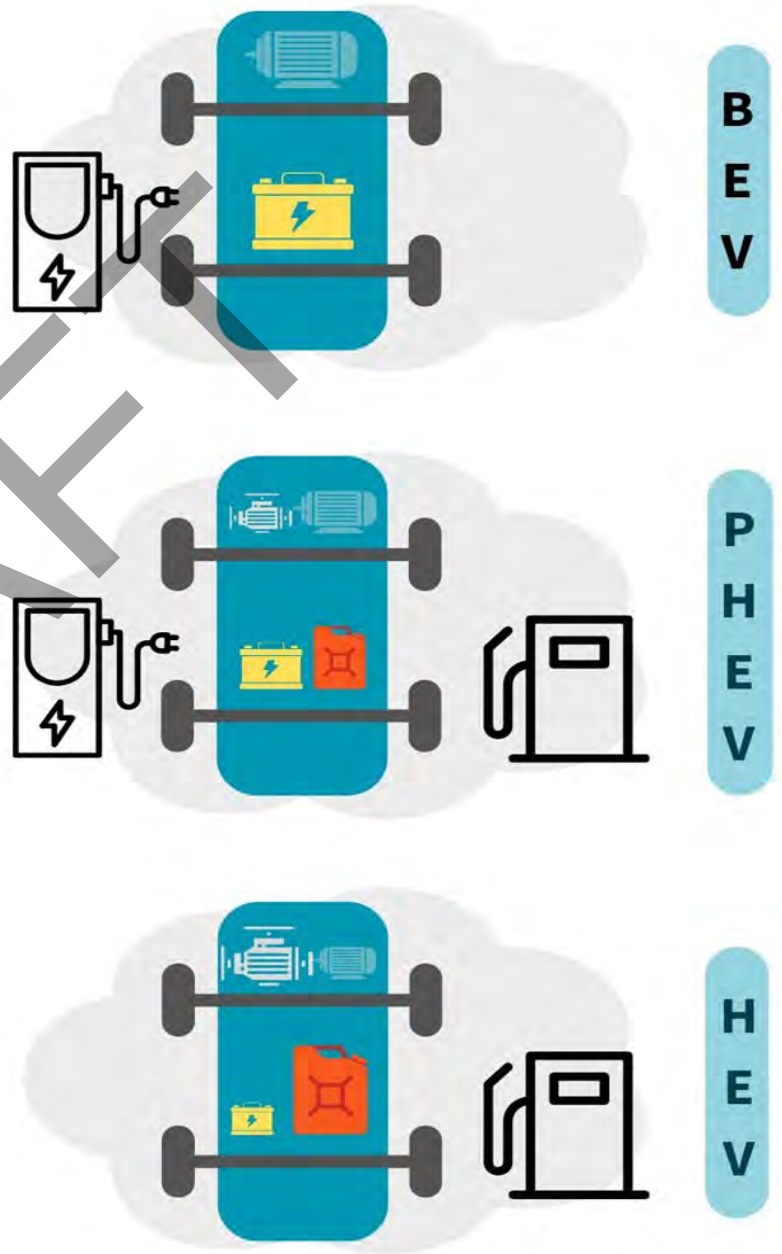
Uses both an internal combustion engine and a battery charged from an external socket (they have a plug). This means the vehicle's battery can be charged with electricity rather than the engine. PHEVs are more efficient than HEVs but less efficient than BEVs.

HYBRID ELECTRIC VEHICLE (HEV)

The vehicle uses both the internal combustion (usually petrol) engine and the battery-powered motor powertrain. The petrol engine is used both to drive and charge when the battery is empty. These vehicles are not as efficient as fully electric or plug-in hybrid vehicles.

FUEL CELL ELECTRIC VEHICLE (FCEV)

Electric energy is produced from chemical energy, for example, hydrogen. FCEVs are also known as zero-emission vehicles.



Charging Infrastructure

Charging equipment for PEVs is classified by the rate at which the batteries are charged. Charging times vary based on how depleted the battery is, how much energy it holds, the type of battery, and the type of charging equipment (e.g., charging level and power output).

LEVEL 1 CHARGING

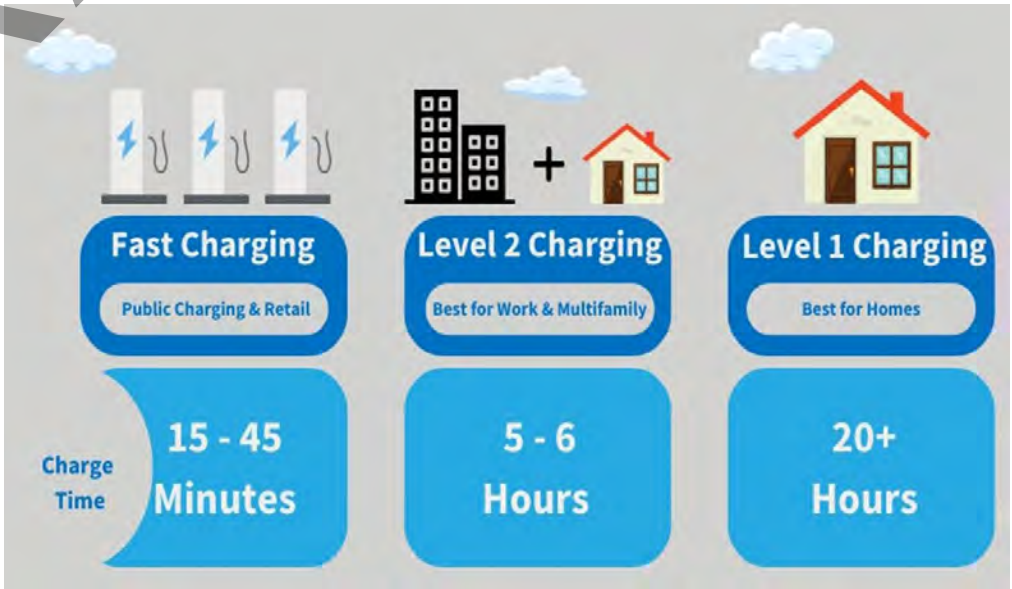
Charging an electric car with a Level 1 (L1) charger does not require any special equipment. You can plug your car into a regular 120-volt AC plug, though you will need to plug into a dedicated circuit that does not supply electricity to anything else in your house. Nearly all electric vehicles come with a cord that will fit a standard 3-prong outlet and the car. With L1, it will take about an hour of charging time to add a range of 3 - 5 miles to your vehicle. Because of the time needed, most people will charge their car this way when they are at home and overnight. Level 1 charging works well for plug-in hybrid electric vehicles (PHEVs) because they have smaller batteries.

LEVEL 2 CHARGING

Level 2 (L2) chargers are the most common chargers used for daily charging. They are faster than L1 but require special equipment. With L2, you can get up to 60 miles of range per hour of charging time and can fully charge an empty battery in 5-6 hours. This allows for use in a public or work environment, as vehicles are often parked for extended periods.

DIRECT CURRENT FAST CHARGING

Direct Current Fast Charging (DCFC) is much faster than L1 and L2, which makes it preferable for drivers on the go. The fastest speed enables rapid charging along heavy-traffic corridors. DCFC equipment can charge an electric battery up to 80 percent in just 15 minutes to 45 minutes. Most EVs have battery management systems to try to blunt any negative effects of DC fast charging on their battery. However, compared to Level 1 and Level 2 charging, DC fast charging can put more strain on batteries.



Plan Vision and Goals

The WAMPO EV Network Plan vision and goals were developed by first reviewing the NEVI Formula Program objectives and criteria for funding to deploy a network of EV chargers nationwide. Second, the project team conducted a review of the plan and developed transportation goals, system objectives, and guiding principles for the future.

PLAN VISION

To transform WAMPO into a sustainable, forward-thinking, and environmentally conscious transportation hub, leading the way in electric vehicle adoption and reducing our carbon footprint. Our vision is a future where clean and accessible electric transportation options are the norm, improving air quality, reducing greenhouse gas emissions, and enhancing the quality of life for all residents.

GOALS

- Infrastructure Expansion & Accessibility
- Incentives & Support
- Fleet Electrification
- Education & Awareness
- Clean Energy Integration
- Collaboration & Partnership

Current EV Ownership in the WAMPO Region

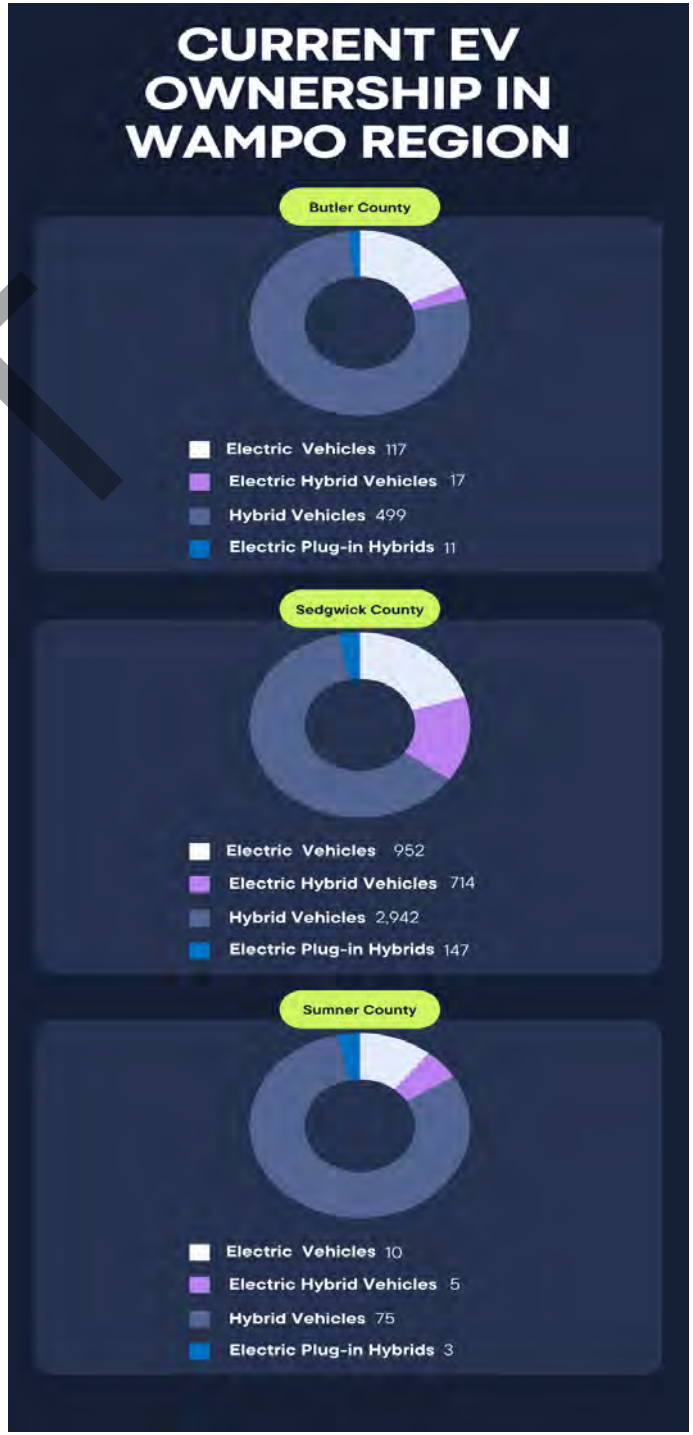
Electric vehicle ownership is growing in the region. As of April 30, 2023, there were 117 registered electric vehicles, 17 electric hybrid vehicles, 499 hybrid vehicles, and 11 electric plug-in hybrid vehicles in Butler County. Sedgewick County has 952 electric vehicles, 714 electric hybrid vehicles, 2,942 hybrid vehicles, and 147 electric plug-in hybrid vehicles registered. Sumner County has 10 electric vehicles, 5 electric hybrid vehicles, 75 hybrid vehicles, and 3 electric plug-in hybrid vehicles. (Kansas Department of Revenue)

Current EV Infrastructure in the WAMPO Region

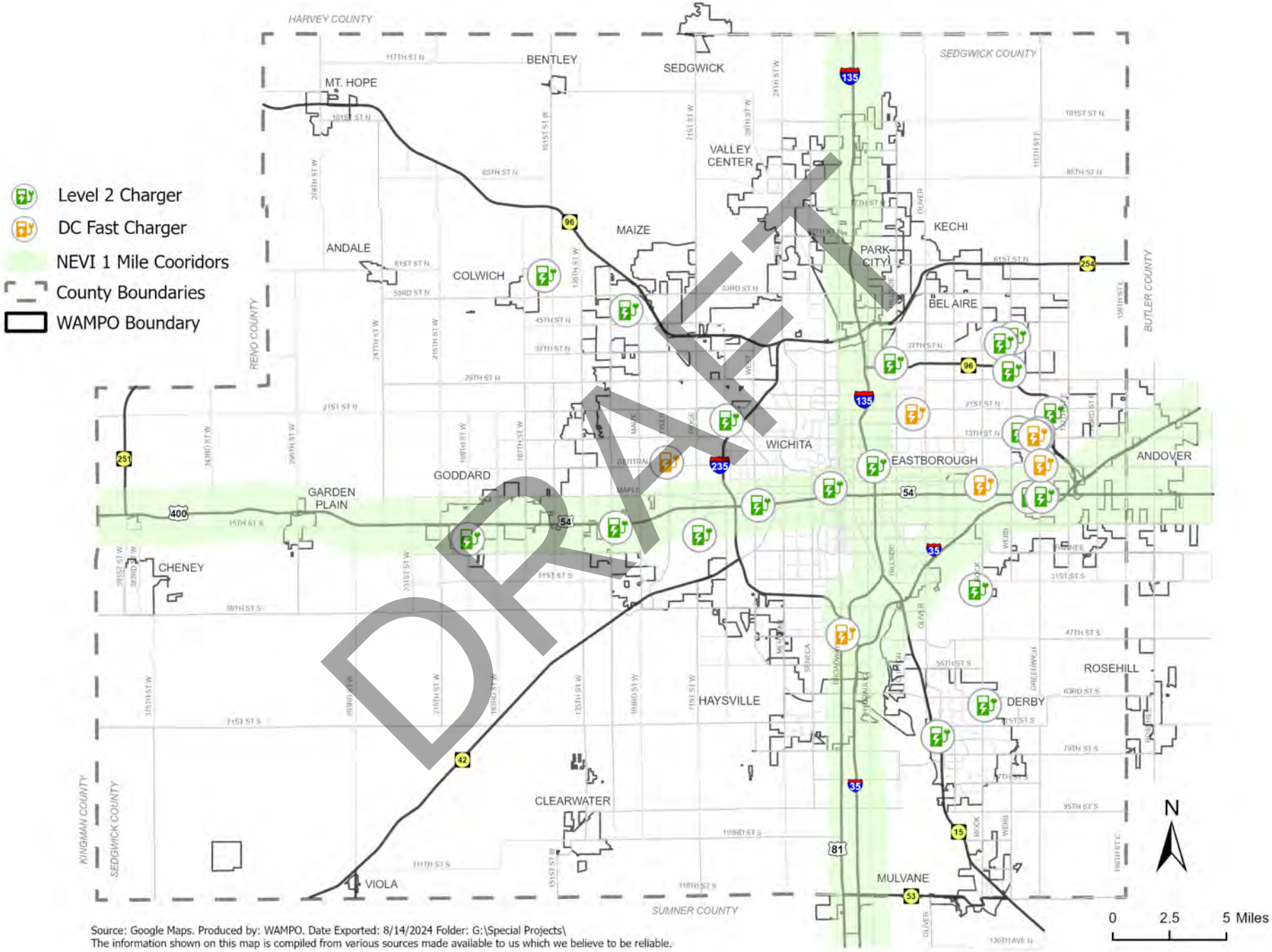
As of June 2023, there were 32 EV charging stations (8 public level 1 stations, 18 public level 2 stations, and 6 DC level stations) serving the WAMPO region. Locations and charging types are included on Map 3.5.1

FINDING PUBLIC CHARGING INFRASTRUCTURE

Drivers typically use mobile applications to locate public charging stations. EV drivers can find these charging locations by using several online resources. Additionally, each charging network (e.g. ChargePoint, PlugShare, Tesla, etc.) has its own web-based or mobile application to help its members find network-specific charging stations. Locating charging stations during regional travel is a crucial resource for EV owners, especially for the WAMPO region due to its growth.



Map 3.5.1: Electric Vehicle Charging Stations in the WAMPO Region



Source: Google Maps. Produced by: WAMPO. Date Exported: 8/14/2024 Folder: G:\Special Projects\
The information shown on this map is compiled from various sources made available to us which we believe to be reliable.

Summary

The WAMPO Electric Vehicle Network Plan aims to support the increasing adoption of plug-in electric vehicles (PEVs) by addressing both immediate needs and long-term goals, transforming the WAMPO region into an electric vehicle destination, corridor, and gateway. The plan outlines initial steps to encourage EV adoption, providing a comprehensive strategy for EV charging infrastructure and identifying barriers to overcome. This plan is designed to help public and private entities become familiar with the opportunities and challenges associated with EV vehicles and charging infrastructure, serving as a foundation for broader adoption.

Supporting Metropolitan Transportation Plan 2050 and the Charge Up Kansas NEVI Plan, the Electric Vehicle Network Plan aims to improve air quality and stimulate economic development by closing gaps in EV charging infrastructure and removing adoption barriers. The initiative is part of a broader national effort following the 2021 federal Infrastructure Investment and Jobs Act (IIJA), which promotes modern infrastructure investments, including a national network of EV chargers. In Kansas, the focus is on upgrading and expanding charging stations to comply with NEVI guidelines, ensuring a reliable and accessible charging network along interstate corridors.

The WAMPO plan involves collaboration with various stakeholders, including city officials, transportation departments, environmental specialists, and community representatives, to gather insights and create a community-driven strategy. Data collection and analysis are crucial to identifying current transportation patterns and potential areas for EV adoption. The plan also reviews existing policies and proposes recommendations to foster an enabling environment for EV growth. Financial modeling, funding strategies, and community education efforts are integral to the plan's success, ensuring its feasibility, sustainability, and public support.

WAMPO ADDRESSING COMMENTS & CONCERNS

WAMPO will address comments and concerns by taking a balanced approach to expanding EV infrastructure. They will develop a clear, transparent plan outlining the goals, benefits, and impacts, including environmental, health, and economic aspects. The plan will include timelines, milestones, and measurable objectives to keep the community informed and engaged.

WAMPO will engage stakeholders through public meetings and listening sessions to gather input and ensure continuous community involvement. They will strategically advise placement of Level 3 DC Fast Charging stations in key areas and Level 2 chargers in residential and workplace locations. WAMPO will encourage jurisdictions to seek funding for EV infrastructure and collaborate with the private sector and utility companies to share costs and benefits. They will also explore incentives, like tax breaks or subsidies, to encourage private investment in charging infrastructure.


MTP 2050
Chapter 4
System Management
DRAFT
Credit: Eastborough

MTP 4.1

Introduction

System management focuses on keeping transportation networks operating smoothly, safely, and efficiently. It encompasses the ongoing maintenance of infrastructure, the integration of advanced technologies, and the implementation of strategies to manage demand, safety, congestion, and resilience. Together, these efforts ensure that transportation systems remain reliable and adaptable to future challenges. Effective system management involves various components, including:

Existing Maintenance Needs & Programs

Current maintenance needs, available funding sources, and other potential maintenance funding models that may help to ensure the upkeep and sustainability of transportation infrastructure.

Intelligent Transportation Systems (ITS)

Innovative technologies and systems that enhance the operational performance of transportation networks through data and traffic management.

Transportation Safety

Existing conditions and potential strategies focused on improving the safety of road users, reducing crashes, and addressing potential hazards.

Transportation Demand Management

Techniques and initiatives designed to optimize the use of available transportation infrastructure by modeling travel demand and considering strategies for managing it.

Congestion Management

Strategies to reduce traffic congestion, improve mobility, and ensure smoother transportation flows across key corridors.

Security and System Resilience

Measures to protect transportation networks from potential threats and ensure their ability to withstand and recover from disruptions.

4.2 Existing Maintenance Needs & Programs

Critical to sustaining a reliable transportation network is addressing physical maintenance of the transportation system, which includes:

- Repairing or replacing bridges in poor physical condition
- Repaving or reconstructing roads in poor physical condition
- Repaving or reconstructing sidewalks and bikeways in poor physical condition
- Maintaining or replacing public transit assests and infrastructure in poor physical condition

Bridges

According to the National Bridge Inventory (NBI), which includes both bridges on the National Highway System (NHS) and non-NHS bridges, approximately 1.6% of bridge deck area in the WAMPO region was in poor condition in 2023. This means more than 185,000 square feet of bridge deck area will need to be evaluated for repair or replacement.

Figure 4.2.1 2023 Bridges in Good, Fair, and Poor Condition

Condition	Number of Bridges	Bridge Area (Sq. Ft.)	Percent
Good	958	7,017,268	62.1%
Fair	381	4,092,814	36.2%
Poor	42	185,076	1.6%
Total	1381	11,295,157	100.0%

Pavement

The Kansas Department of Transportation (KDOT) provided 2023 pavement-condition data for the National Highway System (NHS) in the WAMPO region, which included I-35, I-135, I-235, US-54/400, K-96, K-254, and K-15. According to these data, 3.6 lane miles of the NHS in the WAMPO region, or 0.6% of the total, are in poor condition. Meanwhile, many thousands of lane miles of non-NHS roads in the WAMPO region also require careful monitoring and potential maintenance.

Figure 4.2.2 2023 Pavement Condition on the National Highway System

Condition	Lane Miles	Percent
Good	308.7	48.5%
Fair	323.6	50.9%
Poor	3.6	0.6%
Total	636.0	100.0%

Sidewalks and Bikeways

According to an analysis of satellite imagery performed by WAMPO in 2023, there are over 2,100 miles of sidewalks and multiuse paths in the region. This active-transportation infrastructure requires regular assessment and upkeep to maintain safe and accessible pathways for nonmotorized travel.

Public Transit

The WAMPO region is served by multiple public transit agencies, including Wichita Transit, Sedgwick County Transportation, Butler County Transit, the Derby Dash, and the Haysville Hustle, with assets (e.g., buses, vans) and facilities requiring ongoing maintenance and periodic replacement. Ensuring that these agencies have well-maintained vehicles and facilities is essential for a reliable public transit system.

Electronic Transportation Infrastructure

Transportation infrastructure is no longer limited to bridges and pavement. Recent improvements in operations and data collection methods have led to digital traffic controls and integrated computer networks that require maintenance and management. Older technologies are being systematically replaced with newer options. For example, in-pavement magnetic loops used for vehicle detection at signalized intersections are being phased out, while video detection systems, which in some deployments can identify not only vehicles but also pedestrians and bicycles, are becoming more popular. Meanwhile, traditional incandescent bulbs in traffic signals are being replaced with more efficient light emitting diodes (LEDs).

Funding Programs

To address ongoing maintenance concerns, there are several federal programs that can potentially fund maintenance and replacement projects for deteriorating infrastructure or transit assets. Of particular interest are federal grant programs that provide consistent yearly funding for transportation and transit projects. Some formula funding programs available to local and state governments include:

SURFACE TRANSPORTATION BLOCK GRANT (STBG) PROGRAM

STBG funds provide flexible federal funding for a variety of transportation projects, including the maintenance and repair of roads, bridges, and other infrastructure. These funds can be used to help address poor infrastructure condition through repaving, reconstruction, and rehabilitation.

OFF-SYSTEM BRIDGE PROGRAM

KDOT sets aside an apportionment of Surface Transportation Block Grant (STBG) and Bridge Program Funds for the replacement or rehabilitation of eligible bridges located on roads that are not on the federal-aid system. These funds play a crucial role in maintaining infrastructure that is not served by other conventional federal funding sources.

KANSAS LOCAL BRIDGE IMPROVEMENT PROGRAM

The Kansas Local Bridge Improvement Program (KLBIP) is a state-funded initiative that helps local public agencies replace or rehabilitate locally-owned, deficient bridges. The program focuses on improving the overall transportation system across Kansas by targeting bridges that are not eligible for the Off-System Bridge Program or are too costly to replace under it.

FTA 5339 GRANTS FOR BUSES AND BUS FACILITIES FORMULA PROGRAM

The FTA 5339 grant program helps fund the purchase, replacement, and modernization of buses and bus-related infrastructure. This program supports transit agencies in improving bus service and maintaining reliable fleets for transit agencies.

FTA 5307 URBANIZED AREA FORMULA GRANTS

The FTA 5307 program provides federal funding to transit agencies in urbanized areas, primarily for capital investments, maintenance, and operating expenses. These funds are important for maintaining transit assets, such as buses, rail cars, and facilities, ensuring they remain in good condition and operational.

TRANSPORTATION ALTERNATIVES (TA) PROGRAM

TA funds support nonmotorized transportation projects, such as sidewalks, bikeways, and multiuse paths. These funds may be used to repair or rebuild sidewalks and bikeways, ensuring safe and accessible paths for years to come.

BRIDGE INVESTMENT PROGRAM

Another funding opportunity for addressing bridge maintenance and repair needs is the Bridge Investment Program (BIP), established under the Infrastructure Investment and Jobs Act (IIJA) in 2021. Its focus is on reducing the number of bridges in poor or at-risk condition, which can help ensure that crucial bridges remain safe and operational. This is a competitive grant program open to a variety of applicants, including local governments and Metropolitan Planning Organizations. This funding could potentially complement existing programs, providing more flexibility to address the region's bridge-infrastructure maintenance.

4.3

Intelligent Transportation Systems (ITS)

As traffic volumes increase on the transportation system, the ability to manage road network capacity, mitigate subsequent congestion, and ensure road user safety becomes increasingly complex. Intelligent Transportation Systems (ITS) provide a possible solution to this complexity. ITS can also reduce congestion and improve safety. ITS refers to a broad range of technologies that integrate advanced communication, electronics, and information processing technologies to better manage and optimize transportation infrastructure and services. A few examples of ITS technologies include:

- Traffic Signals and Control Systems: These include technologies like adaptive traffic signals that adjust based on real-time traffic conditions, helping to reduce congestion and improve traffic flow.
- Dynamic Message Signs: Electronic signs that provide real-time updates to drivers, such as information about traffic incidents, road closures, travel times, and weather conditions.
- Real-Time Traffic Cameras: These cameras provide live video feeds of road conditions, allowing traffic managers to monitor congestion, detect crashes, and respond quickly to incidents, enhancing road safety and reducing delays.
- Real-Time Integrated Sensors: These sensors monitor traffic volume, vehicle types, and road conditions, allowing for efficient congestion management.

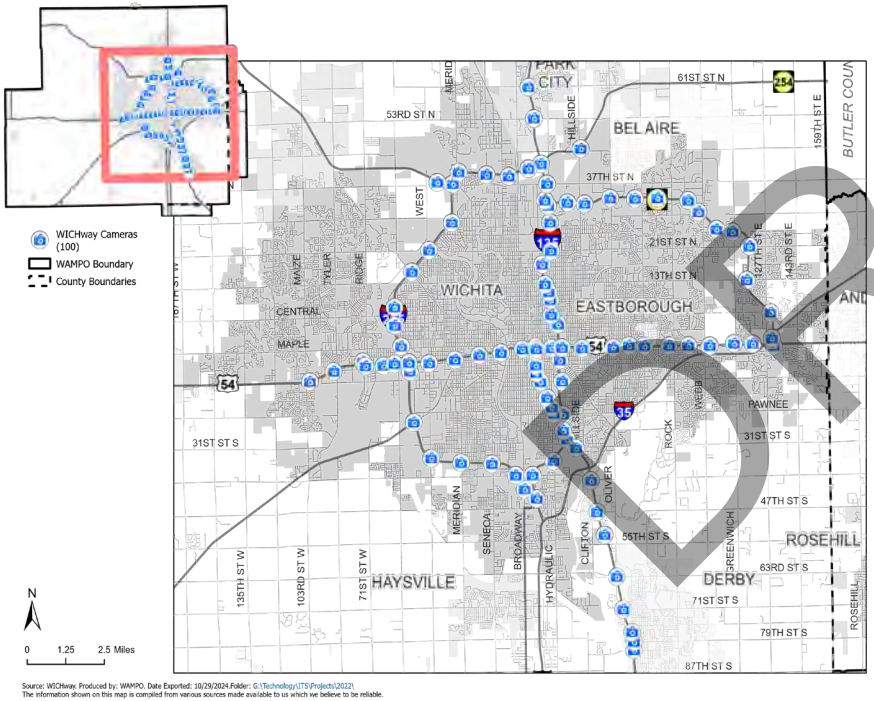
Intelligent Transportation Systems also encompass cutting-edge technologies like connected vehicles (V2X), enabling communication between vehicles and infrastructure. As cities invest in advanced infrastructure like connected vehicles and smart traffic management, transportation systems will become more efficient, and resilient to changing conditions.

ITS in the Region: WICHway

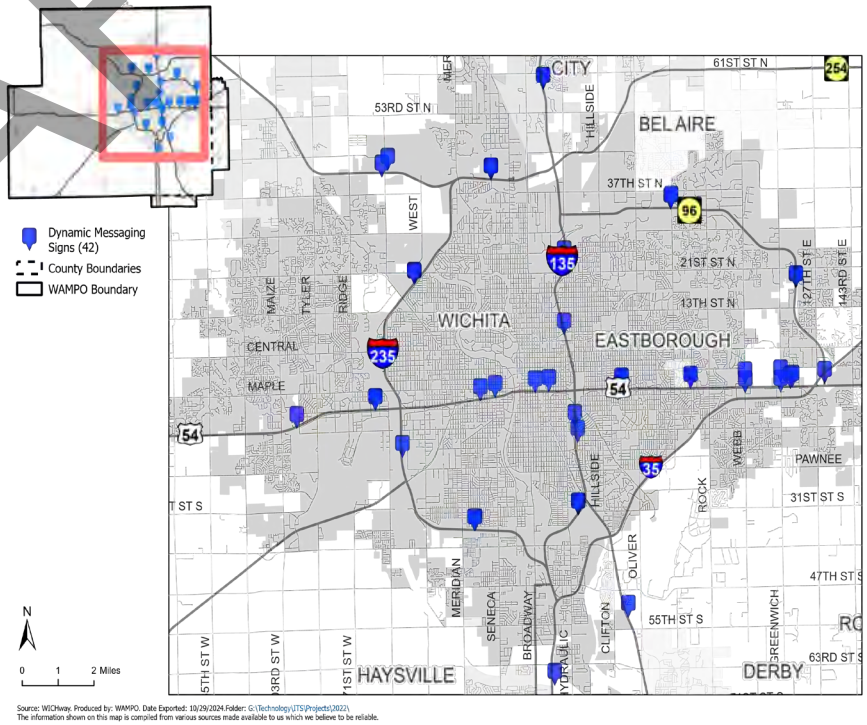
WICHway is the Intelligent Transportation System (ITS) for the highway network in the Wichita area. It is owned and operated by the Kansas Department of Transportation in cooperation with many partners including Sedgwick County, City of Wichita, City of Derby, Kansas Highway Patrol (KHP), Kansas Turnpike Authority (KTA), the Federal Highway Administration (FHWA), and WAMPO.

The WICHway network has 100 closed-circuit cameras, 79 traffic sensors, and 42 dynamic message signs. A Traffic Management Center is operated 24/7 to monitor current traffic conditions, post messages, and update the website (www.WICHway.org) to help drivers navigate through incidents, severe weather, maintenance and construction zones plus any occasional special events or other factors affecting traffic. The locations of these cameras can be seen in Map 4.3.1 along with the Dynamic Message Sign (DMS) deployments in Map 4.3.2

Map 4.3.1: WICHway Camera Network



Map 4.3.2: WICHway Dynamic Messaging Signs



Regional ITS Architecture

To better coordinate between local operators and among various ITS equipment deployments, WAMPO maintains the Regional Intelligent Transportation Systems (ITS) Architecture, with its most recent update anticipated to be complete in 2025. The architecture documents ITS infrastructure, devices, personnel, and maintainers, so that planning, deployment, and communication can take place in an organized and coordinated fashion. Without such a unified framework, opportunities for improving efficiency, safety, and data-sharing may be lost; at the extreme, a region could risk deploying incompatible or redundant technologies. The Regional ITS Architecture ensures that all stakeholders are aligned on ITS gaps and priorities. To learn more about the Regional ITS Architecture, please see Appendix G: Regional ITS Architecture.

Credit: MyEListing - Mulvane

4.4 Transportation Safety

WAMPO is committed to safety and wants to ensure people arrive safely to their destinations. Whether you walk, roll, ride, or drive, everyone has the right to safe travel. WAMPO's transportation safety initiatives strive to reduce transportation fatalities and serious injuries by supporting comprehensive, system-wide, multimodal, data-driven, and proactive regional and statewide transportation planning processes that integrate safety into surface transportation decision-making.

Transportation safety is a required factor in the transportation planning process and transportation professionals are key partners in ensuring that safety is an integral component of all planning processes. With knowledge and understanding of safety and safety planning, transportation professionals can enhance collaboration, communication, and coordination with safety specialists and partners to reduce and eliminate serious injuries and fatalities.

SAFE SYSTEM APPROACH

The US Department of Transportation has adopted the Safe System Approach to address roadway safety challenges. This approach has been embraced as an effective way to address and mitigate the risks inherent in our enormous and complex transportation system. It works by building and reinforcing multiple layers of protection to both prevent crashes from happening in the first place and minimize the harm caused to those involved when crashes do occur. It is a holistic and comprehensive approach that provides a guiding framework to make places safer for people.

The Safe System Approach requires a culture that places safety first and foremost in road system investment decisions. It also acknowledges that road users are human beings and that humans will inevitably make mistakes. As shown in Figure 4.4.1, the Safe System Approach considers five elements of a safe transportation system—safe road users, safe vehicles, safe speeds, safe roads, and post-crash care—in an integrated and holistic manner. A true systems approach involves optimizing across all the elements to create layers of protection against harm on the roads.

Both WAMPO and KDOT have adopted the Safe System Approach and are utilizing it to guide efforts.

Figure 4.4.1: Safe System Approach

KDOT DRIVE TO ZERO

Every five years, the State of Kansas is required to update its Strategic Highway Safety Plan (SHSP), a guiding framework for reducing fatalities and serious injuries on all public roads. The 2025-2029 Kansas Drive to Zero Plan is a collaborative, data-driven process that brings together and draws on the strengths and resources of safety partners across the state.

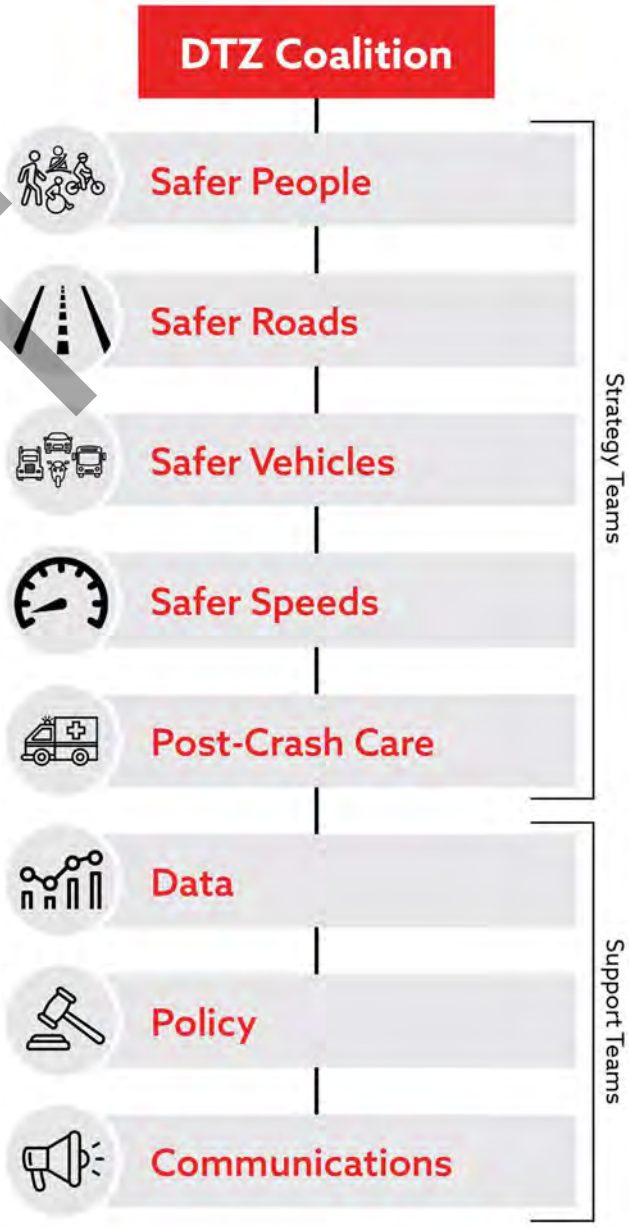
The Kansas Department of Transportation (KDOT) has established the Drive to Zero (DTZ) Coalition, an executive-level body consisting of members of state and federal agencies, non-profit and advocacy organizations, the private sector, and the Kansas House and Senate Transportation Committees. The plan is supported by Strategy and Support Teams. More information can be found at: https://kansasdrivetozero.com/.

WAMPO Safety Initiatives

COMPREHENSIVE SAFETY ACTION PLAN (CSAP)

WAMPO's Comprehensive Safety Action Plan (CSAP) was adopted by the Transportation Policy Board in December 2023 and identifies behavioral and engineering solutions to reduce severe crashes and fatalities. The plan follows the Safe System Approach, acknowledging that severe crash outcomes are preventable, despite the inevitability of human error, and integrates this mindset in the pursuit of zero fatalities and serious injuries on WAMPO-area roads. The plan was developed with input from a team of Transportation Safety Technical Advisors (TSTA), WAMPO staff, and community partners.

Figure 4.4.2: Drive To Zero (DTZ) Coalition



Vision

The WAMPO region envisions a path towards zero road deaths through innovative infrastructure, comprehensive education, and community-wide collaboration, underpinned by the principles of the Safe System Approach.

Goals

- Reduce conflicts at intersections.
- Create safer roads for all road users.
- Employ a variety of tactics to reduce vehicle speeds.

The CSAP includes an implementation plan with time frames and comprehensive strategies and includes a Countermeasures Toolkit for Engineers. WAMPO staff, the TSTA team, and members of the ICT Safe coalition oversee the implementation of the strategies.

The full plan can be found at www.wampo.org/safety.

CRASH DATA ANALYSIS

Over 100,000 crashes occurred in the WAMPO region between 2012 and 2021. Crash data were studied to provide a complete and thorough review of the transportation system. These data were analyzed through a variety of aspects, including maintaining authority, contributing factors, equivalent property damage, and more. Heat maps were created to illustrate and determine crash hot spots for different crash types and factors. Table 4.4.1 shows a breakdown of the crashes by type.

Table 4.4.1: WAMPO Area Crash Types

	All Crashes	Fatal Crashes	Serious Injury Crashes	Fatal/Serious Injury Crash %
Other Motor Vehicle	77,457	246	806	1.36%
Fixed Object	15,338	120	376	3.23%
Parked Motor Vehicle	5,650	10	20	0.53%
Animal	4,044		7	0.17%
Overturned	2,985	78	241	10.69%
Pedestrian	1,028	81	159	23.35%
Pedal cycle (bike)	1,012	14	88	10.08%
Other Object	816	4	7	1.35%
Other-Non-Collision	734	6	26	4.36%
Unknown	96	1	1	2.08%
Railway Train	42	4	2	14.29%

*KDOT crash reporting separates Collisions with Other Vehicles into further breakdowns of type (e.g., Angle-Side Impact, Head-On). These data indicate that Angle-Side Impact, Rear End, and Sideswipe-Same Direction are the most common crashes. Angle-Side Impact, Head-On, and Sideswipe Opposite Direction have the highest percentage of fatalities and serious injuries.

Driver Behavior Contributing Circumstances

Contributing circumstances related to driver behavior are subject to testimonials from those involved in the crash and/or from witnesses. While this information is often underreported, the data available still provide information regarding the behaviors that trend most often. This information can help direct efforts toward behavior change. For both intersection and non-intersection crashes, when indicated on the crash report, some form of Distraction or Driver Inattention was the most frequently indicated contributing factor.

Table 4.4.2: Driver Behavior Contributing Circumstances

	Intersection		Non-Intersection		Combined
	Crashes	Percentage	Crashes	Percentage	Percentage
Right of Way Violation	1,653	15.91%	2,095	15.54%	15.70%
Inattention – General	1,374	13.22%	1,765	13.09%	13.15%
Followed Too Closely	942	9.07%	1,191	8.83%	8.93%
Unknown	658	6.33%	877	6.50%	6.43%
Too Fast for Conditions	539	5.19%	769	5.70%	5.48%
Improper Lane Change	396	3.81%	489	3.63%	3.71%
*Ran Red Light	339	3.26%	459	3.40%	3.34%
Right of Way Violation / Inattention – General	188	1.81%	243	1.80%	1.81%
Other Distractions In or On Vehicle	146	1.41%	191	1.42%	1.41%
Improper Backing	142	1.37%	162	1.20%	1.27%
Inattention – General / Too Fast for Conditions	134	1.29%	145	1.08%	1.17%
Avoidance or Evasive Action	133	1.28%	185	1.37%	1.33%
Followed Too Closely / Inattention General	127	1.22%	309	2.29%	1.83%
Improper Turn	127	1.22%	145	1.08%	1.14%
Disregarded Signs – Signals – Markings	118	1.14%	183	1.36%	1.26%
Inattention – General / Followed Too Closely	115	1.11%			0.48%
Under the Influence of Alcohol	115	1.11%	161	1.19%	1.16%
Inattention – General / Improper Lane Change	108	1.04%			0.45%
Careless or Reckless Driving	96	0.92%	130	0.96%	0.95%
Ill or Medical Condition	85	0.82%	87	0.65%	0.72%
Distraction Not In or On Vehicle	80	0.77%	89	0.66%	0.71%
Fell Asleep or Fatigued	66	0.64%	107	0.79%	0.72%
Oversteering – Overcorrection	57	0.55%	83	0.62%	0.59%
Mobile Phone			60	0.45%	0.25%
Under the Influence of Alcohol / Careless or Reckless Driving	51	0.49%	56	0.42%	0.45%
Other	44	0.42%	44	0.33%	0.37%

*Even though not listed as intersection, 339 crashes were coded as Ran Red Light; if these are moved into the intersection list, Ran Red Light would be around 6% and be number 6 on the intersection list.

Emphasis Areas

Emphasis Areas help prioritize resources and efforts toward specific areas with the highest risk and potential for improvement. By focusing on these areas, decision-makers can address the most pressing issues, such as intersections with high crash rates or sections of roads with frequent speeding violations, leading to a more effective and targeted safety strategy. Additionally, Emphasis Areas provide a clear framework for measuring the success of road safety initiatives, allowing for data-driven decision-making and continuous improvement in crash prevention.

The top ten safety issue areas were identified based on the crash trend data analysis, and the members of the Transportation Safety Technical Advisors (TSTA) voted on the top three they believed would make the biggest impact to study further as Emphasis Areas. They are:

- Intersections
- Speed
- Vulnerable Road Users (VRUs)

ICT SAFE: A REGIONAL TRANSPORTATION COALITION

ICT Safe's mission is to reduce transportation-related fatalities and serious injuries in the WAMPO region by implementing the Comprehensive Safety Action Plan (CSAP). The coalition includes a wide range of stakeholders involved in education, engineering, advocacy, enforcement, and emergency response. ICT Safe is an overarching coalition with several committees, including the Active Transportation Committee (ATC) and Drive Safe Sedgwick. ATC focuses on supporting and encouraging nonmotorized forms of travel while Drive Safe Sedgwick focuses on reducing impaired driving and distracted driving and increasing seatbelt use and adherence to speed limits. The coalition and committees meet quarterly and help oversee the implementation of the CSAP strategies.

COMPLETE STREETS & VISION ZERO

WAMPO envisions a path toward zero road deaths through innovative infrastructure, comprehensive education, and community-wide collaboration, underpinned by the principles of the Safe System Approach. A Complete Street is safe, and feels safe, for all users and focuses on safety, comfort, and connectivity to destinations. WAMPO is currently working with partners to develop Complete Streets and Vision Zero policies and toolkits for the WAMPO region.

SAFE ROUTES TO SCHOOL

Safe Routes to School (SRTS) is an essential program that aims to create secure pathways for students to commute to and from school using active modes of transportation, such as walking and biking. By ensuring safe travel routes for students, we not only encourage healthier lifestyles but also work towards alleviating traffic congestion and reducing the community's carbon footprint. SRTS improvements around schools not only benefit the students, but also the staff, families, and residents moving through the area. WAMPO is dedicating funding to assist public and private schools with the development of SRTS plans. Please visit https://saferoutes.ksdot.gov/ and www.wampo.org/srts for more information.

For additional information on education and transportation, please refer to Chapter 2.3.

SAFE STREETS & ROADS FOR ALL: DEMONSTRATION GRANT

The Safe Streets and Roads for All (SS4A) grant program, established by the Infrastructure Investment and Jobs Act (IIJA) in 2021, will provide $5 billion in SS4A grant funding over five years. The competitive funding opportunity solicits applications to improve roadway safety by significantly reducing or eliminating roadway fatalities and serious injuries through safety action plan development and projects focused on all users. WAMPO was awarded an SS4A Demonstration grant by the US Department of Transportation in December 2023. Funding, including KDOT and local match, will be utilized to complete Safety Analysis plans and to install and evaluate temporary safety improvements across the WAMPO region. These plans and temporary demonstration projects will help determine what safety improvements will be most effective in reducing serious injuries and fatalities at high-crash locations.

WAMPO's comprehensive safety initiatives and meeting details can be found online at: www.wampo.org/safety.

4.5 Transportation Demand Management

Transportation demand management is a general term for strategies to facilitate travel options that result in more efficient use of transportation resources and infrastructure. Transportation demand management programs and projects can help reduce traffic congestion without adding roadway capacity. The goals of transportation demand management are to improve travel reliability, improve air quality, manage congestion, and increase economic development.

Transportation demand management strategies can be categorized into four groups:

- Travel Options – Strategies to improve and/or expand transportation options, such as extended public-transit hours of operation
- Work Travel Patterns – E.g., work shifts that start and end during non-peak travel periods, commuting by alternate modes of transportation
- Incentives and Policies – Aligning transportation options with adopted policies and plans aimed at increasing investment in public transit, bicycling, and walking amenities and infrastructure
- Supportive Land Use – Partnering with land-use agencies to ensure mixed-land-use planning that will result in developments with small street-block sizes, activated ground floors (i.e., buildings with retail and service establishments on the ground floor, but other uses on higher floors), and facilities that promote sustainable modes of travel

Table 4.5.1 lists some potential transportation demand management strategies. It is not exhaustive, as additional strategies and innovative solutions are always being developed in cities around the world. The estimated-cost categories are based on the values of capital projects: Low is anything under $1 million, medium is $1-5 million, and high is greater than $5 million.

Table 4.5.1: Potential Transportation Demand Management Strategies

Strategy	Cost*
Active parking management: Using technology to better manage parking inventory	Medium
Alternative work hours for commutes during non-peak hours	Low
Bus stops to maximize rider accessibility and safety	Low
Congestion pricing	High
Dynamic lane assignment	Medium
Employee rideshare	Low
Employee transit & active transportation incentives	Low
High Occupancy Vehicle (HOV) lanes	Medium
Land-use development policies	Low
Mobility hubs connect transit to other modes such as bike share or scooters	High
Parallel route usage & management to mitigate congestion	High
Park-and-ride locations	Medium
Protected bike lanes	Low
Regional trails and sidewalks	Medium
Signal timing optimization	Medium
Transit signal priority	Medium
Truck-lane designations & restrictions	Low
Variable-message signs	Medium
Work-zone intelligent transportation systems	Medium

* Low is anything under $1 million, medium is $1-5 million, and high is greater than $5 million

Forecasting Travel Demand

To ascertain the level of need for/usefulness of various transportation demand management strategies and where that need/usefulness is greatest, it is necessary to have a clear idea of how heavily used the transportation system currently is, what future usage is likely to be like, and how economics, demographics, and infrastructure affect that usage.

WAMPO maintains a travel demand model for the Wichita, KS metropolitan area, a necessary tool for MPOs to develop long-range plans and properly evaluate future projects in the region, while ensuring compliance with federal regulations. It simulates the interaction between regional land development patterns and the transportation system and allows the region to understand the impact transportation investments and land-use decisions have on travel.

This model informed the development of MTP 2050 by looking at transportation-system and travel changes associated with anticipated job and population growth and with planned infrastructure improvements. These forecasts of travel helped identify future transportation-system needs and provided a snapshot of future system performance. A comparison of travel demand model outputs for the base year (2022) and for the future scenario year (2050), with anticipated population and employment growth and planned future transportation projects, predicts some noteworthy changes in travel between now and 2050.

Table 4.5.2 summarizes the outputs of the travel demand model for the 2022 Base Scenario and the 2050 Build Scenario, which includes all of the changes to the roadway network that are called for in the MTP 2050 Fiscally Constrained Project List (see Chapter 7). In response to population and employment growth, person trips within the model region (which is slightly larger than the official WAMPO region) are forecast to increase almost twenty percent over a period of 28 years, with a slight increase in the average number of trips per person. Corresponding, but slightly smaller, increases are forecast for vehicle trips, vehicle miles traveled (VMT), and vehicle hours traveled (VHT). However, VMT and VHT per capita are forecast to slightly decrease. This is reflective of a forecast slight decrease in both average vehicle-trip distance and average vehicle-trip duration. This is at least partially explained by a forecast slight decrease in average vehicle trip speed (resulting from traffic congestion), which discourages motor-vehicle travel. Another likely explanation for shorter vehicle-trip distances and durations is that increases in the numbers of people and jobs in the region reduce the average distance/travel time between origins and potential destinations.

Table 4.5.2: Summary of 2022 Base Scenario and 2050 Build Scenario Outputs from the WAMPO Travel Demand Model

TDM Output Summary Statistics	Scenario		Difference	% Difference
	2022 Base	2050 Build		
Person Trips (internal to the region)	1,837,310	2,204,331	367,021	19.98%
Person Trips Per Capita	3.39	3.42	0.03	0.88%
Vehicle Trips (including external trips & truck trips)	1,530,805	1,810,366	279,562	18.26%
Vehicle Miles Traveled	12,768,085	14,781,246	2,013,161	15.77%
Vehicle Miles Traveled Per Capita	23.56	22.93	-0.63	-2.66%
Vehicle Hours Traveled	318,009	371,077	53,068	16.69%
Vehicle Hours Traveled Per Capita	0.59	0.58	-0.01	-1.88%
Average Vehicle Trip Distance (miles)	8.34	8.16	-0.18	-2.11%
Average Vehicle Trip Duration (minutes)	12.46	12.30	-0.17	-1.33%
Average Vehicle Trip Speed (mph)	40.15	39.83	-0.32	-0.79%

Table 4.5.3 summarizes projected person-trip mode shares in the 2022 Base Scenario and 2050 Build Scenario. The most common travel mode is single-occupant motor vehicle, followed by multiple-occupant motor vehicle, with smaller numbers of trips made by bus or by nonmotorized modes. Not much change in mode shares is forecast between 2022 and 2050.

Table 4.5.3: Summary of 2022 Base Scenario and 2050 Build Scenario Person-Trip Mode-Share Outputs from the WAMPO Travel Demand Model

Mode	Scenario		Difference
	2022 Base	2050 Build	
Single-Occupant Vehicle	47.87%	47.86%	-0.01%
Multiple-Occupant Vehicle	38.97%	38.90%	-0.07%
School Bus	5.33%	5.30%	-0.03%
Pedestrian	4.97%	5.04%	0.07%
Bicycle	1.59%	1.59%	0.00%
Public Transit	0.64%	0.67%	0.03%
Other	0.63%	0.65%	0.02%
Total	100.00%	100.00%	0.00%

For more information on the development, uses, and outputs of the WAMPO travel demand model, please see Appendix E.

Credit: Prairie Sunset Trail - Michael Negrete

4.6 Congestion Management

Congestion Management

As metropolitan areas expand, congestion along the road network becomes an increasingly significant issue. It impacts travel times and the overall quality of life for residents. Management of congestion can be accomplished through a variety of strategies including demand management, infrastructure improvements, and traffic flow optimization. By analyzing travel patterns, transportation planners can identify areas prone to congestion and prioritize interventions like signal optimization, public transit enhancements, or roadway expansions. These efforts not only reduce delays but also improve air quality and promote more sustainable mobility options within the metropolitan region. The goal of congestion management is not to eliminate traffic entirely but to maintain an efficient, reliable, and safe transportation system as urban areas continue to grow. For MPO's such as WAMPO, comprehensive strategic approaches to congestion are formalized through the development of a Congestion Management Process (CMP).

Congestion Management Process (CMP)

The implementation of a CMP is federally mandated for metropolitan areas such as WAMPO that boast populations exceeding 200,000 residents. This regulation underscores the critical need to address congestion challenges in urban settings. The primary purpose of a CMP is to establish a methodical and comprehensive approach to managing congestion, grounded in the performance of the regional transportation system.

At its core, a Congestion Management Process (CMP) provides a strategic framework for systematically assessing congestion mitigation efforts. It further establishes a structure for monitoring the effectiveness of these interventions and supports the development of future strategies. This process includes a comprehensive analysis of traffic flow, roadway capacity, and transit performance to specifically evaluate how well current measures reduce congestion and improve travel efficiency. To learn more about congestion management and to view WAMPO's most recent CMP, please see Appendix F, Congestion Management Process.

4.7 Security and System Resilience

The federal Infrastructure Investment and Jobs Act (IIJA) establishes the Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation (PROTECT) Formula Program to help make surface transportation more resilient to natural hazards, including climate change, sea level rise, flooding, extreme weather events, and other natural disasters through support of planning activities, resilience improvements, community resilience and evacuation routes, and at-risk coastal infrastructure.

By the Federal Highway Administration definition, resilience is "the ability to anticipate, prepare for, and adapt to changing conditions and withstand, respond to, and recover rapidly from disruptions."

Following the passage of the FAST Act, the Federal Highway Administration and the Federal Transit Administration updated the metropolitan and statewide transportation planning regulations to reflect these new requirements. The transportation planning rule includes:

- A new planning factor for states and metropolitan planning organizations (MPOs) to consider and implement: improving the resiliency and reliability of the transportation system (23 CFR 450.206(a)(9) and 23 CFR 450.306(b)(9)).
- A recommendation for MPOs to consult with agencies and officials responsible for natural disaster risk reduction when developing a metropolitan transportation plan and the transportation improvement program (23 CFR 450.316(b)).
- A requirement that the metropolitan transportation plan assess capital investment and other strategies that reduce the vulnerability of the existing transportation infrastructure to natural disasters (23 CFR 450.324(f(7)).

SYSTEM RESILIENCE

The impacts of a changing climate and extreme weather events are one of the hazards that threaten our nation's transportation systems. Flooding, extreme heat, and severe storm events endanger the long-term investments that federal, state, and local governments have made in transportation infrastructure. Changes in climate have intensified the magnitude, duration, and frequency of these events for many regions in the United States, a trend that is projected to continue. As a result, transportation agencies across the country are assessing ways to protect, preserve, and improve their assets in the face of increasing climate change and extreme weather events.
The WAMPO region has a long history with tornadoes, hail, strong winds, temperature swings, and other weather phenomena. These varied, and at times unpredictable, weather patterns have shaped an increasingly resilient and prepared system of emergency responders and transportation system resources.

The WAMPO region is located in "Tornado Alley," a large area that covers parts of South Dakota, Nebraska, Kansas, Oklahoma, and Texas where tornadoes occur more frequently than elsewhere. 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 thru 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 close to 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 Water

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 System

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.

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.

Climate Change/Extreme Weather

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

SECURITY AND EMERGENCY MANAGEMENT

Sedgwick County Emergency Management (SCEM) is a lead organization overseeing emergency planning in the region. The Local Emergency Operations Plan (LEOP) was approved by the Kansas Division of Emergency Management in 2022. The LEOP is designed to address natural and manmade hazards that could adversely affect the County. The LEOP applies to all county government departments and agencies that are tasked to provide assistance in a disaster or emergency situation. It describes the fundamental policies, strategies and general concept of operations to be used in control of the emergency from its onset through the post-disaster phase.

The LEOP is an all-hazards plan that addresses evacuations; sheltering; post-disaster response and recovery; deployment of resources; communications, and warning systems. It also defines the responsibilities of county departments and volunteer organizations. The LEOP describes the basic strategies, assumptions and mechanisms through which the County will mobilize resources and conduct activities to guide and support local emergency management efforts through preparedness, response, recovery, and prevention.

Wichita State University's Environmental Finance Center (EFC) is one of 10 Environmental Finance Centers located across the country that provide communities with professional training, technical assistance and applied research. They help communities build capacity to address environmental challenges and provide quality of life for everyone.

One of the key ingredients of successful, premiere cities is sustainability. When decision-makers focus and take action on initiatives that increase a region's environmental, social, and economic life, in equal measure, the community is able to grow and thrive.

A community focused on sustainability will experience:

- Financial benefits through reduced municipal costs for energy, water, infrastructure, and maintenance; and increased tax and fee revenues due to increased economic activity
- Healthy residents through access to clean air, water, and food as well as opportunities to be physically active
- Economic growth as businesses choose to establish and remain in the community because the workforce is healthy and happy and and because cost savings on energy, water, etc. are realized due to smart development and building standards

A 2022 report published by the WSU EFC evaluated projects, programs, policies, and partnerships to improve sustainability for the City of Wichita. The report includes guidance on transportation, built environment, renewable energy and low-carbon fuels, and green space.


DRAFT
Credit: Clearwater

MTP 2050

Chapter 5

System Performance Report

Credit: KDOT

MTP 5.1

Federal Performance Measures

A performance-based planning process involves setting goals and tracking relevant data to guide future planning decisions. To support this, the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) jointly issued a Planning Rule establishing performance measures for roadway safety (PM1), pavement and bridge condition (PM2), system performance and freight movement (PM3), transit asset management (TAM), and transit safety. MPOs must either set their own targets or support those of their respective state DOTs. WAMPO has chosen to support the Kansas Department of Transportation's (KDOT's) targets for PM1, PM2, PM3, and TAM. On October 8, 2024, the WAMPO Transportation Policy Body (TPB) approved supporting KDOT's federal performance measure targets in 2024, reinforcing WAMPO's commitment to state and local goals. WAMPO reflects this support through project evaluation criteria that help prioritize federal funding for regional transportation projects.

The KDOT federal performance measure targets that the WAMPO TPB has voted to support fall into four umbrella categories: Safety (PM1), Infrastructure Condition (PM2), System Performance (PM3), and Transit Asset Management (TAM). Within each of these categories, several individual metrics are considered:

PM1: Safety (5-Year Rolling Averages)

- Number of Crash Fatalities
- Rate of Crash Fatalities per 100 Million Vehicle Miles Traveled (100 MVMT)
- Number of Crash Serious Injuries
- Rate of Crash Serious Injuries per 100 MVMT
- Number of Crash Nonmotorized Fatalities and Serious Injuries

PM2: Pavement & Bridge Condition

- Percentage of Interstate Pavement in Good Condition
- Percentage of Interstate Pavement in Poor Condition
- Percentage of Non-Interstate National Highway System (NHS) Pavement in Good Condition
- Percentage of NHS Bridge Deck Area in Good Condition
- Percentage of NHS Bridge Deck Area in Poor Condition

PM3: System Performance

- Percentage of Person-Miles on Interstates that Are Reliable
- Percentage of Person-Miles on Non-Interstate National Highway System (NHS) Facilities that Are Reliable
- Truck Travel Time Reliability Index

Transit Asset Management

- Percentage of Revenue Vehicles that Exceed the Useful Life Benchmark
- Percentage of Non-Revenue Service Vehicles that Exceed the Useful Life Benchmark
- Percentage of Facilities that Are Rated Less than 3.0 on the Transit Economic Retirement Model (TERM)

PM1 - Safety

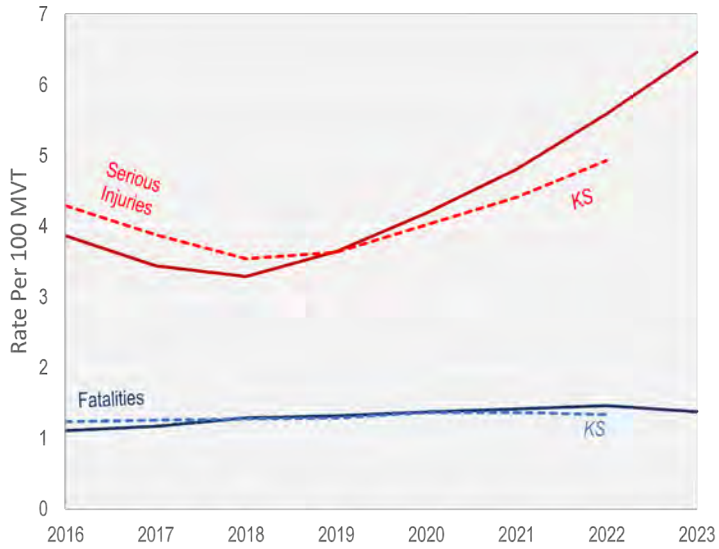
Table 5.1.1 shows historical trends of the five-year rolling averages of fatal and serious-injury crash data available from KDOT (2012-2016 through 2018-2022), both statewide and for public roads within the WAMPO region. Over the period shown, all fatality and serious-injury metrics have been increasing more quickly in the WAMPO region than statewide. In 2019, KDOT changed how serious injuries were reported, resulting in what appears to be a large single-year increase in serious injuries but is really just a change in how they are counted. Figure 5.1.1 illustrates trends in Kansas's and the WAMPO region's rates of fatalities and serious injuries.

Table 5.1.1: PM1 – Five-Year Rolling Average Safety Measures (shown by ending year of five-year period)

	2016	2017	2018	2019	2020	2021	2022	2023
Statewide								
Number: Fatalities	385	396	407	412	426	425	415	-
Rate: Fatalities / 100 MVMT	1.24	1.26	1.28	1.29	1.37	1.37	1.34	-
Number: Serious Injuries	1325	1213	1121	1160	1242	1361	1518	-
Rate: Serious Injuries / 100 MVMT	4.29	3.88	3.54	3.63	4.02	4.41	4.93	-
Number: Nonmotorized Fatalities & Serious Injuries	134	135	139	143	152	160	173	-
WAMPO Region								
Number: Fatalities	50	53	58	60	63	65	68	64
Rate: Fatalities / 100 MVMT	1.11	1.17	1.3	1.32	1.38	1.42	1.47	1.38
Number: Serious Injuries	172	154	148	165	191	221	258	299
Rate: Serious Injuries / 100 MVMT	3.86	3.44	3.29	3.64	4.19	4.81	5.59	6.46
Number: Nonmotorized Fatalities & Serious Injuries	29	28	28	32	33	35	40	47

Sources: KDOT Performance Measure Dashboard retrieved on 12/13/2024, WAMPO observed from KDOT as reported by local law enforcement agencies

Figure 5.1.1: WAMPO Region and State Fatality and Serious Injury Rates



PM1: STATE TARGETS

KDOT's statewide targets for the PM1 safety metrics are shown in Table 5.1.2. KDOT selected these targets after an analysis of trends, with a goal of aggressive reductions in fatal and serious-injury crashes. Memorable round numbers were selected to help keep these targets forefront in the minds of stakeholders as decisions are made that impact safety. WAMPO is committed to supporting these statewide targets by explicitly incorporating safety as a criterion in project evaluation to support project selection and monitoring regional progress in achieving the state's safety goals.

Table 5.1.2: PM1 - State Targets

	KDOT Statewide 2023 Target	KDOT Statewide 2024 Target
Number: Fatalities	≤ 400	≤ 400
Rate: Fatalities / 100 MVMT	≤ 1.26	≤ 1.28
Number: Serious Injuries	≤ 1100	≤ 1400
Rate: Serious Injuries / 100 MVMT	≤ 3.47	≤ 4.47
Number: Nonmotorized Fatalities & Serious Injuries	≤160	≤ 170

Targets in table are 5-year rolling averages
Source: Retrieved from KDOT Federal Performance Measure Dashboard 12/13/2024

PM1: REGIONAL PROGRESS AND GOALS

To support Kansas in achieving its safety targets, WAMPO has developed regional PM1 goals derived from and aligned with the state's targets. These goals enable WAMPO to assess its progress in relation to the state's targets. For example, in 2023, WAMPO supported the state's target of keeping crash fatalities at or below 400 for the year (3.6% less than the 415 actual statewide crash fatalities in 2022). A practical benchmark for WAMPO, reflecting its commitment to this target, is to monitor and aim for an equal or greater percent decrease in its own fatalities. By evaluating the percent difference between actual observed values for statewide PM1 metrics in 2022 and the corresponding 2023 statewide targets, WAMPO can establish useful goals to track its progress in supporting the state's safety targets (see Table 5.1.3).

Table 5.1.3: PM1 - WAMPO Goals Derived from State Targets

	WAMPO Region: 2023 Observed	% Change: 2022 Kansas Statewide Observed & 2023 Targets	WAMPO Region: 2024 Goals
Number: Fatalities	64	-3.6%	≤ 62
Rate: Fatalities / 100 MVMT	1.38	-6.0%	≤ 1.3
Number: Serious Injuries	299	-27.5%	≤ 217
Rate: Serious Injuries / 100 MVMT	6.46	-29.6%	≤ 4.55
Number: Nonmotorized Fatalities & Serious Injuries	47	-7.5%	≤ 43

Targets in table are 5-year rolling averages
Sources: WAMPO observed from Kansas Open Records Act (KORA) request, State Observed (2022) retrieved from KDOT Federal Performance Measure Dashboard 12/13/2024

PM1: 2025 AND BEYOND

New safety performance-measure targets are established annually, but WAMPO remains dedicated to reducing fatalities and serious injuries well beyond 2024. To guide both short- and long-term transportation safety planning, WAMPO collaborated with regional stakeholders and decision-makers to develop the Comprehensive Safety Action Plan (CSAP). This plan outlines a detailed list of strategies aimed at significantly reducing transportation-related fatalities and serious injuries in the years ahead.

PM2 - Pavement & Bridge Condition

The Federal Highway Administration (FHWA) classifies interstate and non-interstate pavement conditions as Good, Fair, or Poor based on metrics such as the International Roughness Index (IRI), cracking percentage, rutting, and faulting. A pavement section is rated Good if all metrics meet the 'Good' thresholds, Poor if at least two metrics fall below 'Poor' thresholds, and Fair if it doesn't meet the criteria for either Good or Poor. Importantly, a "Poor" rating means a major reconstruction investment may be needed. NHS bridge condition is determined by the lowest rating of the deck, superstructure, substructure, or culvert, as classified by the National Bridge Inventory (NBI).

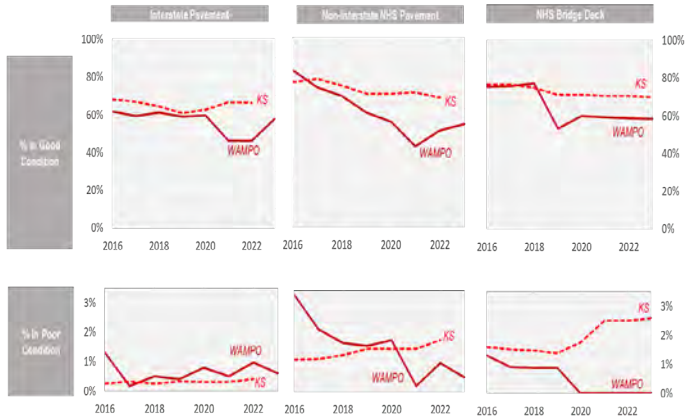
Table 5.1.4 and Figure 5.1.2 show historical trends of pavement and bridge condition data, both statewide and for the WAMPO region, over the period 2016-2023 (with some data gaps). In general, the percentages of infrastructure rated Good are lower in the WAMPO region than statewide, but have been either improving or holding steady in recent years. Percentages of WAMPO-region NHS infrastructure rated Poor are either already lower than the corresponding statewide figures or have been trending in that direction. 2023 WAMPO-region percentages of Interstate pavement, non-Interstate NHS pavement, and NHS bridge deck rated Poor are all below 1%. The percent of pavement rated Good or Poor condition is based on lane miles. The percent of bridges rated Good or Poor is based on deck area.

Table 5.1.4: PM2 – Pavement & Bridge Condition Measures

	2016	2017	2018	2019	2020	2021	2022	2023
Statewide								
Interstate Pavement: **Good** Condition	68.1%	66.7%	64.3%	60.7%	66.6%	66.5%	66.3%	-
Interstate Pavement: **Poor** Condition	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	-
Non-Interstate NHS Pavement: **Good** Condition	61.2%	62.7%	59.8%	56.3%	59.1%	56.9%	54.8%	-
Non-Interstate NHS Pavement: **Poor** Condition	1.1%	1.1%	1.3%	1.5%	1.8%	1.5%	1.8%	-
NHS **Bridge Deck:** **Good** Condition	76.5%	76.5%	74.8%	71.2%	71.3%	70.6%	70.6%	70.0%
NHS **Bridge Deck:** **Poor** Condition	1.6%	1.5%	1.5%	1.4%	1.7%	2.5%	2.5%	2.6%
WAMPO Region								
Interstate Pavement: **Good** Condition	61.7%	59.2%	61.2%	58.8%	59.6%	46.1%	46.0%	60.2%
Interstate Pavement: **Poor** Condition	1.3%	0.2%	0.5%	0.4%	0.8%	0.5%	1.0%	0.5%
Non-Interstate NHS Pavement: **Good** Condition	66.3%	59.1%	55.4%	48.3%	44.4%	33.7%	41.0%	39.3%
Non-Interstate NHS Pavement: **Poor** Condition	3.4%	2.2%	1.7%	1.6%	1.8%	1.9%	1.0%	0.5%
NHS **Bridge Deck:** **Good** Condition	75.5%	75.8%	77.1%	53.3%	59.8%	59.2%	58.5%	58.3%
NHS **Bridge Deck:** **Poor** Condition	1.3%	0.9%	0.9%	0.9%	0.0%	0.0%	0.0%	0.0%

Sources: Retrieved from FHWA Performance Measure Dashboard and KDOT Performance Measure Dashboard 12/13/2024, KDOT HPMS system, National Bridge Inventory

Figure 5.1.2: PM2 – Regional and State Pavement and Bridge Condition Trends



PM2: STATE TARGETS

KDOT's statewide targets for the PM2 pavement and bridge condition metrics are shown in Table 5.1.5. Whereas PM1 metrics have annual targets, PM2 targets are established for a four-year performance period, currently 2022–2025. Within this period, per FHWA guidance, biennial targets are set for 2023 and 2025. These targets are determined with consideration of a designated baseline set of PM2 observations from a specific year, which for this performance period is 2021. WAMPO supports the state's targets by including infrastructure condition and age as criteria in project evaluation to support project selection.

Table 5.1.5: PM2 - State Targets

	KDOT Baseline: 2021 Observations	KDOT Statewide 2023 Target	KDOT Statewide 2025 Target
Percent of **Interstate** Pavement in **Good** Condition	66.5%	≥ 60 %	≥ 61 %
Percent of **Interstate** Pavement in **Poor** Condition	0.3%	≤ 0.4 %	≤ 0.4%
Percent of **Non-Interstate** NHS Pavement in **Good** Condition	56.9%	≥ 61 %	≥ 61 %
Percent of **Non-Interstate** NHS Pavement in **Poor** Condition	1.8%	≤ 1.7%	≤ 1.7 %
Percent of NHS **Bridge Deck** in **Good** Condition	71.3%	≥ 72 %	≥ 72 %
Percent of NHS **Bridge Deck** in **Poor** Condition	1.7%	≤ 3 %	≤ 3 %

Source: Retrieved from FHWA Performance Measure Dashboard 12/13/2024

PM2: REGIONAL PROGRESS AND GOALS

To support Kansas in achieving its infrastructure-condition targets, WAMPO has developed regional PM2 goals derived from and aligned with the state's targets. Considering that 2023 observations have already been determined, 2025 goals were calculated. These were derived by analyzing KDOT's baseline PM2 observations from 2021, the year in which their 2-and 4-year goals were initially established, and calculating the absolute difference in percent between that and KDOT's 2025 targets (as opposed to percent change). By evaluating the difference between actual observed values for base year metrics from 2021 and the corresponding 2025 statewide targets, WAMPO can establish useful goals to track its progress in supporting the state's infrastructure-condition targets. Calculated WAMPO-region goals for 2025 are in Table 5.1.6.

Table 5.1.6: PM2 - WAMPO Goals Derived from State Targets

	WAMPO Region: 2021 Observed	Difference: 2021 Kansas Baseline Observations & 2025 Targets	WAMPO Region: 2025 Goals
Percent of **Interstate** Pavement in **Good** Condition	46.1%	-5.5%	≥ 40.6 %
Percent of **Interstate** Pavement in **Poor** Condition	0.5%	0.1%	≤ 0.6 %
Percent of **Non-Interstate** NHS Pavement in **Good** Condition	33.7%	4.1%	≥ 37.8 %
Percent of **Non-Interstate** NHS Pavement in **Poor** Condition	1.9%	-0.1%	≤ 1.8 %
Percent of NHS **Bridge Deck** in **Good** Condition	59.2%	0.7%	≥ 59.9 %
Percent of NHS **Bridge Deck** in **Poor** Condition	0.0%	1.3%	≤ 1.3 %

Sources: WAMPO observed provided by KDOT, State Observed and Targets retrieved from FHWA's Federal Performance Measure Dashboard 12/13/2024

PM3 - System Performance

For the purposes of federal performance measures, "system performance" refers to the reliability of the transportation system, measured as the likelihood of experiencing or not experiencing unexpected delay, regardless of what the average travel speed is. More formally, reliability is the consistency and dependability of travel times across different days and across different times of the day.

The metrics included in PM3 are:

- Level of Travel Time Reliability (LOTTR): Ratio of longer travel times (80th percentile) to the median travel time (50th percentile), according to data from the National Performance Management Research Data Set (NPMRDS). Reported for Interstates and for non-Interstates on the NHS as the percent of person-miles traveled that are reliable.
- Interstate Truck Travel Time Reliability (TTTR) index: Measures freight-transportation reliability. Reporting is divided into five periods:
  - » Weekday AM Peak Period: 6:00 AM to 10:00 AM
  - » Weekday Midday Period: 10:00 AM to 4:00 PM
  - » Weekday PM Peak Period: 4:00 PM to 8:00 PM
  - » Weekday Overnight Period: 6:00 PM to 6:00 AM
  - » Weekend Period: All hours during weekends

The TTTR index is calculated by first determining the ratio of the 95th percentile travel time to the median (50th percentile) travel time for each Interstate roadway segment in each of the five time periods, then multiplying each segment's largest ratio of the five time periods by its length, then dividing the sum of all the roadway segments' length-weighted ratios by the total length of the roadway. Higher numbers correspond to less reliable travel times. The lowest possible TTTR index value is one (1), which means travel times are always reliable.

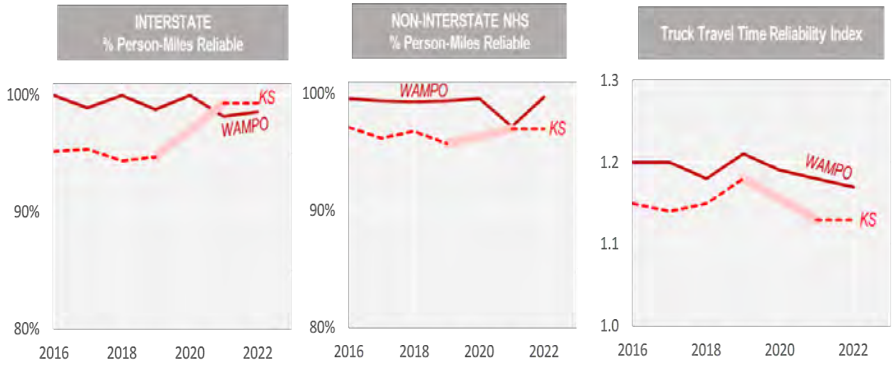
Table 5.1.7 and Figure 5.1.3 show historical trends of system-performance data, both statewide and for the WAMPO region, over the period 2016-2023 (with some data gaps). The two percentage-based LOTTR measures show the WAMPO-region portion of the NHS operating at a very high level of reliability, comparable to or better than the state of Kansas as whole. The WAMPO region's TTTR index has been consistently higher than (i.e., worse than) the statewide TTTR index, but has been trending downward since 2019.

Table 5.1.7: PM3 – System Performance Measures

	2016	2017	2018	2019	2020	2021	2022	2023
Statewide								
% of person-miles on Interstates that are reliable	95.2%	95.4%	94.4%	94.7%	-	99.3%	98.6%	-
% of person-miles on non-Interstate NHS that are reliable	97.1%	96.2%	96.8%	95.7%	-	97.0%	97.4%	-
Truck Travel Time Reliability Index	1.15	1.14	1.15	1.18	-	1.13	1.16	-
WAMPO Region								
% of person-miles on Interstates that are reliable	100.0%	98.9%	100.0%	99.0%	100.0%	98.0%	99.0%	100.0%
% of person-miles on non-Interstate NHS that are reliable	99.6%	99.4%	99.0%	99.0%	100.0%	97.0%	99.7%	99.0%
Truck Travel Time Reliability Index	1.2	1.2	1.18	1.21	1.19	1.18	1.17	1.17

Sources: Retrieved from FHWA Performance Measure Dashboard and KDOT Performance Measure Dashboard 12/13/2024, NPMRDS INRIX (2016-2023)

Figure 5.1.3: PM3 – Regional and State System-Performance Trends



PM3: STATE TARGETS

KDOT's statewide targets for the PM3 system-performance metrics are shown in Table 5.1.8. As with PM2 targets, PM3 targets are established for a four-year performance period, currently 2022–2025. These targets were determined with consideration of a designated baseline set of PM3 observations from 2021. Within this period, per FHWA rules, biennial targets are set for 2023 and 2025. WAMPO supports the state's targets by including traffic congestion criteria in project evaluation to support project selection.

Table 5.1.8: PM3 - State Targets

	KDOT Baseline: 2021 Observations	KDOT Statewide 2023 Target	KDOT Statewide 2025 Target
% of Person-Miles on Interstates that are reliable	99.3%	≥ 98%	≥ 99%
% of Person-Miles on non-Interstate NHS that are reliable	97.0%	≥ 97%	≥ 98%
Truck Travel Time Reliability Index	1.13	≤ 1.1	≤ 1.1

Source: Retrieved from FHWA Performance Measure Dashboard 12/13/2024

PM3: REGIONAL PROGRESS AND GOALS

To support Kansas in achieving its system performance targets, WAMPO has developed regional PM3 goals derived from and aligned with the state's targets. Considering that 2023 observations have already been determined, 2025 goals were calculated. These goals were developed in similar fashion to those for PM2. They were derived by analyzing KDOT's baseline PM3 observations from 2021, the year in which their 2-and 4-year goals were initially established, and calculating the absolute difference between that and KDOT's 2025 targets. By evaluating the difference between actual observed values for base year metrics from 2021 and the corresponding 2025 statewide targets, WAMPO can establish useful goals to track its progress in supporting the state's system performance targets. Calculated PM3 WAMPO-region goals for 2025 are in Table 5.1.9.

Table 5.1.9: PM3 - WAMPO Goals Derived from State Targets

	WAMPO Region: 2021 Observed	Difference: 2021 Kansas Baseline Observations & 2025 Targets	WAMPO Region: 2025 Goals
% of Person-miles on Interstates that are reliable	98.0%	-0.3%	97.7%
% of Person-miles on non-Interstate NHS that are reliable	97.0%	1.0%	98.0%
Truck Travel Time Reliability Index	1.18	-0.03	1.15

Sources: State Observed and Targets Retrieved from FHWA Performance Measure Dashboard 12/13/2024, WAMPO observered retrieved from NPMRDS INRIX (2021)

Transit Asset Management (TAM)

Table 5.1.10 shows Transit Asset Management (TAM) targets that the WAMPO TPB voted to support in 2023. These targets were established by KDOT in their 2022 TAM plan. While not strictly required by FTA guidelines, since the targets had not been updated, the TPB chose to reaffirm its support for the KDOT TAM targets in 2024.

The targets are minimum percentages of different kinds of public transit assets to be kept in a state of good repair. The Useful Life Benchmark (ULB) is the expected lifespan of a transit asset, indicating when it may require replacement or significant rehabilitation. For example, the FTA's default ULB for a standard bus is 14 years.

The Transit Economic Requirements Model (TERM) scale is a five-point system used to assess the condition of public transit assets, with 5 = excellent or new condition and 1 = poor condition. Assets rated below 3 are considered to be in marginal or poor condition, suggesting they may need attention to restore them to a state of good repair.

Table 5.1.10: State of Kansas Transit Asset Management Targets

Federal Performance Measures		ULB	TERM	Replacement Threshold	Targets
Rolling Stock % of revenue vehicles that have met/ exceeded their ULB	Over-the-Road Bus	14	*NA*	14 years / 750K Miles	**25%**
	Full-Sized Bus	14	*NA*	12 years / 500K Miles	**25%**
	Cutaway Bus	10	*NA*	5 years / 100K Miles	**25%**
	Van	8	*NA*	5 years / 100K Miles	**25%**
	Minivan	8	*NA*	5 years / 100K Miles	**25%**
	Automobile	8	*NA*	--	**--**
Equipment % of non-revenue vehicles that have met/ exceeded their ULB	Van	8	*NA*	5 years / 100K Miles	**75%**
	Minivan	8	*NA*	5 years / 100K Miles	**75%**
	SUV	8	*NA*	5 years / 100K Miles	**75%**
	Automobile	8	*NA*	5 years / 100K Miles	**75%**
	Cutaway Bus	10	*NA*	--	**--**
Facilities % of facilities (by group) that are rated less than 3.0 on the TERM Scale.	Administrative	*NA*	3.0	--	**25%**
	Maintenance	*NA*	3.0	--	**25%**
	Parking	*NA*	3.0	--	**25%**
	Passenger	*NA*	3.0	--	**25%**

5.2 Regional Performance Measures

Introduction

Regional performance measures are intended to monitor and evaluate aspects of transportation that are uniquely important to a particular metropolitan area. While not federally required, these measures complement the required federal performance measures. Recognizing the value of these additional metrics, WAMPO has chosen to track and incorporate the following regional performance measures into the MTP.

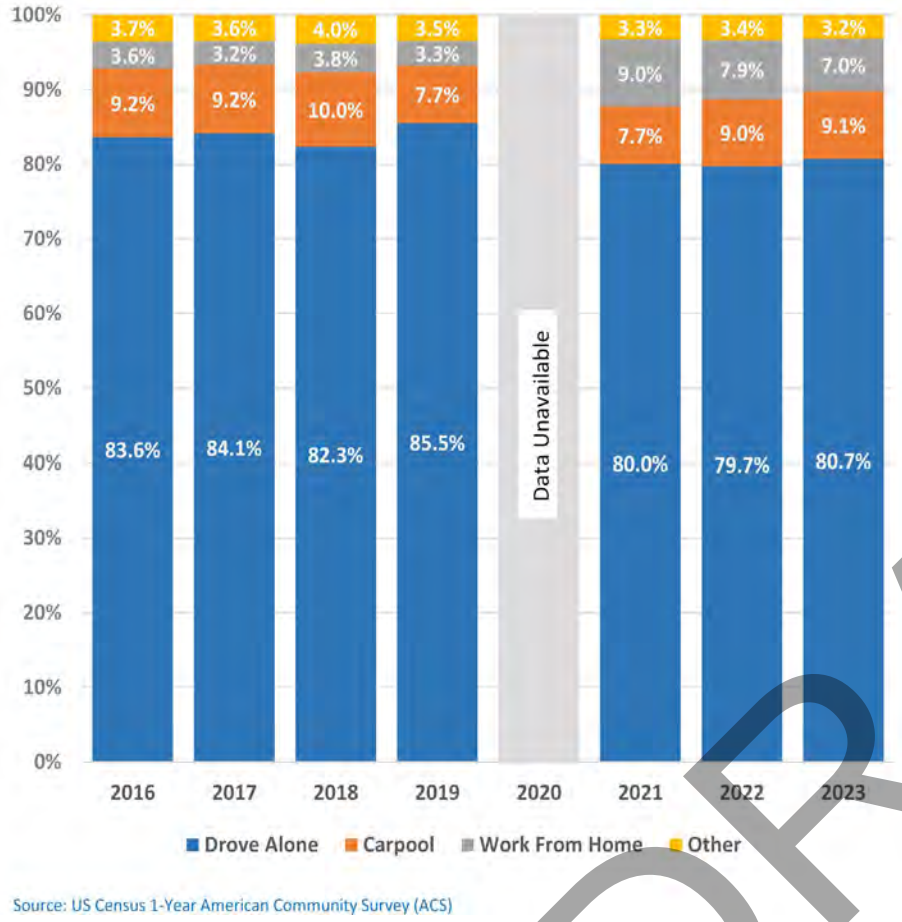
- Commuter Mode Shares
- Average Travel Time to Work
- Greenhouse Gas (GHG) Emissions
- Sidewalk/Multiuse Path Network Length

Commuter Mode Shares

Regional commuter mode shares have been derived from 1-Year American Community Survey (ACS) data for the Wichita Metropolitan Statistical Area (MSA), which encompasses Harvey, Sedgwick, Butler, and Sumner counties. While this geographic area is larger than the WAMPO region, the vast majority of its population resides within the WAMPO Planning Area Boundary, so the data still capture key transportation and commuting patterns for the WAMPO region that can inform planning decisions. It is important to note that the year 2020 is missing from the dataset, due to nationwide challenges gathering data during the COVID-19 pandemic.

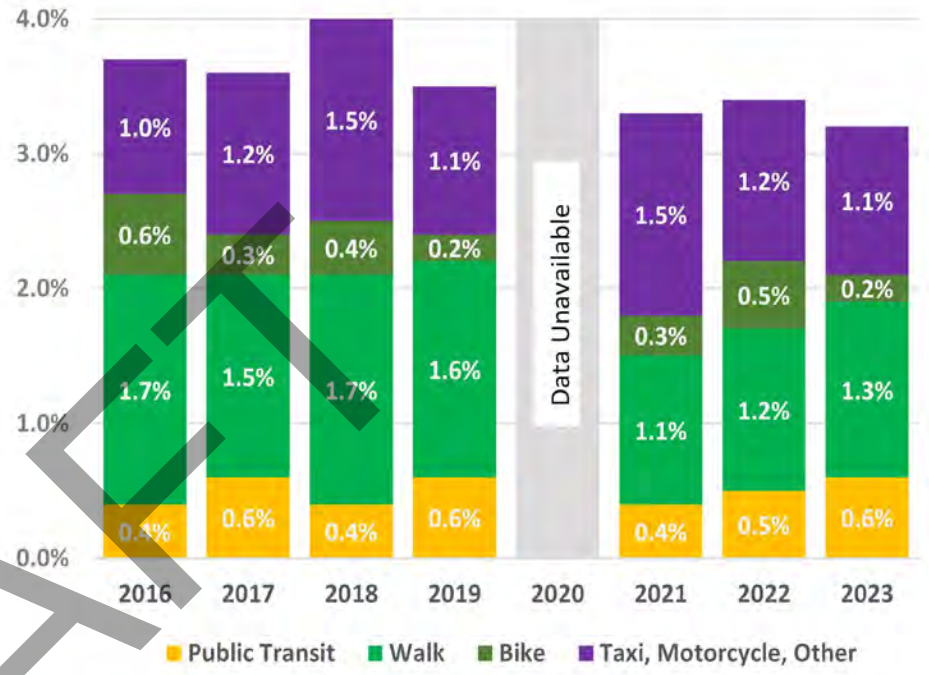
As shown in Figure 5.2.1, during 2016 to 2023, driving alone was the dominant commute mode, ranging between 79.7% and 85.5% during that time; the low point for this mode was in 2021, likely due to the COVID-19 pandemic (due to data limitations, it is unknown whether it was any lower in 2020). During the same period, the carpooling mode showed minor fluctuations, peaking at about 10.0% in 2018 before stabilizing around 9.0-9.1% in 2022-2023. The “commute mode” of working from home experienced the most significant changes, climbing from 3.3% in 2019 to 9.0% in 2021 (during the COVID-19 pandemic), then declining to 7.0% by 2023.

Figure 5.2.1: Wichita MSA Commuter Mode Shares



Source: US Census 1-Year American Community Survey (ACS)

Figure 5.2.2: Wichita MSA Commuter Mode - "Other" Modes



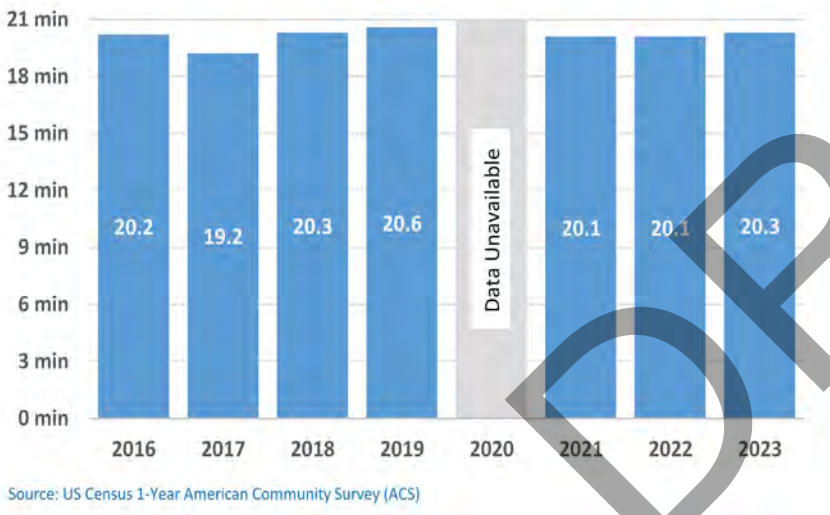
Source: US Census 1-Year American Community Survey (ACS)

The "Other" commute-mode category in Figure 5.2.1 includes public transit, walking, bicycling, taxis, and other forms of travel beside personal automobiles, consistently accounted for a small share of overall commuting, ranging between 3% and 4% during 2016-2023. Public transit and bicycle commuting have both generally remained below 0.6% of all workers, while walking to work has been between 1.1% and 1.7%. Taxis, motorcycles, and other modes similarly stayed low, at between 1.0% and 1.5%. These trends are shown in Figure 5.2.2.

Average Travel Time to Work

To evaluate work travel-time trends in the WAMPO region, 1-Year ACS estimates for the Wichita MSA were compiled from 2016 to 2023 (data were unavailable for 2020). The average travel time to work fluctuated slightly between 2016 and 2023. The average commute was 20.2 minutes in 2016, then decreased to 19.2 minutes in 2017. By 2019, it had increased to 20.6 minutes. During 2021 and 2022, the data show a slight decrease to 20.1 minutes, possibly due to pandemic-related changes in work patterns or reduced traffic. These trends can be seen in Figure 5.2.3.

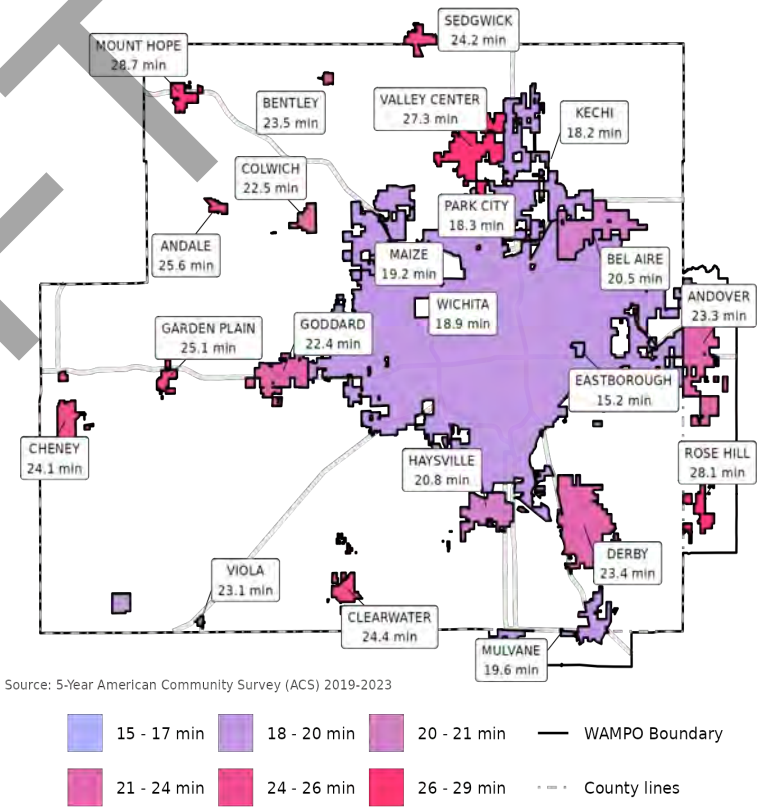
Figure 5.2.3: Wichita MSA Average Travel Time to Work (Minutes)



Source: US Census 1-Year American Community Survey (ACS)

The MSA-wide average travel time to work has remained relatively stable over time, though significant variation exists across different parts of the WAMPO region. To highlight this, the most recent 5-Year ACS data (2019–2023) were compiled for each municipality within the region. 5-Year ACS data aggregates input collected over a five-year period, generating a single value that represents the entire timeframe. By pooling data across multiple years, the 5-Year ACS offers a unique solution for obtaining reliable data, especially for less populated areas where data collection may otherwise be insufficient. Regional variations in average travel time to work are shown in Map 5.2.1.

Map 5.2.1: Average Travel Time to Work by Municipality



Greenhouse Gas (GHG) Emissions

The National Emissions Inventory (NEI) is a dataset released every three years by the U.S. Environmental Protection Agency (EPA). It provides detailed estimates of air emissions by source type and county, which can be filtered to reflect emissions from all mobile sources (cars, trucks, etc.). Emissions are measured in short tons (1 short ton = 2,000 pounds). The most recent NEI data for the three counties that the WAMPO Planning Area Boundary either entirely includes (Sedgwick) or partially includes (Sumner and Butler) are presented in Table 5.2.1.

Table 5.2.1: Short Tons of Greenhouse Gas Emissions from Mobile Sources by County

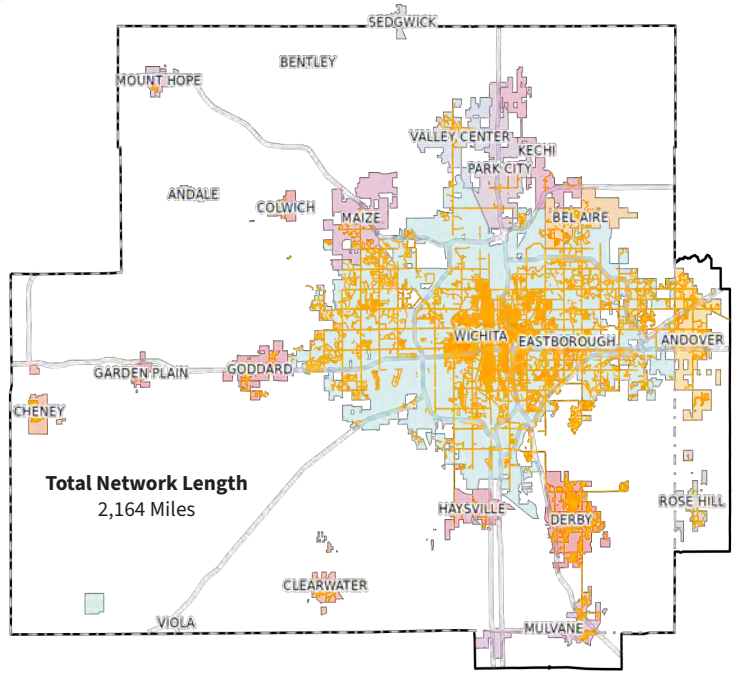
	2011	2014	2017	2020
Butler	585,173	574,229	585,573	617,203
Sedgwick	2,927,838	3,091,622	3,115,508	2,598,558
Sumner	410,085	381,284	375,570	432,065

Butler and Sumner Counties have shown slight increases in GHG emissions over time, while Sedgwick County experienced a notable decrease between 2017 and 2020, possibly due in part to pandemic-related factors. The next NEI dataset, reflecting 2023 emissions, will be available in 2026.

Sidewalk/Multiuse Path Network Length

In 2022, WAMPO staff reviewed satellite imagery to develop a comprehensive map of the region's sidewalks and multiuse paths (see Map 5.2.2). This effort is essential for understanding pedestrian network coverage, identifying infrastructure gaps, and supporting future planning initiatives aimed at enhancing walkability, accessibility, and safety throughout the region. In total, 2,164 miles of sidewalk and multiuse paths were located and mapped. In the future, WAMPO intends to update this map on a routine schedule and recalculate the number of miles of sidewalks/pedestrian facilities.

Map 5.2.2: WAMPO Sidewalk Network



Source: Compiled by WAMPO Staff from 2022 Satellite Imagery.

WAMPO Boundary · County lines · Sidewalks & Multiuse Paths


Credit: Eastborough

MTP 2050

Chapter 6
Financial Plan

Credit: WSU

MTP 6.1

Introduction

Federal regulations require a Metropolitan Transportation Plan to include a financial plan and be fiscally constrained, meaning the financial plan must demonstrate that the anticipated costs of the planned projects plus the anticipated costs to adequately maintain and operate the system do not exceed anticipated revenues. This chapter describes the assumptions used to forecast revenues anticipated to be available from federal, state, and local sources, as well as the assumptions used to estimate project costs and operations and maintenance (O&M) costs. Then, it shows how, under these assumptions, Metropolitan Transportation Plan 2050 is fiscally constrained.

Fiscal constraint can be summarized as:
Revenues – O&M Costs – Project Costs ≥ $0

Revenues and O&M costs were projected from available data prior to transportation-system-improvement projects being selected for the MTP 2050 Fiscally Constrained Project List. During the project-selection process, the projects that could be added to the Fiscally Constrained Project List were limited to those whose combined estimated costs were less than or equal to the difference between transportation revenues and the cost to operate and maintain the existing system. In this manner, the fiscal constraint of MTP 2050 was ensured.

Fiscal Constraint by Agency Type

In addition to ensuring that MTP 2050, overall, is fiscally constrained, WAMPO has also determined it to be fiscally constrained in terms of the transportation-related revenues and expenditures of each of three categories of public agencies:

- The Kansas Department of Transportation (KDOT)
- Public transit agencies
- Local governments, excluding public transit

This was done because each of these categories of agencies qualifies for funding sources that the other two do not. If the MTP did not distinguish between them, there would be a risk of it appearing to be fiscally constrained when really a projected surplus for agencies of one type masks a projected deficit for agencies of another type.

Time Bands

Besides ensuring that MTP 2050 is fiscally constrained for the overall planning horizon (2025-2050), WAMPO also determined it to be fiscally constrained in terms of revenues and expenditures during each of three (3) time bands:

- 2025-2028
- 2029-2038
- 2039-2050

The 2025-2028 time band is included because it corresponds to the first four-year Transportation Improvement Program (TIP) period under MTP 2050 (the FFY2025-FFY2028 TIP was adopted by WAMPO on August 13, 2024). Most of the projects that appear in the 2025-2028 time band of the MTP 2050 Fiscally Constrained Project List are 2025-2028 projects that appeared in the TIP as of the approval of FFY2025-FFY2028 TIP Amendment #2 on October 8, 2024.

The 2029-2038 and 2039-2050 time bands were chosen in order to divide the remainder of the MTP 2050 planning horizon (after 2025-2028) into periods of approximately ten years, so that higher-priority or nearer-term projects could be placed in the 2029-2038 time band and lower-priority or longer-term projects could be placed in the 2039-2050 time band. If sufficient funding is projected to be available for a later-time-band project to be programmed into the TIP, an administrative modification to MTP 2050 may move it up to an earlier time band (see Appendix C).

Metropolitan Transportation Plans may include an "Illustrative List" of projects that are outside of the fiscal-constraint analysis and not sorted into any time band, so that, in the event of more funding being available than is required for all of the projects in the Fiscally Constrained Project List, Illustrative List projects may qualify for funding. However, enough funding was projected to be available for every project submitted for incorporation into MTP 2050 to be on the Fiscally Constrained Project List. For that reason, MTP 2050 does not have an Illustrative List.

Year of Expenditure (YOE) Dollars and Assumed Rates of Change

In accordance with federal regulations, all monetary amounts in this Financial Plan are expressed in Year of Expenditure (YOE) dollars, as opposed to converting all amounts to the equivalent dollars of one specific year. This means that any past-year revenue or expenditure amounts shown are the actual amounts transacted in those years and all future expenses are calculated by applying an assumed inflation rate.

Unless otherwise noted, it is conservatively assumed that revenues will increase at a rate of 1% per year. Meanwhile, unless otherwise noted, an inflation rate of 4.5% is applied to O&M and project costs, consistent with KDOT's default inflation assumption. This assumption that revenues will increase more slowly than costs constrains how many future projects can be planned for. However, it reflects the historical reality that government funding for transportation is hard to anticipate and may not keep up with inflation. It also reflects the long trend of price inflation occurring more rapidly in the construction sector than in the overall economy.

In some cases, specific WAMPO member jurisdictions provided their own revenue or O&M projections (as opposed to just historical data). In those cases, the jurisdictions' assumed rates of change were applied.

6.2

Revenues

Transportation funding in the WAMPO region comes from a mixture of federal sources, state sources, and local sources, with the mixture varying by the type of agency using the funds (KDOT, public transit, local government).

Federal Revenues

All federal transportation funding in the WAMPO region is required to be programmed in the Transportation Improvement Program (TIP). For that reason, future federal transportation funding in the region was projected from information in the WAMPO TIP. All spending during 2021-2028 (equivalent to the period of the current FFY2025-FFY2028 TIP plus one full four-year TIP period prior to that) that the TIP (whether the current TIP or a past TIP) showed as programmed to be paid for with federal funding was used as a base from which to project future federal transportation revenue available to the region, with an assumed rate of increase of 1% per year. This was done for the fiscal-constraint calculations for each of the three transportation-agency types considered in this Financial Plan: The Kansas Department of Transportation (KDOT), public transit agencies, and local governments, excluding public transit.

The calculations included both formula funds, from federal programs that allocate a certain amount of funding to the region each year on the basis of population, and discretionary grants awarded for projects in 2021-2028. Although the awarding of discretionary grants and other nonrecurring funding is hard to predict, it is reasonable to suppose that, during 2029-2050, at least a few projects in the WAMPO region will receive discretionary federal grants.

Federal Highway Administration (FHWA) funds going to local governments include those that are suballocated to WAMPO to award to projects and those that are awarded by KDOT. Meanwhile, Federal Transit Administration (FTA) funds for public transit go through Wichita Transit. Sometimes, FHWA funding is transferred to the FTA to fund public transit projects.

Table 6.2.1: Projected Federal Transportation Revenue in the WAMPO Region, Assuming 1% Increase per Year

	Recipient			
	KDOT	Public Transit	Rest of Local Government	Total
2021-2028: TIP-Programmed Total	*$622,031,823*	*$81,632,899*	*$133,523,920*	***$837,188,642***
2021-2028: Yearly Average	*$77,753,978*	*$10,204,112*	*$16,690,490*	***$104,648,580***
2029: Projected	$81,314,650	$10,671,400	$17,454,816	**$109,440,866**
2030: Projected	$82,127,797	$10,778,114	$17,629,364	**$110,535,275**
2031: Projected	$82,949,075	$10,885,896	$17,805,658	**$111,640,628**
2032: Projected	$83,778,566	$10,994,754	$17,983,714	**$112,757,034**
2033: Projected	$84,616,351	$11,104,702	$18,163,551	**$113,884,604**
2034: Projected	$85,462,515	$11,215,749	$18,345,187	**$115,023,451**
2035: Projected	$86,317,140	$11,327,907	$18,528,639	**$116,173,685**
2036: Projected	$87,180,311	$11,441,186	$18,713,925	**$117,335,422**
2037: Projected	$88,052,114	$11,555,597	$18,901,064	**$118,508,776**
2038: Projected	$88,932,636	$11,671,153	$19,090,075	**$119,693,864**
2039: Projected	$89,821,962	$11,787,865	$19,280,976	**$120,890,803**
2040: Projected	$90,720,181	$11,905,744	$19,473,785	**$122,099,711**
2041: Projected	$91,627,383	$12,024,801	$19,668,523	**$123,320,708**
2042: Projected	$92,543,657	$12,145,049	$19,865,209	**$124,553,915**
2043: Projected	$93,469,094	$12,266,500	$20,063,861	**$125,799,454**
2044: Projected	$94,403,785	$12,389,165	$20,264,499	**$127,057,448**
2045: Projected	$95,347,822	$12,513,056	$20,467,144	**$128,328,023**
2046: Projected	$96,301,301	$12,638,187	$20,671,816	**$129,611,303**
2047: Projected	$97,264,314	$12,764,569	$20,878,534	**$130,907,416**
2048: Projected	$98,236,957	$12,892,214	$21,087,319	**$132,216,490**
2049: Projected	$99,219,326	$13,021,136	$21,298,192	**$133,538,655**
2050: Projected	$100,211,520	$13,151,348	$21,511,174	**$134,874,042**
2025-2028: TIP-Programmed	**$331,523,960**	**$42,245,924**	**$65,933,073**	**$439,702,957**
2029-2038: Projected	**$850,731,154**	**$111,646,459**	**$182,615,992**	**$1,144,993,606**
2039-2050: Projected	**$1,139,167,302**	**$149,499,633**	**$244,531,032**	**$1,533,197,967**
2025-2050: Programmed + Projected	**$2,321,422,416**	**$303,392,016**	**$493,080,097**	**$3,117,894,530**

Non-Federal Revenues: Kansas Department of Transportation

The Kansas Department of Transportation (KDOT) does not budget a specific amount of state funds to be spent on their projects and operations and maintenance costs within the bounds of a given MPO each year. Therefore, future State of Kansas revenue for KDOT activities in the WAMPO region is projected, with an assumed rate of increase of 1% per year after 2028, from the projects KDOT intends to pursue in the region during 2025-2028 and from actual, historical O&M spending in the region, as reported to WAMPO by KDOT staff.

KDOT staff provided WAMPO with a list of six (6) transportation projects that they intend to pursue during 2025-2028, at a combined, estimated cost of $1,295,525,244, as listed in MTP 2050 Chapter 7, Project Selection & List. For the purposes of this fiscal-constraint analysis, it is assumed that, if KDOT plans to pursue those projects during the first four years of the MTP 2050 planning horizon, they expect to have the necessary funds available for those projects. As shown in Table 6.2.1, $331,523,960 of federal revenue is programmed in the WAMPO TIP to be used on 2025-2028 KDOT projects. It is assumed here that the other $964,001,284 for KDOT projects in 2025-2028 will come from state revenue. Beyond 2028, a 1% annual rate of increase is assumed.

Meanwhile, state funds for KDOT's routine O&M costs (discussed in greater detail in Section 6.3) were projected from average yearly expenditures during 2021-2023. Using an inflation rate of 4.5%, 2025-2028 O&M costs on infrastructure KDOT is responsible for in the WAMPO region were estimated to be $14,442,473, with the assumption that KDOT will have the revenues necessary to cover those costs during 2025-2028. After 2028, a 1% annual rate of increase in revenues is assumed.

For the WAMPO MTP 2050 fiscal-constraint analysis, these projections of KDOT revenue for projects and KDOT revenue for O&M are summed and represented as a single revenue stream that may be used both for projects and for O&M costs.

Table 6.2.2: Projected State Revenue for KDOT Activities in the WAMPO Region, Assuming 1% Increase per Year After 2028

Source Data	*Period of Source Data*	*Source Data Average/Yr.*	Projections			
			2025-2028	2029-2038	2039-2050	2025-2050
KDOT MTP Project Costs - Fed. Revenue	*2025-2028*	*$241,000,321*	$964,001,284	$2,584,905,044	$3,461,304,185	**$7,010,210,513**
Historical KDOT O&M Costs	*2021-2023*	*$2,958,234*	$14,442,473	$38,726,527	$51,856,563	**$105,025,563**
		Total	**$978,443,757**	**$2,623,631,571**	**$3,513,160,748**	**$7,115,236,077**
		Average/Year	**$244,610,939**	**$262,363,157**	**$292,763,396**	**$273,662,926**

Non-Federal Revenues: Public Transit

Non-federal revenue for public transit in the WAMPO region was projected from data reported in the National Transit Database (NTD, www.transit.dot.gov/ntd, which is maintained by the Federal Transit Administration (FTA). The NTD includes data reported by the WAMPO-region transit agencies of Wichita Transit (the only provider of fixed-route service in the region), Sedgwick County Transportation, Butler County Transit, and the Derby Dash, which together account for most of the public-transit spending and ridership in the region. As of this writing, the NTD does not include data for the Haysville Hustle or for paratransit services provided by nonprofit organizations in the region. The categories of non-federal public transit revenue that the NTD tracks include state funds, local funds, and an "other funds" category that encompasses fare revenues, advertising

revenues, donations, and any other revenue streams that are generated by the transit agency itself, as opposed to coming from the general fund of any local government it is a part of or reports to.

State, local, and "other" public-transit revenues in the WAMPO region were projected from averages for the period 2018-2022, assuming a rate of increase of 1% per year.

Table 6.2.3: Projected Non-Federal Revenue for Public Transit in the WAMPO Region, Assuming 1% Increase per Year

		2018-2022	2025-2028	2029-2038	2039-2050	2025-2050
State	Total	*$7,356,667*	$6,278,948	$16,835,538	$22,543,543	**$45,658,029**
	Avg./Yr.	*$1,471,333*	$1,569,737	$1,683,554	$1,878,629	**$1,756,078**
Local	Total	*$19,047,357*	$16,257,004	$43,589,373	$58,368,132	**$118,214,509**
	Avg./Yr.	*$3,809,471*	$4,064,251	$4,358,937	$4,864,011	**$4,546,712**
Other (e.g., fares, advertising)	Total	*$8,927,578*	$7,619,728	$20,430,526	$27,357,394	**$55,407,648**
	Avg./Yr.	*$1,785,516*	$1,904,932	$2,043,053	$2,279,783	**$2,131,063**
	Total	***$35,331,602***	**$30,155,680**	**$80,855,437**	**$108,269,069**	**$219,280,185**
	Avg./Yr.	***$7,066,320***	**$7,538,920**	**$8,085,544**	**$9,022,422**	**$8,433,853**

Non-Federal Revenues: Local Governments, Except for Public Transit

Most of the non-federal funds that local governments spend on transportation improvement projects and on the operation and maintenance of the transportation system come from their own property-tax and sales-tax collections. However, Kansas cities and counties also receive transportation funding from the state through the Special City and County Highway Fund.

STATE OF KANSAS SPECIAL CITY AND COUNTY HIGHWAY FUND

The State of Kansas shares a portion of its motor-vehicle fuel tax revenue with county and city governments throughout the state, on a formula basis, to be used for transportation purposes. Historical data on these distributions of funds were obtained from the Kansas Treasurer's Office (www.kansascash.ks.gov/dist_search.php) for Sedgwick County (the only county that is entirely, or even largely, within the WAMPO region) and for each of the twenty-two (22) cities in the WAMPO region. From these data, an average was taken of the 2013-2023 distributions and used as the starting point for projecting future distributions, with an assumed rate of increase of 1% per year.

Table 6.2.4: Projected State of Kansas Special City and County Highway Fund Distributions in the WAMPO Region, Assuming 1% Increase per Year

	2013-2023	2025-2028	2029-2038	2039-2050	2025-2050
Total	*$267,173,872*	$105,735,261	$283,504,495	$379,625,278	**$768,865,034**
Avg./Yr.	*$24,288,534*	$26,433,815	$28,350,449	$31,635,440	**$29,571,732**

LOCAL - GOVERNMENT REVENUE

In Fall 2023, WAMPO collected information from city and county governments throughout the region about the amounts of local funding they directed to transportation (other than public transit) in recent years and/or projected they would direct to transportation in the future. The city and county governments from which this information was obtained are responsible for most of the transportation infrastructure in the WAMPO region and, as of the 2020 U.S. Decennial Census, cover over 95% of the region's population.

Local-government revenue for transportation improvement projects and O&M comes primarily, but not exclusively,

from sales taxes and property taxes. Some, but not all, jurisdictions, in addition to providing their actual, historical revenues for transportation infrastructure, also provided projections of future revenues, though not always to 2050. In these cases, the jurisdictions' projections were incorporated into the WAMPO MTP 2050 fiscal-constraint analysis, even though they did not all assume the same rate of change. Where a given jurisdiction did not provide projections to 2050, a rate of increase of 1% per year is assumed.

Table 6.2.5: Projected Local-Government Revenue for Non-Public-Transit Transportation Purposes in the WAMPO Region, Assuming 1% Increase per Year Except Where Jurisdictions Provided Projections with a Different Assumption

	2025-2028	2029-2038	2039-2050	2025-2050
Total	$480,745,737	$1,133,631,196	$1,594,141,414	**$3,208,518,346**
Avg./Yr.	$120,186,434	$113,363,120	$132,845,118	**$123,404,552**

Summary of Revenue Projections

Table 6.2.6 summarizes the federal, state, and local revenues projected to be available in each time band for transportation activities, by agency type.

Credit: WSU


Credit: WSU

Table 6.2.6: Summary of Revenue Projections for the MTP 2050 Fiscal-Constraint Analysis

KDOT

	2025-2028			2029-2038			2039-2050			2025-2050		
	Total	Avg./Yr.	%	Total	Avg./Yr.	%	Total	Avg./Yr.	%	Total	Avg./Yr.	%
Federal Revenue	$331,523,960	$82,880,990	25.3%	$850,731,154	$85,073,115	24.5%	$1,139,167,302	$94,930,608	24.5%	$2,321,422,416	$89,285,478	24.6%
State Revenue	$978,443,757	$244,610,939	74.7%	$2,623,631,571	$262,363,157	75.5%	$3,513,160,748	$292,763,396	75.5%	$7,115,236,077	$273,662,926	75.4%
All Sources	**$1,309,967,717**	**$327,491,929**	**100.0%**	**$3,474,362,726**	**$347,436,273**	**100.0%**	**$4,652,328,050**	**$387,694,004**	**100.0%**	**$9,436,658,493**	**$362,948,404**	**100.0%**

Public Transit

	2025-2028			2029-2038			2039-2050			2025-2050		
	Total	Avg./Yr.	%	Total	Avg./Yr.	%	Total	Avg./Yr.	%	Total	Avg./Yr.	%
Federal Revenue	$42,245,924	$10,561,481	58.3%	$111,646,459	$11,164,646	58.0%	$149,499,633	$12,458,303	58.0%	$303,392,016	$11,668,924	58.0%
State Revenue	$6,278,948	$1,569,737	8.7%	$16,835,538	$1,683,554	8.7%	$22,543,543	$1,878,629	8.7%	$45,658,029	$1,756,078	8.7%
Local Revenue	$16,257,004	$4,064,251	22.5%	$43,589,373	$4,358,937	22.6%	$58,368,132	$4,864,011	22.6%	$118,214,509	$4,546,712	22.6%
Other Revenue (e.g., fares, advertising)	$7,619,728	$1,904,932	10.5%	$20,430,526	$2,043,053	10.6%	$27,357,394	$2,279,783	10.6%	$55,407,648	$2,131,063	10.6%
All Sources	**$72,401,604**	**$18,100,401**	**100.0%**	**$192,501,896**	**$19,250,190**	**100.0%**	**$257,768,702**	**$21,480,725**	**100.0%**	**$522,672,201**	**$20,102,777**	**100.0%**

Local Governments (Excluding Public Transit)

	2025-2028			2029-2038			2039-2050			2025-2050		
	Total	Avg./Yr.	%	Total	Avg./Yr.	%	Total	Avg./Yr.	%	Total	Avg./Yr.	%
Federal Revenue	$65,933,073	$16,483,268	10.1%	$182,615,992	$18,261,599	11.4%	$244,531,032	$20,377,586	11.0%	$493,080,097	$18,964,619	11.0%
State Revenue	$105,735,261	$26,433,815	16.2%	$283,504,495	$28,350,449	17.7%	$379,625,278	$31,635,440	17.1%	$768,865,034	$29,571,732	17.2%
Local Revenue	$480,745,737	$120,186,434	73.7%	$1,133,631,196	$113,363,120	70.9%	$1,594,141,414	$132,845,118	71.9%	$3,208,518,346	$123,404,552	71.8%
All Sources	**$652,414,071**	**$163,103,518**	**100.0%**	**$1,599,751,683**	**$159,975,168**	**100.0%**	**$2,218,297,723**	**$184,858,144**	**100.0%**	**$4,470,463,477**	**$171,940,903**	**100.0%**

KDOT+Public Transit+Local Governments

	2025-2028			2029-2038			2039-2050			2025-2050		
	Total	Avg./Yr.	%	Total	Avg./Yr.	%	Total	Avg./Yr.	%	Total	Avg./Yr.	%
Federal Revenue	$439,702,957	$109,925,739	21.6%	$1,144,993,606	$114,499,361	21.7%	$1,533,197,967	$127,766,497	21.5%	$3,117,894,530	$119,919,020	21.6%
State Revenue	$1,090,457,966	$272,614,492	53.6%	$2,923,971,604	$292,397,160	55.5%	$3,915,329,568	$326,277,464	54.9%	$7,929,759,139	$304,990,736	55.0%
Local Revenue	$497,002,741	$124,250,685	24.4%	$1,177,220,569	$117,722,057	22.4%	$1,652,509,546	$137,709,129	23.2%	$3,326,732,855	$127,951,264	23.1%
Other Revenue (e.g., fares, advertising)	$7,619,728	$1,904,932	0.4%	$20,430,526	$2,043,053	0.4%	$27,357,394	$2,279,783	0.4%	$55,407,648	$2,131,063	0.4%
All Sources	**$2,034,783,391**	**$508,695,848**	**100.0%**	**$5,266,616,304**	**$526,661,630**	**100.0%**	**$7,128,394,475**	**$594,032,873**	**100.0%**	**$14,429,794,171**	**$554,992,083**	**100.0%**

6.3

Operations and Maintenance (O&M) Costs

To determine revenues available for transportation projects in the WAMPO region, routine operations and maintenance (O&M) costs must be subtracted from the revenue projections discussed in the previous section. As with revenue projections, O&M cost projections were developed by type of transportation agency. Unless a given jurisdiction provided projections of their future O&M costs that used a different assumption, a default inflation factor of 4.5% per year was employed (with the exception of public-transit O&M costs (see next page)), as that is also KDOT's default inflation factor when estimating future project costs.

Kansas Department of Transportation

KDOT provided data on their 2021, 2022, and 2023 O&M expenditures on roadways in Sedgwick County (952.5 lane miles, including the city of Mulvane, on the border between Sedgwick and Sumner Counties) and in the city of Andover (29.6 lane miles), in Butler County. The WAMPO-region portion of Butler County around the city of Rose Hill does not include any state highways. In total, there are 982.1 lane miles of state highways in the WAMPO region.

The costs that KDOT considers to be O&M costs fall into the categories of Pavement, Shoulders, Drainage, Roadside, Bridge, Snow & Ice, and Traffic Guidance. Over the period 2021-2023, the average annual KDOT spending on operations and maintenance in the WAMPO region was $2,958,234, or $3,012 per lane mile. An inflation rate of 4.5% per year was applied to this 2021-2023 average to project 2025-2050 costs.

Table 6.3.1: Projected KDOT O&M Costs in the WAMPO Region, Assuming 4.5% Inflation per Year

	2021-2023	**2025-2028**	**2029-2038**	**2039-2050**	**2025-2050**
Total	*$8,874,702*	$14,442,473	$49,469,230	$96,679,009	**$160,590,713**
Avg./Yr.	*$2,958,234*	$3,610,618	$4,946,923	$8,056,584	**$6,176,566**

Public Transit

In the WAMPO Transportation Improvement Program (TIP), most anticipated public-transit operations and maintenance costs are included as projects. To avoid double counting, those public-transit O&M projects are not included in the MTP 2050 Fiscally Constrained Project List (see Chapter 7). Instead, those TIP projects are used as a base from which to project future public-transit maintenance costs, on a separate line from project costs.

For the 2025-2028 time band, public-transit O&M costs are assumed to equal the amounts programmed to be spent during that time band on the corresponding projects in the FFY2025-FFY2028 TIP (as of Amendment #2, approved by the WAMPO Transportation Policy Body on October 8, 2024). For the 2029-2038 and 2039-2050 time bands, an assumed inflation rate of 2.25% per year is applied to a base year of 2028. This is half of the 4.5%/year default inflation rate that is employed elsewhere in this analysis, but still well above the assumed 1%/year rate of increase for revenues and slightly greater than the U.S. Federal Reserve's target long-term, general inflation rate of 2%/year. A lower inflation rate was assumed for public-transit O&M costs than for most other (mostly infrastructure-related) O&M costs because inflation in the construction sector has historically outpaced inflation in other sectors.

Table 6.3.2: Projected Public Transit O&M Costs in the WAMPO Region, Assuming 2.25% Inflation per Year

	2025-2028 (TIP-Programmed)	2029-2038 (Projected)	2039-2050 (Projected)	2025-2050
Total	$58,000,000	$164,211,213	$251,926,781	**$474,137,994**
Avg./Yr.	$14,500,000	$16,421,121	$20,993,898	**$18,236,077**

Local Governments, Except for Public Transit

In Fall 2023, WAMPO collected information from city and county governments throughout the region about the amounts they spent on the operation and maintenance of non-public-transit transportation infrastructure in recent years and/or projected they would spend in the future. The city and county governments from which this information was obtained are responsible for most of the transportation infrastructure in the WAMPO region and, as of the 2020 U.S. Decennial Census, cover over 95% of the region's population.

Some, but not all, jurisdictions, in addition to providing their actual, historical transportation-related O&M costs, also provided projections of future costs, though not always to 2050. In these cases, the jurisdictions' projections were incorporated into the WAMPO MTP 2050 fiscal-constraint analysis, even though they did not all assume the same rate of change. Where a given jurisdiction did not provide projections to 2050, an inflation rate of 4.5% per year is assumed.

Table 6.3.3: Projected Local-Government, Transportation-Related, Non-Public-Transit O&M Costs in the WAMPO Region, Assuming 4.5% Inflation per Year

	2025-2028	2029-2038	2039-2050	2025-2050
Total	$264,093,221	$913,434,304	$1,776,531,319	**$2,954,058,843**
Avg./Yr.	$66,023,305	$91,343,430	$148,044,277	**$113,617,648**

6.4

Project Costs

As listed in Chapter 7, the MTP 2050 Fiscally Constrained Project List includes one hundred forty-seven (147) projects, whose combined 2025-2050 costs are estimated at $2.77 billion. For the MTP 2050 fiscal-constraint analysis, the estimated costs of local-agency-sponsored projects in the 2025-2028 time band (except for a few "category projects" that make any project of a particular type eligible for funding) are the same as what is programmed to be spent during that four-year period in the FFY2025-FFY2028 Transportation Improvement Program (TIP), as of the approval of Amendment #2 by the Transportation Policy Body on October 8, 2024. For projects in the 2029-2038 and 2039-2050 time bands, estimated local-project costs were inflated to the dollars of a year in the middle of the time band (2033 for the 2029-2038 time band and 2044 for the 2039-2050 time band), assuming an inflation rate of 4.5% per year. Cost estimates in year-of-expenditure dollars for KDOT-sponsored projects were provided by KDOT directly.

In the following tables, the 2025-2028 time band includes some construction projects that are programmed in the FFY2025-FFY2028 TIP as having some of their preliminary phases in years prior to FFY2025. For the purposes of this analysis, the estimated cost of the entire project is considered and not just the costs of those project phases in FFY2025 or later.

Table 6.4.1 breaks down Fiscally Constrained List project costs by project type and time band. Some projects have elements of more than one of the project types listed in Table 6.4.1. In these cases, the project is categorized as the project type that describes the largest portion of the expected cost (e.g., a project that reconstructs/modernizes a roadway and also constructs a paved bicycle/pedestrian trail alongside that roadway is called "Roadway Reconstruction/ Modernization").

Table 6.4.2 breaks down Fiscally Constrained List project costs by type of lead agency and time band.

Table 6.4.1: Fiscally-Constrained-List Projects and Project Costs by Project Type and Time Band

	2025-2028			2029-2038			2039-2050			2025-2050		
	# of Projects	Cost	% of Total Cost	# of Projects	Cost	% of Total Cost	# of Projects	Cost	% of Total Cost	# of Projects	Cost	% of Total Cost
Bridge Rehabilitation/ Replacement	16	$23,525,864	1.5%	11	$25,898,342	3.4%	1	$13,250,873	3.0%	28	$62,675,078	2.3%
Traffic Management Technologies	6	$54,373,513	3.5%	3	$18,870,882	2.5%	1	$13,250,873	3.0%	10	$86,495,267	3.1%
Roadway Reconstruction/ Modernization	28	$430,928,740	27.5%	40	$507,717,732	66.8%	1	$13,250,873	3.0%	69	$951,897,345	34.4%
Roadway Expansion	7	$936,772,000	59.8%	3	$66,049,543	8.7%	2	$339,105,619	76.3%	12	$1,341,927,162	48.4%
New Roadway	1	$83,834,236	5.4%	1	$97,837,074	12.9%	0	$0	0.0%	2	$181,671,310	6.6%
Multiuse Trails & Bicycle Facilities	7	$24,051,776	1.5%	3	$4,185,372	0.6%	1	$39,676,607	8.9%	11	$67,913,755	2.5%
Pedestrian Facilities	3	$4,463,277	0.3%	2	$7,492,741	1.0%	1	$13,250,873	3.0%	6	$25,206,891	0.9%
Public Transit	2	$7,413,451	0.5%	2	$28,290,682	3.7%	2	$5,841,921	1.3%	6	$41,546,054	1.5%
Planning	1	$1,000,000	0.1%	1	$3,402,155	0.4%	1	$6,625,436	1.5%	3	$11,027,591	0.4%
Total	**71**	**$1,566,362,857**	**100.0%**	**66**	**$759,744,522**	**100.0%**	**10**	**$444,253,074**	**100.0%**	**147**	**$2,770,360,453**	**100.0%**

Table 6.4.2: Fiscally-Constrained-List Projects and Project Costs by Lead-Agency Type and Time Band

	2025-2028			2029-2038			2039-2050			2025-2050		
	# of Projects	Cost	% of Total Cost	# of Projects	Cost	% of Total Cost	# of Projects	Cost	% of Total Cost	# of Projects	Cost	% of Total Cost
Kansas Department of Transportation (KDOT)	6	$1,295,525,244	82.7%	1	$50,000,000	6.6%	0	$0	0.0%	7	$1,345,525,244	48.6%
Public Transit	2	$7,413,451	0.5%	2	$28,290,682	3.7%	2	$5,841,921	1.3%	6	$41,546,054	1.5%
Local Government (Excluding Public Transit)	63	$263,424,162	16.8%	63	$681,453,840	89.7%	8	$438,411,153	98.7%	134	$1,383,289,155	49.9%
Total	**71**	**$1,566,362,857**	**100.0%**	**66**	**$759,744,522**	**100.0%**	**10**	**$444,253,074**	**100.0%**	**147**	**$2,770,360,453**	**100.0%**

6.5

Fiscal Constraint

Metropolitan Transportation Plan 2050 (MTP 2050) is fiscally constrained in each of the three time bands of the analysis (2025-2028, 2029-2038, and 2039-2050) for each of the three agency types considered (KDOT, public transit agencies, and local governments (other than public transit agencies)), after accounting for:

- Projected future revenues from federal, state, and local sources available for spending on the transportation system (about $14.43 billion across all agency types for 2025-2050)
- Projected future transportation-system operations and maintenance costs (about $3.59 billion across all agency types for 2025-2050)
- The estimated year-of-expenditure costs of the projects on the Fiscally Constrained Project List (totaling about $2.77 billion across all agency types for 2025-2050)

After operations and maintenance costs and project costs are subtracted from projected revenues, there is a remaining balance of approximately $8.07 billion across all agency types for 2025-2050, as shown in Table 6.5.1.

Table 6.5.1: WAMPO MTP 2050 Fiscal-Constraint Analysis Summary

KDOT

	2025-2028	2029-2038	2039-2050	2025-2050
Federal Revenue	$331,523,960	$850,731,154	$1,139,167,302	$2,321,422,416
State Revenue	$978,443,757	$2,623,631,571	$3,513,160,748	$7,115,236,077
Total Revenue	**$1,309,967,717**	**$3,474,362,726**	**$4,652,328,050**	**$9,436,658,493**
O&M Costs	$14,442,473	$49,469,230	$96,679,009	$160,590,713
Available for Projects	**$1,295,525,244**	**$3,424,893,495**	**$4,555,649,041**	**$9,276,067,780**
Project Costs	***$1,295,525,244***	***$50,000,000***	***$0***	***$1,345,525,244***
Balance	**$0**	**$3,374,893,495**	**$4,555,649,041**	**$7,930,542,536**

Public Transit

	2025-2028	2029-2038	2039-2050	2025-2050
Federal Revenue	$42,245,924	$111,646,459	$149,499,633	$303,392,016
State Revenue	$6,278,948	$16,835,538	$22,543,543	$45,658,029
Local Revenue	$16,257,004	$43,589,373	$58,368,132	$118,214,509
Other Revenue (e.g., fares, advertising)	$7,619,728	$20,430,526	$27,357,394	$55,407,648
Total Revenue	**$72,401,604**	**$192,501,896**	**$257,768,702**	**$522,672,201**
O&M Costs	$58,000,000	$164,211,213	$251,926,781	$474,137,994
Available for Projects	**$14,401,604**	**$28,290,682**	**$5,841,921**	**$48,534,207**
Project Costs	***$7,413,451***	***$28,290,682***	***$5,841,921***	***$41,546,054***
Balance	**$6,988,153**	**$0**	**$0**	**$6,988,153**

Local Governments (Excluding Public Transit)

	2025-2028	2029-2038	2039-2050	2025-2050
Federal Revenue	$65,933,073	$182,615,992	$244,531,032	$493,080,097
State Revenue	$105,735,261	$283,504,495	$379,625,278	$768,865,034
Local Revenue	$480,745,737	$1,133,631,196	$1,594,141,414	$3,208,518,346
Total Revenue	**$652,414,071**	**$1,599,751,683**	**$2,218,297,723**	**$4,470,463,477**
O&M Costs	$264,093,221	$913,434,304	$1,776,531,319	$2,954,058,843
Available for Projects	**$388,320,850**	**$686,317,379**	**$441,766,405**	**$1,516,404,634**
Project Costs	***$263,424,162***	***$681,453,840***	***$438,411,153***	***$1,383,289,155***
Balance	**$124,896,688**	**$4,863,539**	**$3,355,252**	**$133,115,479**

KDOT+Public Transit+Local Governments

	2025-2028	2029-2038	2039-2050	2025-2050
Federal Revenue	$439,702,957	$1,144,993,606	$1,533,197,967	$3,117,894,530
State Revenue	$1,090,457,966	$2,923,971,604	$3,915,329,568	$7,929,759,139
Local Revenue	$497,002,741	$1,177,220,569	$1,652,509,546	$3,326,732,855
Other Revenue (e.g., fares, advertising)	$7,619,728	$20,430,526	$27,357,394	$55,407,648
Total Revenue	**$2,034,783,391**	**$5,266,616,304**	**$7,128,394,475**	**$14,429,794,171**
O&M Costs	$336,535,694	$1,127,114,748	$2,125,137,109	$3,588,787,550
Available for Projects	**$1,698,247,698**	**$4,139,501,557**	**$5,003,257,366**	**$10,841,006,620**
Project Costs	***$1,566,362,857***	***$759,744,522***	***$444,253,074***	***$2,770,360,453***
Balance	**$131,884,841**	**$3,379,757,034**	**$4,559,004,293**	**$8,070,646,168**

MTP 2050

Chapter 7
Project Selection & List

Credit: Wichita

7.1 Project Selection Process

Call for Projects

From September 15, 2023, through February 2, 2024, WAMPO held a combined Call for Projects for Metropolitan Transportation Plan 2050 (MTP 2050) and the FFY2025-FFY2028 Transportation Improvement Program (TIP). During the Call for Projects, WAMPO member jurisdictions and planning partners were invited to submit applications for near-term projects (for the TIP) and long-term projects (for the MTP) to potentially be prioritized for funding. Submissions included new projects (to the MTP, TIP, or both), as well as projects that were already listed in the then-current MTP, *REIMAGINED* MOVE 2040, and/or the FFY2023-FFY2026 TIP and which the member jurisdictions/planning partners wanted carried over to the successor planning documents with funding priority.

To inform the project-selection process, submitters were asked to provide the location of the project (if applicable), the project's scope of work, the time period when they would prefer to start it, how high of a priority they consider it to be relative to any other projects they submitted, cost estimates, descriptions of how the project serves the vision and goals of MTP 2050, and answers to a series of questions intended to aid in the scoring and ranking of projects.

Cost Estimation

To aid submitters in the preparation of project-cost estimates, WAMPO provided them with spreadsheet-based cost-estimation models for a variety of common sorts of transportation projects (discussed further in Appendix D). Submitters had the option of either using these cost-estimation models or estimating the project costs by other means of their choosing; in either case, they were requested to provide documentation of how they arrived at their estimates. Providing cost-estimation models to WAMPO member jurisdictions and planning partners during the Call for Projects was meant to make it easier for jurisdictions with fewer resources to generate cost estimates and submit projects, as well as to increase consistency in the assumptions underlying the cost estimates for the various projects.

Project Scoring

WAMPO staff and the consultant team of JEO and Caliper reflected the submitted projects in the updated Travel Demand Model (TDM) for the region, so that their potential effects on future traffic conditions could be modeled (see Appendix E). Using the outputs of the updated TDM, among other data sources, WAMPO staff and the consulting firm PEC scored and ranked the submitted projects, in accordance with the evaluation criteria adopted by the WAMPO Transportation Policy Body (TPB) on October 12, 2021, within each of nine (9) project categories:

- Bridge Rehabilitation/Replacement
- Traffic Management Technologies
- Roadway Reconstruction/Modernization
- Roadway Expansion (i.e., adding through lanes)
- New Roadways
- Multiuse Trails & Bicycle Facilities
- Pedestrian Facilities
- Safe Routes to School Infrastructure
- Public Transit

Project Selection Committee

Over the course of three meetings in April and May 2024, the WAMPO Project Selection Committee (PSC) made recommendations of projects to receive WAMPO-suballocated federal funding in the FFY2025-FFY2028 TIP. Those recommendations were approved by the TPB on June 11, 2024, and reflected in the final draft of the FFY2025-FFY2028 TIP, as approved on August 13, 2024.On October 3, 2024, the PSC convened again, this time to recommend MTP 2050 priority transportation projects for the time bands of 2025-2028, 2029-2038, and 2039-2050. The PSC made its recommendations in consideration of projected transportation revenues and operations & maintenance (O&M) costs, in order to ensure that MTP 2050 is fiscally constrained (see Chapter 6), as required by federal regulations, as well as in consideration of the projects' calculated scores (see previous page) and the priority rankings that a given submitter (if they submitted more than one project) applied to their own submitted projects.

Because projected future federal, state, and local funding available for transportation projects (after the subtraction of projected O&M costs) was sufficient for all submitted projects to be included on the MTP 2050 Fiscally Constrained Project List (see Section 7.2), the PSC did not recommend that any projects be placed on an Illustrative List. Were there one, an Illustrative List would consist of lower-priority projects that are not assigned to a time band and are not included in the MTP's fiscal-constraint analysis, but could potentially be moved up to the Fiscally Constrained Project List through a future amendment to the MTP and qualify for funding, in the event of available funds turning out to be greater than what was projected at the time of the MTP's adoption.

Technical Advisory Committee and Transportation Policy Body

On October 28, 2024, the WAMPO Technical Advisory Committee (TAC) recommended that the WAMPO Transportation Policy Body (TPB) approve the MTP 2050 Fiscally Constrained Project List, including its assignment of projects to specific time bands, as recommended by the PSC. On November 12, 2024, the TPB voted to approve the PSC- and TAC-recommended Fiscally Constrained Project List. As of this writing, most, but not all, of the projects in the 2025-2028 time band of the MTP 2050 Fiscally Constrained Project List are also listed in the FFY2025-FFY2028 TIP.

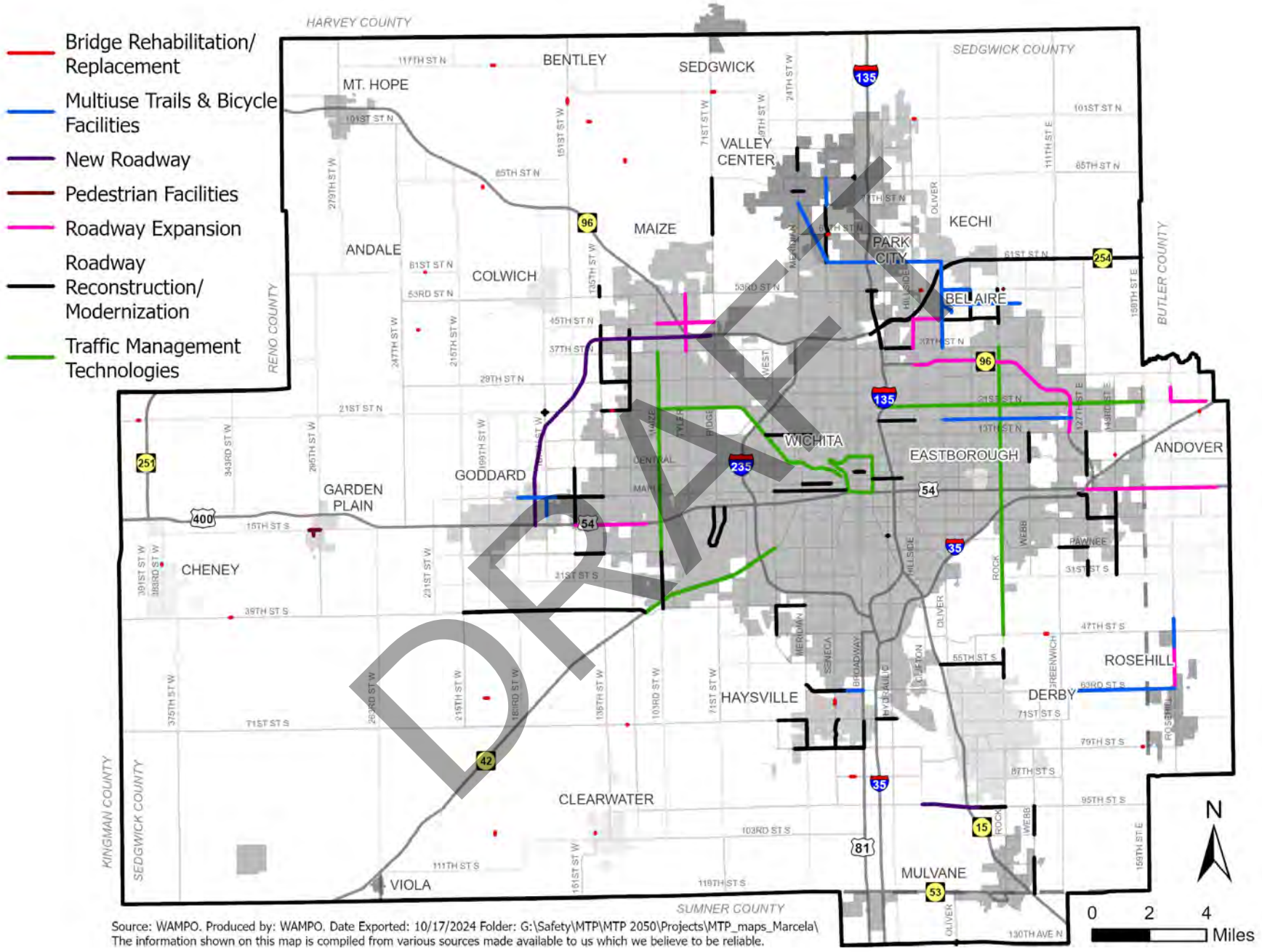
7.2 Fiscally Constrained Project List

The MTP 2050 Fiscally Constrained Project List includes one hundred forty-seven (147) regional transportation projects, representing approximately $2.77 billion in investment in the region's transportation system, under a fiscally constrained scenario (i.e., the combined, estimated costs of the projects do not exceed the amount of funding projected to be available, as explained in Chapter 6). These projects were selected through a rigorous process, as discussed in Section 7.1.

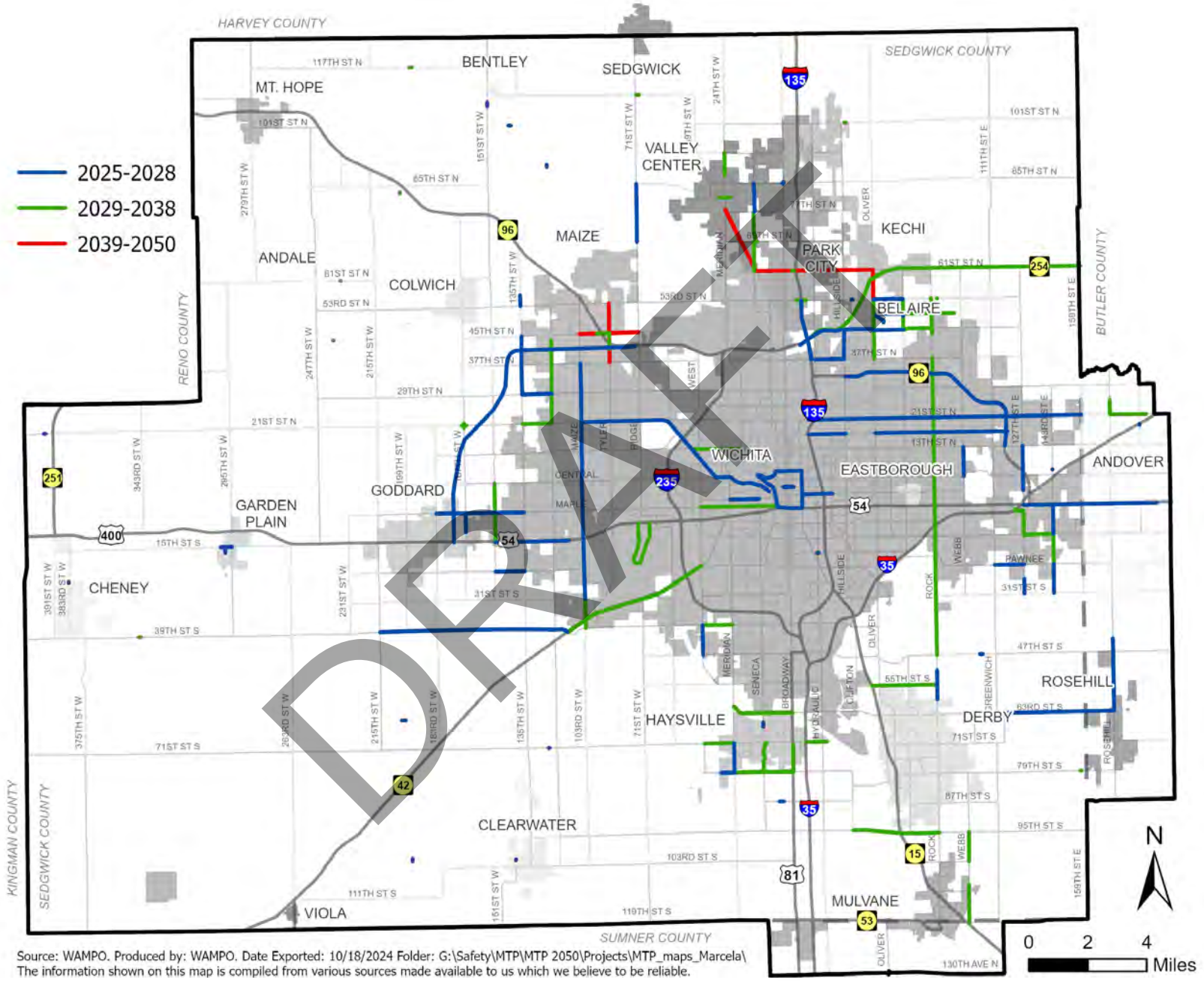
Most of the projects on the Fiscally Constrained Project List correspond to specific planned improvements to specific parts of the transportation system, but some are categories of projects that WAMPO and its stakeholders have deemed to be important. Projects that fit into these categories may be started if funding is available, even if they are not specifically listed in the MTP. Project categories are included in the list in recognition of the fact that some types of improvements to the transportation system are not planned as far in advance as others, meaning they would be less likely to make it into the MTP project list if they had to be listed individually.

Those projects that are to occur in specific locations or on specific facilities within the WAMPO region are shown by project type in Map 7.2.1 and by time band in Map 7.2.2.

Map 7.2.1 WAMPO MTP 2050 Fiscally Constrained Projects by Project Type



Map 7.2.2 WAMPO MTP 2050 Fiscally Constrained Projects by Time Band



Kansas Department of Transportation-Sponsored Projects

The MTP 2050 Fiscally Constrained Project List includes seven (7) projects that were requested to be included by the Kansas Department of Transportation (KDOT), which would serve as the projects' lead agency. Six (6) of those projects are in the 2025-2028 time band and one (1) is in the 2029-2038 time band. Two (2) of the projects are classified as roadway reconstruction/modernization projects; three (3) are classified as roadway expansion projects (increasing through lanes); one (1) is a traffic-management-technology project; and one (1) is right-of-way acquisition for a new roadway.

The combined, estimated cost of these KDOT-sponsored projects is approximately $1.35 billion.

Table 7.2.1: WAMPO MTP 2050 Fiscally Constrained Project List: KDOT-Sponsored Projects

WAMPO I.D.	Lead Agency	Project Title	Project Type	Estimated Total Cost	Time Band
40-575	KDOT	US-54/400 Expansion - East	Roadway Expansion	$408,890,000	2025-2028
40-545	KDOT	WICHway Traffic Management Center Deployments, Upgrades and Expansions	Traffic Management Technologies	$36,043,513	2025-2028
40-128	KDOT	Purple Phase -- .North Junction- I-235/I-135/K-254	Roadway Reconstruction/Modernization	$274,507,495	2025-2028
R-21-06	KDOT	K-96 in Sedgwick County: Upgrade from 4-Lane to 6-Lane	Roadway Expansion	$292,250,000	2025-2028
RX-25-005	KDOT	US-54 in Butler Co. Reconstruct to 6-lane freeway	Roadway Expansion	$200,000,000	2025-2028
40-123	KDOT	Northwest Bypass ROW KDOT Highway Expansion	New Roadway	$83,834,236	2025-2028
RM-25-045	KDOT	K-254 in Sedgwick Co. New interchange, overpass and connector road	Roadway Reconstruction/Modernization	$50,000,000	2029-2038

Public Transit Projects

The MTP 2050 Fiscally Constrained Project List includes six (6) public-transit projects, at a combined, estimated cost of approximately $41.6 million. These projects are all "category" projects (see page 176), with two (2) in each of the three time bands (2025-2028, 2029-2038, and 2039-2050), making the same types of projects eligible for funding in every time band.

Table 7.2.2: WAMPO MTP 2050 Fiscally Constrained Project List: Public Transit Projects

WAMPO I.D.	Lead Agency	Project Title	Project Type	Estimated Total Cost	Time Band
T-17-05	Transit Providers	Public Transit: FTA 5339 Program - Grants for Buses and Bus Facilities	Public Transit	$3,200,000	2025-2028
T-19-01	Transit Providers	FTA 5310 Program - Enhanced Mobility of Seniors & Individuals with Disabilities	Public Transit	$4,213,451	2025-2028
TR-29-001	Transit Providers	Public Transit: FTA 5339 Program - Grants for Buses and Bus Facilities: 2029-2038	Public Transit	$12,160,915	2029-2038
TR-29-002	Transit Providers	FTA 5310 Program - Enhanced Mobility of Seniors & Individuals with Disabilities: 2029-2038	Public Transit	$16,129,767	2029-2038
TR-39-001	Transit Providers	Public Transit: FTA 5339 Program - Grants for Buses and Bus Facilities: 2039-2050	Public Transit	$2,511,184	2039-2050
TR-39-002	Transit Providers	FTA 5310 Program - Enhanced Mobility of Seniors & Individuals with Disabilities: 2039-2050	Public Transit	$3,330,737	2039-2050

Local-Government-Sponsored, Non-Public-Transit Projects

The MTP 2050 Fiscally Constrained Project List includes one hundred and thirty-four (134) local-government-sponsored, non-public-transit projects. Sixty-three (63) of those projects are in the 2025-2028 time band, sixty-three (63) are in the 2029-2038 time band, and the other eight (8) are in the 2039-2050 time band; in each time band, five (5) of the listed projects are “category” projects.

Twenty-eight (28) of the projects are classified as bridge rehabilitation/replacement projects (including three (3) of the “category” projects). Sixty-seven (67) are classified as roadway reconstruction/modernization projects (including three (3) of the “category” projects). Nine (9) projects are classified as roadway expansion projects (increasing through lanes). Nine (9) projects are traffic-management-technology projects (including three (3) of the “category” projects). One (1) project is for a new roadway. Eleven (11) projects are for multiuse trails and bicycle facilities. Three (3) projects are for pedestrian facilities. Three (3) of the “category” projects are for either multiuse trails and bicycle facilities or pedestrian facilities. Another three (3) of the “category” projects are for planning studies.

The combined, estimated cost of these local-government-sponsored, non-public-transit projects is approximately $1.38 billion.

Table 7.2.3: WAMPO MTP 2050 Fiscally Constrained Project List: Local-Government-Sponsored, Non-Public-Transit Projects

WAMPO I.D.	Lead Agency	Project Title	Project Type	Estimated Total Cost	Time Band
40-012	City of Andover	Prairie Creek Rd bridge over KTA	Bridge Rehabilitation/Replacement	$5,882,920	2025-2028
BP-23-02	City of Bel Aire	53rd Street, Oliver to Woodlawn Multi-Use Path	Multiuse Trails & Bicycle Facilities	$404,628	2025-2028
MB-25-001	City of Bel Aire	Bel Aire Bike Ped Trail Phase 1	Multiuse Trails & Bicycle Facilities	$1,247,963	2025-2028
40-015	City of Bel Aire	45th St N, Oliver to Woodlawn	Roadway Reconstruction/Modernization	$12,348,404	2025-2028
40-540	City of Derby	Rock Road Corridor Improvements	Roadway Reconstruction/Modernization	$6,703,812	2025-2028
BP-23-01	City of Garden Plain	Harry and Main Street Sidewalks	Pedestrian Facilities	$538,277	2025-2028
RM-25-044	City of Haysville	Meridian Street & Multiuse Trail	Roadway Reconstruction/Modernization	$8,875,127	2025-2028
RM-25-022	City of Park City	85th Street and Broadway Roundabout	Roadway Reconstruction/Modernization	$1,845,171	2025-2028
BP-23-03	City of Valley Center	Seneca St Multiuse Path	Multiuse Trails & Bicycle Facilities	$591,185	2025-2028
40-522	City of Wichita	Redbud Path from Woodlawn to K-96	Multiuse Trails & Bicycle Facilities	$14,185,000	2025-2028
40-099	City of Wichita	Comprehensive Way Finding	Pedestrian Facilities	$1,925,000	2025-2028
40-066	City of Wichita	Pawnee, Greenwich to 127th St E	Roadway Reconstruction/Modernization	$8,955,000	2025-2028
40-077	City of Wichita	Maize Road, Pawnee to 31st Street South	Roadway Reconstruction/Modernization	$9,300,000	2025-2028
40-510	City of Wichita	17th St N, I-135 to Hillside	Roadway Reconstruction/Modernization	$3,300,000	2025-2028
40-517	City of Wichita	Douglas, Seneca to Meridian	Roadway Reconstruction/Modernization	$5,775,000	2025-2028
40-524	City of Wichita	Webb Road, Central to 13th St N	Roadway Reconstruction/Modernization	$9,390,000	2025-2028
INT-19-02	City of Wichita	Pawnee & 127th Street intersection	Roadway Reconstruction/Modernization	$2,580,000	2025-2028
R-19-10	City of Wichita	2nd St., Main to St. Francis	Roadway Reconstruction/Modernization	$5,500,000	2025-2028
R-19-11	City of Wichita	West St, 47th-MacArthur	Roadway Reconstruction/Modernization	$6,650,000	2025-2028
R-19-12	City of Wichita	37th St N., Hydraulic to Hillside	Roadway Reconstruction/Modernization	$6,545,000	2025-2028
R-19-13	City of Wichita	Douglas, Washington to Grove	Roadway Reconstruction/Modernization	$7,397,500	2025-2028
R-19-14	City of Wichita	143rd St. E., Kellogg-Harry	Roadway Reconstruction/Modernization	$5,655,000	2025-2028
R-19-15	City of Wichita	Maple, 135th St W to 167th St W	Roadway Reconstruction/Modernization	$20,180,000	2025-2028
RM-25-038	City of Wichita	127th St E, 13th to Douglas	Roadway Reconstruction/Modernization	$9,978,571	2025-2028
RM-25-039	City of Wichita	Mt. Vernon and Hydraulic Intersection	Roadway Reconstruction/Modernization	$3,050,000	2025-2028
40-079	City of Wichita	Hillside, 37th St N to 45th St N	Roadway Expansion	$7,410,000	2025-2028
R-21-05	City of Wichita	West Kellogg/US-54/400 Expansion	Roadway Expansion	$7,500,000	2025-2028
RX-25-004	City of Wichita	45th Street N, Hillside to Oliver	Roadway Expansion	$7,675,000	2025-2028
40-056	City of Wichita	Wichita Intelligent Transporation System - E 21st St N	Traffic Management Technologies	$5,500,000	2025-2028
40-526	City of Wichita	Wichita Intelligent Transporation System - Central Business District	Traffic Management Technologies	$3,450,000	2025-2028
TM-25-001	City of Wichita	ITS - 21st St and Maize to Downtown	Traffic Management Technologies	$3,890,000	2025-2028
TM-25-002	City of Wichita	ITS - Maize Rd, 37th St N to Pawnee	Traffic Management Technologies	$3,490,000	2025-2028
MB-25-005	Butler County	SW Butler Rd Multi-use Path at SW 150th St.	Multiuse Trails & Bicycle Facilities	$1,455,000	2025-2028
40-537	Butler County	SW Butler Rd Improvements from SW 170th St to SW 155th St	Roadway Expansion	$13,047,000	2025-2028
MB-25-006	Butler County/Sedgwick County	W Rosewood/E 63rd St. S. Multi-use Path	Multiuse Trails & Bicycle Facilities	$3,793,000	2025-2028
BR-25-002	Sedgwick County	B533: Bridge on Seneca between 63rd and 71st St South	Bridge Rehabilitation/Replacement	$1,872,944	2025-2028
BR-25-003	Sedgwick County	B503: Bridge on 21st St. North between 391st St. and 407th St. West	Bridge Rehabilitation/Replacement	$2,200,000	2025-2028
BR-25-005	Sedgwick County	B537: Bridge on 53rd North between Hillside and Oliver Street	Bridge Rehabilitation/Replacement	$1,050,000	2025-2028
BR-25-006	Sedgwick County	B516: Bridge on Tracy St. between 103rd St. South and Diagonal St.	Bridge Rehabilitation/Replacement	$870,000	2025-2028
BR-25-007	Sedgwick County	B522: Bridge on 383rd St. West between 23rd and 31st St. South	Bridge Rehabilitation/Replacement	$950,000	2025-2028
BR-25-009	Sedgwick County	B529: Bridge on 143rd St. East between Central Ave. and 13th St. North	Bridge Rehabilitation/Replacement	$1,050,000	2025-2028
BR-25-011	Sedgwick County	B511: Bridge on 71st St. South between 119th and 135th St. West	Bridge Rehabilitation/Replacement	$870,000	2025-2028
BR-25-012	Sedgwick County	B514: Bridge on 87th St. South between Seneca St. and Broadway St.	Bridge Rehabilitation/Replacement	$1,700,000	2025-2028
BR-25-013	Sedgwick County	B515: Bridge on 151st St. West between 101st and 109th St. North	Bridge Rehabilitation/Replacement	$870,000	2025-2028
BR-25-014	Sedgwick County	B519: Bridge on 47th St. South between Webb Rd. and Greenwich Rd.	Bridge Rehabilitation/Replacement	$900,000	2025-2028
BR-25-016	Sedgwick County	B523: Bridge on 63rd St. South between 199th and 215th St. West.	Bridge Rehabilitation/Replacement	$760,000	2025-2028
BR-25-017	Sedgwick County	B524: Bridge on 199th St. West between 95th and 103rd St. South	Bridge Rehabilitation/Replacement	$800,000	2025-2028
BR-25-018	Sedgwick County	B525: Bridge on 101st St. North between 135th and 151st St. West	Bridge Rehabilitation/Replacement	$875,000	2025-2028
BR-25-019	Sedgwick County	B527: Bridge over Eagle Ditch on 119thSt. West between 85th and 93rd St. North	Bridge Rehabilitation/Replacement	$875,000	2025-2028
40-511	Sedgwick County	Maple Street Pathway	Multiuse Trails & Bicycle Facilities	$2,375,000	2025-2028
40-569	Sedgwick County	R348: Pave 135th St. W. North of 53rd St. N.	Roadway Reconstruction/Modernization	$1,307,660	2025-2028
RM-25-023	Sedgwick County	R363: 135th St.West from 29th St North to 45th St. North	Roadway Reconstruction/Modernization	$4,800,000	2025-2028
RM-25-024	Sedgwick County	R339: 143rd St. East from Pawnee to 31st Street South	Roadway Reconstruction/Modernization	$2,750,000	2025-2028
RM-25-025	Sedgwick County	R365: Pawnee St. from 135th St West to 151st St. West	Roadway Reconstruction/Modernization	$4,100,000	2025-2028
RM-25-028	Sedgwick County	R354: Ridge Rd. Shoulders from 69th St. to 85th St. North	Roadway Reconstruction/Modernization	$1,600,000	2025-2028
RM-25-031	Sedgwick County	R362: 127th St. East for Half Mile North of 31st St.South	Roadway Reconstruction/Modernization	$950,000	2025-2028
RM-25-032	Sedgwick County	R364: 29th St.North between 119th and 135th St. West	Roadway Reconstruction/Modernization	$2,825,000	2025-2028
RM-25-043	Sedgwick County	R381: MacArthur from 215th St West to K-42	Roadway Reconstruction/Modernization	$2,060,000	2025-2028
BR-25-000	Any	Bridge Projects: 2025-2028	Bridge Rehabilitation/Replacement	$2,000,000	2025-2028
PF-25-000	Any	Bicycle and Pedestrian Improvements: 2025-2028	Multiuse Trails & Bicycle Facilities/Pedestrian Facilities	$2,000,000	2025-2028
RM-25-000	Any	Traffic Flow/Safety Improvements: 2025-2028	Roadway Reconstruction/Modernization	$2,000,000	2025-2028
TM-25-000	Any	ITS Projects: 2025-2028	Traffic Management Technologies	$2,000,000	2025-2028
PL-25-000	WAMPO	Regional Studies: 2025-2028	Planning	$1,000,000	2025-2028

WAMPO I.D.	Lead Agency	Project Title	Project Type	Estimated Total Cost	Time Band
40-008	City of Andover	21st Street from KTA Toll Booth to Andover Road	Roadway Expansion	$16,090,442	2029-2038
RX-25-001	City of Andover	Andover Rd. from 21st St. north 1/2 Mile	Roadway Expansion	$5,294,831	2029-2038
MB-25-002	City of Bel Aire	Bel Aire Bike Ped Trail Phase 2	Multiuse Trails & Bicycle Facilities	$1,739,758	2029-2038
MB-25-003	City of Bel Aire	Bel Aire Bike Ped Trail Phase 3	Multiuse Trails & Bicycle Facilities	$1,138,469	2029-2038
PF-25-001	City of Bel Aire	53rd St and Lycee Pedestrian Crossing	Pedestrian Facilities	$688,432	2029-2038
RM-25-001	City of Bel Aire	Rock Rd, UPRR Railraod to 53rd St	Roadway Reconstruction/Modernization	$18,262,483	2029-2038
RM-25-002	City of Bel Aire	Oliver, 37th to 45th	Roadway Reconstruction/Modernization	$10,692,644	2029-2038
RM-25-003	City of Bel Aire	Woodlawn, 45th to 53rd	Roadway Reconstruction/Modernization	$17,263,614	2029-2038
RM-25-004	City of Bel Aire	Oliver, 45th to 53rd	Roadway Reconstruction/Modernization	$13,778,507	2029-2038
RM-25-005	City of Bel Aire	45th, Woodlawn to Rock	Roadway Reconstruction/Modernization	$15,375,124	2029-2038
RM-25-006	City of Derby	55th Street, K-15 to Rock Road	Roadway Reconstruction/Modernization	$23,638,012	2029-2038
RM-25-007	City of Derby	95th Street, Woodlawn to Rock	Roadway Reconstruction/Modernization	$11,487,744	2029-2038
MB-25-008	City of Haysville	63rd St S, Mabel to Broadway Multiuse Path	Multiuse Trails & Bicycle Facilities	$1,307,144	2029-2038
RM-25-009	City of Haysville	Grand - Meridian to 1/2 Mile West	Roadway Reconstruction/Modernization	$7,080,289	2029-2038
RM-25-010	City of Haysville	Broadway - Diedrich to 79th St	Roadway Reconstruction/Modernization	$7,155,245	2029-2038
RM-25-011	City of Haysville	79th, Meridian to Seneca	Roadway Reconstruction/Modernization	$8,221,203	2029-2038
RM-25-012	City of Haysville	79th, Seneca to Broadway	Roadway Reconstruction/Modernization	$8,767,351	2029-2038
RM-25-013	City of Haysville	Seneca, 71st to 79th	Roadway Reconstruction/Modernization	$4,117,264	2029-2038
RM-25-014	City of Haysville	Grand Ave, (west) City Limits to West St	Roadway Reconstruction/Modernization	$5,296,480	2029-2038
RM-25-015	City of Haysville	63rd St S, Seneca to Broadway	Roadway Reconstruction/Modernization	$10,104,396	2029-2038
RM-25-016	City of Haysville	63rd St S, Meridian to Seneca	Roadway Reconstruction/Modernization	$7,894,752	2029-2038
RM-25-017	City of Haysville	71st St, I-35 to Kansas St	Roadway Reconstruction/Modernization	$2,699,317	2029-2038
RM-25-018	City of Maize	119th Street Improvements from 29th Street to Wilkinson Street	Roadway Reconstruction/Modernization	$19,197,962	2029-2038
RX-25-002	City of Maize	45th Street and Tyler Road Improvements (Near Term)	Roadway Expansion	$44,664,270	2029-2038
RM-25-019	City of Mulvane	Webb - Sapphire to 119th Street	Roadway Reconstruction/Modernization	$11,663,359	2029-2038
RM-25-020	City of Park City	61st and I-135 Southbound Ramps Roundabout	Roadway Reconstruction/Modernization	$4,586,678	2029-2038
RM-25-021	City of Park City	53rd Street & I-135 Divergent Diamond Intersection (DDI)	Roadway Reconstruction/Modernization	$8,620,517	2029-2038
BR-25-025	City of Valley Center	69th St Bridge Replacement	Bridge Rehabilitation/Replacement	$2,661,240	2029-2038
RM-25-034	City of Valley Center	Meridian Ave from 7th St to 93rd St	Roadway Reconstruction/Modernization	$13,080,190	2029-2038
RM-25-035	City of Valley Center	Seneca from 61st to 69th	Roadway Reconstruction/Modernization	$4,336,617	2029-2038
RM-25-036	City of Valley Center	Main Street from BNSF Railroad to Colby	Roadway Reconstruction/Modernization	$7,128,307	2029-2038
RM-25-037	City of Valley Center	Seneca from 69th to 77th	Roadway Reconstruction/Modernization	$3,816,118	2029-2038
40-067	City of Wichita	Maize, 31st Street South to MacArthur	Roadway Reconstruction/Modernization	$10,144,967	2029-2038
40-068	City of Wichita	Harry, 127th St E to 143rd St E	Roadway Reconstruction/Modernization	$12,566,810	2029-2038
40-069	City of Wichita	151st St W, Maple to Kellogg	Roadway Reconstruction/Modernization	$11,217,663	2029-2038
40-073	City of Wichita	143rd St E, Harry to Pawnee	Roadway Reconstruction/Modernization	$10,350,377	2029-2038
40-082	City of Wichita	13th St N, McLean to Zoo Boulevard	Roadway Reconstruction/Modernization	$22,446,738	2029-2038
40-512	City of Wichita	119th St W, 21st St N to 29th St N	Roadway Reconstruction/Modernization	$9,357,562	2029-2038
40-519	City of Wichita	MacArthur, Meridian to West	Roadway Reconstruction/Modernization	$9,842,558	2029-2038
40-520	City of Wichita	Maple, McLean to West Street	Roadway Reconstruction/Modernization	$35,662,269	2029-2038
RM-25-040	City of Wichita	21st Street from 119th St to St Teresa St	Roadway Reconstruction/Modernization	$12,438,711	2029-2038
RM-25-041	City of Wichita	127th St E, Kellogg to Harry	Roadway Reconstruction/Modernization	$7,200,758	2029-2038
RM-25-042	City of Wichita	Kellogg and Eisenhower Parkway Interchange	Roadway Reconstruction/Modernization	$59,252,836	2029-2038
TM-25-003	City of Wichita	ITS - Rock Rd from 37th St N to 47th St S	Traffic Management Technologies	$8,261,797	2029-2038
TM-25-004	City of Wichita	K-42, West to MacArthur	Traffic Management Technologies	$3,804,775	2029-2038
BR-25-004	Sedgwick County	B526: Bridge on MacArthur Rd. between 343rd and 359th St. West	Bridge Rehabilitation/Replacement	$3,651,732	2029-2038
BR-25-008	Sedgwick County	B528: Bridge over Cowskin Creek on 21s tSt. North between 119th and 135th St. West	Bridge Rehabilitation/Replacement	$3,400,675	2029-2038
BR-25-010	Sedgwick County	B536: Bridge on79th St South between 143rd and 159th St East	Bridge Rehabilitation/Replacement	$684,700	2029-2038
BR-25-015	Sedgwick County	B521: Bridge on 117th St. North between 183rd and 199th St. West	Bridge Rehabilitation/Replacement	$1,044,167	2029-2038
BR-25-020	Sedgwick County	B530: Bridge on 45th St. North between 231st and 247th St. West	Bridge Rehabilitation/Replacement	$1,084,108	2029-2038
BR-25-021	Sedgwick County	B531: Bridge on 199th St. West between 77th and 85th St. North	Bridge Rehabilitation/Replacement	$1,312,341	2029-2038
BR-25-022	Sedgwick County	B534: Bridge on 109th St N between Ridge and Hoover Roads	Bridge Rehabilitation/Replacement	$3,623,202	2029-2038
BR-25-023	Sedgwick County	B535: Bridge on 101st St North between Hillside and Oliver Street	Bridge Rehabilitation/Replacement	$707,523	2029-2038
BR-25-024	Sedgwick County	B538: Bridge on 61st St North between 231st and 247th St West	Bridge Rehabilitation/Replacement	$924,345	2029-2038
RM-25-026	Sedgwick County	R372: 21st St North and 167th St West Intersection Improvements	Roadway Reconstruction/Modernization	$1,015,638	2029-2038
RM-25-030	Sedgwick County	R371: Webb Rd from 95th St South to103rd St South	Roadway Reconstruction/Modernization	$1,871,512	2029-2038
RM-25-033	Sedgwick County	R373: 151st St. West from Maple St.to Central Ave.	Roadway Reconstruction/Modernization	$3,280,853	2029-2038
40-131	Sedgwick County	95th Street (ARC95) - Hillside to Woodlawn	New Roadway	$97,837,074	2029-2038
BR-29-000	Any	Bridge Projects: 2029-2038	Bridge Rehabilitation/Replacement	$6,804,309	2029-2038
PF-29-000	Any	Bicycle and Pedestrian Improvements: 2029-2038	Multiuse Trails & Bicycle Facilities/Pedestrian Facilities	$6,804,309	2029-2038
RM-29-000	Any	Traffic Flow/Safety Improvements: 2029-2038	Roadway Reconstruction/Modernization	$6,804,309	2029-2038
TM-29-000	Any	ITS Projects: 2029-2038	Traffic Management Technologies	$6,804,309	2029-2038
PL-29-000	WAMPO	Regional Studies: 2029-2038	Planning	$3,402,155	2029-2038

WAMPO I.D.	Lead Agency	Project Title	Project Type	Estimated Total Cost	Time Band
MB-25-004	City of Bel Aire	Northern Intercity Biking and Walking Route	Multiuse Trails & Bicycle Facilities	$39,676,607	2039-2050
RX-25-003	City of Maize	45th Street and Tyler Road Improvements (Longer Term)	Roadway Expansion	$108,725,320	2039-2050
40-127	City of Wichita	Kellogg, 111th St W to 151 St W	Roadway Expansion	$230,380,299	2039-2050
BR-39-000	Any	Bridge Projects: 2039-2050	Bridge Rehabilitation/Replacement	$13,250,873	2039-2050
PF-39-000	Any	Bicycle and Pedestrian Improvements: 2039-2050	Multiuse Trails & Bicycle Facilities/Pedestrian Facilities	$13,250,873	2039-2050
RM-39-000	Any	Traffic Flow/Safety Improvements: 2039-2050	Roadway Reconstruction/Modernization	$13,250,873	2039-2050
TM-39-000	Any	ITS Projects: 2039-2050	Traffic Management Technologies	$13,250,873	2039-2050
PL-39-000	WAMPO	Regional Studies: 2039-2050	Planning	$6,625,436	2039-2050

MTP 7.3 Environmental Assessment

Assessing potential environmental impacts associated with the transportation system as a whole and with Metropolitan Transportation Plan 2050 is the first step in the overall project-planning and development process. This assessment is the first opportunity for potential environmental impacts associated with any particular project to be considered, as well as any mitigation activities.

Transportation System

On a system level, many activities are already taking place to mitigate environmental impacts associated with regional land development and the transportation system that serves it. For example, KDOT routinely seeds native plants and grasses along highway rights-of-way, and newer, lower-emission vehicles are replacing older, less efficient vehicles. Other candidate mitigation activities to consider include:

- Green infrastructure and building construction, including such measures as rainwater harvesting, permeable pavements, and bioswales.
- Mixed land uses and travel modes to enable walkable and bikeable access to grocery stores, schools, churches, jobs, and other destinations.
- Invest in a sustainable, multimodal transportation system.

Natural Disaster Resiliency

The WAMPO region has a long history of tornadoes, hail, strong winds, temperature swings, and other weather hazards. These varied and unpredictable weather patterns have shaped an increasingly resilient and prepared system of emergency responders and transportation-system resources.

Emergency responders in the region engage in ongoing training and preparedness exercises to learn and implement best practices when responding to a variety of emergencies and natural disasters.

The Wichita Traffic Management Center, WICHway, assists first responders and the public with responding to incidents on the area's highways using technology and a coordinated dispatch center.

For the WAMPO region, natural-disaster resiliency is, in practice, a combination of mitigation measures, including regional resources, responder and system preparedness, and a highway and road network with plenty of capacity to absorb additional traffic should a portion of the system be damaged.

Mitigation Strategies

As part of the overall project-development process, studies assess the project's potential to cause environmental impacts, such as impacts on water resources, on oil and gas deposits, and on native plants and wildlife, then propose specific mitigation activities.

Mitigation strategies to protect water resources could include:

- Building bridges over sensitive areas instead of laying pavement directly onto the ground.
- Constructing stormwater detention basins to control the rate of water discharge.
- Daylighting streams instead of channeling them into underground culvert pipes.
- Replacing or restoring wetlands.
- Depositing material into one area of a floodway while removing it from a different area of the floodway.

Mitigation strategies for oil and gas deposits could include:

- Designing transportation corridors around the largest deposits.
- Extending piping to under the roadbed.
- Relocating existing pumping wells, if any.

Mitigation strategies to protect critical habitats for native plants and wildlife could include:

- Selective cutting and clearing of trees.
- Building bridges over sensitive areas instead of laying pavement directly onto the ground.
- Replacing or restoring riparian areas.
- Replacing or restoring wetlands.
- Providing wildlife crossings and fish passages.

Environmental Assessment Process

As a project moves through the planning and development processes, it is subject to environmental reviews, ascertaining whether there will be any impacts on the natural or human environment and the significance of such impacts, in order to ensure it does not violate any federal, state, or local environmental regulations. Projects are reviewed for legal compliance and mitigation activities are often required as part of the permitting and review process.

KANSAS DEPARTMENT OF TRANSPORTATION

As part of its role as the Federal Highway Administration (FHWA) funding administrator for the State of Kansas, the Kansas Department of Transportation carries out the National Environmental Policy Act (NEPA) compliance process for every project that receives federal funding through an FHWA program. The KDOT Environmental Clearance Process includes review by various state and federal agencies to ensure compliance with the Clean Air Act, the Clean Water Act, and the Endangered Species Act, among other statutes. Projects are not able to move forward to construction until environmental clearance is granted.

LOCAL JURISDICTIONS

Cities and counties in the WAMPO region have enacted zoning, subdivision, and other land-development regulations and processes. These processes include a long-range, comprehensive land-use plan that sets the long-term vision and footprint of future land development; zoning ordinances that govern the use, look, and feel of development; and other specific ordinances that govern development in certain areas. For example, Sedgwick County has enacted a zoning overlay, which limits new development across the proposed Northwest Expressway corridor.

RELATED REGULATIONS

Other regulations enacted by local governments, the state government, and federal agencies govern many other environmental issues, including, but not limited to, runoff from construction sites, hazardous waste transport, private well testing, emissions permits, pollutant discharge, and stormwater.

Conclusions

The WAMPO region is a midwestern metropolitan area surrounded by rural lands in agricultural production and faces similar environmental issues as neighboring metropolitan areas—agricultural chemical runoff concerns, invasive species, habitat disruption, and stormwater drainage (see Section 2.7).

Suburban and rural land development are predominant in the region. The transportation system was built, and is currently maintained, to support those development forms.

The transportation system contributes to many environmental issues faced by the region, including ground-level ozone, overland flooding, and habitat disruption.

Many ongoing regulatory processes are in place to monitor and mitigate these issues. As the projects on the MTP 2050 Fiscally Constrained Project List move forward, existing regulatory processes will ensure appropriate mitigation activities are implemented to ensure compliance with local, federal, and state environmental laws.

MTP 2050

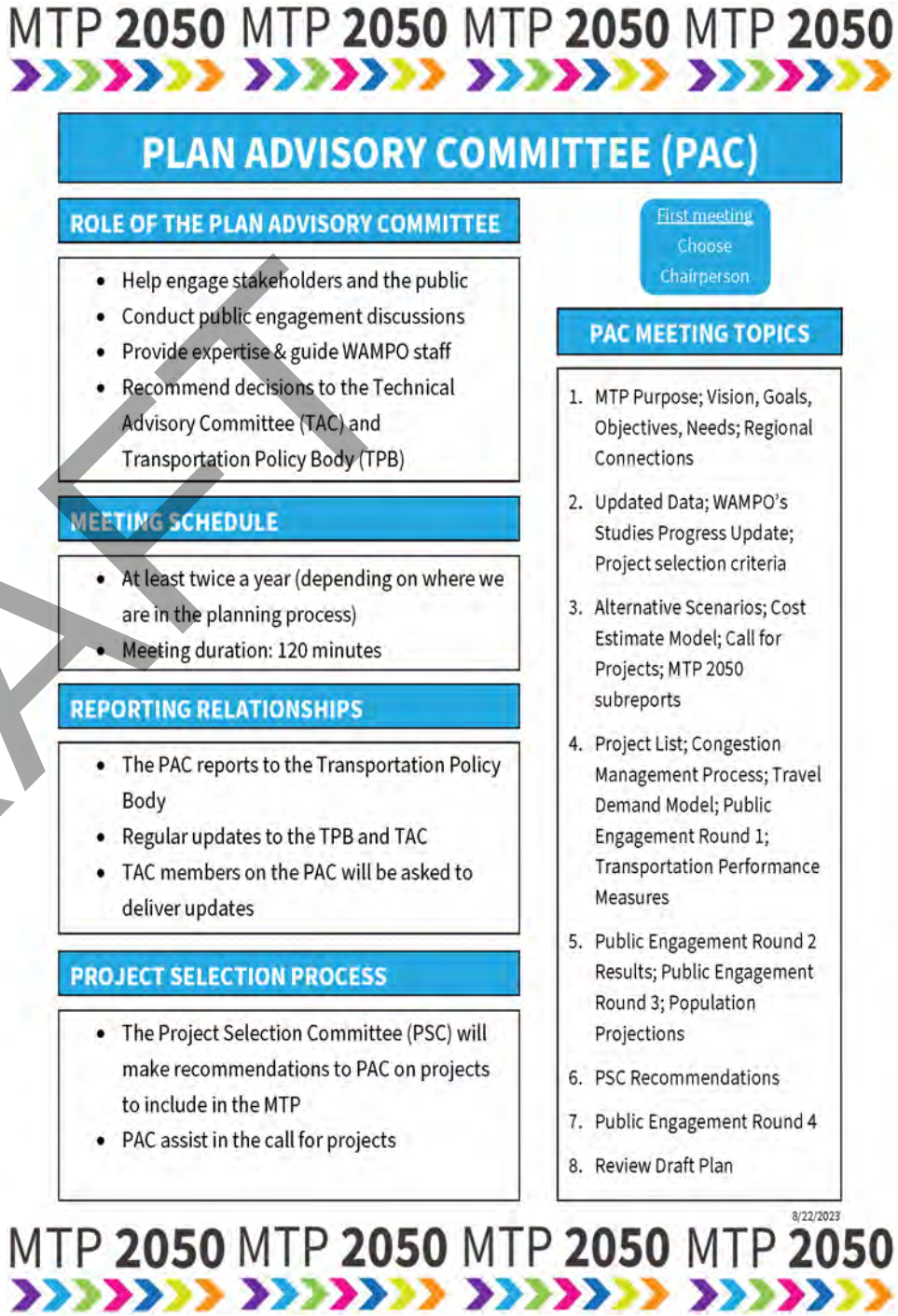
Appendix A

Plan Development

APPX A

Planning Process

This planning process began in the fall of 2022 and concluded with the TPB approval of MTP 2050 on May 13, 2025. The formation of the Plan Advisory Committee (PAC) was discussed with the TAC and TPB, as well as past members of the PAC to receive any input on potential improvements to the PAC. The PAC was formally approved by the TPB on December 13, 2022. The PAC met six (6) times over the course of the planning process.



PAC STAKEHOLDERS

- Bike Walk Wichita
- City of Andover
- City of Derby
- City of Maize
- City of Wichita
- City of Wichita Police Department
- FHWA
- FTA
- KDOT
- Sedgwick County
- Sedgwick County Association of Cities
- South Central KS Coordinated Transit District
- United Community Transit Coalition
- Wichita Transit
- Wichita-Sedgwick County Planning Department

The Wichita Area Metropolitan Planning Organization (WAMPO) took a proactive approach to open and collaborative transportation planning by establishing a series of meetings tasked with providing valuable public input for the development of the Metropolitan Transportation Plan (MTP), a crucial long-range blueprint for the region's transportation infrastructure. These meetings served as dynamic forums, bringing together many different stakeholders, including community leaders, representatives from local government, transportation experts, and engaged citizens. The aim was to foster an environment where different perspectives could be shared, ensuring that the MTP would be a reflection of the collective needs and aspirations of the community.

Through a series of structured discussions, public forums, and interactive sessions, the meetings facilitated open dialogue, allowing participants to express their concerns, share insights, and propose innovative solutions. This collaborative approach not only enhanced transparency in the planning process but also empowered the community to actively shape the future of its transportation system.

The WAMPO meetings played a pivotal role in bridging the gap between policymakers and the public, fostering a sense of ownership and involvement in the decision-making process. By incorporating the various perspectives gathered through this initiative, the Metropolitan Transportation Plan was not only comprehensive but also reflective of the values and priorities of the community it serves. The success of this collaborative model serves as a testament to the importance of citizen engagement in shaping sustainable and people-centric transportation planning initiatives.

A consultant team of Professional Engineering Consulting (PEC), HDR, Venice Communications, and the Public Policy & Management Center at Wichita State University was hired in March 2023 to assist in specific aspects of the planning process.

MTP 2050

Appendix B

Public Involvement & Engagement Summary

APPX B

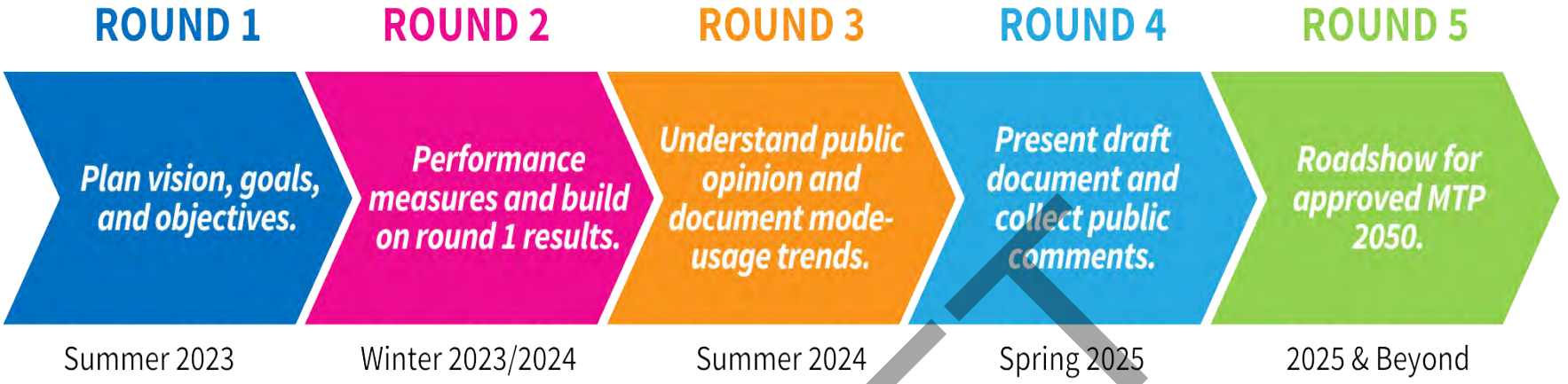
Public Engagement Overview

Public and stakeholder engagement was integral to the development of Metropolitan Transportation Plan 2050 (MTP 2050). This long-range plan represents a collective vision for the region based on input from the public and WAMPO's stakeholders and partners. This appendix is meant to document public and stakeholder engagement associated with the development of MTP 2050. For information about WAMPO's other engagement activities and its Public Participation Plan, please visit www.wampo.org/public-participation.

Over the two-year process of developing the plan, engagement was divided into five distinct rounds, each serving different purposes and building upon one another.

- The first round of public engagement helped to determine the plan's vision, goals, and objectives and introduced the long-range planning process to the public.
- Round two built upon and confirmed public sentiment collected during the previous round and identified which performance measures were most desired to be tracked.
- Round three sought to understand public opinion regarding the regional transportation network and documented mode-usage trends.
- The fourth round involved a public review of the draft plan to ensure it is consistent with the input received throughout the planning process. A 30-day public comment period was held from March 8, 2025, through April 7, 2025. Public comments received during this period were incorporated into the plan and considered by the Transportation Policy Body before they voted to approve the plan.
- The last round of public engagement, round five, is an ongoing roadshow for the approved plan. The term 'roadshow' describes an outreach activity that involves visiting multiple locations and events to promote something. WAMPO will attend community, local agency, and member jurisdiction events and meetings to present the approved MTP 2050.

Figure B.1: MTP 2050 Public Engagement Timeline



Public Participation Plan (PPP)

WAMPO is committed to meaningful stakeholder engagement, in accordance with its Public Participation Plan (PPP), which was last updated in 2022. MTP 2050 public engagement efforts were guided by the WAMPO PPP.

Updates made to the PPP in 2022 focused on improving the accessibility of information and opportunities to contribute ideas. The PPP outlines WAMPO's strategies and techniques for informing and engaging the public throughout the continuing, cooperative, and comprehensive (3-C) transportation planning process. The goal and purpose of a PPP is to maximize public participation and an MPO's effectiveness at reaching audiences. Public input is essential for developing transportation policies, programs, and projects. WAMPO ensures an open, cooperative process, actively involving all affected parties to provide meaningful input that influences transportation decisions, while also addressing the community's transportation needs and concerns.

WAMPO maintains robust public participation by utilizing various technologies/mediums and collaborates with community partners. Brochures and planning materials are developed in English, Spanish, and Vietnamese, in accordance with WAMPO's Limited English Proficiency (LEP) Plan. In addition to publishing a quarterly e-newsletter and maintaining multiple social media accounts, the agency continuously improves its website to ensure it is mobile-friendly and easy to navigate, serving as a regional information resource. Board and committee meeting materials are posted online, and meetings are accessible in-person and virtually.

WAMPO's commitment to engaging with all segments of society is reflected through the organization's policy to assure full compliance with Title VI of the Civil Rights Act of 1964, the Civil Rights Restoration Act of 1987, and related statutes and regulations in all programs and activities. WAMPO ensures fair and meaningful engagement with all people. This includes hosting public meetings in strategic locations, coordinating with local organizations, considering transit access for

meetings, providing materials in multiple languages, and having bilingual staff present when possible. Meeting notices and information are shared through print media, targeted outreach, and partnerships with grassroots organizations.

For up-to-date information about WAMPO public participation, please visit www.wampo.org/public-participation.

For up-to-date information about WAMPO's Title VI Program Manual and Limited English Proficiency Plan, please visit www.wampo.org/title-vi.

ENGAGEMENT METHODS

There are many techniques that can be used in public participation processes. The WAMPO Public Participation Plan (PPP) Techniques Toolbox acts as a guide for involving the public in the transportation planning and decision-making process. Please see the full Public Participation Plan for more details about each technique.

Figure B.2: WAMPO Public Participation Plan Techniques Toolbox

Public Engagement for MTP 2050

Strategies used to increase outreach and engagement throughout the development of MTP 2050 included in-person and virtual meetings, pop-up events, videos, social media, listening sessions, surveys, and more. The following list highlights some of the outreach techniques that were most frequently used for MTP 2050.

- **Brochures, Fact Sheets, Flyers, and Visualization:** Brochures and fact sheets were developed to provide key points of interest in an easy-to-read manner. Flyers were used to convey information about the long-range plan and public involvement opportunities. WAMPO posted signage, when possible, at city halls, public libraries, community centers, and public events. Visualization techniques were used throughout the public engagement process to help people understand complex information in a graphic format; this included diagrams, photos, charts, static maps, and interactive mapping.
- **Media Articles, Advertisements, Public Notices, and Newsletters:** Staff worked with local media, including newspapers, radio, and TV, to provide information about WAMPO's planning processes. Press releases for notable planning activities (including surveys and public comment periods) were sent to those local media. The WAMPO newsletter is distributed quarterly online through WAMPO email lists and included MTP 2050 progress updates throughout the plan development.

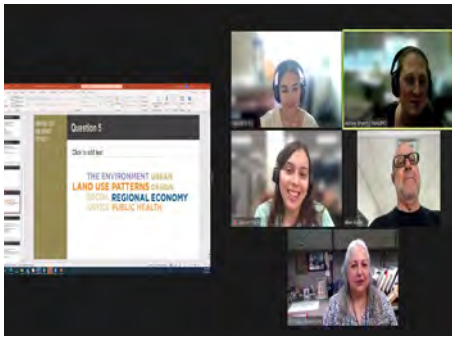
- **Information Tables at Events, Partnership Collaboration, and Open Houses:** WAMPO staff attended numerous public events and community gatherings. At these events, staff set up a table with material about WAMPO and transportation planning and provided opportunities for public involvement. Through partner collaboration, WAMPO staff attended public meetings of other organizations, such as local civic groups and city councils. An open house for MTP 2050 was hosted during the 30-day public comment period and included various informational stations where participants could ask questions and provide feedback.
- **Social Media and Website:** Social media is a fast way to connect with people, including those who would not normally interact with WAMPO through "traditional" forms of agency communication. Social media posts were developed for MTP 2050 to convey engagement opportunities and updates. The WAMPO website, www.wampo.org, provides information about all WAMPO activities. Additionally, staff created a dedicated MTP 2050 webpage as a one-stop shop for all MTP 2050 information, www.wampo.org/mtp2050. WAMPO is active on the following platforms:
  - » Facebook: https://www.facebook.com/wampoks
  - » Instagram: https://instagram.com/wampoks
  - » X (formerly Twitter): https://x.com/wampoks
  - » LinkedIn: https://www.linkedin.com/company/wampoks/
  - » YouTube: https://www.youtube.com/@WAMPOKansas
- **Surveys:** Surveys are a good way to gather opinions from a wide swath of the public. Surveys for the development of MTP 2050 were conducted both online and via paper forms; more than 1500 were completed. It should be noted that the surveys were an engagement tool for collecting feedback from the public and the results collected are not intended to express a scientific, statistically valid representation of all the region's residents.
- **Videos:** Videos are a useful and visually engaging tool to inform the public of planning processes and input opportunities. Prior to the first round of public engagement, WAMPO released a one-minute video announcing the launch of the MTP 2050 planning process and encouraging the public to provide input. During the plan development, WAMPO released ten (10) additional informational videos. All videos are available on WAMPO's YouTube channel: www.youtube.com/@WAMPOKansas

The following pages provide details about the specific engagement techniques used in each round of engagement.

ENGAGING ALL POPULATIONS

A guiding principle of WAMPO's public engagement efforts is the invitation and consideration of perspectives from those traditionally less-engaged in transportation planning processes. Some examples include individuals who speak languages other than English, low-income individuals, people with disabilities, those under 18, and older adults. Engagement for MTP 2050 strived to reach out to and connect with community members early and often.

During each round of public engagement, WAMPO staff attended multiple pop-up and community events to interact with people where they already were. All materials were made available in English, Spanish, and Vietnamese. At events with a high number of Spanish speakers, staff proficient in Spanish were present to ensure that attendees had an opportunity for meaningful engagement.



ENGAGING STAKEHOLDERS

In addition to engagement with the general public, stakeholder involvement played a major role in the development of MTP 2050. WAMPO staff worked alongside and sought guidance from transportation planning partners, including the Kansas Department of Transportation (KDOT), the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), Wichita Transit, local governments, and community organizations.

These stakeholders, particularly WAMPO's member jurisdictions, helped shape the vision, goals, and objectives of the plan. Throughout the plan development process, staff frequently provided progress updates, including at regularly scheduled Transportation Policy Body (TPB), Technical Advisory Committee (TAC), Executive Committee (EC), and ICT Safe: A Regional Transportation Coalition meetings, as well as at project-specific steering committee meetings.

The MTP 2050 Plan Advisory Committee (PAC) was established at the beginning of plan development to offer feedback on the formation of the plan and provide recommendations. The committee was composed of representatives from member jurisdictions, community organizations, and regional planning partner staff. The PAC was formed to help engage stakeholders and the public, conduct public engagement discussions, and provide expertise and guidance to WAMPO staff.

ENGAGEMENT AT A GLANCE

Throughout the development of MTP 2050, WAMPO staff devoted many hours to public outreach and involvement, continuously working to inform, consult, involve, and collaborate with all people who live and work in the WAMPO region, whether or not a round of public engagement was officially underway. While it is impossible to quantify all staff outreach, the graphic to the right provides a high-level look at WAMPO's engagement during the plan development process.

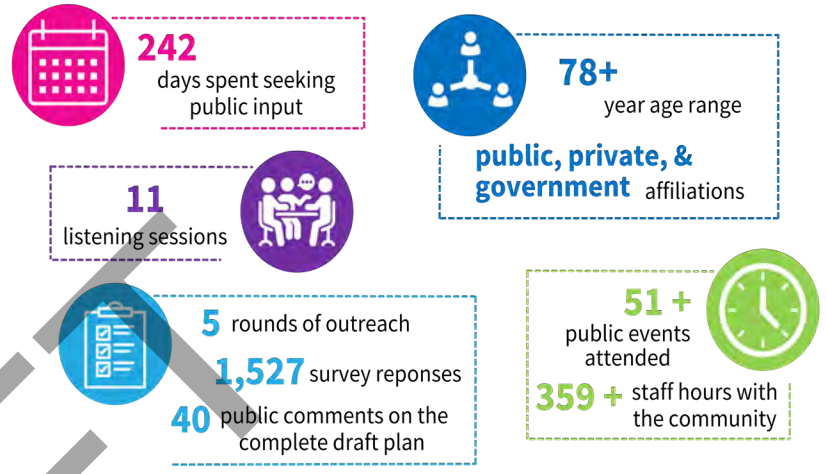
Round One: May 13, 2023 - July 31, 2023

VISION, GOALS, AND OBJECTIVES

The first round of public engagement was conducted from May 13, 2023, through July 31, 2023. Engagement methods included a public survey, stakeholder listening sessions, in-person pop-up events, website and social media posts, informational presentations at public meetings in the WAMPO region, and a video encouraging the public to provide input.

WAMPO staff collected 832 survey responses and hosted 11 listening sessions. Surveys were made available in English, Spanish, and Vietnamese, both online and on paper forms collected at various community events. WAMPO promoted the survey through articles published by KSN, the Wichita Business Journal, KAKE, the Community Voice, the Active Age, and the Derby Informer. WAMPO staff also gave TV and radio interviews to KAKE, KSN, KWCH, KMUW, KFDI, Univision, and La Raza.

Figure B.3: MTP 2050 Public Engagement at a Glance



Stakeholder Listening Sessions

WAMPO identified several stakeholder groups and sought input from key community members with expertise and experience working with each group. These groups represented a range of interests. Below is a summary of key themes from the listening sessions.

Listening Session Themes

- Driving is the preferred way of getting around in the Wichita metro area, for its convenience, ease, and efficiency.
    - » Specific projects mentioned included 21st St. (east and west of Broadway) and several highway projects: K-254, East Kellogg, K-96, ARC-95, and the North Junction.
- There is significant support for investing in other means of getting around, specifically biking, walking, and transit, for both short- and long-distance trips within the metro area.
    - » Lack of an ability to drive was cited as a challenge to getting to work, school, or other important destinations.
- Maintenance of all transportation networks – roads, bike paths, and sidewalks – is important.
- More attention should be paid to how streets and other transportation assets contribute to quality of life, sense of place, community identity, and attracting a 21st-century workforce.
- Transportation-related education for all road users – drivers, bicycle riders, and pedestrians – is increasingly important, as the same space is shared by different types of users. This is especially important in areas with newer types of street configurations, such as roundabouts, on streets with bicycle lanes, and at intersections between bicycle paths and streets.
- Improvements to the overall public transit system were mentioned in several sessions. Specific projects/services/activities mentioned include:
    - » Amenities at bus stops (lighting, fixtures, signage, enclosures, etc.)
    - » Service - more destinations, more frequent service, service later at night and on weekends
    - » More partnerships (e.g., school districts, senior centers)
    - » Advertising/marketing
    - » Services across the entire metro area, not just in individual cities
    - » Rideshare programs
    - » Kneeling/accessible buses
- Neighborhood-scale investments were requested by several groups, including crosswalks, lighting, traffic calming, gutters, sidewalks, curb appeal, ramps, pothole repair, flooding mitigation, and bike lanes, especially in neighborhoods that prefer walking over driving.
- Bicycle riders would like to see more dedicated bicycle facilities in neighborhoods, as well as dedicated facilities to connect destinations and communities across the Wichita metro area.

Round Two: December 1, 2023 – February 29, 2024

PERFORMANCE MEASURES AND BUILD ON ROUND 1 RESULTS

Following the success of the first round of public engagement for MTP 2050, WAMPO conducted a second round from December 1, 2023, through February 29, 2024. During this second round of public engagement, a refined version of the Round 1 survey was introduced. Staff curated the survey based on feedback and insights gathered during Round 1, adding clarity to ensure specific and clear input on transportation issues and expanding the survey to include questions pertaining to local performance measures.

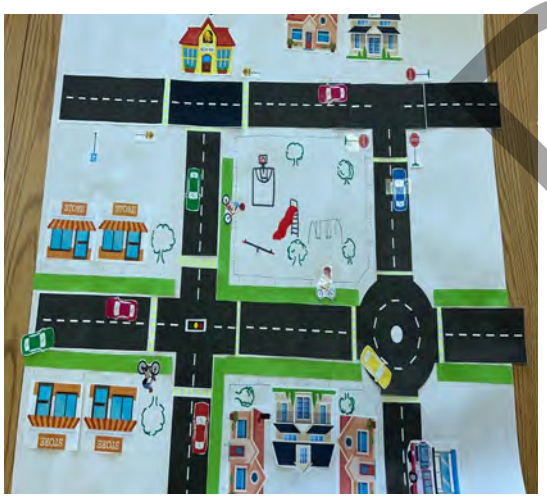
During this second round of engagement, a total of 171 adult surveys were completed, as well as 50 surveys completed by children. WAMPO staff engaged with the public about MTP 2050 and how it will help shape the transportation network.

The second MTP 2050 survey was made available to the public in English, Spanish, and Vietnamese, posted on the WAMPO website, and advertised through social media posts on a wide range of platforms to encourage participants to take the survey online. WAMPO staff attended numerous events throughout the region to engage with members of the community. At these events, staff informed members of the public about WAMPO and the long-range transportation planning process. Staff also facilitated an activity in which attendees could mark locations on a map where they experienced transportation safety or congestion issues.

KIDS' ENGAGEMENT

In addition to adults, WAMPO made efforts to engage with a younger audience and developed a survey suited for engaging with children in the WAMPO region that contained questions about the children's feeling of safety and their ideas for transportation infrastructure improvements, utilizing graphics and pictures to communicate transportation issues in an understandable way.

Collaborating with local teachers, staff visited three elementary-school classrooms in the area to talk to students about transportation planning, different modes of transportation, and the importance of active participation in the transportation-planning process. Staff conducted an interactive activity in which students were able to design their own cities while focusing on the significance of safe roads, bicycle and pedestrian infrastructure, and public transit options. During these visits, WAMPO staff administered the kids' survey that was developed to gather public input from children, after they had learned about the transportation planning process. A total of 50 kids' surveys were recorded.



Between Round 2 and Round 3

CANDIDATE PROJECT REVIEW

In addition to the outreach activities undertaken during official rounds of public engagement, in Spring 2024, between Rounds 2 and 3 of MTP 2050 public engagement, WAMPO held a candidate-project-review period.

As part of the transportation planning process, WAMPO updates its short-range Transportation Improvement Program (TIP) every two years and its long-range Metropolitan Transportation Plan (MTP) every five years. From September 15, 2023, through February 2, 2024, WAMPO held a combined Call for Projects for the Federal Fiscal Year (FFY) 2025-2028 Transportation Improvement Program (TIP) and for Metropolitan Transportation Plan 2050 (MTP 2050). One hundred and two (102) candidate projects were submitted from eleven (11) WAMPO member jurisdictions for consideration for both the short-range TIP and long-range MTP planning horizons.

Valuing transparency and collaboration, WAMPO developed maps for each candidate project location, which were made available, along with project-scope information, on the MTP 2050 project website, www.wampo.org/mtp2050, for review and public comment from April 1, 2024, through April 30, 2024. No public comments were received.

Round Three: May 20, 2024 – June 30, 2024

PUBLIC OPINION AND DOCUMENT MODE-USAGE TRENDS

WAMPO conducted the third round of public engagement for MTP 2050 from May 20, 2024, through June 30, 2024.

The purpose of this round of public engagement was to gather opinions on transportation issues & policy alternatives and to document transportation-mode usage trends within the WAMPO region. Engagment strategies included the use of a public survey. The first two questions of sought to determine which modes (e.g., driving, walking, bicycling, public transit) are most used and which may be more desired in the future. Subsequent survey questions were separated into the categories of Public Transit, Nonmotorized Transportation (Bicycle/Pedestrian), Freight and Movement of Goods, and Demographic Information. Responses to the mode-specific questions will also be used to inform other WAMPO long-range planning efforts besides MTP 2050. For example, responses to the public transit questions were considered during the development of the Regional Transit Implementation Plan.

During this round of public engagement, WAMPO staff utilized several strategies to engage with the public about MTP 2050 and how it will help shape the transportation network. The third MTP 2050 survey was made available to the public in English, Spanish, and Vietnamese, posted on the WAMPO website, made available on paper at various in-person events, and advertised through social media posts to encourage participants to take the survey online.

Member jurisdictions and other local agencies also greatly contributed to WAMPO's outreach efforts by featuring the survey on websites, in newsletters, and on social media.

WAMPO staff attended events throughout the region to engage with members of the community and collect responses to the survey on paper. At these events, staff informed members of the public about WAMPO and the long-range transportation planning process. A total of 474 survey responses were recorded and analyzed. Additionally, **WAMPO staff received more than 100 written comments from the general public and stakeholders as part of the third round of public engagement. The most common themes of the open-response comments and some examples of comments related to each theme are presented below:**

Theme: Public Transit Improvements and Increased Service

- "More busses and shade and benches at bus stops; Bus route for Final Fridays/First Fridays to all art galleries."
- "I would use public transportation if it were more available."
- "Making bus schedules more accessible; Monthly/yearly bus cards you can scan when you board; Security and safer bus stops; Bus maps."

Theme: Bicycle and Pedestrian Infrastructure

- "I'd like to ride a bike more but am fearful of being on major city streets."
- "Protected bike lanes, walkable development."
- "Make Wichita walkable!"
- "Douglas should be one lane each way with dedicated bike and walking lanes."

Theme: Passenger Rail Expansion and Freight Enhancement

- "Develop a rail corridor from Towne East through downtown/Delano and to the airport…"
- "Please please please can we expand passenger trains to and within Wichita?"
- "Railroad crossings- Not a vibe."

Theme: Roadway Expansion, Modernization, and Technology Integration

- "If one of the goals is to reduce our emissions to meet the government standards so we can continue getting good funding for our roadways, we need to look at intersection idle times, start and stop light distances, and encourage alternative transportation."
- "I think the lights at K-96 and 21st need to be evaluated…."

Between Round 3 and Round 4

PHASED RELEASE OF DRAFT MTP 2050

Between the third and fourth rounds of public engagement, in the summer and fall of 2024, as WAMPO staff worked toward completing a draft of the full plan, draft chapters and appendices were posted on the WAMPO website for public review. This approach ensured transparency and allowed community members, stakeholders, and policymakers to review and provide input on the proposed strategies and projects. By making such information readily available, WAMPO fosters an open planning process that seeks to incorporate many different perspectives and insights, ultimately leading to a more robust and effective transportation plan for the future.

The phased release of MTP 2050 chapters/appendices allowed for a more manageable review process, enabling community members, stakeholders, and policymakers to focus on specific sections and provide detailed feedback. By breaking down the plan into draft sections that were available for public review, WAMPO encouraged active participation and thorough evaluation, ensuring that the final plan is comprehensive and reflective of the community's needs and priorities.

The draft plan was reviewed by the MTP 2050 Plan Advisory Committee (PAC), Kansas Department of Transportation (KDOT) staff, and federal planning partners in late 2024 and early 2025. Comments resulting from those reviews were addressed in the draft plan before it was made available for the public comment period (Public Engagement Round 4).

Round Four: March 8, 2025 – April 7, 2025

PRESENT DRAFT PLAN AND COLLECT PUBLIC COMMENTS

WAMPO released draft MTP 2050 for a 30-day public-comment period from March 8, 2025, through April 7, 2025. This was the fourth round of public engagement, the purpose of which was to present the draft document and collect public comments. The Transportation Policy Body (TPB) approved releasing the draft plan for its required public-comment period at their meeting on February 11, 2025.

The WAMPO Public Participation Plan (PPP) outlines required public participation processes for developing and amending plans, including the federally required long-range Metropolitan Transportation Plan (MTP). Among other things, the PPP dictates development and approval procedures for performing a full MTP update (under federal law, a full MTP update is required every five years, unless the WAMPO region is ever designated as an air quality non-attainment area, in which case the MTP would need be to be updated at least every 4 years; as of this writing, the WAMPO region remains in attainment). WAMPO ensured all procedures outlined in the PPP were followed for MTP 2050, including the holding of a 30-day public-comment period.

Figure B.4: MTP Development & Approval Procedures from WAMPO's Public Participation Plan

	MTP			
	Full Update	Amendment - Includes New MTP Project	Amendment - Project Already in MTP	Administrative Adjustment
How Often	5 yrs	As needed	As needed	As needed
DEVELOPMENT PROCESS				
Discuss/Inform TAC and/or TPB about plans during development				
Public engagement strategies - Survey/data collection - Open house/public meeting/workshop/presentation - Other techniques, i.e. social media engagement, drop-in hours	**Required**	**As needed**	**As needed**	
REVIEW PROCESS				
KDOT and FHWA/FTA reviews the draft				
TPB approval to release Draft for public comment				
Paid newspaper notice announcing public comment period				
Place draft for review on WAMPO website				
Draft available: WAMPO Office				
Draft available: Wichita Public Library - Advanced Learning Library Branch & potentially other libraries or government public locations				
Public comment period --> WAMPO website posting and email notice about comment period to e-subscription lists (includes media) (in days)	**30**	**30**	**15**	**As needed**
Drop-in office hours during public comment period/partnership collaboration presentation/tabling	**As needed**	**As needed**	**As needed**	
Public meeting during public comment period - options include: - Open House - TAC/TPB, Etc.	**Required**			
Review public comments received				
Provide a summary of how comments were considered and/or addressed to TAC and TPB				
TAC reviews draft making a recommendation to TPB				
TPB considers the final draft for approval				
The approved document is sent to KDOT, FHWA, FTA and posted online - Give notice of final product to the Advanced Learning Library, WAMPO Office, & potentially other area libraries, WAMPO area City/County Clerks & libraries (full update printed, others emailed)				
Teal indicates the row is applicable to the item				

To enhance the visibility of the public-comment opportunity, several outreach strategies were employed during this round of public engagement, including, among other things, social media posts, an online video, a paid public notice in the Wichita Eagle, a general press release to media outlets, mass emails, outreach to planning partners, features in local news media, presentations at meetings of regional partners, and two WAMPO-hosted public events (one online and one in-person).

Before the start of the public-comment period, WAMPO staff developed an executive summary, presenting an overview of the plan in a more concise format. The draft executive summary was available both online and on paper, in English, Spanish, and Vietnamese. All draft chapters and appendices, as well as the executive summary, were made available on the WAMPO website as separate PDFs to allow for a more manageable review process. Hard copies of the draft plan were also available at the Wichita Advanced Learning Library and at the WAMPO offices.

Beyond WAMPO's social media channels, the availability of the draft plan for public comment was promoted through news articles, TV and radio announcements, and staff interviews; this included the media outlets KSN, Yahoo! News, TSNews.com, KMUW, KAKE, The Derby Informer, Wichita by EB, and Wichita Life Update. Many WAMPO member jurisdictions, community partners, and advocacy organizations also shared information about this MTP 2050 engagement opportunity through their newsletters and social media posts. The MTP 2050 project webpage had 426 unique visitors during March 8-April 7, 2025.

To share the draft plan, including goals, objectives, performance measures, and regional project priorities, during the 30-day public comment period, WAMPO hosted a virtual public meeting and an in-person open house.

The MTP 2050 Virtual Public Meeting was held on March 12, 2025, 12:00 PM – 1:00 PM, via Zoom. The meeting included a presentation on the contents of the plan, as well as a Q&A session and an opportunity to provide feedback. The meeting was recorded and uploaded to the project webpage as an on-demand presentation option. By holding a virtual, recorded meeting in the middle of the day, WAMPO intended to provide an opportunity for members of the public who may not be able to attend traditional public meetings (i.e., in-person evening meetings) to learn more about the plan and engage with staff. The recording is available at https://bit.ly/MTP2050-Virtual-Meeting.

The MTP 2050 Open House was held on March 26, 2025, 4:00 PM – 6:00 PM, at the Wichita Regional Chamber of Commerce, 350 W Douglas Ave., Wichita, KS 67202. Partnering with the Wichita Regional Chamber of Commerce and the South Central Kansas Transportation Coalition helped increase knowledge of the public-comment period and of the open house; the Chamber's welcoming venue and regional community presence created a comfortable and productive environment. At the open house, attendees were able to look at informational posterboards at their leisure, talk with WAMPO staff, and make comments either online or on comment sheets provided during the event. The event provided an opportunity to engage with WAMPO staff and planning partners and was come-and-go-as-you-please. A brief presentation was given at 4:30 PM and again at 5:30 PM.

In addition to WAMPO hosting its own events for the MTP 2050 public-comment period, WAMPO staff coordinated with regional partners to attend and present at multiple other meetings. This included, but was not limited to, presentations at member-jurisdiction city council meetings, transportation-related (e.g., public transit, bicycle/pedestrian) advisory boards, city district advisory boards, county citizen advisory boards, and other public meetings. These presentations provided additional opportunities to introduce the draft plan, engage with stakeholders and members of the public, and collect public comments. WAMPO staff also asked members of the public to share information about MTP 2050 with their own professional and personal networks.

Public Comments Received

WAMPO received forty (40) comments on the draft plan during the public-comment period. Those comments are documented below, along with WAMPO's responses to them. Personally identifiable information, if provided, has been redacted for the privacy of those who commented.

Comment received 03/06/2025 via YouTube (public-comment period had not yet opened, but the draft plan was already available for review):

Municipal cable car.

WAMPO Response: Comment was noted and acknowledged.

Comment received 03/08/2025 via the WAMPO website:

I believe the bus routes need to have their stops where benches can be placed for people where they are most likely to have to wait with packages -- grocery or discount stores! (groceries).

WAMPO Response: Comment was noted and acknowledged.

Comment received 03/08/2025 via the WAMPO website:

I see many benches that rarely have anyone there, but other bus stops where people are very often standing waiting, with no where to sit down.

WAMPO Response: Comment was noted and acknowledged.

Comment received 03/10/2025 via the WAMPO website:

Norland Plastics in Haysville is no longer operating. The commuter flows in Appendix M state Norland Plastics is a major employer in the area. I believe Weckworth manufacturing is the biggest employer, second is the school district, and then the city of Haysville.

WAMPO Response: Information was verified and changes were made to the draft plan.

Comment received 03/23/2025 via Facebook:

Train service should be considered.

WAMPO Response: Comment was noted and acknowledged.

Comment received 03/25/2025 via the WAMPO website:

I strongly urge WAMPO to prioritize the East Kellogg project and make it the number one item on their list. This project is crucial for improving traffic flow, safety, and overall connectivity in our community. Delays in moving this forward are impacting daily commuters and local businesses. It's time to take action and get the project on track???our region deserves it.

WAMPO Response: Comment was noted and acknowledged.

Comment received 03/26/2025 via the WAMPO website:

Gotta have sidewalks in every neighborhood it makes things like running and walking safer. Also, older parts of town (50s era housing) need love and care on the roads.

WAMPO Response: Comment was noted and acknowledged.

Comment received 03/26/2025 via voicemail:

I understand that there is a meeting this afternoon where the public is invited. I cannot attend because I have a previous appointment, but I did want to share something that I think would work very, very well. If there were parking areas like they have in the large cities outside the downtown area where people could go, park their car, ride the bus, ride down close to where they work, and then catch the bus and go back, and have it run every few minutes, every fifteen minutes, or something like that, and during rush hours, and then maybe less often during the day, I think that would keep some of the traffic. If I still work downtown, which I don't, the idea that I wouldn't have to pay for something in the parking lots downtown would be very good. Expensive. They're hard to. You can't park on the street and this would also open up parking spaces for people who had appointments downtown or who wanted to visit downtown for one reason or another. Thank you. Bye.

WAMPO Response: Comment was noted and acknowledged.

Comment received 03/26/2025 via comment card at the MTP 2050 open house:

Please consider connecting neighborhoods in west Wichita, especially around Maize Rd + 119th St. on Central, to bike paths. The only way I can get to a bike path now is to load my 3-wheel trike into a truck and drive. With being a senior citizen, it won't be long before I can't load it by myself anymore.

WAMPO Response: Comment was noted and acknowledged.

Comment received 03/26/2025 via comment card at the MTP 2050 open house:

- Would like to see more protected bike lanes
- Prioritize bike lanes + paths for utility, not just recreation
- More frequent buses
- Would love to see the East 21st St bus line divert north on Woodlawn and go down Mainsgate Rd. (west of Woodlawn). There are three apartments that house students and working adults that would almost certainly take the bus if it was closer. These apartments are Brickstone, Ponderosa, and Willow Creek. Great opportunity to easily get more riders.

WAMPO Response: Comment was noted and acknowledged.

Comment received 03/26/2025 via comment card at the MTP 2050 open house:

I HATE the reduction of McLean to 2 lanes
I HATE the changing of One Way streets into two way streets
I hate the use of bricks in crosswalks. I use a walker + using a walker on the surfaces makes it more difficult to get across the crosswalks. Also don't like bricks in the driving lanes, like on Douglas west of Broadway. Driving on them in a car makes a 'bumpy' ride in a car. Any decorative brickwork, only use in medians.

WAMPO Response: Comment was noted and acknowledged.

Comment received 03/26/2025 via comment card at the MTP 2050 open house:

Bike lanes placed on streets where there is car parking on both sides of the street should not be on these streets. Wealthier parts of town seem to get the most $ spent on them plus sidewalks and bike lanes. Hate the one block 2 way street in the 2100 blocks of both N. Market and N. Park Place. Change these 2 way blocks back to one-ways. Hate that the leaders of the area seem to make changes that the majority of citizens don't want.

WAMPO Response: Comment was noted and acknowledged.

Comment received 03/26/2025 via comment card at the MTP 2050 open house:

Gracias por la oportunidad de acceder a los materiales en español. Los visuales ayudan a mantener la atención y hacer el documento. Espero ver más oportunidades para acceder a su organización en español.

English translation: Thank you for the opportunity to access the materials in Spanish. The visuals help to keep the attention and make the document. I look forward to seeing more opportunities to access your organization in Spanish.

WAMPO Response: Comment was noted and acknowledged.

Comment received 03/26/2025 via comment card at the MTP 2050 open house:

Have buses run later and on Sunday.

WAMPO Response: Comment was noted and acknowledged.

Comment received 03/26/2025 via comment card at the MTP 2050 open house:

Please reconsider road diets they cause anger to Wichita drivers - the turn lane becomes a dangerous passing lane or drag race for teens - it can also cause problems for turning if you get in the lane and there's a person across from you and you're blocking their turn place AKA chicken lane.

WAMPO Response: Comment was noted and acknowledged.

Comment received 03/26/2025 via comment card at the MTP 2050 open house:

Do not make every artery road in Wichita have bike lanes separated with paint. The study Wichita paid for Toole study said only 4-6% of bicyclists will use those bike lanes. Alternative routes are suggested or concrete barriers - it's all in the Toole Study - Also in surveys of people the majority said they do not want bike lanes on the streets separated by paint giving bicyclists about 10-12" of space. Drivers do not like having to be so close to bicyclists.

WAMPO Response: Comment was noted and acknowledged.

Comment received 03/26/2025 via comment card at the MTP 2050 open house:

The idea of Wichita becoming a bicycling community instead of driving cars is not familiar with how spread out the city is and the problems with our city of families. There are many Catholic or private schools that do not use buses for transportation that would mean mom would have to bicycle with her baby, 2 yr, 4 yr old, and 6 yr old to get to kindergarten. How does she run errands on a bike with 2 or 3 kids under 7 years old? Does the city feel safe with 6-year-olds riding bikes on streets with painted stripes? They do not provide safety for any bicyclists.

WAMPO Response: Comment was noted and acknowledged.

Comment received 03/26/2025 via comment card at the MTP 2050 open house:

If the city wants to keep bicyclists safe the Toole study shows 2 stripes of paint is the least safe approach. They offer alternatives that are safer but the city is not following those suggestions - Also the bicycle board did not suggest the safest approaches for bicyclists.

WAMPO Response: Comment was noted and acknowledged.

Comment received 03/27/2025 via the WAMPO website:

I hope to see continued growth of pedestrian, bike, and transit travel options in Wichita and development and transportation systems that prioritize maintenance of existing assets rather than outward expansion. Enabling longer commutes should not be a priority as it will only create long term debt for municipal governments and stress the local tax base.

WAMPO Response: Comment was noted and acknowledged.

Comment received 03/27/2025 via email:

Good morning ~

Thank you for hosting the Open House for MTP 2050. It was very informational!

Kechi's current intersection project area is included within MTP 2050 (and was likely funded within MTP 2040? with a grant award in 2018, I believe, with at least one extension). It has been my understanding that there was to be bicycle lanes included within the 61st/ Oliver project and with the revision of the plan, that sidewalks were to be up to 10 feet wide (possibly 8 feet) to accommodate bicycles and pedestrians, in specific portions of the intersection project. Changes were made to the project (in 2023), due to cost, and now the sidewalks are to be only 4 feet wide (with an increase to 5 feet in some places for passing) with completion of Phase1 of the intersection project to occur shortly whereupon Phase 2 will begin. At last night's Open House, I was surprised to discover Kechi within a multiuse and bicycle facilities project - Northern Intercity walking and biking path. Since moving to Kechi in 2022, I heard "future plans" of a multiuse sidewalk from Bel Aire to Park City, but no specific plans. While this project is in the final phase of MTP 2050, it does not make sense how the current intersection project is beneficial, nor meets the intention of, the long term goal. Wouldn't bike lanes or multi-use sidewalks installed in 2025 still have structural integrity and life for the 2039-2050 timeframe? I have regularly attended Kechi City Council meetings, since 2023, and have not heard a presentation to include the MTP information within the intersection project nor was it discussed when changes were made to the intersection project proposal in April 2023 nor when the updated engineering draft map was received by the City Council in April 2024.

Perhaps the current intersection project has no involvement with the MTP 2050 plan, but it seems odd that WAMPO grant monies invested would not have included a requirement for a bike lane or widened multiuse sidewalks for the areas, within Kechi's intersection project, that would fit into a future connection to the Northern Intercity walking and biking path.

Respectfully submitted ~

WAMPO Response: Comment was noted and acknowledged.

Comment received 03/31/2025 via email:

Figured you might appreciate having the feedback already formatted instead of just one long list of text in a web form.

There are currently several deficits with the current plan that will render it unable to meet its stated goals.

Good land use is incompatible with car only infrastructure in an urban and suburban setting. By continuing to only build car infrastructure as this plan effectively intends, good future land use is rendered impossible as there will be no transit or access to support it. In fact in half of budget bands more money is spent on TMT than on all other forms of transportation excluding car infrastructure. This represents resources could be allocated to building actually useful pedestrian/bike or transit infrastructure.

The failing is most clearly indicated by the projected trends in modal share, effectively the current plan both expects and (with the current selection of projects) guarantees no significant changes in modal share. Despite this, rising vehicle and insurance costs, inflation, fluctuating energy prices, lack of housing will certainly affect the actual modal share that occurs, potentially stranding this plan and any projects built by it.

Furthermore, car infrastructure, especially highways in the built environment, are incompatible with environmental sustainability in any sense being both a major contributor of GHGs, run-off and point pollution, and also the most energy inefficient way to transport people per capita. Additionally, car costs burden households with both the purchase cost as well as operating costs and potentially debt maintenance rendering car infrastructure unsustainably financially as well. Even modest investments in transit that can allow a household to shift from multiple cars to a single car can unlock savings for household budgets freeing resources to be spent in the local economy.

Projects that must be removed:

1. The 96th expansion must be removed immediately. Removing only this project will save almost $300 million. It provides no benefit as this highway is currently in good condition.

Projects that could be removed:

1. The 96th West Expansion provides little benefit especially as the existing country roads can be driven at 55 mph already, but I am more familiar with traffic on the other 96th project area and speak to that more authoritatively.
2. Traffic Management Technologies on 21st are prime candidate to free up funds, spying on people with cameras is a poor replacement for building safe roads.

Ideal Transit Improvements:

Removing the following projects would free up almost $400 million to be spent on worthwhile projects. Some of these could include.

1. Building an entire city-wide bike network with protected bike lanes and signals.
2. Building a light rail/tram on either 21st St. or Douglas. Both could have their advantages.

A. 21st from Greenwich to Industrial Zone would service the university, the jobs in the industrial zone, multiple neighborhoods including ones with several apartment complexes, two major shopping centers, and would be in an ideal spot for a park and ride on the east side to collect traffic from commuter cities on the east side.

B. Douglas is probably an even better option as it has already been the focus for development and continues to be the recipient of more investment. It could be combined with a street overhaul project to pedestrianize the downtown corridor by widening sidewalks, adding bike and or bus lanes, and reducing the number of car lanes on Douglas. The downtown core is already served by a dense network of streets and very little car parking is on Douglass so the impact on vehicle traffic would be minimal. This project also has more urgency if the new biomedical campus is going to add another 3,000+ daily trips to the downtown area.

Necessary Transit Improvements:

1. The 21 bus line could be adjusted. There are two apartment complexes at Mainsgate and Edgemoor with over 220 units that are effectively over half mile from any transit stop thus adding to an already too slow transit time.

Necessary Multiuse Improvements:

Regarding the supposed 2,100 miles of multi-use paths and sidewalks, I can attest from personal experience that sidewalks in most areas of the city suffer from major problems including buckling, uneven surfaces, and cracking. This is not to mention that along several major routes sidewalks will just stop or don't exist, rendering any connectivity (however poor already) pointless. Current examples I've dealt with recently are the east side of Woodlawn between 11th and Murdock, and both sides of Mainsgate west of Woodlawn, specifically over the drainage of the East Fork of Chisholm Creek. There are many more.

Based on my attempt to bike all city trails there are around only 100 miles of truly usable, grade separate multi-use infrastructure in the entire city with the bulk of this made up of the River Trail from Watson to Sedgwick County Park.

Necessary Bike Improvements:

1. Redbud Trail
   A. No dedicated crossing at 9th and Hillside. You have to either leave the trail and divert across multi driveways and cross at the light, or take your chances crossing Hillside, at least medical care is close for when someone gets hit.
   B. Crossing Rock is impossible. There's no sidewalk connection from the trail to even get to a dedicated traffic light on the east side. I know this is being addressed with one of the projects but it will be crucial for that project that the trail crossing be built on a speed table. (As a bonus this will passively enforce speed limits) https://nacto.org/publication/urban-street-design-guide/street-design-elements/vertical-speed-control-elements/speed-table/#:~:text=Speed%20tables%20are%20longer%20than,mph%2C%20depending%20on%20the%20spacing.&text=Portland%20installs%2022%2Dfoot%20speed,speeds%20of%2035%E2%80%9345%20mph Raising the roadway to the trail level, slowing traffic, as well as providing an island for crossing may improve the situation.

2. The canal route is not integrated into the downtown bike lanes. For the best example of this try riding 1st Street east to go north on the I135 trail. If you try to use the bike lane you'll end up having to cross every single lane of traffic to access the trail and with the 90 degree turn for the trail, limited radius for access and the bollards you'll have to come to almost a complete stop to do this. The best way is to take a car lane and stay on the north side of 1st, which of course defeats the point of the bike lane.
3. The Prairie Sunset Trail stops at I235 and does not connect to any existing bike or pedestrian infrastructure or continue to downtown or even the rest of the trails system. In fact, the connectivity of the entire bike infrastructure is abysmal with multiple gaps between most trails.
4. There are no protected or separately signaled bike lanes in the entire city. This includes high traffic areas in the downtown core and east 21st street.

WAMPO Response: Comment was noted and acknowledged.

Comment received 04/01/2025 via the WAMPO website:

Buses between WAMPO communities barely count for the Wichitans who need and want more frequent and more destination-friendly bus service!! Public transit is a major benefit in larger, trendier cities!

WAMPO Response: Comment was noted and acknowledged.

Comment received 04/01/2025 via the WAMPO website:

"Regional significance" benefits small towns INSTEAD of Wichita, which has more than 75% of the population and land space. One example is transit, where the only plans are for intercity INSTEAD of improved bus service WITHIN the largest area.

WAMPO Response: Comment was noted and acknowledged.

Comment received 04/01/2025 via the WAMPO website:

Within the "Safety & Health" Committee, there is only safety, no "health." In fact, good governance would facilitate personal and neighborhood healthfulness by enabling more people-powered movement such as sidewalks, painted crosswalks at intersections, protected bike lanes for disabled, trendy, low-income, students of all ages, seniors, and health-seekers. Such accommodation for outdoor, out-of-vehicle physical activity would save enormous health care costs for residents and for society!

WAMPO Response: Comment was noted and acknowledged.

Comment received 04/01/2025 via the WAMPO website:

The massive costs of NEW highways is primarily for freight trucks NOT people in or out of vehicles. Please raise the cost of freight fuel and registration so they pay their fair share for their damage to highway surfaces and air pollution

WAMPO Response: Comment was noted and acknowledged.

Comment received 04/01/2025 via the WAMPO website:

Bicycle paths serve recreational purposes, as documented in the annual bike-ped counts. PLEASE enable and fund COMMUTING routes and safety!

WAMPO Response: Comment was noted and acknowledged.

Comment received 04/01/2025 via the WAMPO website:

"Regionally significant" must be redefined from connecting small towns, to intra-city travel in WAMPO's largest city. That is, connecting students to schools and universities, shoppers to grocery stores, worshippers to churches, families to parks.

WAMPO Response: Comment was noted and acknowledged.

Comment received 04/01/2025 via the WAMPO website:

Please devote funds to non-vehicle transportation safety, such as push scooters, electric scooters and bicycles, baby strollers, wheel-chair commuters. That would be fewer dollars FROM expediting freight, TO people-powered transportation!

WAMPO Response: Comment was noted and acknowledged.

Comment received 04/01/2025 via the WAMPO website:

Rail travel should be enabled for PASSENGERS not limited to freight. Please fund railroads from Oklahoma City to Kansas City through Wichita.

WAMPO Response: Comment was noted and acknowledged.

Comment received 04/01/2025 via the WAMPO website:

"Congestion management" should include fewer stop lights and signs and MORE roundabouts with greater safety and far less air pollution from vehicles idling. 2050 air must be cleaner than 2025, shouldn't it?!

WAMPO Response: Comment was noted and acknowledged.

Comment received 04/02/2025 via the WAMPO website:

The expansion of suburbs and increased catering to automobiles brings environmental and safety issues, especially for pedestrians. Preventing fatalities and serious injury among pedestrians and bicyclists has to be top priority, because the WAMPO region is above state average in this terrible category. Data is showing that transit ridership is increasing, despite limited routes, and that active transportation is increasing as well. There is demand even when conditions are not safe. I support the multi-modal projects in this plan, especially the completion of the Redbud Path. I urge WAMPO to increase funding to multi-modal improvements and transit. The highway/interstate/road expansions need to be considered critically. They are costly, and in many cases unwarranted because Wichita does not have commuter issues. If people choose to live in the far suburbs, they choose the commute. Bottom line, automobile-centric upgrades are financially unsustainable. WAMPO needs to focus on maintaining central Wichita transportation for all road users.

WAMPO Response: Comment was noted and acknowledged.

Comment received 04/02/2025 via the WAMPO website:

I believe that wampo should continue to do this plan for sidewalks bike paths etc. I only wish it wouldn't take so many years to start this. I'm already 70 years. But for the future people I believe this would be safer. I live in kechi with few sidewalks and my granddaughter s must lean to ride their bikes in the streets sometimes in the middle of streets because cars are parked on the sides. Please do this for future safety. Thank you.

WAMPO Response: Comment was noted and acknowledged.

Comment received 04/03/2025 via the WAMPO website:

Please revise your funding priorities. Health care spending/person each year due to inactivity: $2,298! https://smartgrowthamerica.org/the-economic-and-health-costs-of-cutting-funding-for-family-friendly-communities/

WAMPO Response: Comment was noted and acknowledged.

Comment received 04/03/2025 via the WAMPO website:

Please revise your funding priorities, FROM new highways which will require expensive maintenance by our children's and grandchildrens' taxes: please maintain CURRENT highways, bridges, and most urgently, the corrugated streets of Wichita. Thank you.

WAMPO Response: Comment was noted and acknowledged.

Comment received 04/03/2025 via the WAMPO website:

According to the 2025 report of the Am Society of Civil Engineerrs, "The #1 solution to the poor condition of our roads, bridges, and transit systems is to spend more money.".y the Am Society of Civil Engineers, "

WAMPO Response: Comment was noted and acknowledged.

Comment received 04/05/2025 via email:

We are in favor of the NW Expressway. Traffic on Maize Rd has become too heavy. This should relieve it.

WAMPO Response: Comment was noted and acknowledged.

Comment received 04/07/2025 via email:

We want the Northwest bypass and us54 expansion though Goddard. Specifically burying 54 though Goddard like east Kellogg.

WAMPO Response: Comment was noted and acknowledged.

Comment received 04/07/2025 via email:

I would like to make an additional comment on the MTP 2050 plan. There has recently been a concerted effort to generate public comment in favor of a proposed "Northwest Bypass." I strongly oppose any funding of this project, including any purchases of right of way.

I agree with a former Wichita City Councilmember's succinct summary of the main problems with the Bypass:

"Let's don't invest in continued sprawl. Research shows that sprawl, even though it generates new property tax, doesn't fully pay for itself with the increased taxes. And it contributes to the continued inner-urban decline because there aren't enough funds to maintain and replace existing infrastructure as a result of sprawl debt. Financing urban sprawl is an outdated way of thinking about economic development. Let's join the 21st century way of thinking for urban planning and transportation." https://www.facebook.com/permalink.php?id=109047834176&story_fbid=10158721091224177

I believe that project overall is misguided, counterproductive and wasteful. Among several other things, even if right of way acquisition is budgeted to cost "only" $1 million per year, my understanding is that in order to actually build the project will cost over $1 Billion. In addition, there will be ongoing maintenance obligations. I am not aware that there has been any discussion or analysis of whether any additional revenues generated by the project would adequately fund future maintenance requirements, let alone generate a positive economic impact.. Experience in Kansas and elsewhere has shown that even though development resulting from projects like this generates new property and sales tax receipts, it never fully pays for itself with the increased taxes. Certainly, there are much more productive uses for the funds that would be used for this project.

I'd be happy to explain my reasoning in greater detail if you would like.

Thank you,

WAMPO Response: Comment was noted and acknowledged.

Comment received 04/08/2025 via comment card at TPB meeting:

Please include the proposed N.W. Expressway in the 2050 goals. The need is growing at a rapid pace as new housing, retail and businesses expand toward Goddard, Maize and Colwich. It is very important to get it on the time table.

WAMPO Response: Comment was noted and acknowledged.

Comment received 04/08/2025 via comment card at TPB meeting:

Can we get the NW expressway added to this plan?

WAMPO Response: Comment was noted and acknowledged.

Between Round 4 and Round 5

FINAL DRAFT REVIEW AND APPROVAL

After WAMPO staff reviewed all comments received during the public-comment period for draft MTP 2050, a summary of how those comments were considered and/or addressed was provided to the WAMPO Technical Advisory Committee (TAC) and Transportation Policy Body (TPB). The TAC reviewed the final draft and, on April 28, 2025, recommended that the TPB approve it. The TPB approved the final draft on May 13, 2025, following a public hearing on the draft plan, which was incorporated into the regularly scheduled TPB meeting on that date.

Following approval by the TPB, the final plan was sent to KDOT, the FHWA, and the FTA and is posted on the WAMPO website. WAMPO staff gave notice of the final product to the City of Wichita Advanced Learning Library and to WAMPO member jurisdictions. Hard copies of the approved plan have been distributed throughout the region and may also be provided upon request.

Round Five: 2025 & Beyond

ROADSHOW FOR APPROVED MTP 2050

Following the adoption of MTP 2050, WAMPO staff plan to carry out a roadshow to introduce the newly approved document to the public. A "roadshow" is an outreach activity involving visits to multiple locations and events to promote something specific. This may include presentations at city council and other public meetings, attending community pop-up events, and social media advertisements to encourage ongoing use of the plan. WAMPO strives to act as a regional forum for transportation information and transportation decision-making. Ongoing discussion of MTP 2050 following initial adoption will ensure the plan remains relevant.

Amendment 1

In accordance with the MTP 2050 Amendment Procedures (Appendix C) and the WAMPO Public Participation Plan (PPP), the WAMPO Transportation Policy Body (TPB) released draft Amendment 1 to MTP 2050 for a 15-day public comment period on July 8, 2025. The draft will be available for public review and comment from July 11, 2025, to July 28, 2025. Public comments received during this period will be reported to and considered by the WAMPO TPB, which will decide whether to revise the document prior to approval.

[Placeholder for Public Comments]

Amendment 1 will be presented to the Technical Advisory Committee (TAC) for a recommendation on <DATE>, and to the TPB for approval on <DATE>.

MTP 2050

Appendix C

Amendment Procedures

Credit: Wichita

APPX C

Amending the Plan

Trying to project twenty or more years into the future is fraught with difficulty. Circumstances change, the needs and desires of the population change, and the resources available to meet those needs change. For those reasons, federal regulations require MPOs, like WAMPO, to update their Metropolitan Transportation Plans every five years. Even with updates every five years, unforeseen circumstances will almost certainly arise before the next scheduled update. Cities and counties in the WAMPO region update their Capital Improvement Programs as often as every year. The Kansas Department of Transportation considers new projects for the Eisenhower Legacy Transportation Program (IKE) every two years. The federal Infrastructure Investment and Jobs Act was enacted on November 15, 2021, authorizing transportation funding through September 2026; as of this writing, federal transportation funding has not been authorized beyond that date. All of these developments, and many more, have the potential to impact Metropolitan Transportation Plan 2050.

Member Driven Authority

Any member of the WAMPO Transportation Policy Body (TPB) may request an amendment to Metropolitan Transportation Plan 2050. Though not represented on the TPB, the Kansas Turnpike Authority carries out regionally significant transportation projects in the WAMPO region and can make amendment requests as well.

REQUEST PROCEDURES

Requests should be made to the WAMPO Executive Director in writing or via email. In addition, WAMPO staff, at the discretion of the Director, may issue a “Call for Changes,” proactively asking member jurisdictions and planning partners to request specific changes to the plan. These changes then become the basis for an amendment.

Amendment requests should describe the proposed amendment in sufficient detail for WAMPO staff to develop a written description of the changes to the plan and the reasons for the amendment. Staff will work with planning partners and member jurisdictions in developing the amendment text, laying out the change to the plan in detail along with supporting material and the reasons for the amendment.

PUBLIC ENGAGEMENT

All amendments will, at a minimum, follow the public participation procedures laid out in the most current version of WAMPO’s Public Participation Plan which may be found at www.wampo.org/public-participation.

DECISION-MAKING

Amendments must be consistant with applicable federal regualtions. The requested amendment will be presented to the Techincal Advisory Committee (TAC), accompanied by a staff recommendation of whether or not to approve the amendment. The TAC, in turn, will make a recommendation to the TPB on whether or not to approve the amendment. The TPB will make the final decision on adopting the amendment.

Adminstrative Modifications

In addition to formal amendments, WAMPO may modify the plan through administrative modifications. Administrative modifications are limited to minor changes to project/project phase costs, minor changes to anticipated funding sources of previously included projects, and minor changes to project/ project phase initiation dates/time bands. Administrative modifications can be initiated by WAMPO staff. They must still be approved by the TPB, but they do not require public review and comment or a redemonstration of fiscal constraint.

MTP 2050

Appendix D

Cost Estimation Model

Credit: Wichita

APPX D

Cost Estimation Model Development and Use

From September 15, 2023, through February 2, 2024, a Call for Projects was issued for WAMPO member jurisdictions and planning partners to submit projects for Metropolitan Transportation Plan 2050 (MTP 2050). On October 3, 2024, the WAMPO Project Selection Committee (PSC) convened to make recommendations of which of the submitted projects to include in the MTP 2050 Fiscally Constrained Project List (see Chapter 7). On October 28, 2024, the WAMPO Technical Advisory Committee (TAC) recommended that the WAMPO Transportation Policy Body (TPB) approve the Fiscally Constrained Project List, as recommended by the PSC. On November 12, 2024, the TPB voted to approve the PSC- and TAC-recommended Fiscally Constrained Project List.

When the PSC convened to make its recommendations, they were provided with a variety of information from the project submitters (e.g., project scope, project location, project score) on the basis of which to make decisions. One especially significant piece of information from the project submitters was the estimated cost of each project. Having such cost estimates was necessary in order to ensure that the selection of projects to be listed in MTP 2050 could be done in a manner that maintains the fiscal constraint of the plan (i.e., the combined, estimated costs of the selected projects do not exceed the revenues projected to be available for them after subtracting routine operations and maintenance costs (see Chapter 6)).

WAMPO had the consulting firm PEC prepare spreadsheet-based project-cost-estimation models that project submitters could optionally use to generate their cost estimates. Having such a model was intended to serve two purposes: Making it easier for smaller jurisdictions, with fewer resources, to generate cost estimates and submit projects and making cost estimates more consistent across projects.

Cost estimation models were provided to potential project submitters for the following categories of projects:

- Bridge Rehabilitation
- Bridge Replacement
- Traffic Signals
- Road Diets
- Bicycle Lanes
- Sidewalks/Multiuse Paths
- Turn Lanes
- Intersections
- Roadway Expansion
- Roadway Reconstruction
- New Roadways

These are not all of the types of transportation projects that may be submitted for incorporation into Metropolitan Transportation Plan. However, most project submissions either fall into one (or more) of these categories or at least have elements of them. If project submitters chose to not use these cost-estimation models (either because they were submitting a project of a type that the models do not account for or because they had the means to generate more accurate estimates without them), they were still asked to document how their cost estimates were arrived at.

Importantly, the cost-estimation models were only designed to provide high-level planning estimates and are not a substitute for the detailed estimates prepared by licensed engineers closer to the time of project commencement. Furthermore, as these models were prepared in 2023, it is advisable that any future use of them, beyond the development of MTP 2050, be accompanied by a periodic review of the assumed unit costs. PEC arrived at these unit costs on the basis of average project bid tabulations in the Wichita area and Kansas Department of Transportation (KDOT) quarterly Bid Averages reports and cross-referenced them with detailed preliminary estimates that PEC had produced for clients.

Model Inputs

The following tables document default unit costs (in 2023 dollars) and other assumptions that were employed in the cost-estimation models. Some project costs, because they are difficult to accurately predict on a simple per-unit basis (e.g., square yard, square foot, linear foot, cubic yard, number of a certain item included in the project, or a binary variable indicating whether the project includes a given element), were left, to one extent or another, to the judgment of the user of the model.

- Table D.1 documents assumed unit costs for various elements of bridge-rehabilitation projects. Table D.2 does the same for bridge-replacement projects.
- Table D.3 documents assumed unit costs for traffic-signal projects that do not involve roadway-pavement work.
- Table D.4 shows cost assumptions for road-diet and bicycle-lane projects that may or may not require pavement work in addition to updating the lane markings on the street.
- Table D.5 shows the assumed cost of installing sidewalks and multiuse paths, the cost of which goes up when they cross more driveways or side streets.
- Table D.6 lists the assumed costs associated with removing, adding, or modifying roadway pavement, both at intersections (including turn lanes) and away from intersections; this table also shows the assumed cost of adding a sidewalk or multiuse path along the road, the cost of signalizing an intersection, and a user-inputted factor for incorporating storm-sewer work into a roadway project (it is common practice to combine roadway-improvement and storm-sewer work whenever possible, to avoid the cost of tearing up the pavement twice).
- Following the application of the various unit-cost assumptions documented in Tables D.1-D.6, the cost-estimation models estimate projects' ancillary costs (secondary construction costs, such as traffic control, mobilization, site clearing, and restoration), by assuming that those costs will be equal to a certain percentage of the more primary costs already estimated, with the assumed percentage varying by project type, as documented in Table D.7.

- As shown in Table D.8, after estimated ancillary construction costs are added, the model user is asked to input a contingency factor to add to the construction-cost estimate, in case unforeseen events increase the project cost beyond expectations; then, estimates are performed of the various non-construction costs that infrastructure projects commonly include; finally, to express the final cost estimate in year-of-expenditure dollars, an inflation factor of 4.5% per year is applied (equal to the default inflation factor used by the Kansas Department of Transportation (KDOT)).
- Among the non-construction costs listed in Table D.8 is Right of Way (ROW) acquisition, the assumed cost of which varies by project type, as documented in Table D.9.

Table D.1: Cost Estimation Model Assumed Unit Costs: Bridge Rehabilitation

Bridge Deck or Culvert Ceiling		Bridge Superstructure or Culvert Walls & Wingwalls		Bridge Substructure or Culvert Floor & Toewall		Channel & Miscellaneous	
Project Element	Cost	Project Element	Cost	Project Element	Cost	Project Element	Cost
Asphalt Wearing Surface Repair	$60/square yard	Bridge - Bearing Replacement/Repair	$5,000 each	Backfill Replacement	$50/cubic yard	Clean Brush/Debris - From Channel	$200/cubic yard
Bridge Rail Repair	$275/linear foot	Bridge - Clean Debris - Abutments/Pier Caps	$4,150	Concrete Crack Repair - Abut./B.W.	$125/linear foot	Clean Silt/Debris From Inside Culvert	$275/cubic yard
Concrete Wearing Surface Repair	$350/square yard	Bridge - Concrete Crack Repair - Diaphragms	$125/linear foot	Concrete Crack Repair - Foundations	$125/linear foot	Clearing/Chipping/Grubbing	$1,650
Concrete Approach Slab Repair	$500/square yard	Bridge - Concrete Crack Repair - Girders	$125/linear foot	Concrete Crack Repair - Miscellaneous	$125/linear foot	Concrete Channel Protection - Repair	$150/square yard
Concrete Cracking (Top of Deck)	$125/linear foot	Bridge - Concrete Crack Repair - Haunched Slab	$130/linear foot	Concrete Crack Repair - Pier/Columns	$125/linear foot	Drain & Pipe Repair/Replacement	$2,500 each
Concrete Deck Repair (Full-Depth)	$550/square yard	Bridge - Concrete Crack Repair - Miscellaneous	$125/linear foot	Concrete Crack Repair - Wings/Walls	$125/linear foot	Erosion - Earth Fill	$75/cubic yard
Concrete Median Repair - Cracking	$125/linear foot	Bridge - Concrete Crack Repair - Underside Deck	$150/linear foot	Concrete Patching - Abut./B.W.	$550/square yard	Gabion Wall Repair	$275/cubic yard
Concrete Median Repair - Patching	$200/square yard	Bridge - Concrete Patching - Diaphrams	$500/square yard	Concrete Patching - Foundations	$550/square yard	Regrade Channel	$40/cubic yard
Concrete Patching (Top of Deck)	$375/square yard	Bridge - Concrete Patching - Girders	$500/square yard	Concrete Patching - Miscellaneous	$550/square yard	Rip-Rap (Stone)	$100/cubic yard
Curb/Barrier Repair - Cracking	$125/linear foot	Bridge - Concrete Patching - Haunched Slab	$540/square yard	Concrete Patching - Pier/Columns	$550/square yard	Tree Removal - Individual	$450 each
Curb/Barrier Repair - Patching	$200/square yard	Bridge - Concrete Patching - Miscellaneous	$500/square yard	Concrete Patching - Wings/Walls	$550/square yard	Utility Repair	$825 each
Curb/Barrier Repair - Replacement	$550/linear foot	Bridge - Concrete Patching - Underside Deck	$640/square yard	Erosion - Earth Fill Replacement	$75/cubic yard	Repair/Replace Scour Protection Syst.	$825
Deck Sealing	$40/square yard	Bridge - Paint (Structural Steel)	$10/square foot	Gabion Wall Repair	$275/cubic yard		
Drain & Pipe Repair/Replacement	$2,500 each	Bridge - Replace Missing Nuts/Bolts/Rivets	$825	Repair Abutment Piles	$1,650 each		
Drain Cleanout (Along Top of Deck)	$185 each	Bridge - Replace Missing or Deter. Reinforcement	$500/square yard	Rip-Rap (Stone) Replacement	$100/cubic yard		
Expansion Joint Repair/Replace	$375/linear foot	Bridge - Repair/Replace Intermediate Diaphrams	$1,650 each	Slope Protection (Concrete) - Repair	$150/square yard		
Fence (Chain Link) Repair/Installation	$110/linear foot	Bridge - Repair/Replace Stiffener Plates	$825 each	Wingwall Joint(s) Repair	$275/linear foot		
Guardrail Repair/Installation	$110/linear foot	Culvert - Concrete Crack Repair - Barrel	$100/linear foot				
Guardrail Terminal Sect. Repair/Install.	$2,725 each	Culvert - Concrete Crack Repair - Wings/Walls	$100/linear foot				
Replace Missing & Deter. Reinforcement	$500/square yard	Culvert - Concrete Patching - Ceiling/Floor	$500/square yard				
Remove Vegetative Growth	$3,300	Culvert - Concrete Patching - Headwall	$500/square yard				
Sign Repair	$200 each	Culvert - Concrete Patching - Toe	$500/square yard				
Sign Replacement	$375 each	Culvert - Concrete Patching - Vertical Walls	$500/square yard				
Ditch Checks	$175 each	Culvert - Concrete Patching - Wings/Walls	$500/square yard				
		Culvert - Wingwall Joint Repair	$550/linear foot				

Table D.2: Cost Estimation Model Assumed Unit Costs: Bridge Replacement

Costs per Square Foot of Deck Area by Bridge Type	
Bridge Type: Slab	$150/square foot of deck area
Bridge Type: Girder - Prestress	$185/square foot of deck area
Bridge Type: Girder - Rolled Beam	$185/square foot of deck area
Bridge Type: Girder - Plate Steel	$200/square foot of deck area
Bridge Type: Culvert	$17/square foot of deck area
Other Costs	
Hydrology & Hydraulics/Permitting (if applicable)	7.5% of above costs
Traffic Control (Urban)	$30,000
Traffic Control (Rural)	$25,000
Removal of Existing Structure	User input

Table D.3: Cost Estimation Model Assumed Unit Costs: Traffic Signal Projects

Project Element	Cost
Signal Upgrades	$275,000/intersection
ADA Wheelchair Ramp Upgrades	$2,000/ramp
Pedestrian Pushbuttons	$27,500/intersection

Table D.4: Cost Estimation Model Assumed Unit Costs: Road Diets and Bicycle Lanes

Project Element	Cost
Pavement Marking	$8/linear foot
Mill & Overlay (2") (if needed)	$18/square yard
Asphalt Overlay (2") (if needed)	$10/square yard

Table D.5: Cost Estimation Model Assumed Unit Costs: Sidewalks/Multiuse Paths

Project Element	Cost
Sidewalk/Path	$8/square foot
Sidewalk/Path Crossing Driveway/Side Street	$12/square foot

Table D.6: Cost Estimation Model Assumed Unit Costs: Pavement Projects (Turn Lanes, Intersections, Roadway Expansion, Roadway Reconstruction, New Roadways)

Project Element	Cost
Removing Old Pavement	$10/square yard
New Pavement (Non-Intersection)	$75/square yard
Turn-Lane Pavement	$120/square yard
Intersection Pavement	$90/square yard
Sidewalk/Path	$8/square foot
Sidewalk/Path Crossing Driveway/Side Street	$12/square foot
Storm Sewer Allowance	User input: 0%, 10%, 17.5%, or 25% of above costs
Signalization of Intersection	$300,000

Table D.7: Cost Estimation Model Assumed Ancillary Costs in Addition to Applied Unit Costs, by Project Type

Project Type	Ancillary Costs (%)
Bridge Rehabilitation	10%
Bridge Replacement	10%
Traffic Signal	30%
Road Diet: Requiring new surface prior to new pavement markings	25%
Road Diet: Not requiring new surface prior to new pavement markings	100%
Bike Lane: Requiring new surface prior to new pavement markings	25%
Bike Lane: Not requiring new surface prior to new pavement markings	100%
Sidewalk or Multiuse Path: >2,500 feet long	75%
Sidewalk or Multiuse Path: ≤2,500 feet long	150%
Turn Lane: Left turn	150%
Turn Lane: Right turn	75%
Intersection: With curb & gutter	60%
Intersection: With open-ditch drainage	30%
Roadway Expansion: With curb & gutter	80%
Roadway Expansion: With open ditch drainage	30%
Road Reconstruction: With curb & gutter	80%
Road Reconstruction: With open ditch drainage	30%
New Roadway: With curb & gutter	60%
New Roadway: With open ditch drainage	20%

Table D.8: Cost Estimation Model Assumed Non-Construction Costs and Other Cost Adjustments

Non-Construction Cost or Cost Adjustment	Assumed Cost or Factor
Contingency Factor	User input: 10%, 20%, 30%, or 40% of construction cost, including ancillary costs
Construction Engineering	12.5% of construction cost, including ancillary costs and contingency factor
Refinement Studies	User input
Preliminary Engineering	10% of construction cost, including ancillary costs and contingency factor
ROW Acquisition	Varies by project type
Utility Relocation	5% of construction cost, including ancillary costs and contingency factor
Inflation Rate	4.5% per year (projecting to year of expenditure from 2023 U.S. dollars)

Table D.9: Cost Estimation Model Assumed Right of Way-Acquisition Costs, by Project Type

Project Type	Assumed ROW-Acquisition Cost
Bridge Rehabilitation	2.5% of Construction cost with ancillary costs and contingency factor
Bridge Replacement	2.5% of Construction cost with ancillary costs and contingency factor
Traffic Signal	2.5% of Construction cost with ancillary costs and contingency factor
Road Diet	2.5% of Construction cost with ancillary costs and contingency factor
Bike Lane	2.5% of Construction cost with ancillary costs and contingency factor
Sidewalk or Multiuse Path: Narrow space btwn. rd. & ROW line	5.0% of Construction cost with ancillary costs and contingency factor
Sidewalk or Multiuse Path: Typical space btwn. rd. & ROW line	2.5% of Construction cost with ancillary costs and contingency factor
Sidewalk or Multiuse Path: Open space btwn. rd. & ROW line	1.5% of Construction cost with ancillary costs and contingency factor
Turn Lane	2.5% of Construction cost with ancillary costs and contingency factor
Intersection	2.5% of Construction cost with ancillary costs and contingency factor
Roadway Expansion: Narrow space btwn. rd. & ROW line	5.0% of Construction cost with ancillary costs and contingency factor
Roadway Expansion: Typical space btwn. rd. & ROW line	2.5% of Construction cost with ancillary costs and contingency factor
Roadway Expansion: Open space btwn. rd. & ROW line	1.5% of Construction cost with ancillary costs and contingency factor
Road Reconstruction: Narrow space btwn. rd. & ROW line	5.0% of Construction cost with ancillary costs and contingency factor
Road Reconstruction: Typical space btwn. rd. & ROW line	2.5% of Construction cost with ancillary costs and contingency factor
Road Reconstruction: Open space btwn. rd. & ROW line	1.5% of Construction cost with ancillary costs and contingency factor
New Roadway	Square feet to acquire * User-estimated cost per square foot, based on local knowledge

MTP 2050

Appendix E
Travel Demand Model (TDM) Forecasts

Credit: Wichita

APPX E

In July 2022, WAMPO issued a Request for Proposals (RFP) seeking a qualified consultant to update the travel demand model (TDM) that WAMPO maintains for the Wichita, KS metropolitan area. The TDM simulates the interaction between regional land development patterns and the transportation system and allows the region to understand the impact transportation investments and land-use decisions have on travel. The TDM was used to inform the development of Metropolitan Transportation Plan 2050 (MTP 2050), including the scoring of candidate transportation projects, by looking at transportation-system and travel changes associated with anticipated job and household growth. These forecasts of travel helped identify future transportation system needs and provided a snapshot of future system performance.

The TDM update project began in September 2022 and concluded in 2024; WAMPO staff and consultants will continue to update, calibrate, and validate the model on an ongoing basis, possibly changing some of the model outputs. The following sections provide an overview of the TDM's development and structure and a review of the changes in travel that it currently forecasts between a base year of 2022 (2022 Base Scenario) and the horizon year of 2050 (2050 Build Scenario), wherein all of the projects in the MTP 2050 Fiscally Constrained Project List (see Chapter 7) are assumed to be completed.

Travel Demand Model Background

The intent of the WAMPO travel demand model (TDM) is to forecast the future state of the transportation system in the Wichita metropolitan area. The purposes for which it is used include the following:

- Forecasting future traffic congestion and transportation needs in the WAMPO region under different scenarios for the Metropolitan Transportation Plan (MTP).
- Identifying current or anticipated high-traffic-volume or congested areas of the region for the purpose of prioritizing projects.
- Supporting the development of the Congestion Management Process (CMP) for the region.
- Fulfilling requests from WAMPO member jurisdictions for projected transportation demand, traffic patterns, and congestion under specific circumstances, such as:
  - » Road widening/narrowing
  - » Road additions/removals
  - » New interchanges
  - » Large land developments

- Integrating with the U.S. Environmental Protection Agency's (EPA's) Motor Vehicle Emission Simulator (MOVES) model and providing inputs to air quality conformity analyses.

Importantly, there are also some things that a TDM cannot do, such as:

- Simulate traffic for specific sections of roadway or a specific intersection
- Model small or local roads very accurately
- Model bottlenecks
- Show the land-use impact of a new road
- Show the impacts of small developments

MODEL STRUCTURE

The WAMPO TDM is a conventional four-step travel demand model, as illustrated in Figure E.1:

1. Trip Generation: Estimate how many trips are made, based on data on household locations and characteristics and jobs by location and industry.
2. Trip Distribution: Predict where trips are made to/from.
3. Mode Choice: Ascertain the modes of transportation for trips (e.g., single-occupant vehicle, multiple-occupant vehicle, public transit, bicycle, pedestrian, school bus).
4. Trip Assignment: Assign the routes followed between specific trip origins and destinations, depending on the relative travel time of each route.

A more detailed representation of the structure of the WAMPO TDM is in Figure E.2. Some things to note about this model structure are:

- The model iterates through a feedback loop, such that, after the initial round of trip assignments, any resulting changes in traffic congestion are made inputs to a re-run of the trip-distribution, mode-choice, and trip-assignment steps. This is repeated until the results of successive iterations converge to within a given tolerance.
- The model simulates both home-based trips (assumed to form round trips) and non-home-based trips (where a traveler stops at a second non-home destination before returning home).
- In addition to modeling person trips and automobile trips, the TDM also represents commercial truck traffic throughout the region, separated out into the categories of light-duty trucks, medium-duty trucks, and heavy-duty trucks.
- Besides trips between locations within the WAMPO region, the TDM also models external trips, wherein at least one end of the trip is outside of the WAMPO region. This includes through trips, where both the origin and the destination are outside of the region, but the roadway network within the region is still utilized.

Figure E.1: Travel Demand Modeling Process

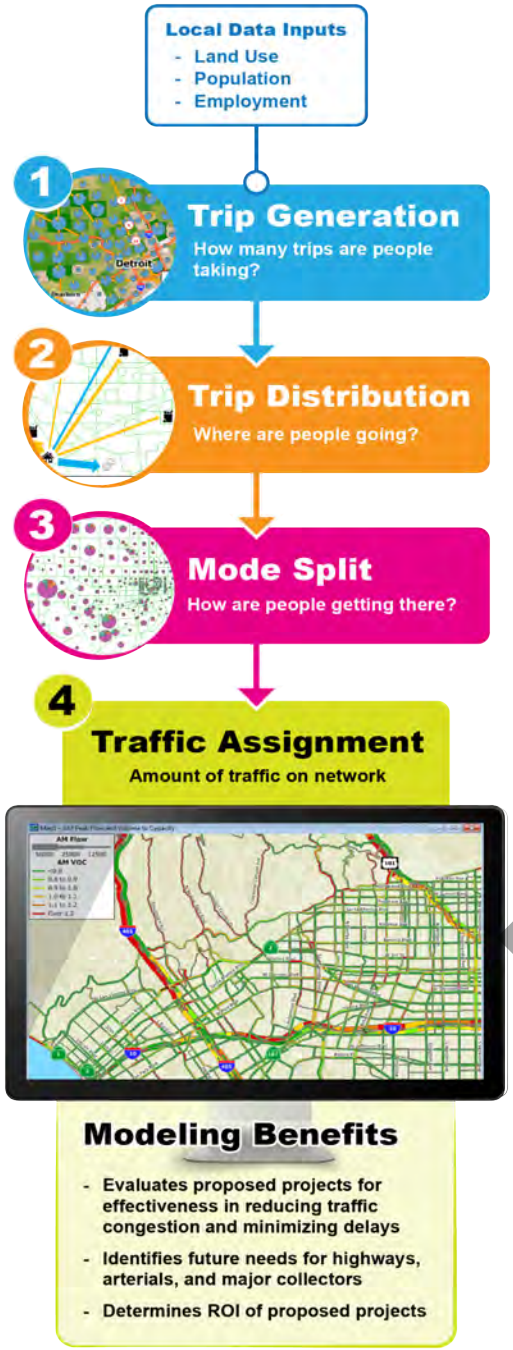
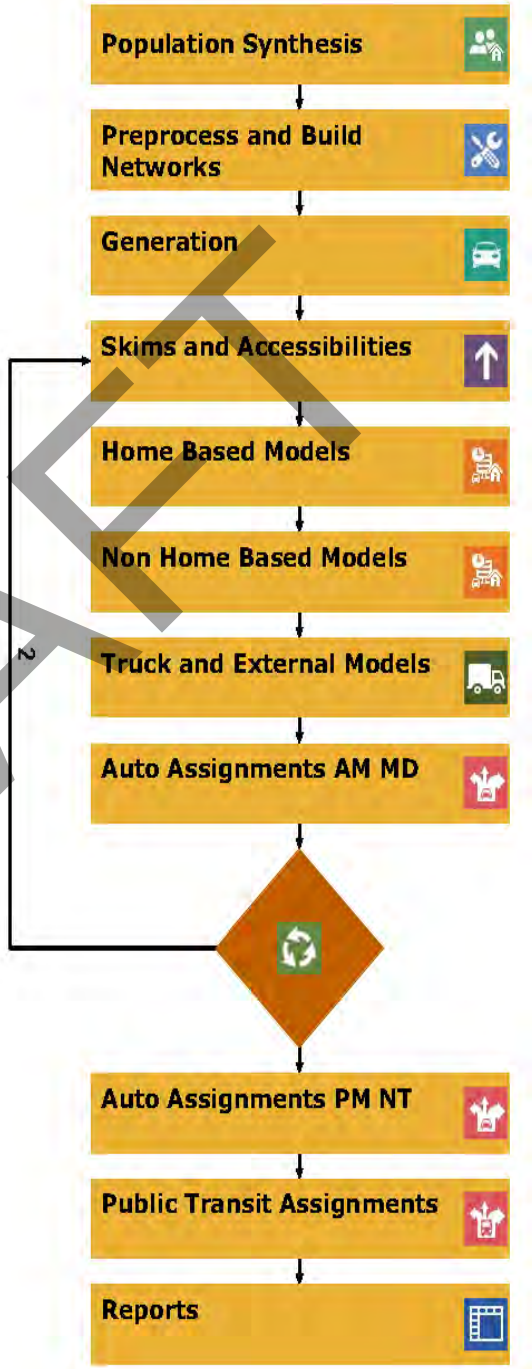


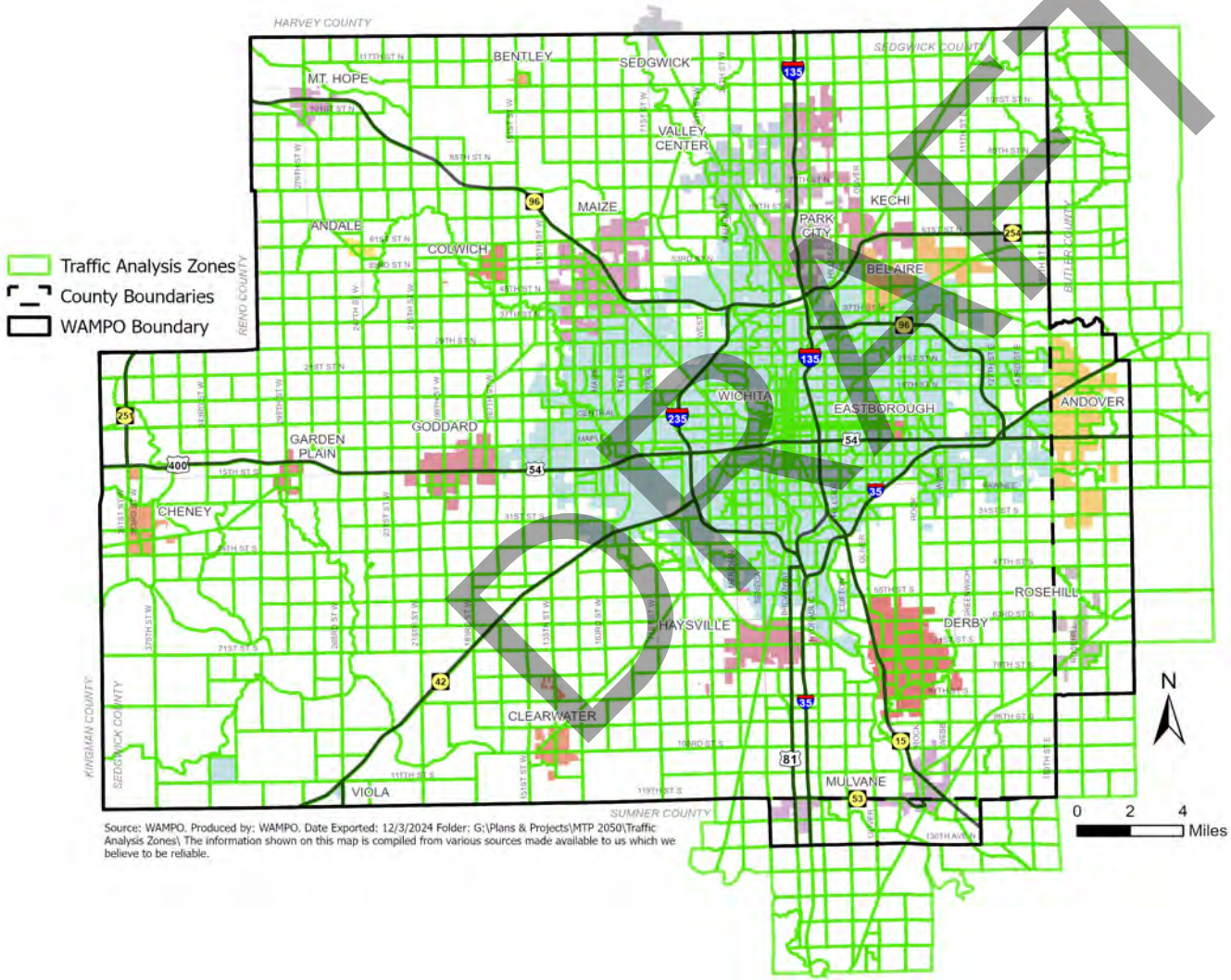
Figure E.2: WAMPO Travel Demand Model Structure



Demographic and Socioeconomic Inputs

The WAMPO TDM uses input data specific to 1,667 Traffic Analysis Zones (TAZs), into which the region is divided. As shown in Map E.1, these TAZs extend beyond the current bounds of the WAMPO Metropolitan Planning Area (MPA), in order to capture a larger share of the region's travel shed. In addition to the 1,667 TAZs, the model includes 37 externals stations, in all the places where modeled roadways pass into/out of the model area; for the external-trips model, these external stations function as pseudo TAZs, with asserted relative levels of trip production and attraction.

Map E.1: WAMPO TDM Traffic Analysis Zones



Associated with each TAZ are current actual and projected future demographic and employment statistics, as well as enrollment figures for TAZs that contain K-12 schools or universities. Jobs in each TAZ are distinguished according to the major economic sectors/industries that the jobs fall into, including:

- Agriculture
- Manufacturing
- Wholesale
- Retail
- Transport/Construction
- Finance/Real Estate
- Education
- Healthcare
- Services
- Public Administration

The demographic information that is associated with each TAZ and used to run the model consists of a set of synthesized households, and persons in those households, created from U.S. Census Bureau Public Use Microdata Sample (PUMS) data and American Community Survey (ACS) results. Each synthesized household is distinguished by the number of people in the household, household income, whether there are children in the household, whether there are seniors in the household, and whether it is a zero-vehicle household, a vehicle-insufficient household (with at least one motor vehicle, but fewer motor vehicles than people old enough to drive), or a vehicle-sufficient household (with at least as many motor vehicles as people old enough to drive). Each synthesized person within those synthesized households is further distinguished by characteristics including their age, whether they are employed, and, if they are employed, what sector/industry they work in.

Network Inputs

Trips to and from each of the TAZs and external stations are loaded onto a modeled roadway network (used for both motorized and nonmotorized trips) and modeled public-transit network (consisting of Wichita Transit's fixed-route network). Trips within TAZs are also accounted for.

The TDM roadway network does not show every roadway in the WAMPO region. Instead, minor roadways are represented by "centroid connectors" that link the centroids of each TAZ (and the external stations) to the rest of the network. Each link in the roadway network is coded with several attributes that are used to estimate its capacity and the perceived utility of choosing to travel on it:

- Facility type (e.g., minor/major collector, minor/major arterial, freeway/interstate)
- Area type (Central Business District (CBD), Urban, Suburban, Rural)
- Number of lanes in each direction
- Roadway divider/left turn lane (Y/N)
- Speed limit
- Tolls (KTA only, currently)
- Freeflow speed

Because public transit buses in the WAMPO region travel on roadways that are also used by other vehicles, the TDM fixed-route public transit network is built upon the TDM roadway network. However, portions of some public transit routes are on minor roadways whose alignments are not traced in the roadway network onto which modeled general vehicle traffic is loaded; to address this, extra links are added to the roadway network that only transit buses are modeled as using, even though the real-life counterparts to those links are open to all vehicle types. The TDM public transit network includes both the bus routes and the bus stops where travelers are allowed to get on and off. Attributes of transit routes used to estimate the perceived utility of traveling on them include:Facility Type (e.g., minor/major collector, minor/major arterial, freeway/interstate)

- Transit fare price
- Headway time between bus arrivals (peak and off-peak periods)
- In-vehicle travel time (peak and off-peak periods)
- Wait time at bus stops (peak and off-peak periods)

Pedestrians and bicycle riders are assumed to travel along the same modeled roadway network as motor vehicles do, except where a nonmotorized-travel-only link is included in the network, usually representing a pedestrian/bicycle pathway that does not run alongside a roadway. Pedestrians are assumed to travel at an average speed of 3 mph and bicycle riders are assumed to travel at an average speed of 10 mph.

Surveys

A Household Travel Survey was conducted in the WAMPO region in Fall 2010 through Spring 2011. This survey collected data about the travel behavior of WAMPO-region residents, for the specific purpose of supporting the development of the WAMPO travel demand model, which, at that time, had a base year of 2010. The survey collected responses from 3,376 randomly selected households, as well as 200 additional samples collected from often undersampled populations in the region. The results of this survey were used to develop parameters in the TDM that describe the likely travel behavior of persons and households with various characteristics. Then, the parameters were calibrated and validated to produce model outputs that approximate more recent observations of overall travel levels.

Commercial-truck trip rates were derived from a 2008 commercial-vehicle survey performed by the Community Planning Association of Southwest Idaho (COMPASS) Area. Meanwhile, the external-trip component of the WAMPO TDM was based on an external-station survey conducted in 2012.

TRIP GENERATION

Trip productions (the home end of a home-based trip or the origin of a non-home-based trip) and trip attractions (the non-home end of a home-based trip or the destination of a non-home-based trip) are generated for each of the region's 1,667 TAZs, based on the demographic and employment inputs described above and a set of calibrated parameters (i.e., coefficients in the equations used). The numbers and types of trip productions that synthesized persons/households are taken to result in depend on such factors as household income, whether a person is employed, the sector/industry in which they are employed, whether they are a student (either K-12 or university), and whether the household includes children or other individuals who cannot easily travel everywhere they want to go unassisted (e.g., adults without access to vehicles). Meanwhile, the numbers and types of trip attractions that jobs are taken to result in depend on the sector/industry of the job; for example, office jobs and manufacturing jobs mostly just attract commute trips by those that hold the jobs, whereas retail and service jobs also attract trips by customers. A TAZ's trip attractions also go up according to how many students are enrolled at K-12 schools or universities within it. Finally, households within a TAZ may serve as both producers and attractors of trips, since people sometimes travel to visit other people's homes.

The trips generated in this model step include the following trip purposes, to which different equations and parameters are applied throughout the TDM:

- Home-Based Work (HBW)
- Home-Based Shopping (HBShop)
- Home-Based K-12 School (HBSchool)
- Home-Based University (HBU)
- Home-Based Other (HBO)
- Non-Home-Based Work (NHBW)
- Non-Home-Based Other (NHBO)

Different trip types are taken to have different likelihoods of occurring during the peak travel periods of the day (7:00 AM-9:00 AM and 4:00 PM-6:00 PM) or during the off-peak travel periods of the day (9:00 AM-4:00 PM and 6:00 PM-7:00 AM).

TRIP DISTRIBUTION

Once the trip productions and trip attractions of each TAZ have been estimated, each TAZ-specific trip production is matched with a particular attraction TAZ (which could potentially be the same TAZ). The likelihood of a trip of a given purpose (HBW, HBShop, HBSchool, HBU, HBO, NHBW, or NHBO) being made to a particular attraction TAZ is primarily based on two things:

- The modeled number of trip attractions for the given trip purpose in the potential attraction TAZ (based on jobs by sector/industry, households, and K-12 school/university enrollment).
- The travel time between the production TAZ and the potential attraction TAZ in the peak or off-peak period of the day, as applicable. As the model iterates through the feedback loop discussed earlier in this appendix, these TAZ-to-TAZ travel-time skims are updated. How sensitive members of a given synthesized household are to the travel time and travel distance between TAZs is influenced by whether the household has zero vehicles, insufficient vehicles (more than zero but fewer than the number of household members old enough to drive), or sufficient vehicles (at least as many as the number of household members old enough to drive).

MODE CHOICE

Most person trips in the WAMPO region are made by one of the following modes:

- Single-occupant vehicle
- Multiple-occupant vehicle
- Public transit (bus)
- Bicycle
- Pedestrian
- School bus

However, external trips (those with at least one end outside of the region) are assumed to all be by either single-occupant vehicle or multiple-occupant vehicle.

When trips are made by multiple-occupant vehicle (not bus), assumed vehicle occupancies are used by trip purpose, as shown in Table E.1.

Table E.1: Assumed Numbers of People in Multiple-Occupant Vehicles by Trip Purpose in the WAMPO TDM

Trip Purpose	Vehicle Occupancy if >1
HBW	2
HBShop	2.5
HBO	2.5
HBSchool	2.25
HBU	2.25
NHBW	2
NHBO	2.5

What mode of transportation someone is modeled as choosing for a trip between a given production TAZ and a given attraction TAZ depends on the amount of time required to make the trip by each of the possible modes. However, how burdensome the traveler perceives that travel time to be depends on the mode in question. For example, time spent waiting at a bus stop is perceived as a greater disincentive to use public transit than is time spent on the bus while it is moving. For another example, longer automobile trips entail more fuel and maintenance costs whereas longer pedestrian and bicycle trips entail more physical effort.

Other inputs to the mode-choice model include whether one or both of the trip ends is/are in a Central Business District (CBD), whether both trip ends are in the same TAZ (intrazonal trip), public-transit fare prices, and the availability of vehicles in the traveler's household.

TRIP ASSIGNMENT

After simulated trips have been generated and distributed between origin and destination TAZs, with peak/off-peak time-of-day designations and mode choices, each vehicle trip is assigned to a route along the TDM roadway network between the origin TAZ and the destination TAZ, depending on the relative travel times of the routes available. After the first time this is done for all the trips in either the AM peak period or the midday off-peak period, resultant traffic congestion and reductions in average travel speed are estimated on the basis of roadway capacity and traffic volume. Then, revised TAZ-to-TAZ travel-time skims are fed back into new iterations of the trip-distribution, mode-choice, and trip-assignment steps. These iterations continue until the outputs converge (when there is little to no difference between the results of subsequent iterations). After this iterative process produces a final set of AM peak and midday off-peak trip assignments for a given scenario (e.g., 2022 Base Scenario, 2050 Build Scenario), vehicle-trip-route assignments are made for the PM peak period and the nighttime off-peak period, as those periods of the day are presumed to have similar characteristics to the AM peak period and midday off-peak period, respectively. Finally, public-transit trips are assigned to specific Wichita Transit routes and stops (Wichita Transit being the only fixed-route, as opposed to demand-response, public transit service in the region as of this writing), based on modeled travel time.

Travel Demand Model Forecasts

The TDM was used to inform MTP 2050 by looking at transportation-system and travel changes associated with anticipated job and household growth. These forecasts of travel helped identify future transportation system needs and provided a snapshot of future system performance. A comparison of TDM outputs for the base year (2022) and for the future scenario year (2050), with anticipated housing and employment growth and planned future transportation projects (see Chapter 7: Project Selection & List), predicts some noteworthy changes in travel between now and 2050. However, as the model continues to be updated, refined, calibrated, and validated, these outputs may change.

Table E.2 summarizes the 2022 and 2050 demographic and socioeconomic inputs to the TDM. Current and projected jobs by sector/industry and enrollment numbers for K-12 schools and universities are static inputs to the 1,667 Traffic Analysis Zones, whereas persons and households are synthesized from US Census Bureau data at the levels of Block Groups and Public Use Microdata Areas and applied to the TAZs as an initial step of running the TDM. Most of these counts of overall, regionwide persons/households/jobs/enrollments are projected to increase between 2022 and 2050, resulting in more demand for transportation.

Table E.2: Summary of 2022 and 2050 Socioeconomic Inputs to Traffic Analysis Zones in the WAMPO Travel Demand Model

Socioeconomic Inputs	2022	2050
Synthesized Persons in TAZs	542,004	644,582
Synthesized Households in TAZs	220,587	261,268
Synthesized Persons per Household	2.46	2.47
K-12 School Enrollment	100,772	130,009
University Enrollment	31,157	34,130
Jobs: All Sectors/Industries	326,719	396,122
Jobs: Agriculture	514	557
Jobs: Manufacturing	63,248	62,931
Jobs: Wholesale	9,598	9,878
Jobs: Retail	38,892	40,232
Jobs: Transport/Construction	36,653	41,246
Jobs: Finance/Real Estate	39,193	46,996
Jobs: Education	22,735	33,345
Jobs: Healthcare	57,897	81,555
Jobs: Services	48,565	68,580
Jobs: Public Administration	9,424	10,802

Table E.3 summarizes the outputs of the TDM for the 2022 Base Scenario and the 2050 Build Scenario, which includes all of the changes to the roadway network that are called for in the MTP 2050 Fiscally Constrained Project List (see Chapter 7). In response to population and employment growth, person trips within the model region (which is slightly larger than the official WAMPO region) are forecast to increase almost twenty percent over a period of 28 years, with a slight increase in the average number of trips per person. Corresponding, but slightly smaller, increases are forecast for vehicle trips, vehicle miles traveled (VMT), and vehicle hours traveled (VHT). However, VMT and VHT per capita are forecast to slightly decrease. This is reflective of a forecast slight decrease in both average vehicle-trip distance and average vehicle-trip duration. This is at least partially explained by a forecast slight decrease in average vehicle trip speed (resulting from traffic congestion), which discourages motor-vehicle travel. Another likely explanation for shorter vehicle-trip distances and durations is that increases in the numbers of people and jobs in the region reduce the average distance/travel time between origins and potential destinations.

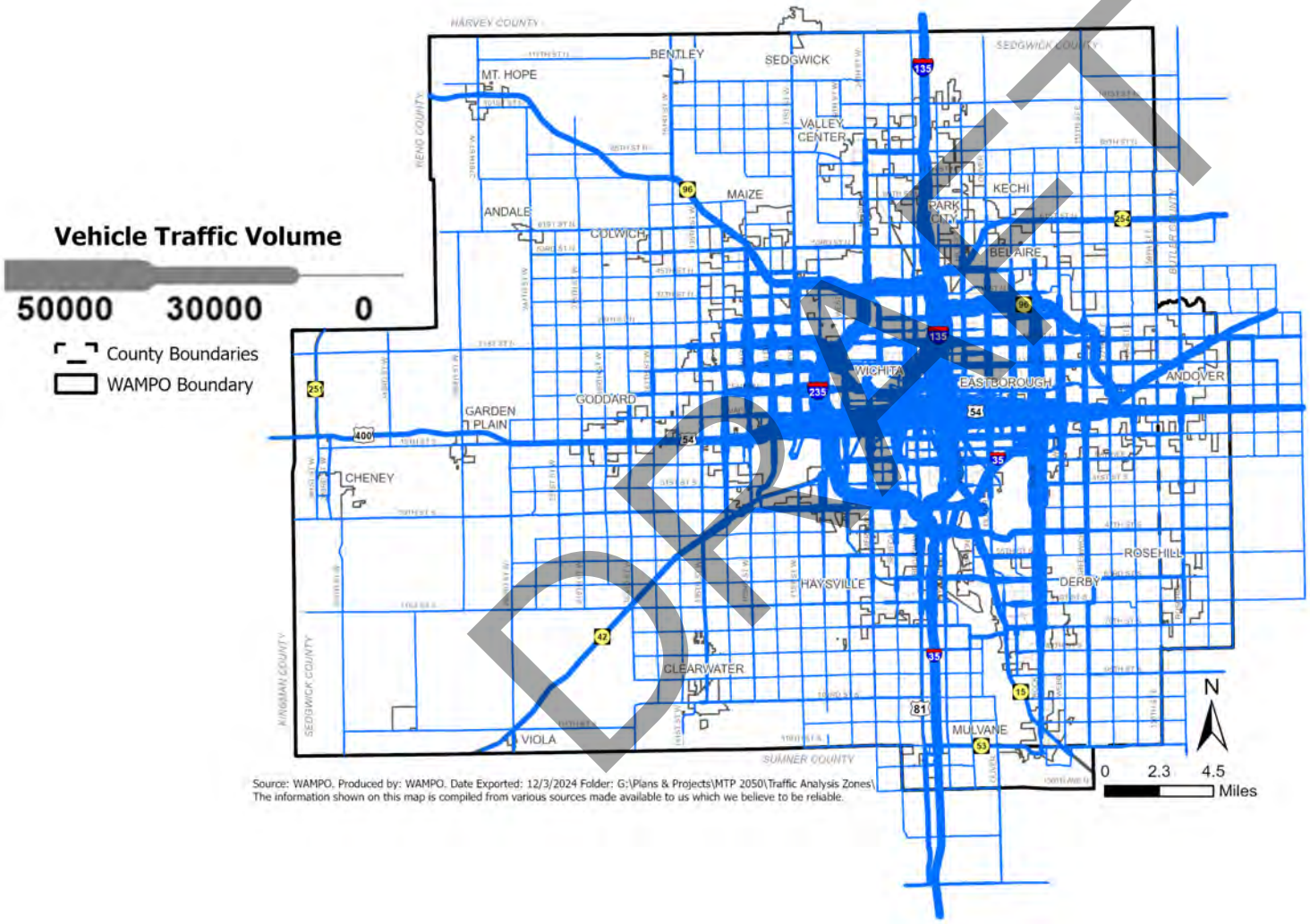
Table E.3: Summary of 2022 Base Scenario and 2050 Build Scenario Outputs from the WAMPO Travel Demand Model

TDM Output Summary Statistics	Scenario		Difference	% Difference
	2022 Base	2050 Build		
Person Trips (internal to the region)	1,837,310	2,204,331	367,021	19.98%
Person Trips Per Capita	3.39	3.42	0.03	0.88%
Vehicle Trips (including external trips & truck trips)	1,530,805	1,810,366	279,562	18.26%
Vehicle Miles Traveled	12,768,085	14,781,246	2,013,161	15.77%
Vehicle Miles Traveled Per Capita	23.56	22.93	-0.63	-2.66%
Vehicle Hours Traveled	318,009	371,077	53,068	16.69%
Vehicle Hours Traveled Per Capita	0.59	0.58	-0.01	-1.88%
Average Vehicle Trip Distance (miles)	8.34	8.16	-0.18	-2.11%
Average Vehicle Trip Duration (minutes)	12.46	12.30	-0.17	-1.33%
Average Vehicle Trip Speed (mph)	40.15	39.83	-0.32	-0.79%

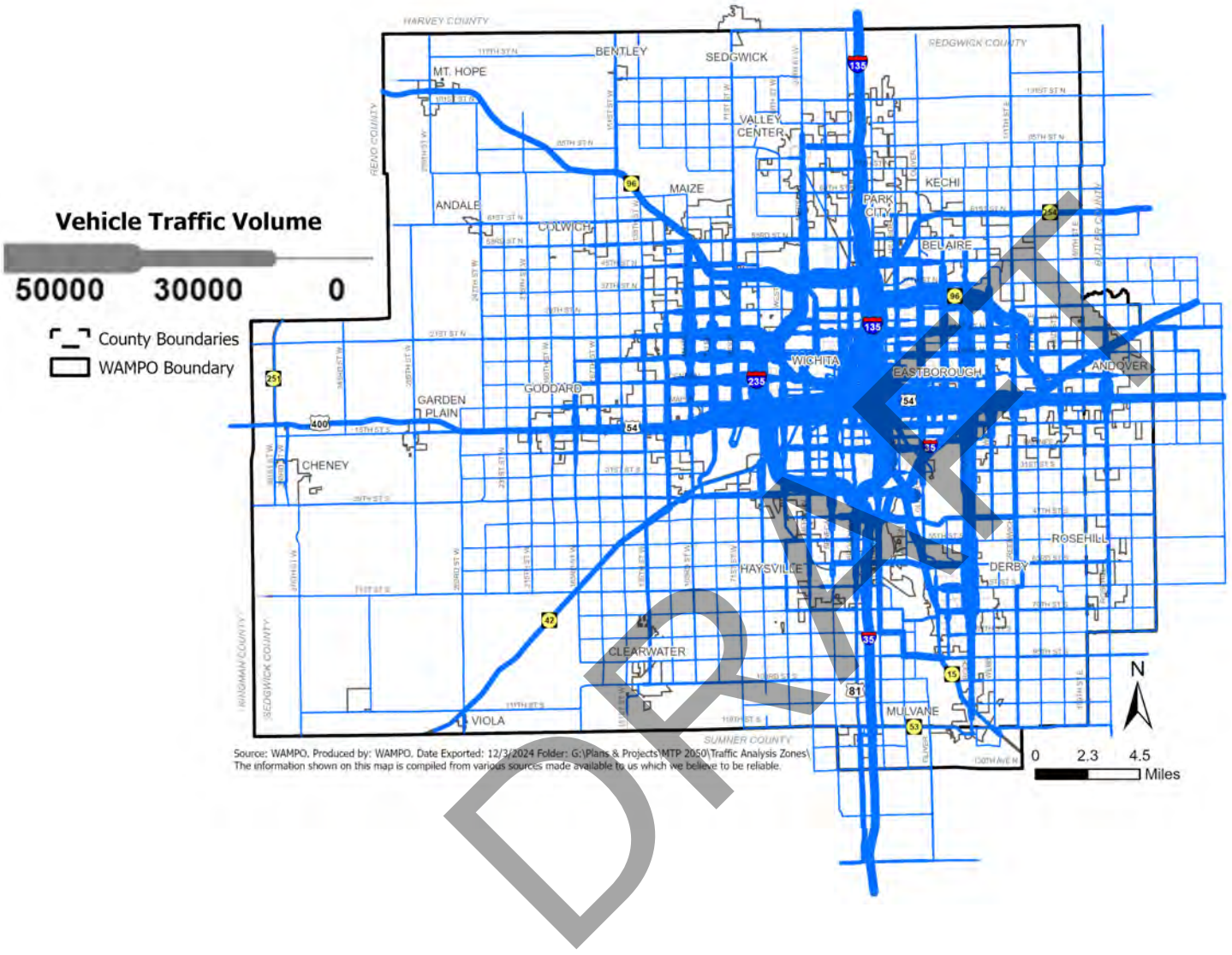
Map E.2 and Map E.3 show forecast daily traffic volumes on the modeled roadway network in the 2022 Base Scenario and 2050 Build Scenario, respectively, with thicker lines corresponding to more heavily traveled roadways. Unsurprisingly, Interstates and freeways (e.g., I-35, I-135, I-235, US-54/400, K-96) are forecast to experience more vehicle traffic than are roadways with lower functional classifications. Also unsurprisingly, traffic volumes are forecast to be higher on roadways closer to central Wichita and on major connectors between population/commercial centers (e.g., Rock Road between Wichita and Derby).

Map E.4 and Map E.5 show forecast traffic volumes and congestion levels on the modeled roadway network in the 2022 Base Scenario and 2050 Build Scenario, respectively, during the AM peak travel period (defined in the model as 7:00 AM-9:00 AM). Traffic congestion is represented as the ratio of traffic volume to roadway capacity, such that a roadway segment with a ratio greater than one can be interpreted as congested. The roadway segments forecast to be the most congested during peak travel periods are those near interchanges between major thoroughfares (e.g., between I-135 and US-54/400, between I-135 and I-235).

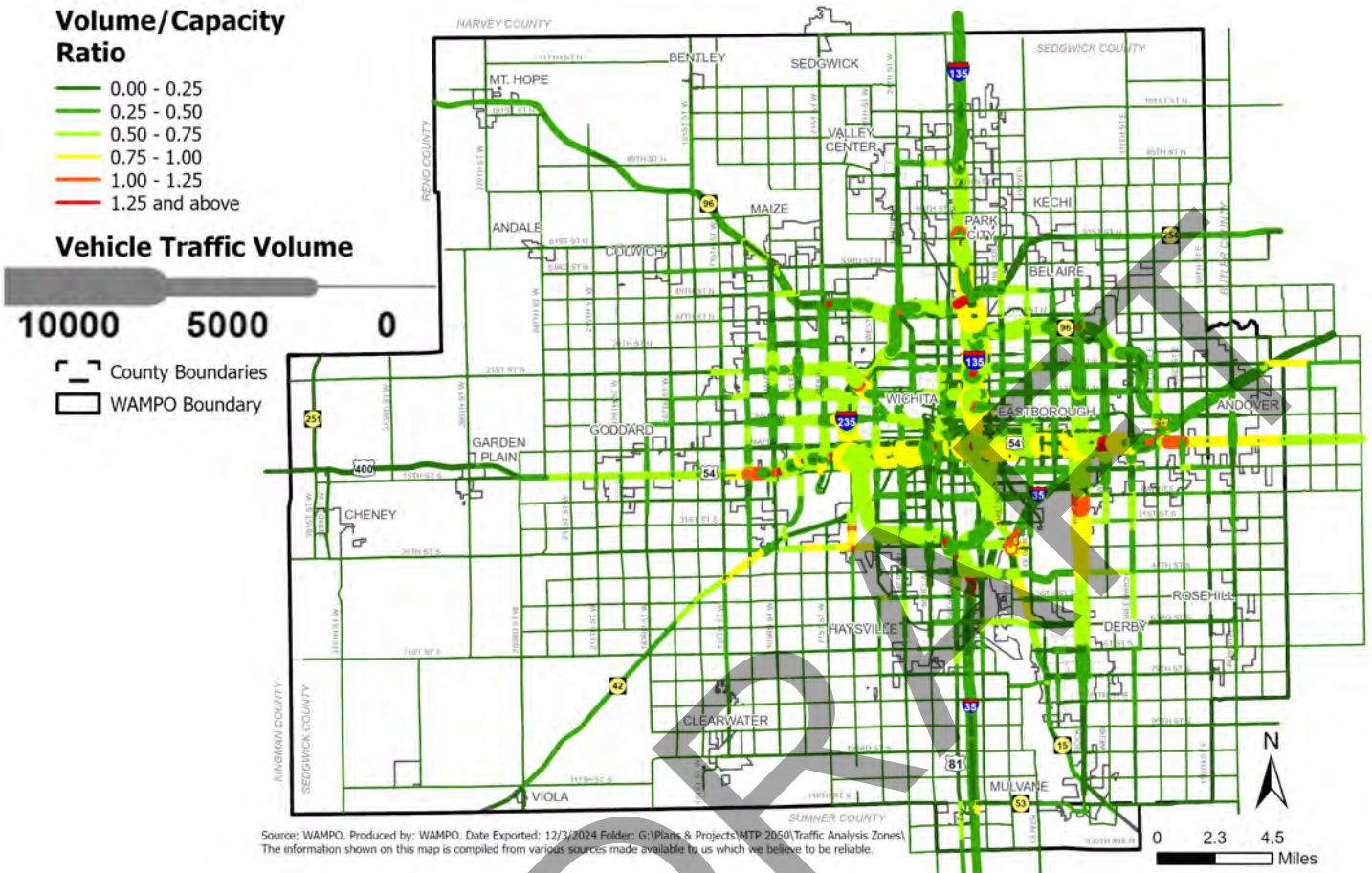
Map E.2: WAMPO TDM 2022 Base Scenario Daily Traffic Volumes



Map E.3: WAMPO TDM 2050 Build Scenario Daily Traffic Volumes



Map E.4: WAMPO TDM 2022 Base Scenario AM-Peak Traffic Volumes and Congestion Levels



Map E.5: WAMPO TDM 2050 Build Scenario AM-Peak Traffic Volumes and Congestion Levels

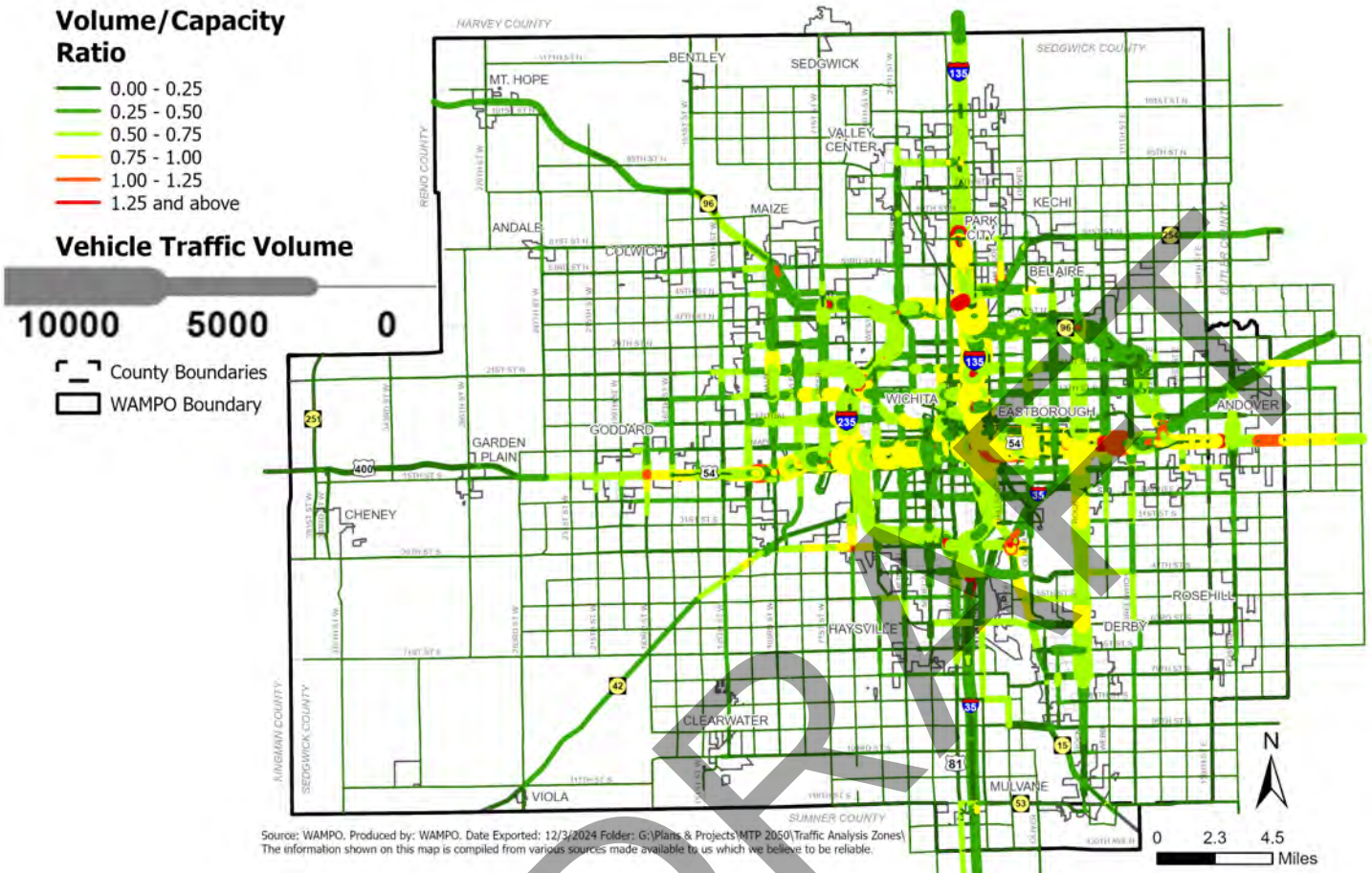


Table E.4 summarizes projected person-trip mode shares in the 2022 Base Scenario and 2050 Build Scenario. The most common travel mode is single-occupant motor vehicle, followed by multiple-occupant motor vehicle, with smaller numbers of trips made by bus or by nonmotorized modes. Not much change in mode shares is forecast between 2022 and 2050.

Table E.4: Summary of 2022 Base Scenario and 2050 Build Scenario Person-Trip Mode-Share Outputs from the WAMPO Travel Demand Model

Mode	Scenario		Difference
	2022 Base	2050 Build	
Single-Occupant Vehicle	47.87%	47.86%	-0.01%
Multiple-Occupant Vehicle	38.97%	38.90%	-0.07%
School Bus	5.33%	5.30%	-0.03%
Pedestrian	4.97%	5.04%	0.07%
Bicycle	1.59%	1.59%	0.00%
Public Transit	0.64%	0.67%	0.03%
Other	0.63%	0.65%	0.02%
Total	100.00%	100.00%	0.00%

MTP 2050

Appendix F

Congestion Management Process

CONGESTION MANAGEMENT PROCESS

Approved by the Transportation Policy Body on May 14, 2024

Administrative Adjustment 1: June 25, 2025

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ACRONYMS

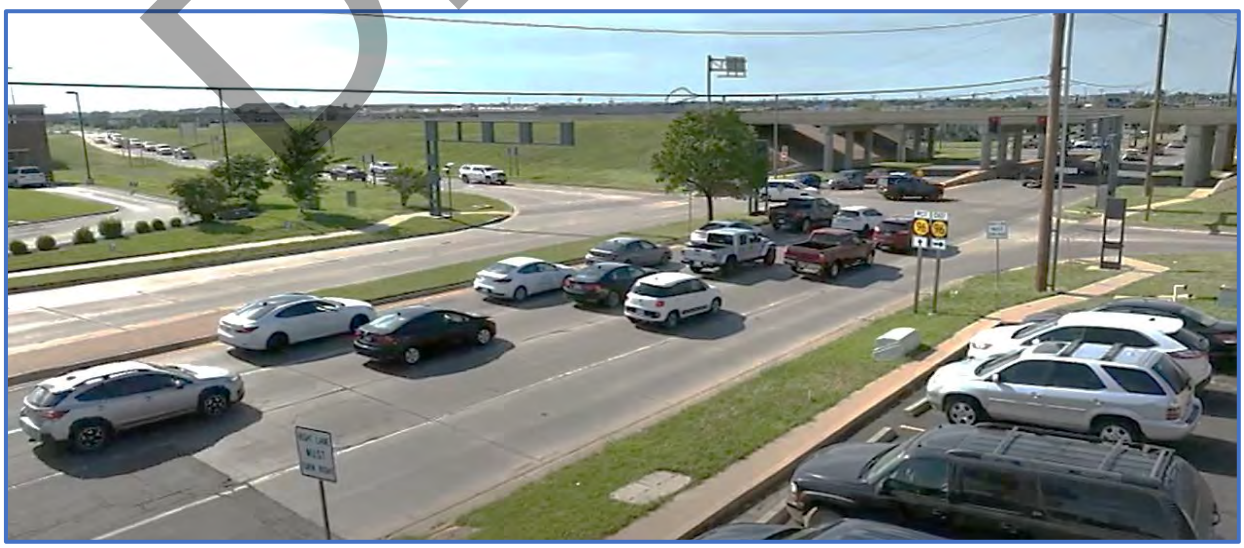
ACS	American Community Survey
CFR	Code of Federal Regulations
CMP	Congestion Management Process
FAST	Fixing America's Surface Transportation Act
FHWA	Federal Highway Administration
ISTEA	Intermodal Surface Transportation Efficiency Act
KDOT	Kansas Department of Transportation
LOTTR	Level of Travel Time Reliability
MPO	Metropolitan Planning Organization
MTP	Metropolitan Transportation Plan
NHS	National Highway System
NPMRDS	National Performance Management Research Data Set
PHED	Peak Hour Excessive Delay
SOV	Single Occupancy Vehicle
TDM	Travel Demand Model
TIP	Transportation Improvement Program
TMA	Transportation Management Area
TTTR	Truck Travel Time Reliability
V/C	Volume to Capacity
VMT	Vehicle Miles Traveled

INTRODUCTION

The Wichita Area Metropolitan Planning Organization (WAMPO) plays a vital role in enhancing the quality of life for residents in the Wichita metropolitan area. As the region continues to experience growth in population, economic activities, and transportation demands, ensuring efficient and reliable transportation networks is paramount. Congestion on the area transportation network not only hampers economic development but also diminishes the overall quality of life for residents. Addressing congestion challenges requires a strategic and comprehensive approach. One portion of that approach is the utilization of a Congestion Management Process (CMP).

This document summarizes the Congestion Management Process tailored for WAMPO in support of the overall Metropolitan Transportation Plan (MTP). The CMP serves as a guiding framework designed to systematically identify, analyze, and manage congestion-related issues within the transportation system. By employing data-driven methodologies, innovative technologies, and community engagement, WAMPO aims to optimize the existing transportation infrastructure and develop sustainable solutions to alleviate congestion. Through continued collaboration with various stakeholders, including government agencies, local communities, businesses, and transportation experts, WAMPO endeavors to create a process that not only addresses immediate concerns but also lays the foundation for a resilient and efficient transportation network in the future.

The CMP emphasizes the importance of a holistic approach, considering various modes of transportation, emerging technologies, and the unique needs of different communities within the Wichita metropolitan area. This document represents just one piece of the larger commitment from WAMPO to proactively address congestion challenges, enhance transportation accessibility, and foster economic growth. By implementing the strategies outlined in this CMP to collect data, track performance, and utilize tools such as the travel demand model (TDM), WAMPO endeavors to create a seamless, reliable, and efficient transportation system that enriches the lives of residents, supports local businesses, and ensures the long-term prosperity of the Wichita metropolitan area.



Vehicle Traffic Queues at K-96 and Rock Road

CMP BACKGROUND

Federal requirements state that metropolitan areas with more than 200,000 people must maintain a Congestion Management Process. These Transportation Management Areas (TMAs) use their CMP to make informed transportation planning decisions. These requirements were introduced by the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. The Federal Highway Administration (FHWA) guidance[1] refers to a CMP as a "systematic and regionally accepted approach for managing congestion that provides accurate, up-to-date information on transportation system performance and assesses alternative strategies for congestion management that meet state and local needs." The CMP is intended to remain a living document and integrate into the area's metropolitan transportation planning process. The purpose is to identify congestion, match strategies for mitigation, monitor effectiveness of the mitigation, and steer funding towards strategies that prove effective. The CMP is intended to be another tool and "lens" that can support project selection related to congestion by providing a more informed decision-making process.

Summarized from FHWA 23 CFR Part 450 Sec. 322, a CMP should include:

- Methods to monitor and evaluate the performance of the multimodal transportation system, identify the underlying causes of recurring and non-recurring congestion, identify and evaluate alternative strategies, provide information supporting the implementation of actions, and evaluate the effectiveness of implemented actions.
- Definition of congestion management objectives and appropriate performance measures to assess the extent of congestion and support the evaluation of the effectiveness of congestion reduction and mobility enhancement strategies for the movement of people and goods.
- Establishment of a coordinated program for data collection and system performance monitoring to define the extent and duration of congestion, to contribute to determining the causes of congestion, and evaluate the efficiency and effectiveness of implemented actions.
- Identification and evaluation of the anticipated performance and expected benefits of appropriate congestion management strategies that will contribute to the more effective use and improved safety of existing and future transportation systems based on the established performance measures.
- Identification of an implementation schedule, implementation responsibilities, and possible funding sources for each strategy (or combination of strategies) proposed for implementation; and
- Implementation of a process for periodic assessment of the effectiveness of implemented strategies, in terms of the area's established performance measures.

[1] FHWA Congestion Management Process: A Guidebook, April 2011

The CMP is implemented as a stakeholder feedback process to understand congestion within the WAMPO region and implement strategies to address congestion on the transportation network. The multi-step process and workflow as proposed by FHWA to develop and carry out a CMP is further defined by an 8-step process. For reference, this 8-step process is illustrated in Figure 1, below.

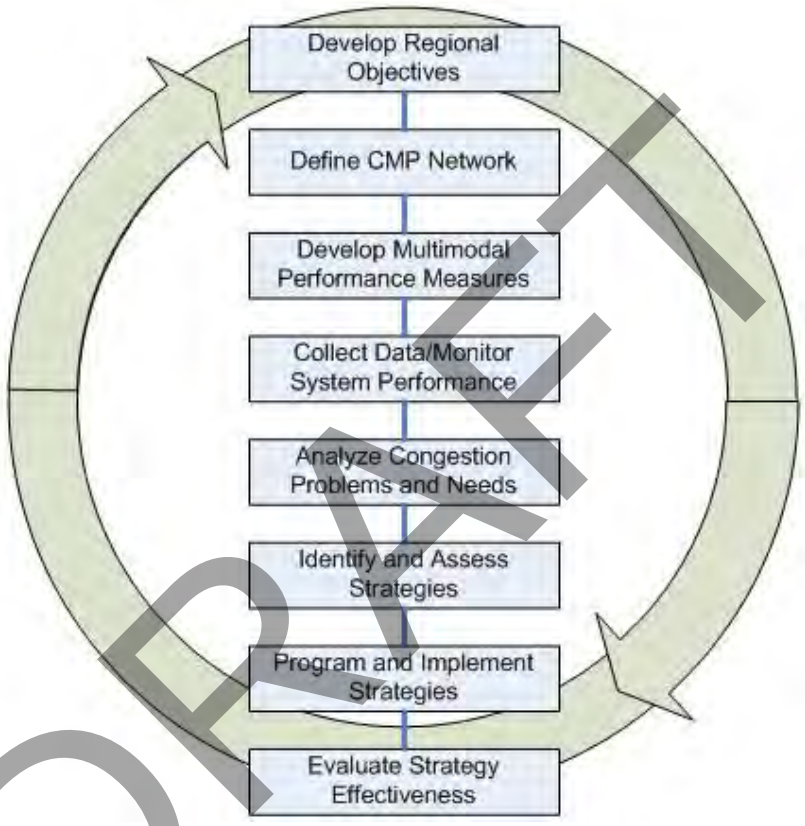


Figure 1: 8-Step Process of a CMP

As illustrated in the figure above, a continuous feedback loop is formed as objectives consistent across the region are stated in the metropolitan transportation plan, then data is gathered and analyzed with various tools, strategies are identified and implemented, and then effectiveness is evaluated – which ultimately leads to updated objectives and the process continues. This workflow can be followed at various levels of detail throughout the defined steps. The overarching theme is that progress is measured, and more knowledge is gained through the deployment of strategies, programs, and projects that improve the system and lessen the impacts of congestion on the network. This is what provides the positive benefit to motorists – both local community members and non-locals who utilize the system.

CONTEXT AND REGIONAL OBJECTIVES

The WAMPO region is home to 547,230 people. As the largest metropolitan area that is entirely within the state of Kansas, the WAMPO region is responsible for 18% of Kansas's Gross Domestic Product (GDP) and has the second-highest GDP by county in the state. As the largest city in Kansas, Wichita is the regional center of business, education, healthcare, and entertainment. Home to 70% of the WAMPO regional population, the City of Wichita is surrounded by 11 adjacent cities. The remainder of the WAMPO region is comprised of a productive agricultural area and rural communities in Sedgwick, Butler, and Sumner counties.

With more than 750,000 people living within 50 miles of Wichita, the city and surrounding communities have a highly varied mix of households. The transportation system is an important mechanism for the region to achieve broader community goals of a stronger economy, talent attraction and retention, accessibility, and an enhanced quality of place. Many components, including highways and streets, bicycle and pedestrian facilities, public transit, freight, rail, and air travel, characterize the regional transportation system and provide insight into its performance.

Located on Interstate 35, one of the few corridors connecting Canada, the U.S., and Mexico, the WAMPO region connects with the major east-west I-70 via I-135 to the north and with I-40 and I-44 to the south. In general, the Wichita Area has a relatively reliable transportation system for commuters and freight.

As WAMPO develops its next Metropolitan Transportation Plan (MTP) with a goal to evaluate priorities for transportation improvements including safety, ease of travel, universal access, and improving connectivity for all modes, several objectives have been developed. The following objectives have been identified related to transportation and congestion in coordination with this CMP.

<u>Improve Safety</u>

- ✓ Reduce severe crashes for all modes.

<u>Improve Efficiency of the Multimodal Network</u>

- ✓ Minimize lost time, costs of travel, environmental impacts.
- ✓ Leverage technology, transportation demand management.

<u>Manage reliability of the network</u>

- ✓ Minimize unplanned travel delays and maintenance issues.

<u>Increase mobility across the network.</u>

- ✓ Make other modes beside single-occupant vehicles more convenient/attractive.

  (walking, biking, transit, carpooling)

These objectives are noted and utilized in the development of performance measures for the CMP.

WAMPO CMP NETWORK

A CMP is typically applied to a specific geographic boundary or coverage area. The coverage area for the WAMPO CMP is the transportation planning boundary shown by the functional classification map in figure 2. The WAMPO planning area is the area WAMPO considers when planning and coordinating transportation related programs.

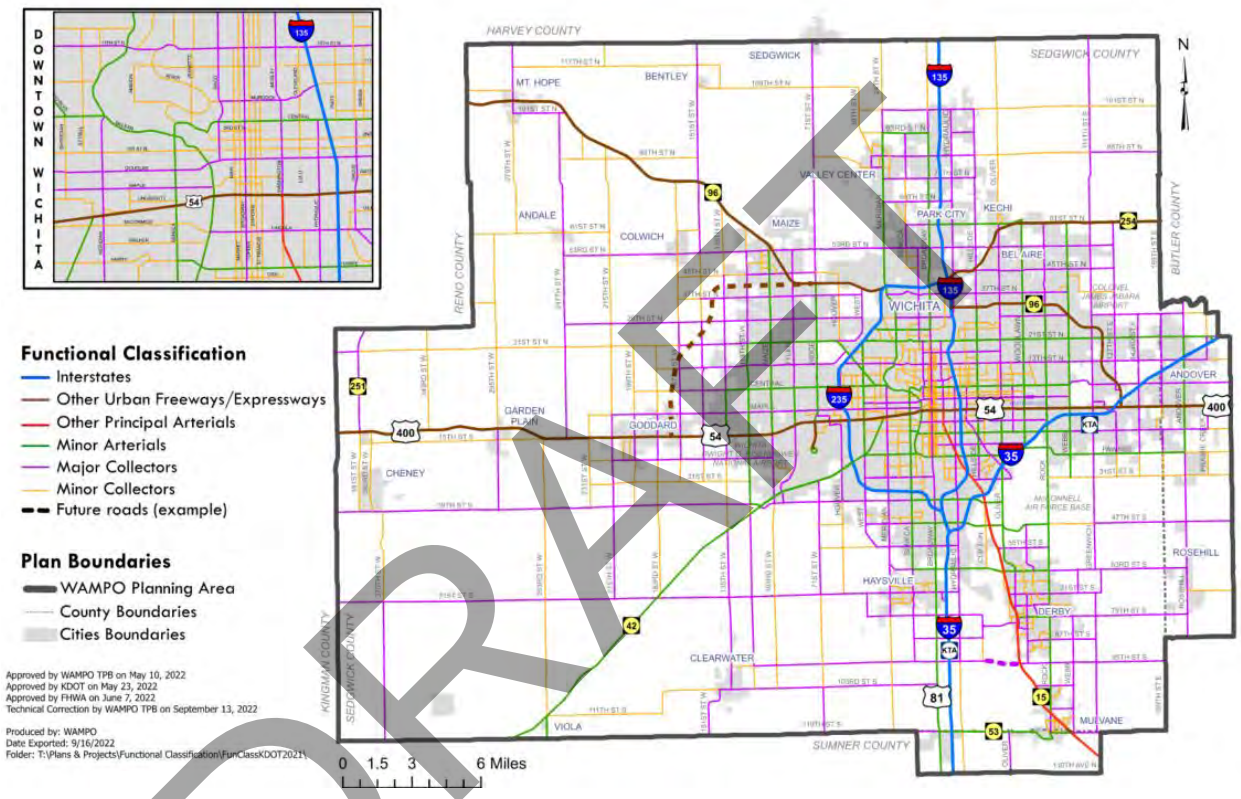


Figure 2: WAMPO Area Roadway Functional Classification

Functional Classification

Functional classification is the process by which roadways are classified by the service they provide. The primary services provided are access and mobility. Access refers to amount of accessibility and ease of entering or exiting a roadway facility from adjacent priorities while mobility refers to the ability of a roadway to move traffic. The amount of each service provided determines the classification. WAMPO has identified the following classifications for consideration in congestion management:

Arterial System:

The arterial system is comprised of the principal and minor arterial systems. The principal arterials, which includes Interstates, other freeways, and expressways, is a network designated for the highest traffic volumes and longest trips, serves major centers of activity, and/or connects major urban areas.

The minor arterial system should interconnect with the principal arterial system and provide service to trips of moderate length at somewhat of a lower level of travel mobility than principal arterials.

Collector System:

The collector system provides land access and traffic circulation within residential neighborhoods and commercial and industrial areas. WAMPO will consider major collectors for congestion management strategies and projects as relevant and applicable.

Local System:

The local system is comprised of all streets not on one of the higher systems. Local systems provide access to land and to the higher order systems. These will not be considered for congestion management strategies and projects.

ITS Network Consistency:

The WAMPO planning boundary also coincides with the geographic boundary of the Regional Intelligent Transportation Systems (ITS) Architecture. This architecture provides a blueprint of how ITS technologies will be identified, deployed, and interconnected to improve the movement of people and goods throughout the region. ITS is a way of introducing technology into the transportation network. ITS projects could be anything from on-board computers in vehicles to centralized management of traffic signal control. Since the coordinated deployment of ITS technologies is closely associated with improving traffic operations (reducing congestion), a natural association exists between the objectives of the CMP and the regional ITS architecture.

PERFORMANCE MEASURES

Each MPO employs performance measures that include those that are required at the federal level and others that capture congestion at a local level. The local performance measures are designed to be more sensitive to the somewhat lower levels of noted congestion experienced in the WAMPO region and to better address local needs. A summary of these performance measures to be included in the CMP is provided below.

Federal performance measures (required):

- Interstate and Non-Interstate Level of Travel Time Reliability (LOTTR) Percent

The Interstate and non-Interstate National Highway System (NHS) reliability measures compare the average travel time on each road segment with the 80th percentile travel time. This is basically comparing the travel time on an average day with the travel time on the worst day of the week. If the travel time on the worst day of the week takes more than 50% longer than the average day, the segment is unreliable. If it is less than 50% longer, the segment is reliable.

This comparison is made for four different periods: weekday mornings, weekday middays, weekday evenings, and weekends. If even one of these is unreliable, the segment is considered unreliable. The segments are weighted by person-miles of travel on that segment to produce the final measure.

The data for this measure come from the National Performance Management Research Data Set (NPMRDS). This is a dataset of average real-world travel times on roadway segments gathered from cellphones and in-vehicle navigation systems. It covers the entire NHS.

The Interstate LOTTR for calendar year 2022 in the WAMPO area was .98 (98% reliability). The non-interstate data showed a 1.00 rating. Both numbers indicate that the WAMPO area transportation network is reliable most of the time. Since 2016 the interstates have been around 98.8 and the non-interstates have been 99.3% reliable. This is consistent with feedback obtained from local agency stakeholders that the predominant congestion experienced in the WAMPO region is non-recurring (caused by incidents, temporary construction zones, and unplanned events).

- Truck Travel Time Reliability Index

The Truck Travel Time Reliability (TTTR) Index compares the average truck travel time on each segment of the Interstate system with the 95th percentile travel time. This measure compares the travel time on an average day with the worst day of the month. The index is the 95th percentile travel time divided by the average travel time, so an index of 1.2 indicates that it would take 20% longer for a truck to travel that segment on the worst day of the month.

This comparison is made for five different periods: weekday mornings, weekday middays, weekday afternoons, overnights, and weekend days. The TTTR Index for the segment is the value for the worst of these five time periods. The index for each segment is weighted by length and averaged across the entire WAMPO region to get the TTTR Index for the region.

The 2022 result for the WAMPO area is calculated at 1.19 meaning that trucks would take 19% longer to travel through a road segment on the worst day of the month. In 2016 the TTTR index came in at 20% and has never been higher than 21%.

<u>Local performance measures (additional indicators to track):</u>

- Annual Hours of Peak Hour Excessive Delay Per Capita

Traffic congestion is measured by the annual hours of peak hour excessive delay (PHED) per capita on the NHS. The threshold for excessive delay is based on the travel time at 20 miles per hour or 60% of the posted speed limit travel time, whichever is greater, and is measured in 15-minute intervals during peak travel hours. The total excessive delay metric is then weighted by vehicle volumes and occupancy.

The results yielded 9,001 vehicle hours or .016 peak hours of delay per capita per year. In other words, an individual could experience 1 total minute of excessive delay for the year 2022. In 2017 the delay came to 1 minute 23 seconds.

- Percent Non-Single Occupancy Vehicle Travel

Single Occupancy Vehicle (SOV) use, and alternative mode share is measured using American Community Survey (ACS) Commuting (Journey to Work) data from the U.S. Census Bureau. WAMPO may use localized survey or volume/usage counts for each mode to determine the percent non-SOV travel.

The following data were produced for 2022 and shows SOV use at around 89.7% of all trips across the system.

TRIPS	MODE	SHARE (%)
131,190	Drive Alone (SOV)	89.7
12,896	Carpool	8.8
1,332	Walk	0.9
467	Bike	0.3
435	Bus	0.3
146,320	**Total**	**100.0**

Table 1: Percent Non-Single Occupancy Vehicle Travel

- Delay Across the System as Measured by WAMPO's Travel Demand Model

This measure uses data from the WAMPO Travel Demand Model. The model is based on the standard 4-step modeling process. Unlike other options, it allows future system performance to be forecast based on the future model network. This performance measure looks at the average delay per trip during the afternoon peak period (5-6 pm).

Per the model, Wichita commuters experience 7,570 total hours of delay daily across all trips.

- Delay Across Identified Areas of Concern (NPMRDS Data)

To add some geographic specificity to the congestion-related performance measures, WAMPO also measures delay across identified areas of concern. These "identified areas of concern" are the sites of potential bottlenecks. They are the parts of the system where one could expect performance to be the worst.

Much like the federal measures, this performance measure uses NPMRDS data to measure real-world delay. These data are used to calculate the Travel Time Index within a half-mile of the identified areas of concern. The Travel Time Index is the ratio of the average peak-period travel time to free-flow travel

time. For instance, a Travel Time Index of 2 would indicate that a potential bottleneck that normally takes one minute to traverse would take two minutes during the peak period.

The average peak period travel time for each segment was calculated by looking at all the average travel times for 5-minute periods between 5 pm and 6 pm for a given month and taking the 50th percentile travel time. The free flow travel time was calculated by looking at all the average travel times for 5-minute periods outside of the peak hours (before 7 am, from 8 am to 5 pm, and after 6 pm) and taking the 15th percentile travel time.

The Travel Time Index is calculated for each segment within half a mile of each potential bottleneck location. Each segment's Travel Time Index is weighted by length to come up with an overall Travel Time Index within a half-mile of the potential bottleneck location. Based on the current results of this analysis most locations/segments in the WAMPO area were shown to have an index of 1.10 or lower. This again indicates favorable results in terms of congestion in the region. Details of these locations are included in Appendix A.

- Travel Time Uncertainty Across WAMPO Region (NPMRDS)

Travelers' perception of congestion is often driven not by typical performance, but by days when performance is particularly bad. Similarly, freight shippers who need to ensure that deliveries happen on time must build time into their schedules to account for days with longer-than-usual delays. Even if the transportation system performs well on a typical day, unreliability on a few days per month can impose significant costs. The effects of unreliability can be measured by looking at the uncertainty in the travel time.

The federal measures examining the percentage of person-miles traveled on the Interstate and the non-Interstate NHS that are reliable are intended to measure these effects. However, the highway system in the WAMPO region has been more than 98.8% reliable since 2016. To get a finer-grained look at variations in travel time reliability in the region WAMPO has adopted a more stringent travel time reliability measure.

As with the federal measures, the NPMRDS data are used to compare the worst travel times with more typical conditions. The federal measures compare the 80th percentile travel time with the 50th percentile travel time during that same time of day. This is essentially comparing the worst day of the week with the average day of the week during that time (the worst morning rush hour compared to the average morning rush hour, for weekday mornings, weekday middays, weekday evenings, and weekends).

WAMPO's travel time uncertainty measure looks at the 95th percentile travel time, roughly equivalent to the worst day of the month. It is compared to the 15th percentile travel time outside of the peak hours (before 7 am, from 8 am to 5 pm, and after 6 pm), representing the free-flow travel time with no congestion. The ratio between the two is the Planning Time Index. This makes the measure very sensitive to disruptions to the regular travel patterns, including weather events, accidents, and other special events. A Planning Time Index of 2 means that a trip that takes 10 minutes outside of rush hour would take 20 minutes on the worst weekday PM peak hour of the month. This is a much more stringent

standard than the federal measure. To remove any seasonal effects and reduce the impact of random variation, WAMPO employs a 12-month rolling average.

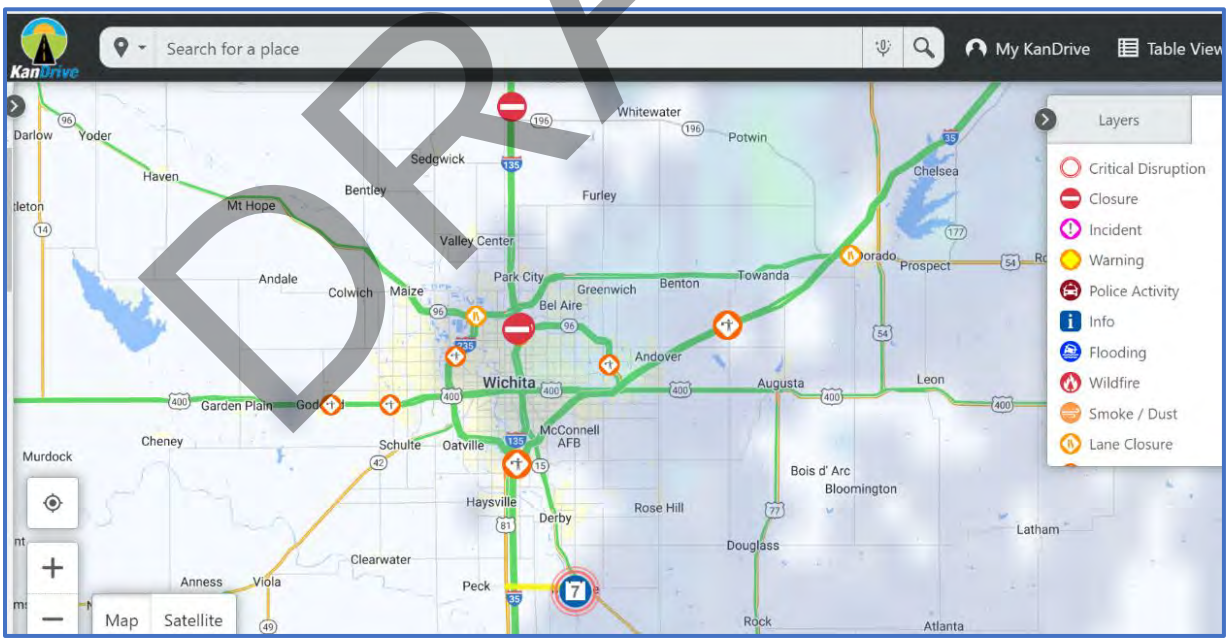
Since January 2018, the average of the previous 12 months has ranged between 1.30 and 1.38. The 2022 data came in at 1.11. Because the current values for this metric are lower (better), this metric indicates that the WAMPO region does not have an unacceptable level of congestion, even during incidents, inclement weather, and special events.

- Incident Clearance Time

One area of emphasis in the WAMPO region has been improving overall safety through the reduction of clearance time for crashes. Decreasing the amount of time that a crash scene is blocking or slowing traffic decreases the opportunities for secondary crashes. Because secondary crashes usually involve vehicles traveling at freeway speeds colliding with slowed or stationary vehicles, they are often very severe, so reducing them is a priority.

Efforts to reduce secondary crashes in the Wichita region have focused on KDOT's WICHway Traffic Management Center, as well as providing Traffic Incident Management training to police, fire, EMS, KDOT personnel, and the towing industry.

These efforts have led to a reduction in average accident clearance time from 177 minutes when WICHway first opened in 2013 to 55 minutes in 2022 as reported by WICHway.



WICHway network screenshot

DATA COLLECTION AND SYSTEM PERFORMANCE

In addition to providing data on the detailed performance measures previously discussed, data collection efforts about system performance were also sought from area stakeholders. Overwhelmingly, agency stakeholders included in CMP discussions agreed that congestion in the WAMPO region is predominately defined as non-recurring congestion.

In addition, WAMPO conducted stakeholder and public engagement surveys over many subjects related to development of MTP 2050. The following results are related to congestion in the WAMPO region and are thus incorporated into the CMP for additional information.

Starting with safety, the stakeholders were asked about their general feeling of safety within the transportation system. Results as shown in Figure 3 are mixed, however only 27% of respondents noted feeling less safe or worse in Wichita compared to other areas.

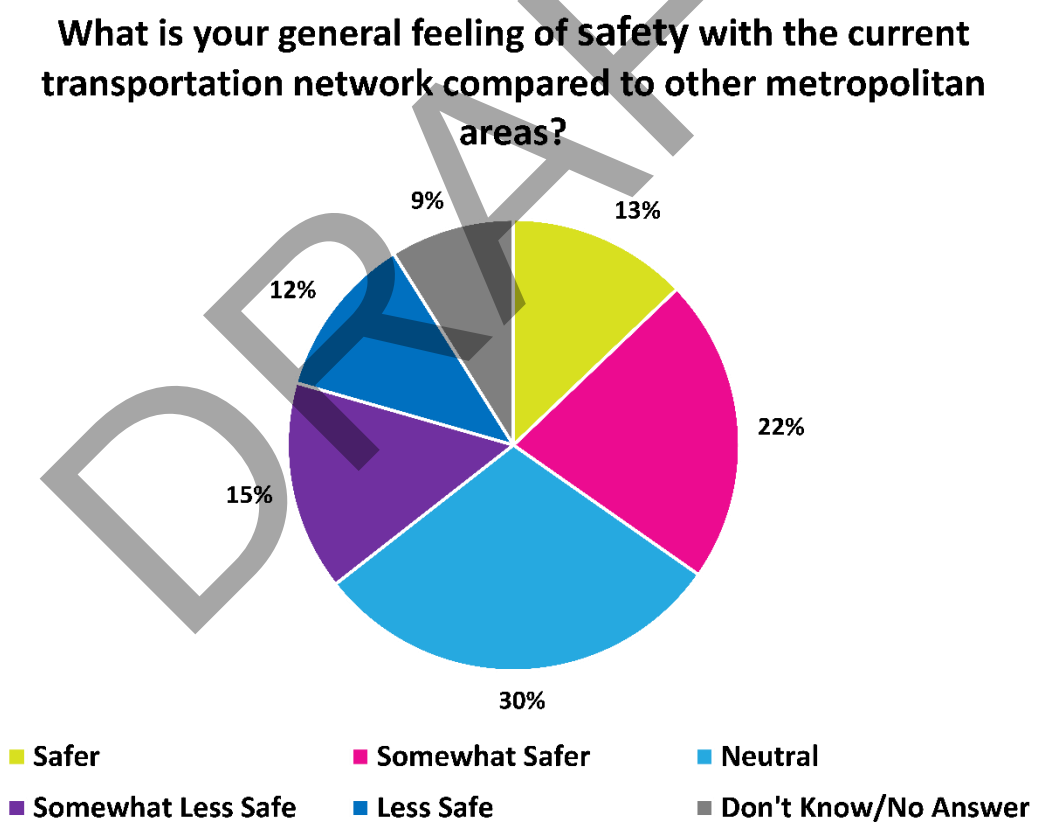


Figure 3: Survey Results on Relative Safety While on the Transportation Network.

As a next question related to congestion, stakeholders were asked about frequency of experiencing congestion. A majority of stakeholders reported encountering congestion either daily or weekly as illustrated in Figure 4 below.

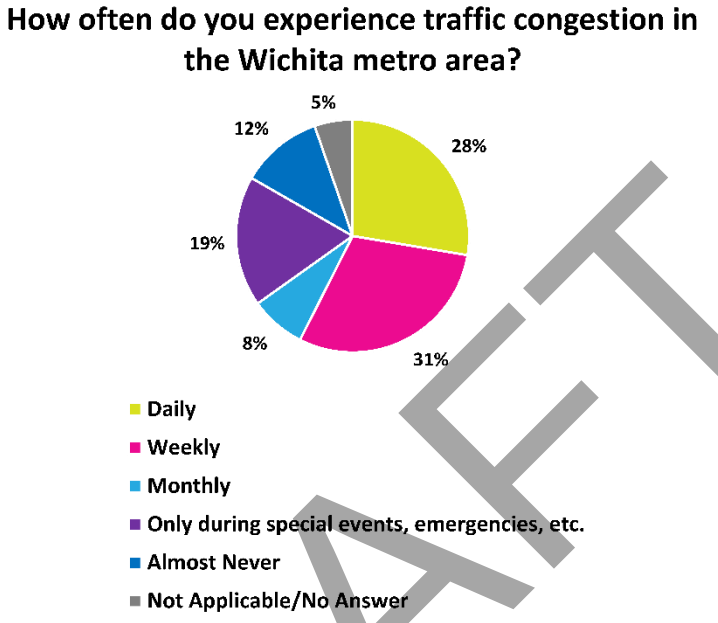


Figure 4: Survey Results on Frequency of Congestion.

Top reasons for congestion were also included in the survey (as illustrated in Figure 5). The top 4 reasons included construction and detours, commute volumes, crashes, and distracted drivers.

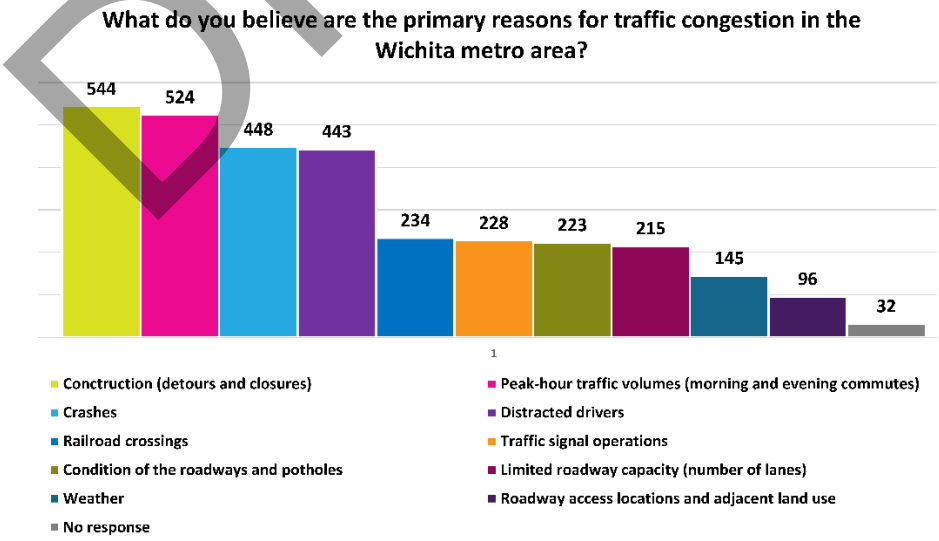


Figure 5: Survey Results on Reasons for Congestion.

During Stakeholder meetings the following locations/corridors were identified as congested spots in the WAMPO region, and ones that should continue to be monitored diligently moving forward. Primary reasons for these locations listed by stakeholders typically included: peak commuting times, shift changes, and railroad crossings. Also, comments were received about signal operations and peaking characteristics, etc. A listing of these top locations is included below:

- The interchange of I-135 and I-235
- The interchange of I-35 and I-135
- The interchange of US-54 and I-135
- The interchange of US-54 and I-235
- Segment of US-54 between K-96 and 159th St
- Segment of S Seneca between W Pawnee Ave and 31st St
- Segment of E 21st St between N Broadway Ave and I-135 (RR X-ings)
- Segment of K-96 between I-35 and Greenwich Rd
- Segment of Southwest Blvd between I-235 and US-54/400
- Segment of Rock Rd between US-54/400 and K-96

Through an online survey, public respondents were allowed to enter in their own words the reason they felt congestion occurred across the region. The results, (as illustrated in Figure 6), have been combined into a word cloud. The larger and bolder the responses appear in the cloud represents the most common response.

The word cloud below was created using free responses to the question: What do you believe are the primary reasons for traffic congestion in the Wichita metro area? The purpose of the cloud is to visualize what respondents focused on when thinking about congestion. Common themes addressed in free responses include lack of public transportation options, unsafe drivers, and single occupant vehicles.

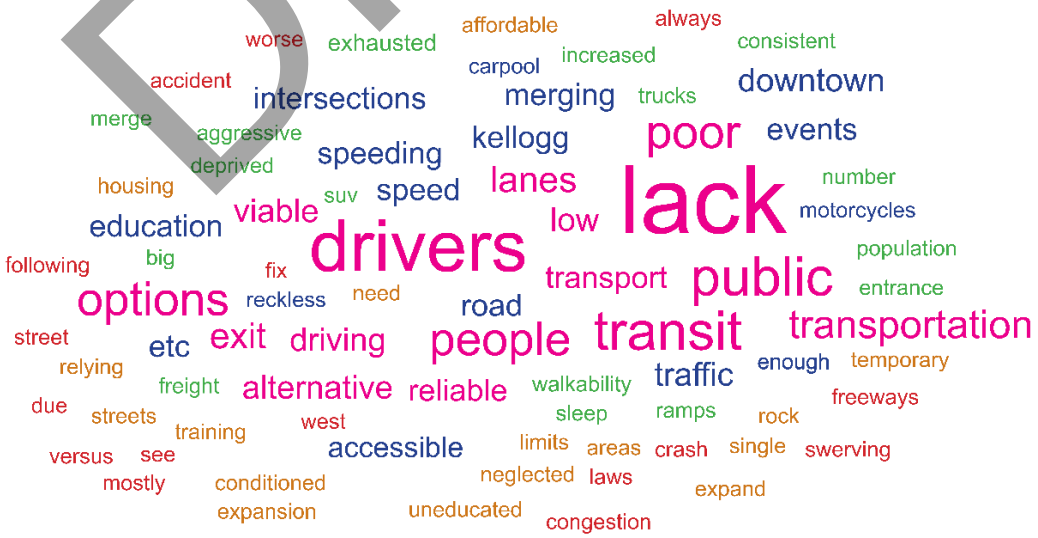


Figure 6: Survey Results on Reasons for Congestion (word cloud)

Public respondents were also asked to indicate on a map where they experienced congestion during their routine experiences within the WAMPO transportation network. Figure 7 illustrates the results.

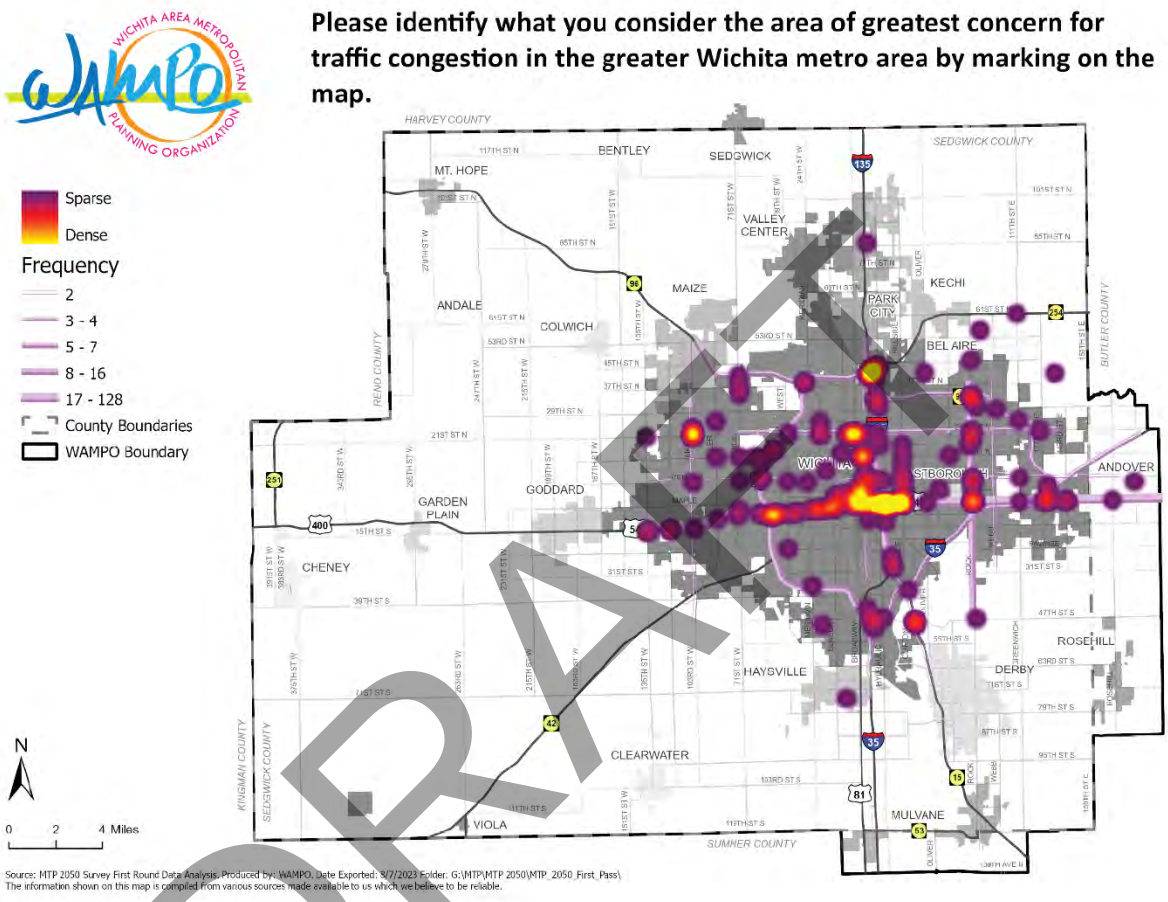


Figure 7: Results of Crowdsourced Congested Locations.

Based upon the results of this feedback and the mapping exercise, there appears to be consistency and correlation between the locations identified by local agency stakeholders and also the general public at large. This provides good, consistent data relative to the locations that WAMPO staff can continue to monitor for congestion as part of on-going tracking across the network.

ANALYSIS OF CONGESTION PROBLEMS AND NEEDS

NPMRDS information and the TDM have both been employed to identify congestion based on data sets. These tools can be utilized to analyze congestion problems and needs moving forward. Coupled with the continued stakeholder outreach data, staff can use the NPMRDS and TDM resources to find consistency in identified congestion hot spots and identify needs to help further prioritize strategies and projects.

Several of the model output graphics can successfully be used to display such areas of congestion, which are consistent with many of those locations identified by stakeholders, and additionally through the public survey information. Several figures depicting the modeled congestion during PM peak periods are provided for reference. Starting below, Figure 8 shows traffic flow characteristics for the entire metro during the existing PM peak hour period. The segments in orange or red indicate some increasing levels of traffic congestion, as identified by volume to capacity ratio (V/C). Additional figures are also provided on the following pages that zoom into areas across the WAMPO region for better clarification of hot spot locations for congestion based upon the TDM outputs.

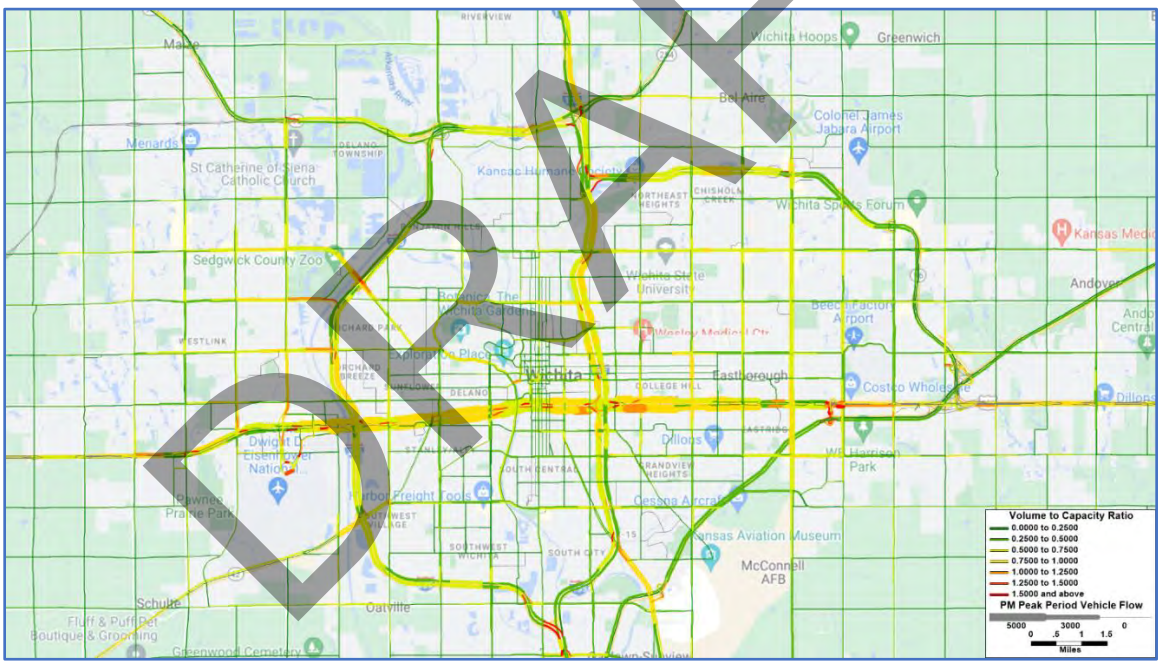


Figure 8: WAMPO Region Traffic Flow (V/C ratio)

Additional zoomed in sample locations of the WAMPO region are included for the TDM outputs to highlight congested areas during the PM peak period. These include:

- Central WAMPO area
- North WAMPO area
- South WAMPO area
- West WAMPO area

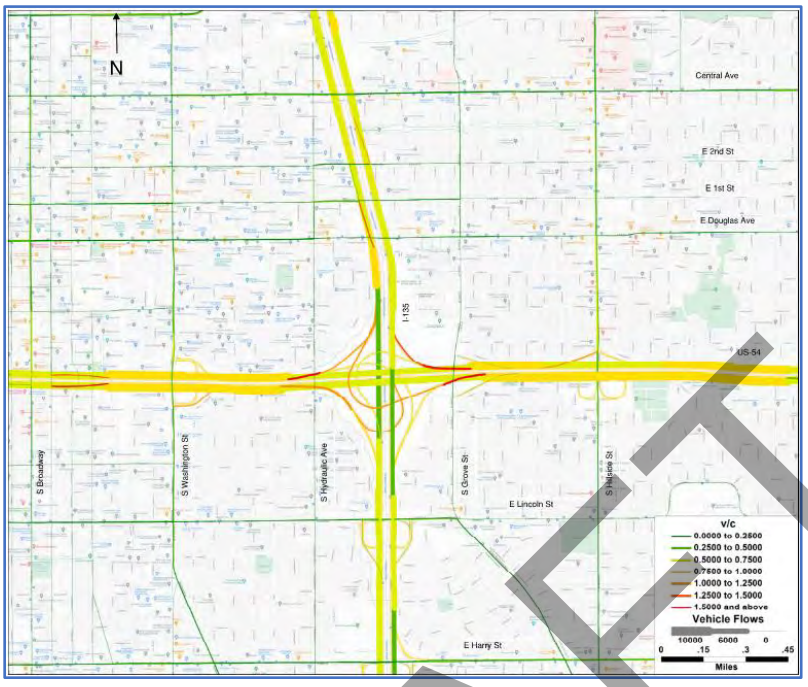


Figure 9: Central WAMPO Region Traffic Flow (V/C ratio)

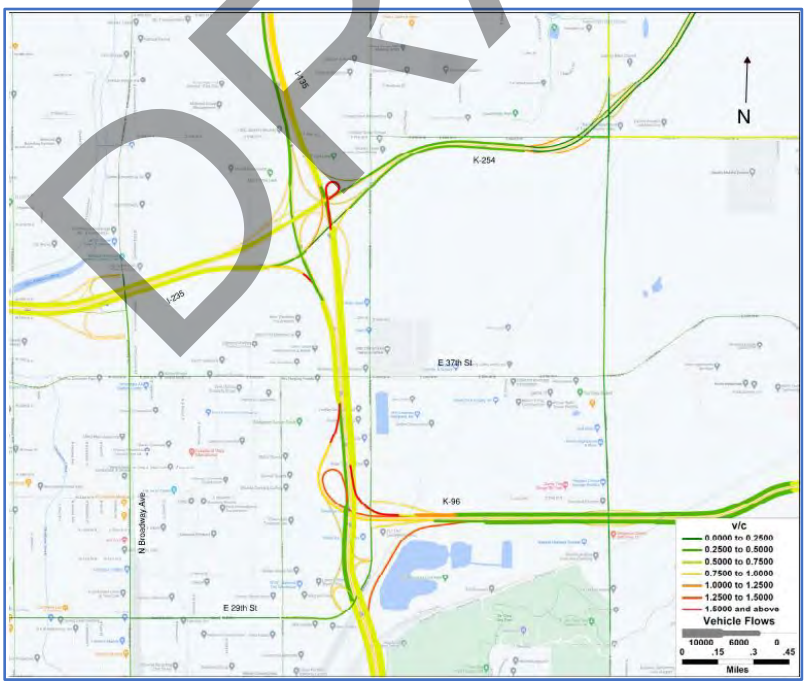


Figure 10: North WAMPO Region Traffic Flow (V/C ratio)

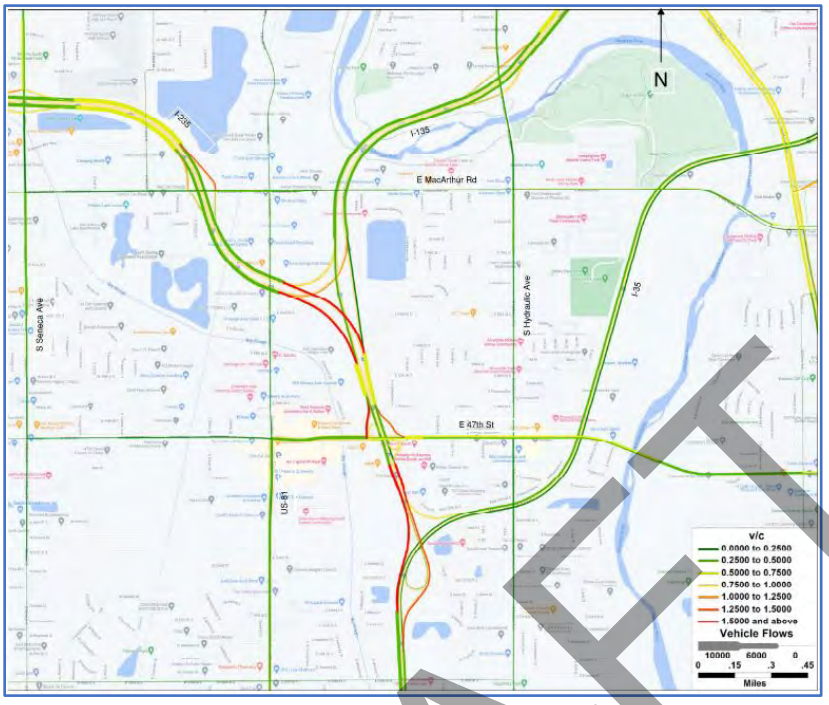


Figure 11: South WAMPO Region Traffic Flow (V/C ratio)

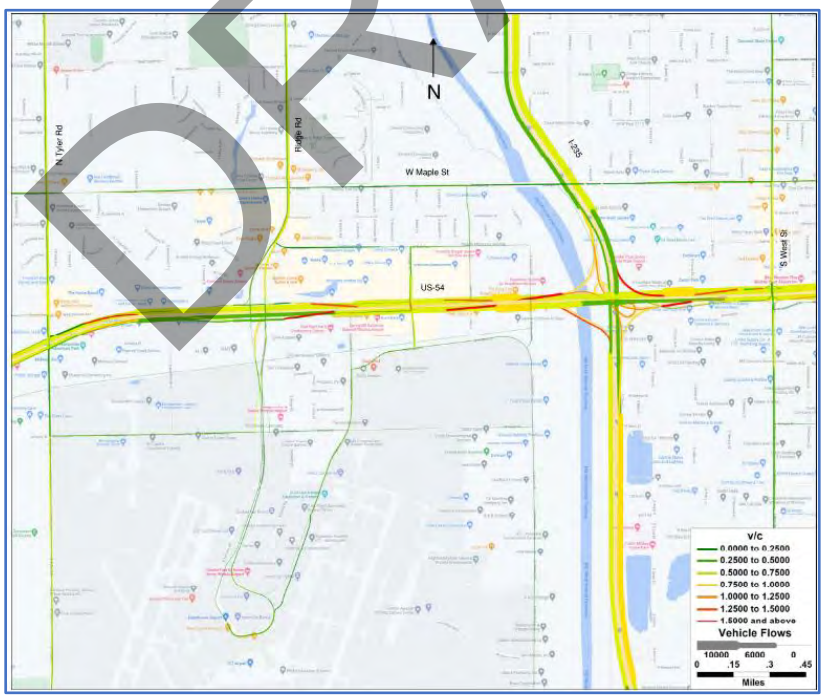


Figure 12: West WAMPO Region Traffic Flow (V/C ratio)

As a validated and calibrated model of the region, the TDM can be an extremely powerful tool to efficiently analyze overall freeway and surface street corridors and gain further insight to anticipated operations with changes to the network. In addition, the TDM can help provide valuable forecasting into the future based upon proposed development and major land use changes due to growth and/or redevelopment of sites that would change anticipated trip making characteristics. Based upon stakeholder feedback, public survey results, and existing conditions TDM analysis, there was found to be consistency amongst the typical congested areas in the WAMPO region. To provide further evaluation of expected increases in congestion and/or define additional corridors that may become congested in the future, the TDM was utilized to plot traffic flow conditions under a future year 2050 land use and baseline transportation network scenario. This includes the projected future growth assumptions in land use location and magnitude and also the assumed future year base transportation network improvements that are planned to be in place. The results of that traffic flow condition (V/C Ratio plot) are illustrated in Figure 13 below.

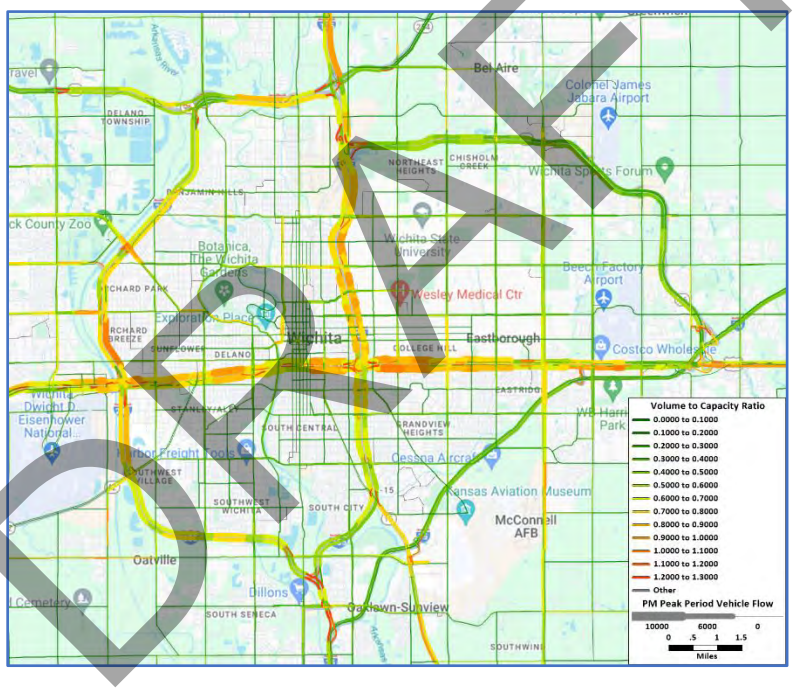


Figure 13: WAMPO Region Traffic Flow – Future Year 2050 (V/C ratio)

As illustrated in Figure 13, those locations that are anticipated to be congested locations for continued monitoring are those previously identified, with additional increasing congestion expected as travel demand increases on the base transportation network in the future.

Additional TDM outputs were also used to highlight congested areas and can be done so moving forward to provide yet another resource for analyzing congestion. Speed data within the TDM can be utilized by direction and by time of day to analyze congestion along desired hotspot corridors in the CMP network. The speed data were used to create heat matrices in time segments for sample corridors in the region and this can be efficiently completed for all CMP corridors as desired. As time progresses through an average day, congestion patterns emerge through reduced speeds as indicated in the plots. The average speed profile matrices that follow illustrate the Kellogg corridor showing both the eastbound and westbound directions with travel speeds by time of day. I-135 and I-235 sample plots have also been included within Appendix B.

	7:00 AM	7:15 AM	7:30 AM	7:45 AM	8:00 AM	8:15 AM	8:30 AM	8:45 AM	9:00 AM	9:15 AM	9:30 AM	9:45 AM	2:15 PM	2:30 PM	2:45 PM	3:00 PM	3:15 PM	3:30 PM	3:45 PM	4:00 PM	4:15 PM	4:30 PM	4:45 PM	5:00 PM	5:15 PM	5:30 PM	5:45 PM	6:00 PM	6:15 PM	6:30 PM	6:45 PM
S MAIZE RD	51	49	46	44	48	48	48	48	49	48	48	48	48	48	47	47	46	46	45	45	44	46	44	42	43	44	46	48	48	50	49
S TYLER RD	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	60	61	61	61	61
MID CONTINENT DR (Ridge Rd)	61	61	61	61	61	61	61	61	60	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	62	61	62	61
I-235 (off ramp)	60	60	60	59	59	59	59	59	59	59	59	59	59	60	59	59	59	58	59	59	59	59	59	59	59	59	60	60	60	60	60
I-235 (on ramp)	60	60	59	58	59	59	60	59	59	59	60	59	60	60	60	60	60	59	60	60	59	59	60	60	60	60	60	61	60	60	60
WEST ST (off ramp)	61	60	57	51	58	60	60	61	61	61	61	61	61	62	61	62	62	61	61	61	61	61	61	62	62	61	61	62	62	62	62
WEST ST (on ramp)	62	61	60	56	60	60	62	61	61	61	62	62	62	63	62	62	62	62	62	62	62	62	62	63	62	62	62	63	63	63	62
SOUTHWEST BLVD (on ramp)	61	60	56	49	57	59	59	59	59	59	60	60	60	60	60	61	61	59	60	60	60	60	60	60	60	60	60	61	61	61	61
SOUTHWEST BLVD (off ramp)	61	60	55	47	56	59	60	60	60	60	60	60	61	61	61	61	61	59	60	61	61	60	61	61	61	60	60	61	61	61	61
MERIDIAN AVE	61	60	54	46	56	59	60	60	60	60	60	60	61	61	61	61	61	59	60	61	61	60	60	61	61	61	60	61	61	61	61
SENECA ST (off ramp)	62	61	57	54	58	60	60	60	60	60	61	61	61	61	61	61	61	60	60	61	61	61	61	61	61	61	62	62	61	63	62
SENECA ST (on ramp)	60	58	53	48	56	58	58	58	58	58	59	59	59	59	59	59	59	57	58	59	59	59	59	59	59	59	60	61	61	61	61
MAIN ST (west leg)	61	58	55	53	57	58	58	58	59	59	59	59	59	59	59	59	60	58	58	59	59	58	58	56	56	59	59	61	60	60	61
MAIN ST (east leg)	60	58	54	52	56	57	58	57	59	59	59	59	59	59	59	59	59	57	58	59	59	57	57	53	50	59	58	60	60	60	61
MARKET ST (west leg)	60	58	55	53	56	58	58	58	59	59	59	59	59	59	59	59	59	56	58	58	59	57	57	51	47	59	59	60	60	60	60
MARKET ST (east leg)	60	58	55	53	56	57	58	58	59	59	59	59	59	59	59	59	59	57	58	59	59	57	57	52	48	59	59	60	59	60	60
BROADWAY ST (west leg)	60	58	54	53	57	58	58	58	59	59	59	59	59	59	59	59	59	57	57	58	59	57	56	50	46	58	59	59	59	60	60
BROADWAY ST (east leg)	60	58	55	53	57	58	58	59	59	59	59	59	59	59	59	59	59	57	58	58	59	57	57	50	47	58	59	60	59	60	60
TOPEKA ST (west leg)	59	57	54	53	56	57	58	58	58	58	58	59	58	58	58	58	58	55	56	58	58	55	55	47	43	58	58	59	59	60	60
TOPEKA ST (east leg)	60	58	54	53	57	58	58	59	59	59	59	59	58	59	59	59	59	56	57	58	58	56	56	49	45	58	59	59	59	60	60
S WASHINGTON ST	58	56	53	53	55	56	57	57	57	56	57	57	57	56	57	57	57	54	55	55	56	54	54	49	46	56	57	58	58	58	59
I-135/US-81 (off ramp)	59	57	55	55	57	57	57	57	58	57	58	57	58	58	57	58	58	57	57	58	58	57	57	55	52	58	58	59	59	60	60
I-135/US-81 (on ramp)	61	60	58	58	58	59	60	60	60	59	60	60	60	60	59	60	60	59	58	60	60	59	57	55	50	59	60	60	61	61	61
S HILLSIDE ST (on ramp)	58	57	54	51	54	56	56	56	57	57	57	57	58	57	56	57	57	55	53	56	56	54	51	51	45	54	57	58	59	59	59
S HILLSIDE ST (off ramp)	57	54	52	51	52	54	55	55	55	55	56	55	56	54	54	55	55	54	52	54	55	53	51	51	47	53	55	56	56	56	56
S OLIVER ST (off ramp)	58	57	54	54	56	57	57	57	57	57	57	57	58	57	57	57	58	56	55	57	57	55	54	55	51	55	57	59	58	59	58
S OLIVER ST (on ramp)	60	59	58	58	58	59	59	59	59	59	59	59	60	60	59	59	60	59	58	59	59	59	58	58	57	59	60	61	60	60	60
S WOODLAWN ST	60	59	58	57	58	59	59	59	59	59	59	58	59	60	59	59	59	58	58	59	59	58	58	59	57	59	59	60	60	60	59
S ROCK RD	60	60	59	59	59	59	60	60	59	60	60	59	60	61	60	60	61	59	60	60	61	61	60	60	60	60	60	61	61	61	59
I-35/KANSAS TPKE	59	59	58	56	57	57	58	58	57	58	58	58	58	58	58	57	58	57	57	58	59	58	57	57	57	58	58	60	59	59	59
K-96 (off ramp)	52	49	48	50	47	46	47	45	47	48	47	46	46	47	48	47	47	44	43	46	45	46	43	46	43	44	45	46	49	47	49
K-96 (on ramp)	58	56	53	55	55	54	55	56	56	57	57	57	58	57	57	57	57	54	51	56	52	54	46	42	27	37	52	57	58	58	59
ROSE HILL RD/S ANDOVER RD	44	41	38	38	39	39	40	41	42	42	42	42	40	40	39	40	37	36	33	36	34	34	31	32	28	30	35	39	39	41	43

Figure 14: Kellogg Eastbound Average Traffic Speeds by Time of Day.

	7:00 AM	7:15 AM	7:30 AM	7:45 AM	8:00 AM	8:15 AM	8:30 AM	8:45 AM	9:00 AM	9:15 AM	9:30 AM	9:45 AM	2:15 PM	2:30 PM	2:45 PM	3:00 PM	3:15 PM	3:30 PM	3:45 PM	4:00 PM	4:15 PM	4:30 PM	4:45 PM	5:00 PM	5:15 PM	5:30 PM	5:45 PM	6:00 PM	6:15 PM	6:30 PM	6:45 PM
K-96 (off ramp)	59	58	56	53	55	57	57	56	56	56	56	56	56	56	56	56	56	56	55	56	56	56	56	55	54	56	56	57	57	58	57
K-96 (on ramp)	41	36	32	29	35	37	37	37	39	41	40	40	39	38	38	38	37	37	36	37	36	37	36	36	36	36	37	38	38	40	41
S GREENWICH RD	53	53	49	48	49	49	50	51	51	48	49	49	48	49	47	49	45	47	47	47	46	47	46	47	47	49	48	48	49	50	50
S ROCK RD	60	60	58	58	58	59	59	59	58	58	59	58	57	58	57	58	57	58	58	58	58	58	57	57	58	57	58	59	58	59	59
S WOODLAWN ST	61	61	61	61	61	61	61	61	60	60	60	60	59	60	59	60	60	60	59	59	60	60	60	59	59	60	59	60	60	61	60
S OLIVER ST (off ramp)	61	61	59	59	60	60	60	60	60	59	59	60	58	58	59	59	59	58	58	58	58	58	57	57	56	57	58	59	59	60	60
S OLIVER ST (on ramp)	61	61	60	60	60	60	60	60	60	60	59	60	58	59	59	58	59	59	58	58	59	59	59	57	57	58	58	60	59	60	60
S HILLSIDE ST (off ramp)	62	60	58	56	59	60	61	61	60	60	60	60	59	59	59	59	59	58	57	59	59	57	57	54	50	57	58	59	60	61	61
S HILLSIDE ST (on ramp)	61	60	57	56	59	60	60	59	59	59	59	59	58	58	58	58	58	57	57	57	57	56	56	55	52	56	56	58	59	59	60
I-135/US-81 (off ramp)	62	61	60	57	60	60	60	61	61	60	60	60	59	59	59	60	60	59	57	59	59	58	56	54	46	58	60	61	61	61	62
I-135/US-81 (on ramp)	61	59	57	55	58	59	59	59	59	59	59	59	58	58	58	58	57	56	56	57	57	56	55	53	49	56	58	58	58	60	60
S WASHINGTON ST	58	58	55	48	53	57	56	56	57	57	57	57	57	55	54	56	56	54	50	54	54	51	50	46	37	53	57	59	59	59	61
TOPEKA ST (off ramp)	60	60	59	56	58	59	58	59	59	59	59	59	59	58	57	58	58	56	55	56	56	54	51	46	39	53	58	59	60	61	61
TOPEKA ST (west leg)	59	58	56	52	55	56	56	56	57	57	57	57	57	56	55	56	56	54	52	54	54	51	49	45	38	52	56	58	59	59	60
BROADWAY ST (east leg)	60	60	59	57	59	59	59	59	59	60	60	60	59	58	57	58	58	57	55	56	56	54	52	46	39	53	58	59	60	61	62
BROADWAY ST (west leg)	60	60	59	58	59	59	58	59	59	60	60	60	59	58	58	59	59	57	55	57	56	54	52	45	39	53	58	60	60	61	62
MARKET ST (east leg)	60	60	60	58	59	60	58	59	59	60	60	60	59	58	58	59	59	57	56	57	56	54	52	45	39	53	58	60	61	61	62
MARKET ST (west leg)	60	60	60	58	59	60	59	59	59	59	60	60	59	58	58	59	59	57	56	57	56	54	52	45	39	53	58	60	60	61	62
MAIN ST (on ramp)	60	60	60	58	59	60	59	59	59	59	60	60	59	58	58	59	59	57	56	57	56	54	52	45	39	53	58	60	60	61	62
SENECA ST (off ramp)	60	60	59	59	59	59	59	59	59	59	60	59	59	59	58	59	58	57	56	56	55	54	50	45	40	52	57	58	59	60	61
SENECA ST (on ramp)	61	61	60	60	60	61	60	61	60	61	61	61	61	60	60	60	59	58	56	57	56	55	51	45	40	52	58	60	61	62	63
MERIDIAN AVE (off ramp)	60	59	59	58	58	59	59	59	59	59	59	59	59	59	58	59	58	57	55	56	56	55	52	48	44	53	58	60	60	61	61
MERIDIAN AVE (west leg)	61	60	60	60	59	60	59	60	60	60	60	60	60	60	60	60	59	58	57	57	58	57	56	53	51	56	59	60	61	61	61
SOUTHWEST BLVD	60	60	60	59	59	59	59	60	60	60	60	60	60	60	59	60	59	58	57	57	58	56	56	53	51	56	59	60	61	61	61
WEST ST (off ramp)	59	59	58	59	58	58	59	59	59	58	59	59	59	59	59	59	59	57	56	57	57	56	56	53	51	56	59	60	60	61	61
WEST ST (on ramp)	61	60	60	61	60	60	60	60	60	60	60	60	60	60	60	60	60	58	57	58	58	56	56	52	51	56	59	60	61	61	61
I-235 (off ramp)	60	59	59	59	58	58	59	59	59	59	59	58	59	58	59	58	59	57	57	57	58	56	56	53	53	57	58	60	60	60	60
I-235 (on ramp)	59	59	59	59	59	59	59	59	59	59	59	59	60	59	59	59	60	59	59	59	59	59	59	58	56	58	59	60	61	61	61
MID CONTINENT DR (off)	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	58	59	60	61	61	61	60
MID CONTINENT DR (on)	59	58	59	58	59	59	58	59	59	58	58	58	59	59	59	59	59	59	58	58	58	58	58	58	56	57	58	59	59	59	59
S TYLER RD	57	57	58	58	58	58	58	58	58	58	58	58	57	57	57	57	57	56	56	56	57	56	56	56	54	55	57	58	58	58	58
S MAIZE RD	58	58	59	58	59	59	59	59	59	59	59	59	58	57	58	58	58	56	56	57	57	57	57	56	54	56	57	59	59	59	58
S 119TH ST W/MILLBROOK RD	49	50	50	49	50	49	50	50	51	51	50	51	50	50	50	51	49	47	47	48	48	47	47	45	43	47	50	50	51	53	52

Figure 15: Kellogg Westbound Average Traffic Speeds by Time of Day.

These types of illustrations from analysis of the data can be shared with the MPO boards and committees as projects are brought forward and strategies proposed. The agencies within the MPO can work together to address the typical causes of congestion in the regional transportation system and use these analytics to further identify needs and funding of programs and projects. Many of those typical causes of congestion include inefficient performance areas such as: physical bottlenecks in streets and intersections, access management issues along heavily traveled corridors, and the need for improved signal timing updates. Other less typical causes resulting in unreliable performance include those items such as: traffic incidents, weather issues, temporary traffic control work zones, and special event management for large traffic generators.

IDENTIFY AND ASSESS STRATEGIES

The CMP framework can be used to collect data, analyze the data, identify issues then evaluate and assess strategies that make impacts to improve recurring and non-recurring congestion. Identifying and assessing strategies is a pivotal phase within the Congestion Management Process (CMP), where a wide range of solutions is explored to mitigate congestion effectively. This phase involves a thorough analysis of potential strategies tailored to the specific needs and challenges of the transportation network in question. As WAMPO continues to build a toolbox and process for working through this phase, the following tasks can be leveraged:

Strategy Identification:

During this stage, transportation professionals, planners, and stakeholders can collaborate to brainstorm and identify a spectrum of strategies. These strategies encompass various areas, such as traffic flow optimization, public transportation enhancements, intelligent transportation systems, and demand management initiatives. The goal is to compile a comprehensive list of potential solutions that can address congestion across different modes of transportation.

Strategy Assessment:

Each identified strategy undergoes a rigorous assessment process. Factors such as feasibility, cost-effectiveness, environmental impact, and fair treatment across communities are evaluated. Additionally, strategies are scrutinized based on their potential to alleviate congestion, enhance overall mobility, and align with the regional objectives defined earlier in the CMP process. Advanced techniques utilizing the WAMPO TDM and data analysis tools (NPMRDS) will play a significant role in assessing the potential impact of these strategies on the transportation network.

Stakeholder Engagement:

Input from various stakeholders, including those involved in this CMP to date who are passionate local champions for keeping congestion at bay in the Wichita region should continue to be included in the process (KDOT, WICHway, local municipalities, emergency responders, transit, freight organizations, etc.). Their input is invaluable during the assessment phase. Stakeholder engagement ensures that strategies are evaluated not only from a technical standpoint but also in the context of community needs and preferences. Public feedback helps in refining strategies and ensures that the selected solutions resonate with the community's expectations.

Flexibility and Innovation:

The assessment phase emphasizes the importance of flexibility and innovation. Emerging technologies and unconventional approaches are considered alongside traditional strategies. This openness to innovation enables the CMP to adapt to changing transportation landscapes, making it possible to incorporate cutting-edge solutions that might not have been viable in the past.

Developing a Comprehensive Strategy Portfolio:

By the end of this phase, a carefully curated portfolio of strategies emerges. These strategies are not isolated solutions but rather interlinked components of a broader congestion management process consistent and coordinated with the MTP. The synergy between these strategies enhances their overall impact, creating a robust and adaptable framework for addressing congestion challenges in the WAMPO region.

The result of this "identify and assess strategies" phase is a well-informed selection of strategies that forms the backbone of the Congestion Management Process, paving the way for effective implementation and continuous improvement in the transportation system.

PROGRAMMING AND IMPLEMENTATION OF STRATEGIES

Strategies developed because of the CMP will be incorporated into the evaluation and prioritization of both the MTP and Transportation Improvement Program (TIP). As CMP information influences the decision-making process as another tool for WAMPO stakeholders, the CMP objectives will be acknowledged and supported. This will lead to various projects that are funded for the transportation system that continue to reduce congestion and improve safety across the region.

EVALUATION OF STRATEGY EFFECTIVENESS

With implementation of various improvement strategies and the ongoing measurement of selected congestion performance measures, data will show periodic progress both before and after completion. These results will serve as a benchmark resource for future planning and investment decisions as each implementation is evaluated for effectiveness. They will also illustrate transportation needs in an on-going, iterative process for the region. These evaluations along with continued monitoring for changes in travel demands will be used for mitigation of future congestion by employing proven strategies.

APPENDIX A - Delay Across Identified Areas of Concern (NPMRDS Data)

(sample locations selected and referenced from page 13)

Location	Travel Time Index
The interchange of I-135 and I-235 (South)	1.108 AM, 1.099 PM
The interchange of I-35 and I-135	1.089 AM, 1.085 PM
The interchange of US-54 and I-135	1.124 AM, 1.127 PM
The interchange of I-135 and I-235 (North)	1.166 AM, 1.181 PM
US-54 between K-96 and S Andover Rd	1.447 AM, 1.558 PM
S Seneca St between W Pawnee Ave and 31st St	1.100 AM, 1.100 PM
E 21st St between N Broadway Ave and I-135	1.100 AM, 1.100 PM
K-96 between I-35 and Greenwich Rd	1.073 AM, 1.080 PM
Southwest Blvd between I-235 and US-54/400	1.841 AM, 1.869 PM
Rock Rd between US-54/400 and K-96	1.100 AM, 1.100 PM

APPENDIX B – Speed Matrices by Time of Day

	7:00 AM	7:15 AM	7:30 AM	7:45 AM	8:00 AM	8:15 AM	8:30 AM	8:45 AM	9:00 AM	9:15 AM	9:30 AM	9:45 AM	2:15 PM	2:30 PM	2:45 PM	3:00 PM	3:15 PM	3:30 PM	3:45 PM	4:00 PM	4:15 PM	4:30 PM	4:45 PM	5:00 PM	5:15 PM	5:30 PM	5:45 PM	6:00 PM	6:15 PM	6:30 PM	6:45 PM
I-235/EXIT 1	51	50	51	51	50	49	51	51	51	51	51	50	51	52	51	51	52	51	51	51	52	52	52	52	50	52	51	52	50	50	50
HYDRAULIC ST/EXIT 2 (off)	60	61	60	61	61	60	61	61	61	61	61	61	62	62	62	61	62	62	62	62	61	62	61	62	61	62	61	61	61	61	61
HYDRAULIC ST/EXIT 2 (on)	62	62	61	62	62	62	62	62	62	62	62	62	62	63	63	63	63	63	63	63	63	64	63	63	63	63	63	63	63	62	63
KS-15/SOUTHEAST BLVD/EXIT 3	61	62	61	62	61	61	62	61	61	62	62	62	62	62	62	62	63	63	63	63	63	63	63	63	62	63	62	63	62	62	63
PAWNEE ST/EXIT 3 (off)	61	61	60	61	61	61	60	61	60	60	61	61	61	61	60	60	61	61	60	61	61	61	62	61	61	61	61	61	61	61	62
PAWNEE ST/EXIT 3 (on)	61	60	59	60	60	60	61	60	60	61	61	61	61	60	60	60	60	60	60	61	61	61	61	60	60	61	61	61	61	61	61
HARRY ST/EXIT 4 (off)	62	62	61	61	61	61	61	61	61	61	61	61	62	62	61	61	62	61	61	62	62	62	62	62	62	62	62	62	62	62	62
HARRY ST/EXIT 4 (on)	62	62	60	61	61	61	61	61	61	61	61	62	62	62	61	61	61	61	61	62	62	62	62	62	62	62	62	62	62	62	62
LINCOLN ST/EXIT 5 (off)	61	61	59	60	60	61	60	60	61	61	61	61	62	61	60	60	61	60	60	61	61	61	61	61	61	62	61	62	61	62	62
LINCOLN ST/EXIT 5 (on)	61	61	59	59	60	61	60	60	61	61	61	61	62	61	60	60	61	61	60	61	61	61	61	62	61	62	62	62	62	62	62
US-400/US-54/E KELLOGG DR/EXIT 5	61	61	59	59	60	60	59	60	60	60	60	60	61	61	61	60	61	61	61	61	61	61	61	61	61	62	62	62	62	61	62
US-400/US-54/E KELLOGG DR/EXIT 5	61	61	59	59	60	60	59	60	60	61	61	61	61	61	60	60	60	61	60	61	61	61	60	61	61	61	61	62	61	61	62
1ST ST/EXIT 6 (off ramp)	60	60	57	57	59	58	58	58	59	59	59	59	60	59	59	59	60	59	59	60	60	60	60	60	60	61	61	61	61	61	61
1ST ST/EXIT 6 (north leg)	60	61	58	57	59	59	59	59	60	60	60	60	60	60	60	60	60	60	60	61	61	61	61	60	60	61	62	62	62	62	62
2ND ST/EXIT 6 (on ramp)	60	61	59	57	60	60	59	60	60	60	60	60	60	60	60	60	61	60	60	61	61	61	61	60	60	61	62	62	62	62	62
CENTRAL AVE/EXIT 7 (south leg)	60	61	58	56	59	59	59	60	60	60	60	60	59	59	59	59	60	60	59	59	59	59	59	57	56	60	61	61	61	61	61
CENTRAL AVE/EXIT 7 (on ramp)	60	61	58	56	60	60	59	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	59	58	61	61	61	62	62	61
9TH ST/EXIT 7 (off)	60	61	58	55	59	59	59	59	60	60	60	60	59	59	59	59	59	59	58	59	59	59	58	56	55	60	60	61	60	61	61
9TH ST/EXIT 7 (on)	61	61	59	56	60	60	59	60	60	60	60	60	59	59	59	60	60	60	59	60	60	59	59	57	56	60	61	62	61	61	61
13TH ST/E 8TH ST N/EXIT 8 (off)	61	61	60	57	60	60	60	60	60	60	60	60	60	59	59	60	60	60	59	60	60	59	59	58	58	61	61	62	62	61	62
13TH ST/E 8TH ST N/EXIT 8 (on)	61	61	59	56	60	60	60	60	60	60	60	60	59	59	59	60	60	59	58	60	60	59	58	57	56	60	61	62	62	61	62
21ST ST/EXIT 9 (off)	61	61	60	59	60	59	59	59	59	60	60	60	60	60	60	60	60	60	60	61	60	60	60	60	59	61	61	62	61	61	61
21ST ST/EXIT 9 (on)	61	61	61	59	60	60	60	60	60	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	60	61	62	62	62	62	62
KS-96/EXIT 10	59	59	59	59	59	59	58	59	57	59	59	59	59	59	59	59	58	56	50	53	51	49	45	45	36	46	57	60	60	61	61
HYDRAULIC ST/29TH ST/EXIT 10 (off)	61	61	60	54	58	60	60	60	60	60	61	61	61	61	61	61	61	61	61	61	61	60	60	59	57	61	62	62	62	62	62
HYDRAULIC ST/29TH ST/EXIT 10 (on)	61	60	60	60	60	60	59	59	58	59	59	60	60	60	60	60	60	58	55	57	56	55	53	52	45	54	60	62	61	62	62
I-235/KS-254/KS-96/EXIT 11 (off)	56	56	53	53	55	55	56	55	54	55	55	55	55	54	53	53	51	43	39	40	35	37	35	34	32	35	46	54	56	56	57
I-235/KS-254/KS-96/EXIT 11 (on)	56	55	54	54	55	55	55	54	53	55	55	55	54	54	52	53	51	43	34	38	31	32	29	29	21	27	43	55	56	56	57
53RD ST/EXIT 13 (off)	64	64	64	64	64	64	64	64	63	64	64	64	64	64	64	64	64	64	63	63	63	63	63	63	63	62	64	65	65	65	64
53RD ST/EXIT 13 (on)	61	61	61	61	61	61	61	61	60	61	61	61	61	61	61	61	61	61	60	60	59	60	60	60	60	59	61	62	62	62	62
61ST ST/EXIT 14 (off)	68	68	68	68	68	68	68	68	67	67	68	68	67	68	68	67	67	68	66	66	66	66	66	66	65	65	67	69	68	68	69
61ST ST/EXIT 14 (on)	67	66	66	66	66	66	66	66	65	66	66	66	66	66	67	66	66	66	65	65	65	65	65	65	64	64	66	67	66	67	67
77TH ST/EXIT 16 (off)	69	69	69	69	69	69	69	69	68	69	68	69	69	69	70	69	69	69	68	68	68	68	67	67	66	67	68	70	70	70	70
77TH ST/EXIT 16 (on)	71	72	72	72	71	71	71	71	70	70	71	71	71	71	71	71	71	72	72	71	72	72	72	72	72	72	72	73	72	73
85TH ST/EXIT 17 (off)	71	72	72	72	71	71	71	71	70	70	70	70	71	71	71	71	70	71	72	71	72	72	72	72	72	71	72	72	72	72	72
85TH ST/EXIT 17 (on)	71	72	72	72	71	71	71	71	70	70	70	71	71	71	72	71	71	72	72	72	72	72	73	73	73	72	73	72	73	72	73
101ST ST/EXIT 19 (off)	72	73	73	73	72	72	71	71	71	71	71	71	72	72	72	72	71	72	73	72	73	73	73	73	74	73	73	73	73	73	73
101ST ST/EXIT 19 (on)	73	74	74	74	73	73	73	73	72	72	72	72	73	73	73	73	72	73	74	74	74	74	75	75	75	75	75	74	75	74	74
125TH ST/EXIT 22 (off)	74	75	75	75	74	74	74	74	73	73	73	73	74	74	74	74	73	74	75	74	74	75	75	75	75	75	75	74	75	75	75
125TH ST/EXIT 22 (on)	73	74	75	75	74	74	73	73	73	72	72	72	73	73	73	73	73	74	74	74	74	74	75	75	75	74	74	74	75	75	74

Figure 16: I-135 Northbound Average Traffic Speeds by Time of Day.

	7:00 AM	7:15 AM	7:30 AM	7:45 AM	8:00 AM	8:15 AM	8:30 AM	8:45 AM	9:00 AM	9:15 AM	9:30 AM	9:45 AM	2:15 PM	2:30 PM	2:45 PM	3:00 PM	3:15 PM	3:30 PM	3:45 PM	4:00 PM	4:15 PM	4:30 PM	4:45 PM	5:00 PM	5:15 PM	5:30 PM	5:45 PM	6:00 PM	6:15 PM	6:30 PM	6:45 PM
125TH ST/EXIT 22 (off)	75	75	75	75	74	74	74	74	74	73	74	74	74	74	74	74	74	75	74	74	74	75	75	75	75	75	75	74	74	74	74
125TH ST/EXIT 22 (on)	75	75	75	75	74	74	74	74	73	73	74	74	74	74	74	74	74	75	74	74	74	75	75	76	76	75	75	74	74	74	74
101ST ST/EXIT 19 (off)	76	75	75	75	75	74	74	74	74	73	74	74	74	74	74	74	74	75	74	74	74	74	75	75	75	75	75	74	74	74	74
101ST ST/EXIT 19 (on)	76	75	76	75	75	74	74	74	74	74	74	74	74	74	74	74	74	74	75	74	74	74	75	75	76	75	76	74	75	75	75
85TH ST/EXIT 17 (off)	74	74	74	74	73	73	73	73	73	72	73	72	73	73	73	73	73	73	73	73	73	73	73	74	74	74	74	73	73	73	73
85TH ST/EXIT 17 (on)	75	75	75	75	74	73	74	74	73	73	73	73	73	74	73	74	74	74	74	73	73	74	74	75	75	75	75	74	74	74	74
77TH ST/EXIT 16 (off)	73	73	73	74	73	73	72	73	73	72	72	72	72	73	73	73	73	73	73	73	73	73	74	74	74	74	74	73	73	73	73
77TH ST/EXIT 16 (on)	73	73	74	74	73	73	73	73	73	72	72	72	73	73	73	73	73	73	73	73	73	73	74	74	74	74	74	73	73	73	73
61ST ST/EXIT 14 (off)	66	67	66	67	67	67	66	66	66	66	65	65	66	67	67	67	67	67	67	67	67	67	67	67	67	67	68	68	67	68	68
61ST ST/EXIT 14 (on)	70	70	70	71	70	70	70	70	70	70	69	69	70	70	70	70	71	71	71	70	70	71	71	71	71	71	71	71	70	71	71
53RD ST/EXIT 13 (off)	64	64	64	64	64	64	63	63	62	62	61	61	62	63	63	63	64	64	64	64	64	64	64	64	65	65	65	65	65	65	65
53RD ST/EXIT 13 (on)	65	65	65	66	66	65	65	65	64	64	64	64	64	65	66	66	66	66	66	66	66	66	66	66	66	66	67	67	66	67	67
I-235/KS-254/KS-96/EXIT 11 (off)	56	55	54	53	54	55	55	55	54	54	54	54	56	56	56	57	57	56	56	56	57	56	57	57	57	57	58	58	58	58	58
I-235/KS-254/KS-96/EXIT 11 (on)	61	60	60	60	60	60	60	59	58	57	57	57	58	59	59	60	60	61	60	60	60	60	60	60	61	61	62	61	61	61	62
HYDRAULIC ST/29TH ST/EXIT 10 (off)	60	59	58	58	58	58	59	59	59	59	58	59	59	59	59	59	59	59	59	59	59	59	59	60	59	60	61	61	61	61	61
HYDRAULIC ST/29TH ST/EXIT 10 (on)	61	61	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	61	61	61	61	61	61	62	62	62	62	62	62
KS-96/EXIT 10 (off)	58	56	53	50	53	56	56	57	57	57	57	57	58	58	58	58	58	58	58	58	58	58	58	58	58	58	59	60	60	60	60
KS-96/EXIT 10 (on)	62	61	61	61	61	61	61	62	61	61	61	61	62	62	62	62	62	62	62	62	62	62	62	63	62	63	63	63	63	62	63
21ST ST/EXIT 9	61	61	60	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	62	61	61	62	62	63	63	63	63	63	63	63
13TH ST/E 8TH ST N/EXIT 8	61	61	60	60	61	60	60	61	61	60	61	61	60	60	60	60	61	60	60	61	60	60	60	59	59	61	61	62	61	62	62
9TH ST/EXIT 7 (off)	61	60	58	57	59	59	59	59	60	60	60	60	60	60	59	60	60	59	58	59	58	57	57	55	55	59	60	61	60	61	61
9TH ST/EXIT 7 (on)	61	60	59	58	60	60	60	60	60	60	60	61	60	60	60	60	60	59	59	60	59	58	58	57	57	60	60	61	61	61	61
CENTRAL AVE/EXIT 7 (off)	60	59	58	56	58	59	59	59	59	59	60	59	59	59	59	59	59	58	57	58	57	56	56	54	54	58	59	61	60	60	61
CENTRAL AVE/EXIT 7 (south leg)	60	60	58	57	59	59	59	60	60	60	60	60	60	60	59	59	59	59	58	59	58	56	57	55	54	58	60	61	61	61	62
2ND ST/EXIT 6 (off)	60	60	59	57	59	59	59	59	60	60	60	60	60	60	59	60	60	58	57	59	58	56	56	56	53	58	60	62	61	61	62
2ND ST/EXIT 6 (south leg)	60	60	59	57	59	59	60	59	60	60	60	60	60	60	59	60	59	59	58	59	58	57	57	56	54	58	60	61	61	61	62
1ST ST/EXIT 6 (north leg)	60	60	59	56	58	59	59	59	60	60	60	60	60	59	59	59	59	58	55	58	57	56	55	56	50	57	60	62	61	61	62
1ST ST/EXIT 6 (on)	60	59	58	55	58	58	59	59	59	59	60	59	59	59	59	59	59	57	53	58	57	55	54	55	48	56	60	61	61	61	61
US-400/US-54/E KELLOGG DR/EXIT 5 (off)	60	59	58	52	56	58	59	58	59	59	59	59	59	59	58	59	58	57	50	57	56	54	53	54	43	54	59	61	61	60	61
US-400/US-54/E KELLOGG DR/EXIT 5 (on)	62	62	61	62	61	61	62	61	62	62	62	62	62	62	62	62	62	62	61	62	61	61	61	61	60	62	63	63	62	62	62
LINCOLN ST/EXIT 5	61	61	61	61	60	60	61	61	61	61	61	61	61	62	61	61	61	61	60	61	61	61	60	60	60	61	62	62	61	61	61
HARRY ST/EXIT 4	62	62	62	61	61	61	61	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	61	61	61	62	62	62	62	62	63
PAWNEE ST/EXIT 3	62	61	61	61	61	61	61	62	62	62	61	62	62	62	62	62	61	62	62	62	62	62	62	61	60	62	62	63	62	62	63
KS-15/SOUTHEAST BLVD/EXIT 3 (off)	59	58	58	58	58	58	58	59	59	59	59	59	60	60	60	60	60	60	60	60	60	60	60	59	58	60	60	61	61	61	61
KS-15/SOUTHEAST BLVD/EXIT 3 (on)	61	61	61	62	61	61	61	61	61	61	62	62	62	62	62	62	62	62	62	62	62	62	61	61	61	62	62	62	62	62	62
HYDRAULIC ST/EXIT 2 (off)	61	61	62	62	62	61	61	62	61	61	62	62	62	62	62	62	62	62	62	62	62	62	61	61	61	62	62	63	62	62	62
HYDRAULIC ST/EXIT 2 (on)	61	62	62	62	62	61	62	62	61	61	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	63	63	62	62	63
I-235/EXIT 1	60	60	60	61	60	60	60	60	60	60	60	60	61	61	61	61	60	61	60	61	61	60	61	60	60	60	61	61	61	61	62

Figure 17: I-135 Southbound Average Traffic Speeds by Time of Day.

	7:00 AM	7:15 AM	7:30 AM	7:45 AM	8:00 AM	8:15 AM	8:30 AM	8:45 AM	9:00 AM	9:15 AM	9:30 AM	9:45 AM	2:15 PM	2:30 PM	2:45 PM	3:00 PM	3:15 PM	3:30 PM	3:45 PM	4:00 PM	4:15 PM	4:30 PM	4:45 PM	5:00 PM	5:15 PM	5:30 PM	5:45 PM	6:00 PM	6:15 PM	6:30 PM	6:45 PM
I-235/EXIT 1	51	50	51	51	50	49	51	51	51	51	51	50	51	52	51	51	52	51	51	51	52	52	52	52	50	52	51	52	50	50	50
I-135/EXIT 1	60	60	59	60	59	59	59	59	58	59	59	59	60	59	60	60	60	60	59	59	60	59	59	59	59	59	60	59	61	60	60
MACARTHUR RD/EXIT 1	61	61	60	61	61	60	61	60	59	60	61	61	61	61	61	61	62	61	61	61	62	61	62	61	61	61	61	61	62	62	61
SENECA ST/EXIT 2	64	64	63	64	64	63	63	63	62	63	64	63	64	64	64	64	64	64	64	64	65	64	64	64	64	64	65	64	65	64	65
MERIDIAN AVE/EXIT 3 (off)	65	65	64	65	65	64	65	64	64	64	65	65	65	65	65	66	66	66	66	66	66	66	65	65	65	65	66	66	66	65	66
MERIDIAN AVE/EXIT 3 (on)	65	65	64	65	65	64	65	65	64	64	65	65	65	65	65	66	66	65	66	66	66	66	65	66	65	66	66	66	66	65	65
WEST ST/EXIT 4 (off)	65	65	64	66	65	65	65	64	64	64	65	65	65	65	65	65	66	65	66	65	66	65	65	65	65	66	66	66	66	65	65
WEST ST/EXIT 4 (on)	65	66	65	66	66	65	65	65	64	65	65	66	66	66	66	66	66	66	66	66	66	66	65	66	66	66	67	66	66	66	66
KS-42/SOUTHWEST BLVD/EXIT 5 (off)	65	66	65	66	65	65	65	65	65	65	65	65	66	66	66	65	66	66	65	65	66	66	65	66	66	67	67	66	67	66	66
KS-42/SOUTHWEST BLVD/EXIT 5 (on)	66	66	66	66	66	66	65	66	65	66	66	66	66	66	66	66	66	66	65	65	66	65	65	65	65	66	66	66	67	67	67
US-400/US-54/W KELLOGG DR/EXIT 7 (on)	66	65	65	65	65	65	65	65	64	64	64	64	65	65	65	65	65	65	65	65	65	65	65	65	65	65	66	66	66	66	66
US-400/US-54/W KELLOGG DR/EXIT 7 (off)	65	65	65	65	64	64	64	65	64	65	64	64	65	65	65	65	66	66	66	65	66	66	66	66	66	66	66	65	65	65	65
CENTRAL AVE/EXIT 8 (off)	64	64	64	64	64	64	64	64	64	63	63	64	64	64	64	64	64	64	64	64	64	64	63	63	62	63	63	64	64	64	63
CENTRAL AVE/EXIT 8 (on)	66	66	65	65	64	65	65	65	65	65	65	65	65	66	65	65	66	65	65	65	65	65	65	65	63	65	66	66	66	66	66
ZOO BLVD/EXIT 10 (off)	64	64	64	63	64	63	63	63	63	63	63	63	63	63	63	64	64	64	64	64	64	63	63	63	62	63	62	64	63	63	63
ZOO BLVD/EXIT 10 (on)	66	66	66	66	66	65	66	66	66	66	66	66	66	66	66	66	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67
25TH ST/EXIT 11 (off)	66	67	67	66	66	66	66	66	66	66	66	66	67	67	67	66	67	67	67	67	67	68	68	67	68	67	67	67	67	67	67
25TH ST/EXIT 11 (off)	67	67	67	67	67	67	67	66	66	66	67	67	67	67	67	67	67	68	68	68	68	68	68	68	68	68	68	68	68	68	68
KS-96/EXIT 13 (off)	67	67	66	65	67	66	66	67	66	66	66	67	67	67	67	67	67	67	68	68	68	68	68	68	67	68	68	68	68	68	68
KS-96/EXIT 13 (on)	67	67	67	67	67	66	66	66	66	66	66	66	67	67	67	67	67	67	67	67	68	67	68	67	68	68	68	68	68	67	
BROADWAY ST/EXIT 15 (off)	65	63	54	48	61	64	64	64	64	64	64	64	65	64	64	65	65	65	65	65	65	65	66	66	66	66	66	66	66	66	66
BROADWAY ST/EXIT 15 (on)	64	60	45	34	54	61	62	63	63	62	62	62	64	64	64	64	64	64	64	65	64	64	64	65	65	65	64	65	65	65	65
I-135 (off)	59	54	43	35	47	56	57	57	58	57	57	57	59	59	59	59	60	60	60	60	60	60	60	61	60	61	61	61	61	61	62
I-135 (on)	58	55	53	50	53	56	56	55	56	55	55	55	56	57	56	58	58	58	58	59	56	58	59	59	59	59	59	58	59	59	59

Figure 18: I-235 Northbound Average Traffic Speeds by Time of Day.

	7:00 AM	7:15 AM	7:30 AM	7:45 AM	8:00 AM	8:15 AM	8:30 AM	8:45 AM	9:00 AM	9:15 AM	9:30 AM	9:45 AM	2:15 PM	2:30 PM	2:45 PM	3:00 PM	3:15 PM	3:30 PM	3:45 PM	4:00 PM	4:15 PM	4:30 PM	4:45 PM	5:00 PM	5:15 PM	5:30 PM	5:45 PM	6:00 PM	6:15 PM	6:30 PM	6:45 PM
BROADWAY ST/EXIT 15 (off)	60	60	60	59	58	59	59	59	58	59	59	59	59	59	59	59	59	59	58	58	58	58	58	58	57	58	60	61	61	61	61
BROADWAY ST/EXIT 15 (on)	64	63	64	64	63	63	63	63	62	62	63	63	63	63	63	63	64	64	63	63	63	63	62	62	61	62	64	65	64	65	65
KS-96/EXIT 13 (off)	64	64	64	64	63	64	63	63	62	63	63	63	64	64	64	64	64	64	64	64	64	64	63	63	62	63	65	65	65	65	66
KS-96/EXIT 13 (on)	65	66	65	66	65	65	65	65	65	65	65	66	65	65	65	65	65	66	65	65	65	65	64	64	64	64	65	67	66	66	66
25TH ST/EXIT 11 (off)	67	67	67	67	66	66	66	66	65	65	66	66	66	66	66	66	66	66	66	66	66	66	67	67	67	67	67	67	67	67	67
25TH ST/EXIT 11 (on)	67	68	67	68	67	67	67	67	66	66	66	67	67	66	66	67	66	66	67	67	67	67	67	67	67	67	67	67	67	67	67
ZOO BLVD/EXIT 10 (off)	66	65	65	65	64	64	64	64	64	63	63	63	63	63	63	64	64	63	63	63	63	63	63	63	63	63	62	63	62	62	62
ZOO BLVD/EXIT 10 (on)	66	66	65	66	66	66	66	66	66	65	65	65	65	65	65	65	66	65	65	65	65	65	65	64	63	64	65	66	66	66	66
CENTRAL AVE/EXIT 8 (off)	65	66	65	65	65	65	65	65	65	65	64	65	65	65	65	65	65	65	64	65	64	64	64	64	62	64	64	65	65	65	65
CENTRAL AVE/EXIT 8 (on)	66	66	65	65	65	66	65	66	65	65	65	65	65	65	65	65	65	65	65	65	65	65	66	66	65	66	66	65	66	65	66
US-400/US-54/W KELLOGG DR/EXIT 7 (off)	65	65	64	63	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	65	64	64	65	64	65
US-400/US-54/W KELLOGG DR/EXIT 7 (on)	65	66	66	66	65	65	65	65	65	64	64	65	65	65	65	65	66	65	65	65	66	66	66	66	66	66	65	65	66	66	66
KS-42/SOUTHWEST BLVD/EXIT 5	64	63	63	61	63	64	64	64	64	64	64	64	63	64	64	64	65	64	64	65	65	64	65	65	65	65	65	65	66	66	66
WEST ST/EXIT 4 (off)	64	65	66	65	64	64	64	65	64	64	65	64	65	64	64	65	65	64	64	64	65	64	64	63	63	63	63	65	64	65	64
WEST ST/EXIT 4 (on)	67	67	67	67	66	66	66	66	66	66	66	66	66	66	67	67	67	66	66	66	67	67	67	67	67	66	67	67	67	67	67
MERIDIAN AVE/EXIT 3 (off)	63	64	65	64	64	63	63	64	64	64	63	64	65	63	64	64	64	63	64	64	64	65	64	63	63	63	63	64	63	64	64
MERIDIAN AVE/EXIT 3 (on)	64	64	65	64	63	63	63	64	64	64	64	64	65	64	64	64	64	63	64	64	64	65	64	63	62	63	63	64	63	63	64
SENECA ST/EXIT 2 (off)	64	65	65	65	64	63	63	64	64	63	64	64	64	64	64	64	63	64	64	64	65	64	63	63	63	62	64	63	64	64	64
SENECA ST/EXIT 2 (on)	64	65	65	65	64	64	64	65	64	64	64	64	65	64	64	64	64	63	64	64	65	65	65	63	63	63	63	64	63	64	64
MACARTHUR RD/EXIT 1	63	64	64	64	63	62	62	63	63	63	63	63	63	63	63	63	64	62	63	63	63	64	63	63	62	62	62	63	63	63	63
I-135/EXIT 1 (off)	59	60	59	59	59	58	59	59	59	58	59	59	59	59	59	60	59	59	59	59	60	59	60	59	59	59	59	60	60	60	60
I-135/EXIT 1 (on)	60	62	61	62	60	60	60	60	60	60	60	61	61	60	60	61	61	60	60	60	61	61	61	61	60	60	60	61	61	61	61
47TH ST/EXIT 1	51	52	51	50	51	51	51	50	50	50	50	50	51	52	51	51	51	50	51	51	51	51	51	51	50	52	52	52	53	52	53

Figure 19: I-235 Southbound Average Traffic Speeds by Time of Day.

MTP 2050

Appendix G

Regional ITS Architecture

Credit: Google Maps

Regional Intelligent Transportation Systems Architecture

WHAT IS ITS

Intelligent Transportation Systems (ITS) is the use of electronic devices integrated with communication technologies and management strategies to improve the efficiency and safety of a transportation network. ITS is meant to be a relatively low-cost solution for increasing mobility on the transportation system compared to traditional pavement actions.

> *"ITS technologies augment traditional infrastructure improvement approaches by integrating advanced communications technologies into vehicles and existing infrastructure to improve transportation operations, efficiency, and reliability."* (USDOT FHWA)

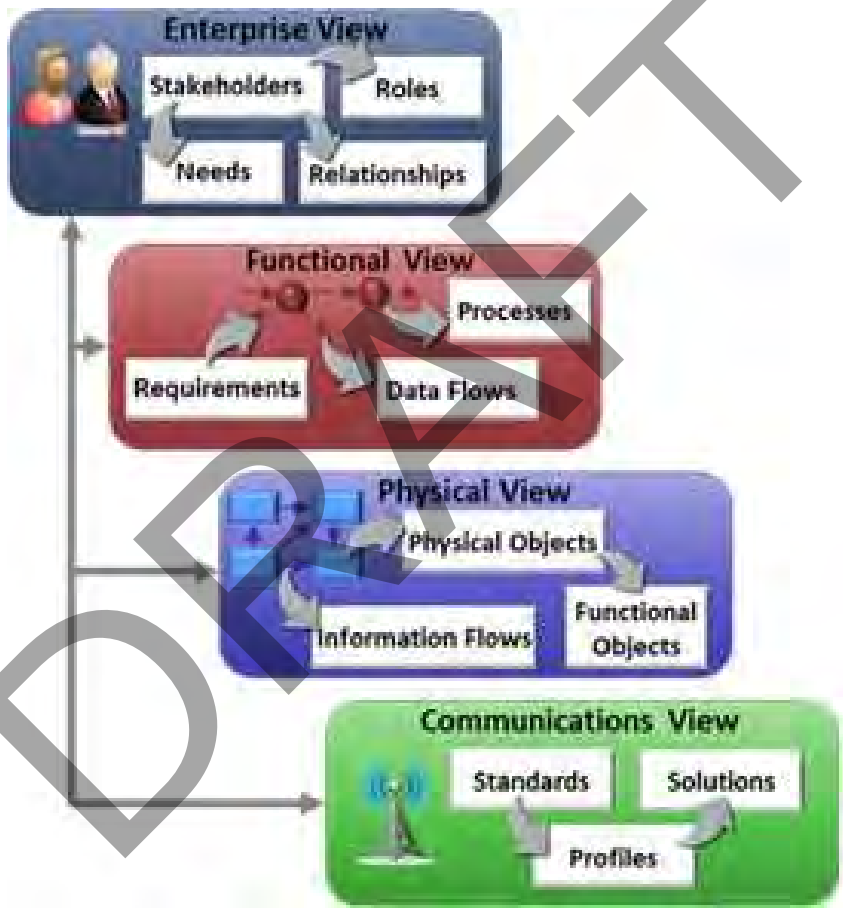
https://highways.dot.gov/research/laboratories/saxton-transportation-operations-laboratory/ITS-technologies

By monitoring traffic through cameras, sensors, vehicle data, and applications in real time, operators are able to inform the traveling public of current conditions along anticipated routes, allowing advanced decisions in travel either through websites, applications, or direct to driver roadside devices like dynamic message signs. This strategy and others are leveraged to improve the transportation network in the following areas:

- Safety – Drivers equipped with knowledge of conditions ahead, including incidents, can anticipate delays and avoid secondary incidents either by slowing down or considering alternative routes.
- Efficiency – As drivers understand changes to transportation, like a construction zone, they increase their awareness of abnormal driving patterns and avoid crashes.
- Data – With the use of ITS strategies comes the benefit of data, both in real time and historic, allowing planners and engineers the ability to identify opportunities for transportation network improvements, including ITS solutions and traditional transportation approaches.

WHAT IS ITS ARCHITECTURE

ITS Architecture describes how people, devices, and data interact at various levels with the goal of understanding how changes will be assimilated by the system or how the system must change to accommodate advancement in technology while meeting the needs of those involved. These various levels are described in four categories, including the enterprise, functional, physical, and communications, as illustrated below.



https://www.arc-it.net/

The enterprise level includes a scroll of stakeholders along with their roles and responsibilities to, and needs of, the transportation system. At the functional level; data flows, requirements, and various processes are mapped out for the system environment. A physical view illustrates the devices and objects in the field and must prescribe the interoperability of those technologies along with any constraints. Finally, the communications level highlights the view between devices and transportation management centers.

The United States Department of Transportation (USDOT) has created a national-level architecture designed to provide common ground for all ITS deployments. They also produced a software platform called Architecture Reference for Cooperative and Intelligent Transportation, or ARC-IT, that scales for any depth of architecture. Concordantly, each state typically follows up with an architecture unique to the environment of that state. Narrowing one additional level provides the regional-level architecture consistent with an area with unique properties including metropolitan planning organizations like WAMPO.

Each level down from National to State to Regional increases the specificity and definition within the architecture while staying consistent with the levels above. This nested framework provides the opportunity for interoperability between the levels for mutual benefit especially when it comes to data sharing.

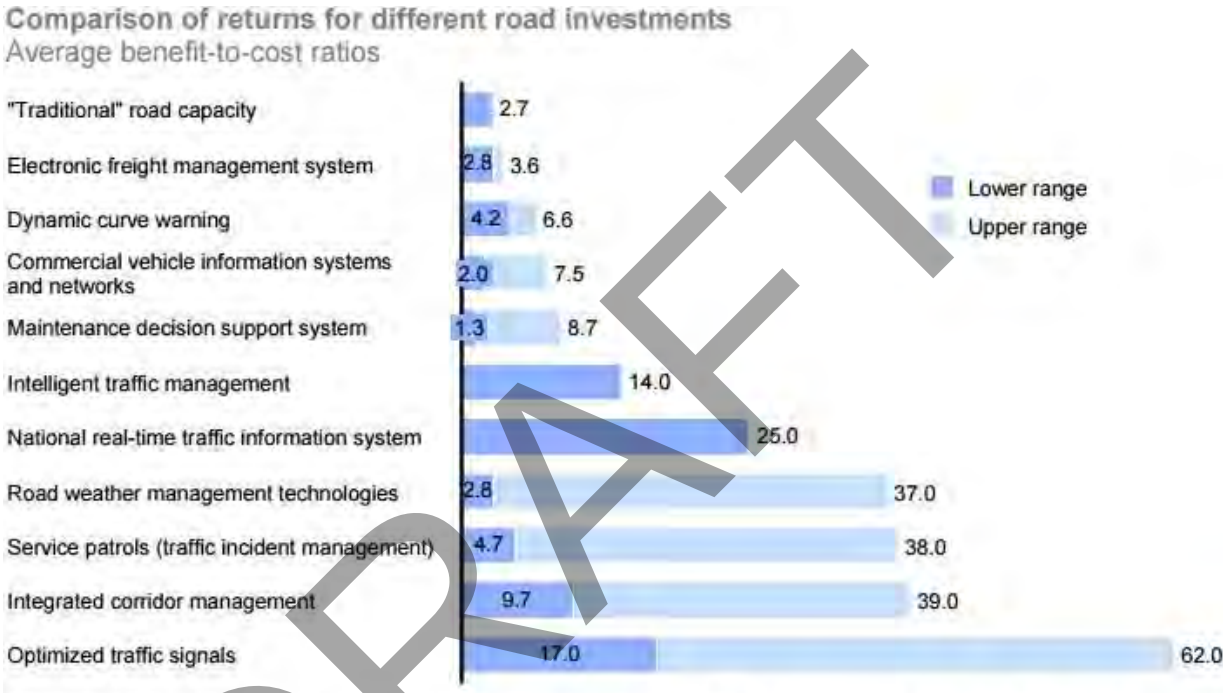
The architecture can vary in detail level as well. At a high level, relationships are addressed between stakeholders, devices, and data centers. Only at a lower, more detailed level, will exact components and connections be mapped. This detail is usually examined further when deployment strategies are executed and a systems engineering evaluation uncovers those details required for project success.

> *"In the context of Intelligent Transport Systems, a high level architecture is the conceptual design that defines the structure and/or behavior of the system. It specifies the functionality needed to provide ITS user services – the specifications are technology independent, and the selection of individual components and communications are left open. This technology independence means that suppliers have freedom to choose a technical solution that is most appropriate for the client, whilst still complying with the overall architecture.*
>
> *Low-level (or component) architectures, by contrast, contain the actual designs for hardware, software, data exchange and communications. They define more narrowly the technologies required including the use of ITS standards."*
>
> https://rno-its.piarc.org/en/systems-and-standards-its-architecture/what-its-architecture

WHY IS REGIONAL ITS ARCHITECTURE IMPORTANT

At a regional high level, ITS deployment strategies tend to address specific needs of the stakeholders. The regional ITS architecture must address subjects including services, components, communications, management, and locations. The value of each of these subjects is only realized through their relationships with each other. The objective of leveraging these

relationships is risk mitigation. Risk mitigation is important with technology as advancements can out-pace deployments leading to risk of having outdated technology that may be difficult to maintain or is no longer supported. Therefore, agencies place focus, through an ITS architecture, on identifying opportunities for low risk–high reward projects that address stakeholder needs. These opportunities often have a better benefit to cost ratio over traditional road investments as illustrated below:



SOURCE: *Intelligent transportation systems*, Capitol Research, Council of State Governments, April 2010; Transport for London, 2007; *Intelligent transportation systems benefits, costs, deployment, and lessons learned desk reference: 2011 update*, US Department of Transportation, September 2011; *Urban mobility plan*, Seattle Department of Transportation, January 2008; McKinsey Global Institute analysis

An example within the WAMPO region that illustrates the importance of the regional architecture is traffic signals at intersections. Signals exist throughout the WAMPO region. In the past, agencies may do things differently with components and communications. However, common ground exists with the need to maintain operating signals at key locations and keep congestion managed to reasonable driver expectations.

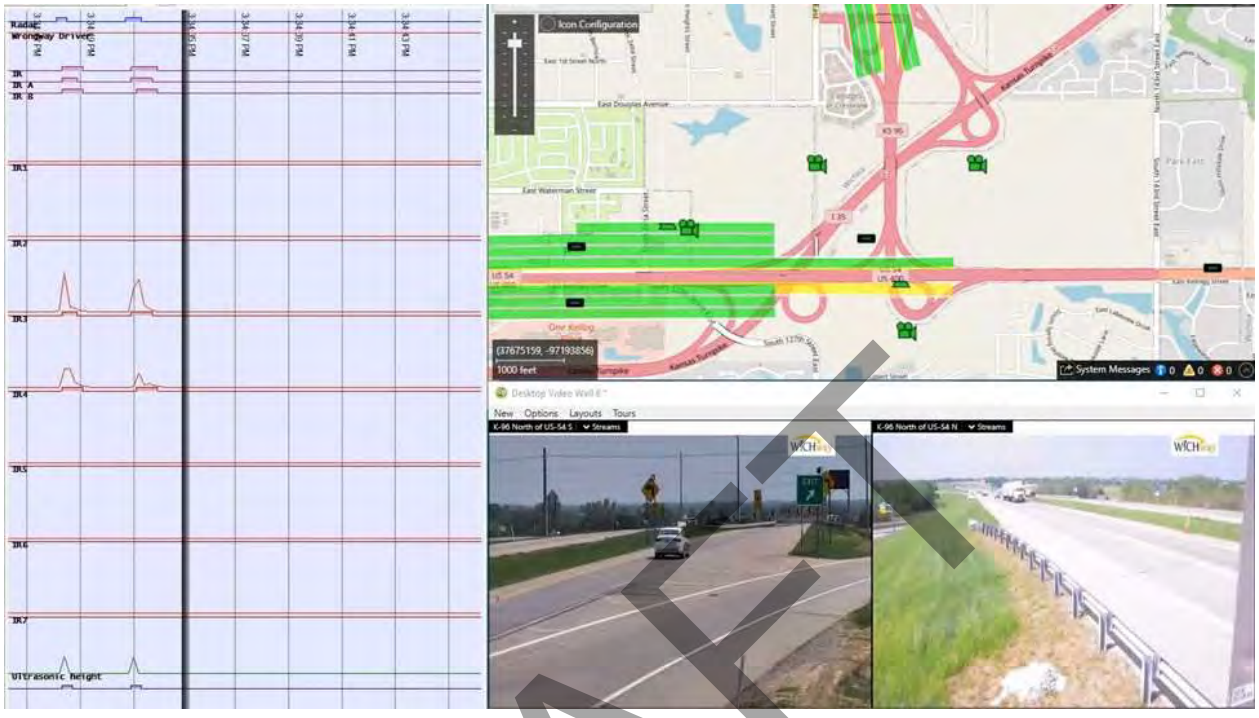
https://www.miamitodaynews.com/2021/08/03/central-command-system-will-help-traffic-signals-get-smarter/

To meet both of these needs, ITS advancements can be leveraged. Newer signal technologies include interoperability and connected capabilities allowing intersections to communicate, leading to a corridor-based approach to traffic management. The results produce a reduction of congestion as the signals no longer act independently.

As signals become outdated and replacement is the only option, cities have agreed through the ITS Architecture and Strategic Deployment Plans to standardize the purchasing of new signal components and methods of communication between signals. Over time, corridor management will become possible regardless of city boundaries. Common deployment and communication strategies will also prove beneficial during maintenance as cities can pool resources when repair is needed without cross-training. This construct is embedded within the region's ITS Architecture.

THE ROLE OF ITS IN THE WAMPO REGION

ITS is under the umbrella of Transportation Systems Management and Operations (TSMO). TSMO includes ITS, Traffic Incident Management, and Traffic Management Centers, among other subjects. ITS architecture connects the stakeholders of all of these with their roles and responsibilities, so what is the real life impact of ITS in the WAMPO region right now and what is planned in the future?

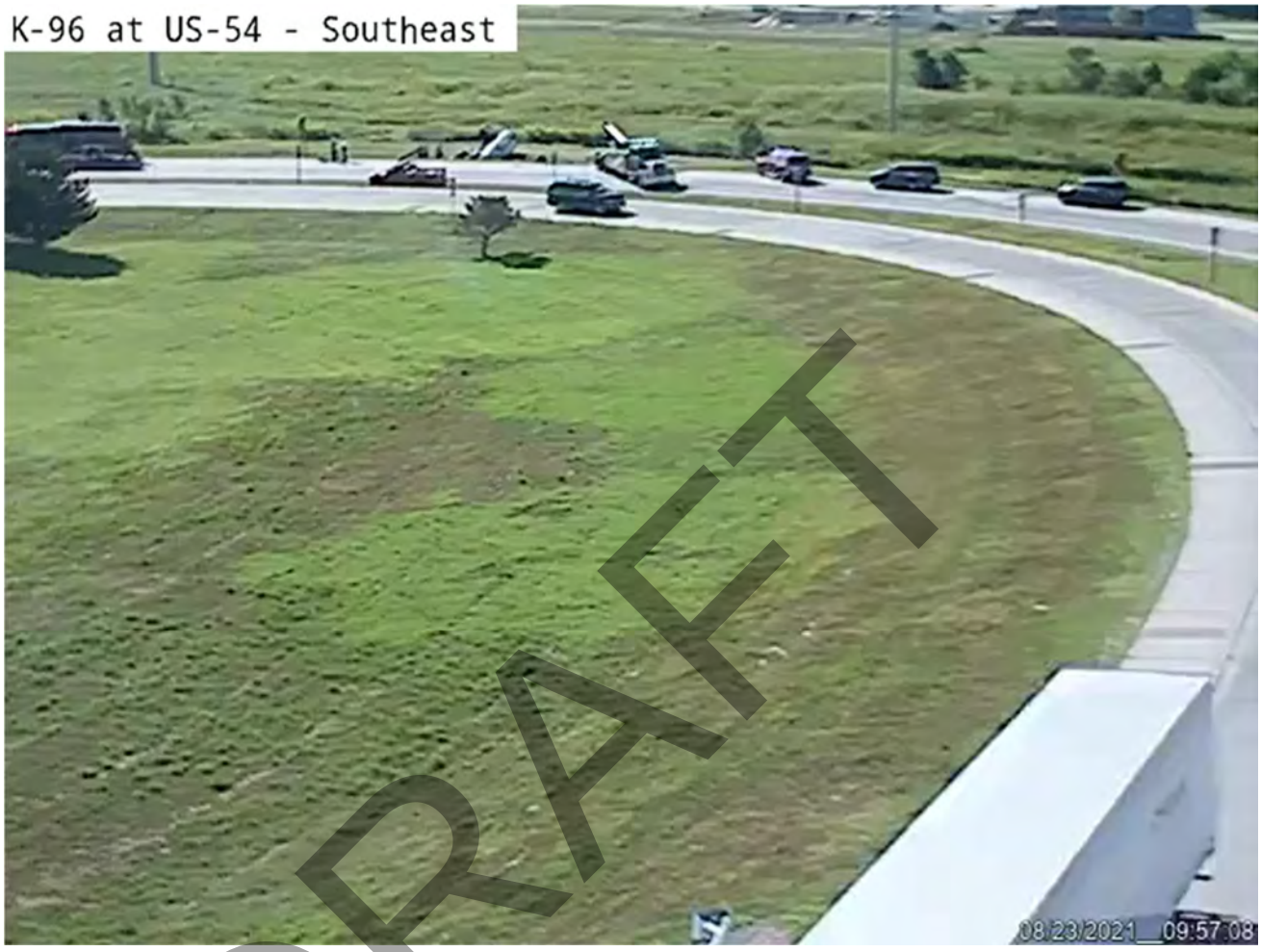


WICHway screenshot of active traffic management.

One impact the WAMPO region has benefited from is the WICHway Traffic Management Center. The center has a focus of reduced incident clearance time. Any time normal traffic flows are disrupted in an unexpected scenario like a crash, the time it takes to clear and return to normal operations results in exposure to the potential of a secondary crash that usually is worse than the original crash. Through procedures with first responders, ITS devices in the field, and traffic data, the center has been able to reduce the average clearance time from 177 minutes down to 55 minutes in less than a decade.

The WAMPO region also benefits from the Kansas Department of Transportation's traveler information website KanDrive. The site includes feeds from highway cameras, dynamic message signs, and traffic management centers with the desire to increase awareness among travelers, commuters, and truck drivers, leading to improved safety and mobility statewide.

Live Traffic Feed Available at https://kandrive.gov



Ramp of K-96 at US-54 where trucks have turned over due to excess speed.

Another example of a successful ITS deployment is the Truck Overturn Prevention System (TOPS). At the K-96 and US-54 interchange, there was a history of trucks taking a ramp at unsafe speeds causing them to tip over as they navigated the curve. An ITS solution, TOPS, was deployed that actively monitors speeds and activates dynamic signs when excessive speeds are detected. The ramp has not experienced a turnover crash since it was installed.

So, what is on the horizon in WAMPO with ITS? WAMPO published a TSMO Strategic Plan in 2019 to help guide all TSMO subjects in the next 5-10 years. An update will be finalized in 2025 that includes strategies like:

> *DATA REPOSITORY*: WAMPO is dedicated to creating a transportation data repository for the benefit of stakeholders on either traffic operations or planning.

SIGNALS: The region plans to establish a standard for ITS and signal deployments in the future for interoperability and sharing resources. This includes considering Advanced Traffic Management Systems and Automated Traffic Signal Performance Measures.

COMMUNICATION INFRASTUCTURE: Through a regional fiber plan and agreements, continued investment in communication infrastructure will connect and improve ITS deployments around the region.

TRAFFIC INCIDENT MANAGEMANT: The region will continue to invest in the TIM program and efforts to bring first responders together.

ITS DATA SENSORS: Expansion of the KDOT sensor deployments to key arterial and local roads, with technology that makes sense for those facilities, will help to broaden the reach of direct traffic data for users.

There are additional strategies included within the 2025 TSMO Strategic Plan and updated ITS Architecture. The success of these strategies is dependent on and propelled by the updated, comprehensive, and maintained ITS Architecture along with the stakeholders' relationships with each other and with the system.

MTP 2050

DRAFT

Appendix H
Regional Commuter Flows Report

Credit: Claudia Kunkel

Regional Commuter Flows Report

December 2024

Revised May 2025

Wichita Area Metropolitan Planning Organization
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Office: (316) 779-1313 | Fax: (316) 779-1311
wampo@wampo.org | www.wampo.org

The Wichita Area Metropolitan Planning Organization (WAMPO) hereby gives public notice that it is the policy of the agency to assure full compliance with Title VI of the Civil Rights Act of 1964, the Civil Rights Restoration Act of 1987, and related statutes and regulations in all programs and activities.

Title VI requires that no person in the United States of America shall, on the grounds of race, color, or national origin, be excluded from the participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity under the control of WAMPO. Requests for special accommodation and/or language assistance should be made to wampo@wampo.org or by calling 316.779.1313.

Any persons who believe they have been aggrieved by an unlawful discriminatory practice under Title VI has a right to file a formal complaint with WAMPO. Any such complaint must be in writing and filed with WAMPO's Title VI Coordinator within one hundred eighty (180) days following the date of the alleged discriminatory occurrence. For more information, or to obtain a Title VI Discrimination Complaint Form, please visit www.wampo.org or call 316.779.1313.

Disclaimer: The preparation of this report has been financed in part through funds from the Federal Highway Administration and Federal Transit Administration, U.S. Department of Transportation, under the Metropolitan Planning Program, Section 104(f) of Title 23, U.S. Code. The contents of this report do not necessarily reflect the official views or policy of the U.S. Department of Transportation.

Contents

Introduction

Labor markets extend beyond county and city boundaries. Every day, workers commute within and between various counties and cities, as well as across different jurisdictions. Certain jurisdictions within the Wichita Area Metropolitan Planning Organization (WAMPO) region have a comparative advantage in particular industries, as evidenced by the numbers of workers that commute to them each day. That is not to say that the communities whose resident workers commute to elsewhere are lacking in some way— they may have an advantage in available housing, recreational amenities, or other key economic factors.

This report compiles data about the locations of workers' primary (non-home) workplaces and residences. Together, these data provide an understanding of commuter flows, showing the interconnectedness of communities and the interchange of workers and services between areas. This helps to define and distinguish the Wichita metropolitan area from smaller stand-alone communities and other metropolitan and micropolitan areas in Kansas. Wichita is the clear hub of the WAMPO region, though the cities around it are growing in both residential appeal and job opportunities through the increasing number of industrial and commercial giants seeking to add business operations in the Wichita metropolitan area. Many of the cities surrounding Wichita focus on residents' quality of life by expanding residential areas and accompanying amenities.

Of further significance in commuting patterns are the schools in and around a municipality. The presence of a unified school district in a city indicates greater community infrastructure and quality of life—important factors for those who may choose to both live and work in a particular city or to only live there. For example, some smaller or neighboring municipalities in the WAMPO region rely upon Wichita Public Schools (USD 259) for education.

Note: The data presented in this report include cities within the WAMPO region. The data source is the U.S. Census Bureau, Center for Economic Studies, LEHD, OnTheMap from 2017 to 2021 (the most recent year available as of July 2024), unless otherwise noted. This source uses information from W2 tax forms, which may have some inaccuracies.

WAMPO Planning Boundary

Sedgwick County, which is entirely within the WAMPO region and accounts for most of its land area and population, is the second most populous county in Kansas and is home to the state's most populous city, Wichita. It is bordered by Butler and Sumner Counties (parts of which are in the WAMPO region), as well as Reno, Harvey, and Kingman Counties (which are entirely outside the WAMPO region). One reason for commuter flows out of Sedgwick County is employment at Butler County Community College in Butler County, Hutchinson Community College in Reno County, and Hesston College and Bethel College in Harvey County. Similarly, Wichita State University, Friends University, and Newman University in Sedgwick County create commuter flows into the county and into the WAMPO region from the five adjacent counties.

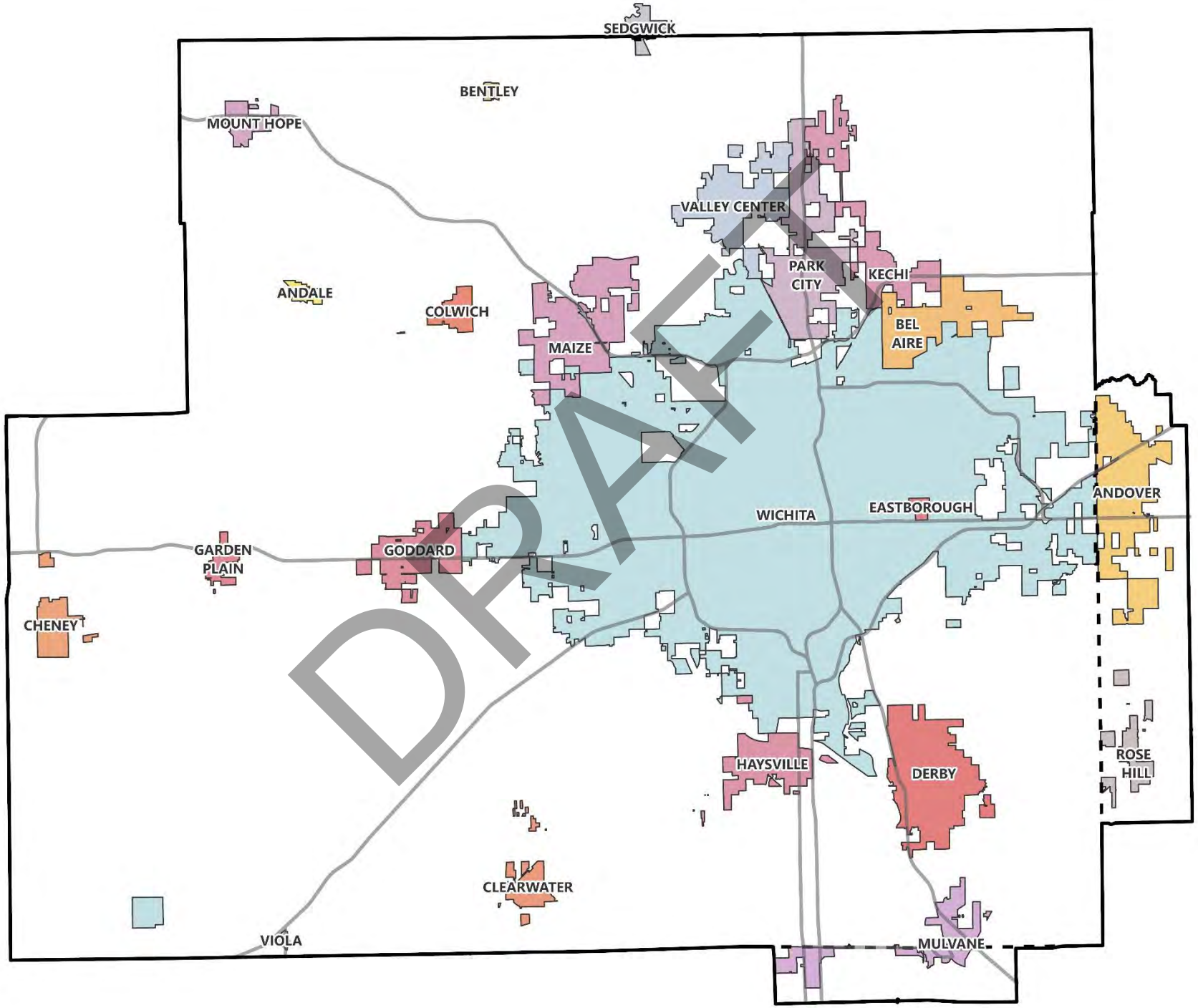
This report presents the commuter flows of WAMPO-region cities in order from most populous to least populous city, according to the 2020 U.S. Decennial Census:

1. Wichita (397,532)
2. Derby (25,625)
3. Andover* (14,892)
4. Haysville (11,262)
5. Park City (8,333)
6. Bel Aire (8,262)
7. Valley Center (7,340)
8. Mulvane* (6,286)
9. Maize (5,735)
10. Goddard (5,048)
11. Rose Hill* (4,185)
12. Clearwater (2,653)
13. Kechi (2,217)
14. Cheney (2,181)
15. Sedgwick* (1,603)
16. Colwich (1,445)
17. Garden Plain (948)
18. Andale (941)
19. Mount Hope (806)
20. Eastborough (756)
21. Bentley (560)
22. Viola (115)

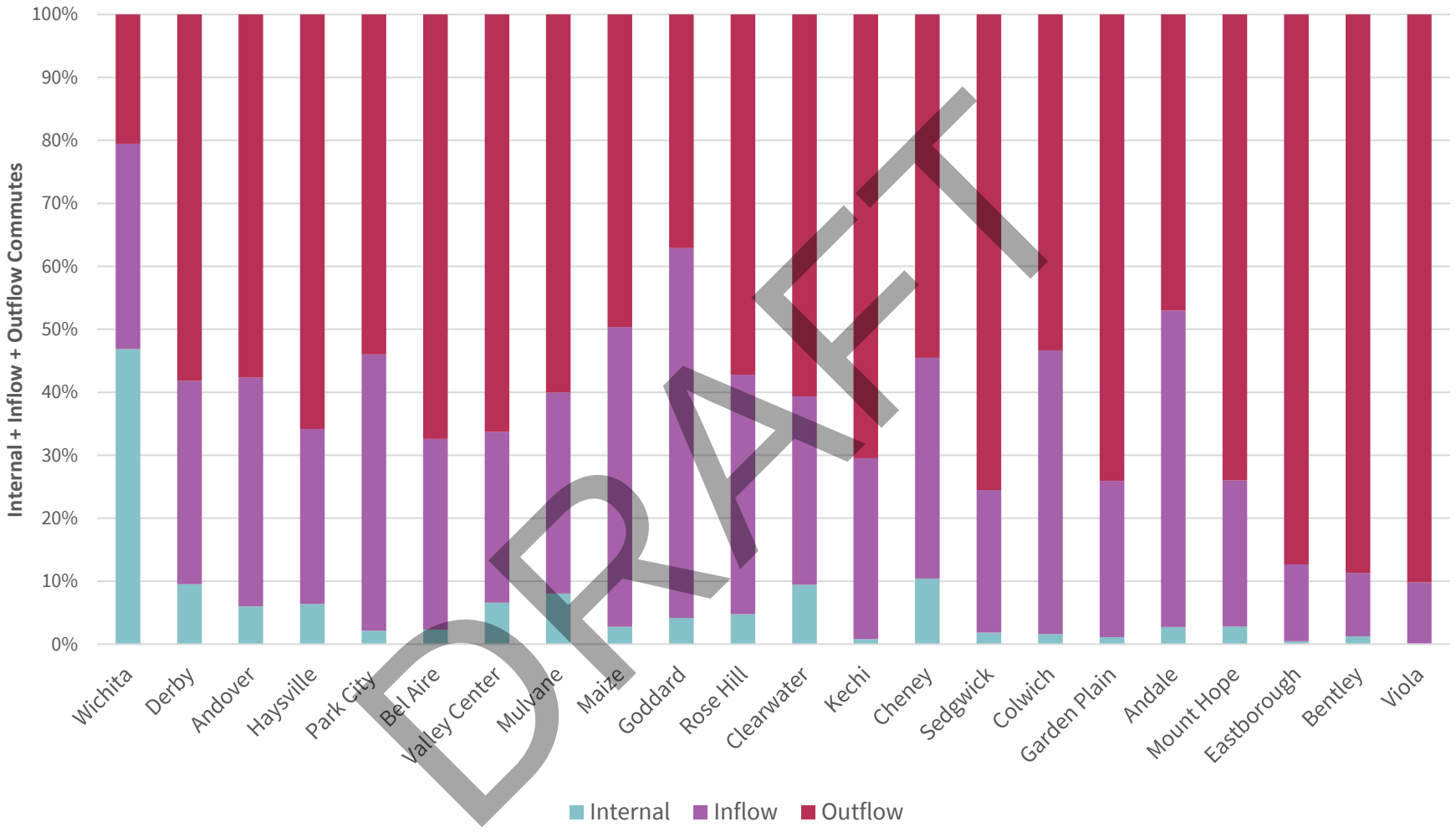
*Andover and Rose Hill are in Butler County. Mulvane is in both Sedgwick and Sumner Counties. The city of Sedgwick is in both Sedgwick and Harvey Counties. All other cities are entirely in Sedgwick County.

According to the 2020 U.S. Decennial Census, Sedgwick County's population was 523,824 (not to be confused with the county's labor force, as not all residents are employed or seeking employment). In 2021, the average travel time to work for workers aged 16+ was 19.3 minutes. Sedgwick County has an inflow of 27,147 workers coming into the county from home locations in the five adjacent counties and an outflow of 13,226 workers who live in Sedgwick County and are employed in the other counties. Over half of those who commute into Sedgwick County from adjacent counties come from Butler County. Likewise, of those who live in Sedgwick County and work elsewhere, about half commute to Butler County.

WAMPO Planning Boundary



Commuter Flows of WAMPO Cities



Commuter Flows: Information about worker's residence location and workplace location

Internal: Commuters who live and work in the same city

Inflow: Workers who commute into a city for work

Outflow: Workers who commute out of a city for work

Commuter Flows of WAMPO Cities

2021 Commuters			
City	**Internal**	**Inflow**	**Outflow**
Wichita	115,829	80,458	50,733
Derby	1,584	5,378	9,683
Andover	598	3,635	5,767
Haysville	436	1,905	4,511
Park City	151	3,102	3,818
Bel Aire	119	1,576	3,508
Valley Center	311	1,278	3,129
Mulvane	344	1,363	2,564
Maize	137	2,372	2,475
Goddard	234	3,301	2,086
Rose Hill	139	1,105	1,663
Clearwater	168	533	1,081
Kechi	12	434	1,064
Cheney	159	536	834
Sedgwick	18	221	737
Colwich	21	582	689
Garden Plain	6	133	397
Andale	24	446	417
Mount Hope	13	107	341
Eastborough	2	50	358
Bentley	4	32	282
Viola	0	5	46

Commuter Flows: Information about worker's residence location and workplace location

Internal: Commuters who work and live in the same city

Inflow: Workers who commute into a city for work

Outflow: Workers who commute out of a city for work

Wichita

Source: U.S. Census Bureau, Center for Economic Studies, LEHD. Accessed in December 2024 at https://onthemap.ces.census.gov/

Wichita is the largest city in Kansas, the primary hub of the WAMPO region, and the county seat of Sedgwick County. Incorporated in 1870, it is the principal city of the greater Wichita metropolitan area. Wichita has the largest school district in Kansas, employing over 5,500 full-time employees.[1] As of the 2020 Decennial Census, Wichita's population was 397,532. According to the American Community Survey, approximately 66% of Wichita's population was in the labor force in 2021 and the average travel time to work was 18.7 minutes.[2]

It has been dubbed the "Air Capital of the World" because of the presence of various aircraft design and manufacturing facilities, such as Textron Aviation, Bombardier Learjet, Airbus, and Spirit AeroSystems, as well as airports such as Dwight D. Eisenhower National, Colonel James Jabara, Westport, Beech Factory, and Cessna Aircraft Field.

Wichita has the greatest number of residents who both live and work in the city, at 115,829. 80,458 workers live outside of Wichita, both within and outside of the WAMPO region, and commute to Wichita for work. 50,733 residents live in Wichita and work elsewhere. During 2017-2021, Wichita saw a nearly constant number of workers who commute to Wichita from elsewhere.

Industry Class (2021)	Internal		Inflow		Outflow	
Goods Producing	18,974	16.4%	11,867	14.8%	15,652	30.8%
Trade, Transportation, & Utilities	20,643	17.8%	18,197	22.6%	9,604	18.9%
All Other Services	76,218	65.8%	50,388	62.6%	25,485	50.2%

[1] Wichita Public Schools Website, https://www.usd259.org/about-wps
[2] US Census 2021: ACS 5-Year and 1-Year Estimates Data Profiles
Retrieved from: https://data.census.gov/table/ACSDP5Y2021.DP03?g=160XX00US2079000
and https://data.census.gov/table/ACSST1Y2021.S0801?g=160XX00US2079000


120,442
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120,819
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120,779
81,617
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79,441
115,829
80,458
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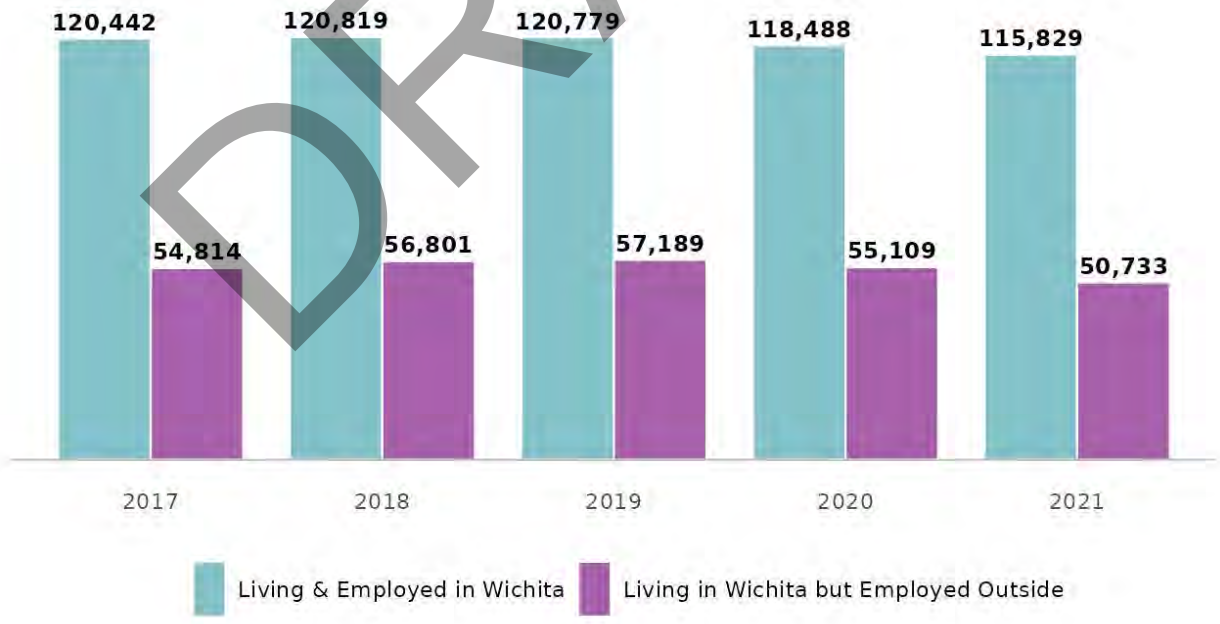
2021
Living & Employed in Wichita
Employed in Wichita but Living Outside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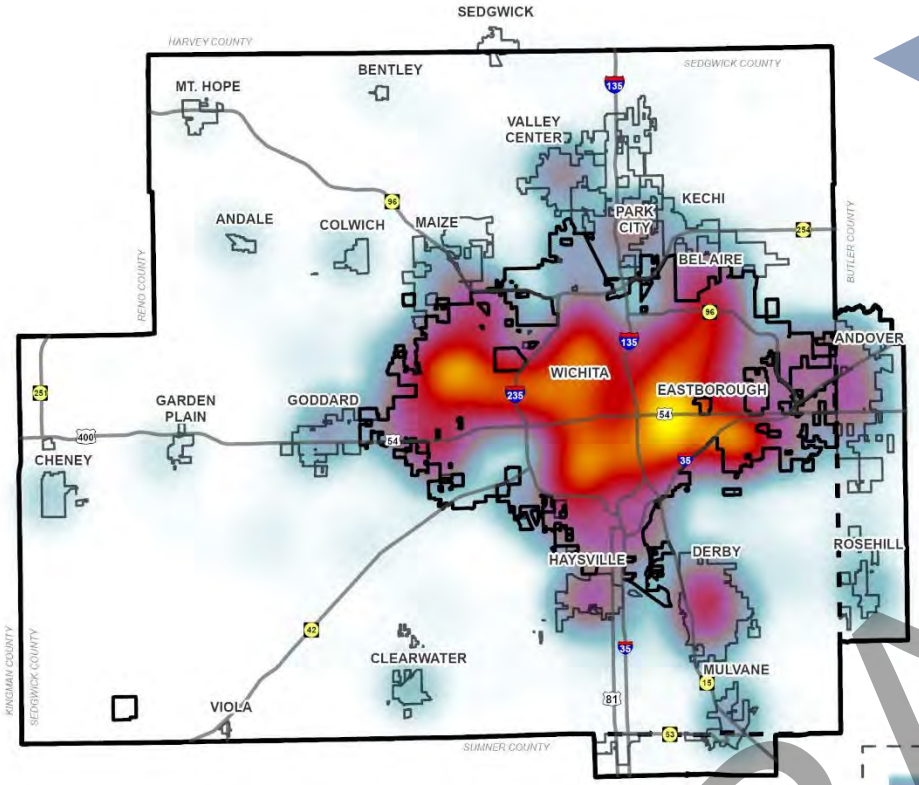
Living & Employed in Wichita
Living in Wichita but Employed Outside

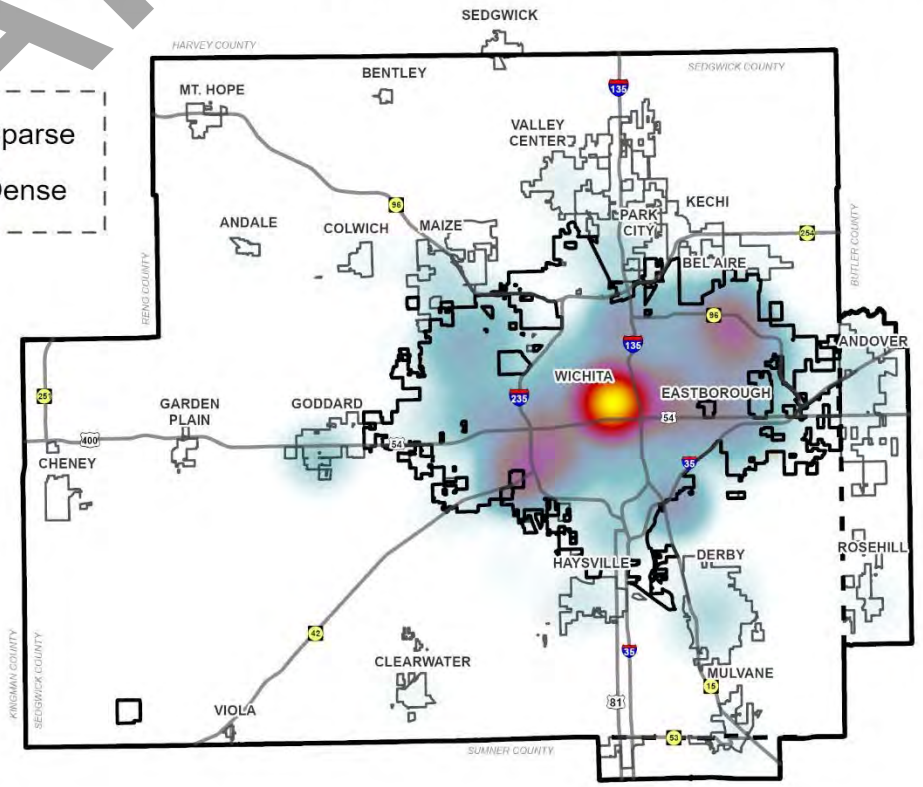
Where Workers Live Who Work in Wichita



122,557	62.4%	of workers who work in Wichita live	less than 10 miles	from their place of employment
37,213	19.0%		10 – 24 Miles	
10,105	5.1%		25 – 50 Miles	
26,412	13.5%		greater than 50 Miles	

Sparse

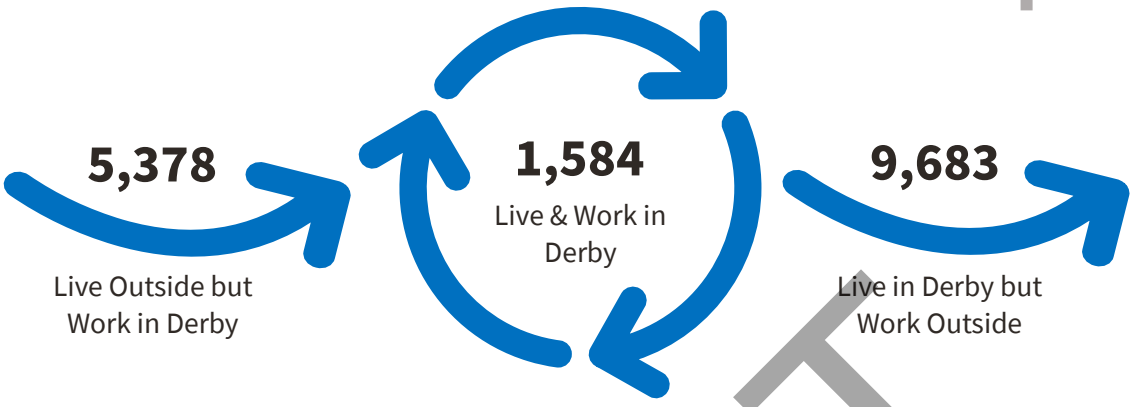
Dense



121,879	73.2%	of workers who live in Wichita work	less than 10 miles	from their place of residence
21,116	12.7%		10 – 24 Miles	
4,934	3.0%		25 – 50 Miles	
18,647	11.2%		greater than 50 Miles	

Where Workers Work Who Live in Wichita

Derby



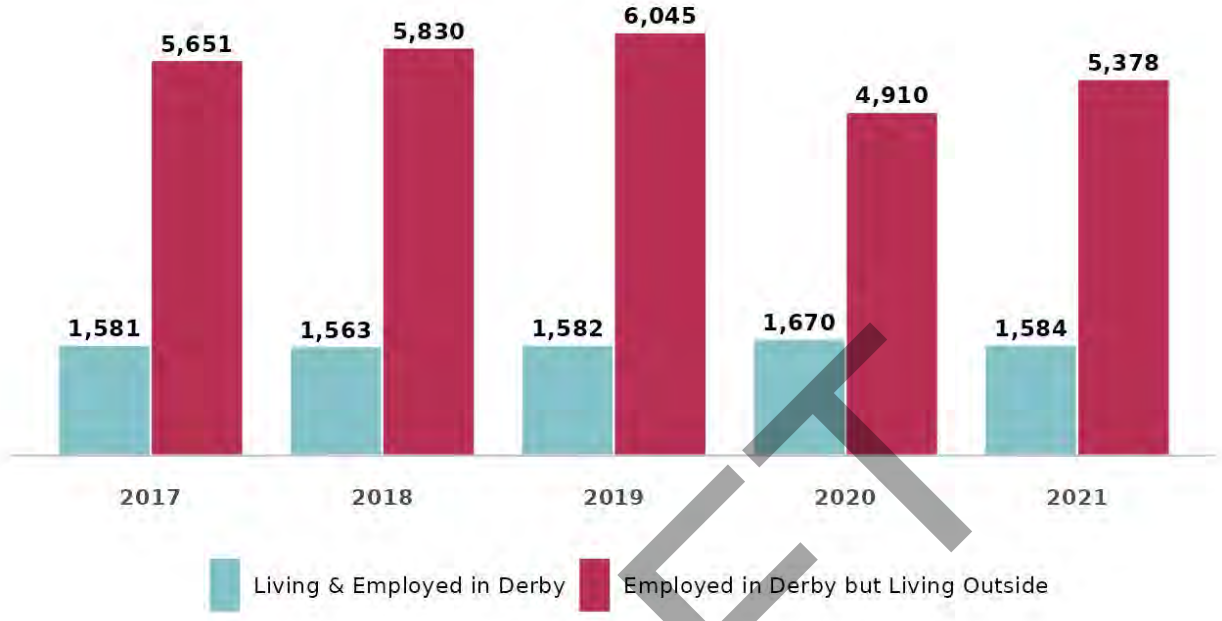
Source: U.S. Census Bureau, Center for Economic Studies, LEHD. Accessed in December 2024 at https://onthemap.ces.census.gov/

Derby was incorporated in 1903 but was named El Paso until 1956. McConnell Air Force Base is located between Wichita and Derby, with a Wichita ZIP code, and many Air Force members found a home in Derby when on-base housing became fully occupied. As of the 2020 Decennial Census, Derby's population was 25,625. According to the American Community Survey, approximately 68% of Derby's population was in the labor force in 2021 and the average travel time to work was 22.2 minutes.[3] Many jobs in the Derby area are based in either construction, retail, or real estate. It is due to these jobs that many residents choose to both live and work in Derby. Derby supports home-based businesses and large manufacturing companies like BRG Precision. Derby is served by its own public school district, as well as two private schools.

Between 2017 and 2021, the number of people living in Derby increased by approximately 6%. Derby had an approximate 5% decrease from 2017 to 2021 in the number of people living outside city limits and commuting to Derby for work. Approximately 5% of workers employed in the WAMPO region live in Derby. Approximately 3% of workers who live in the WAMPO region work in Derby.

Industry Class (2021)	Internal		Inflow		Outflow	
Goods Producing	93	5.9%	229	4.3%	2,235	23.0%
Trade, Transportation, & Utilities	163	10.3%	1,688	31.4%	1,740	17.9%
All Other Services	1,329	83.8%	3,461	64.4%	5,724	59.0%

[3] US Census 2021: ACS 5-Year Estimates Data Profiles
Retrieved from: https://data.census.gov/table/ACSDP5Y2021.DP03?g=160XX00US2017800
and https://data.census.gov/table/ACSST5Y2021.S0801?g=160XX00US2017800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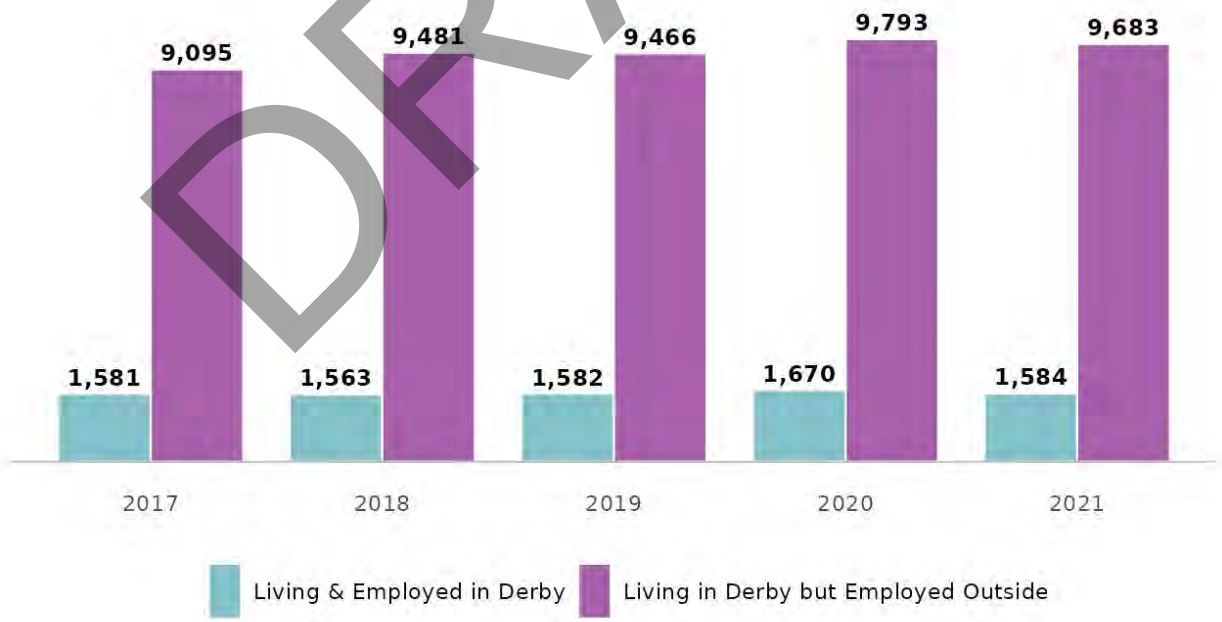
2021
Living & Employed in Derby
Employed in Derby but Living Outside


9,095
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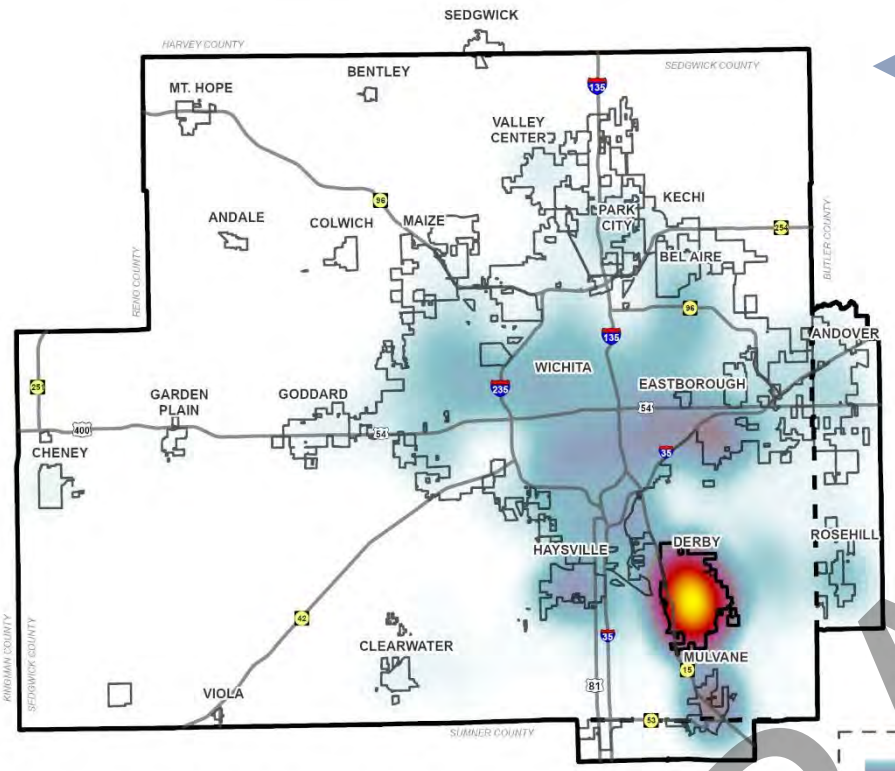
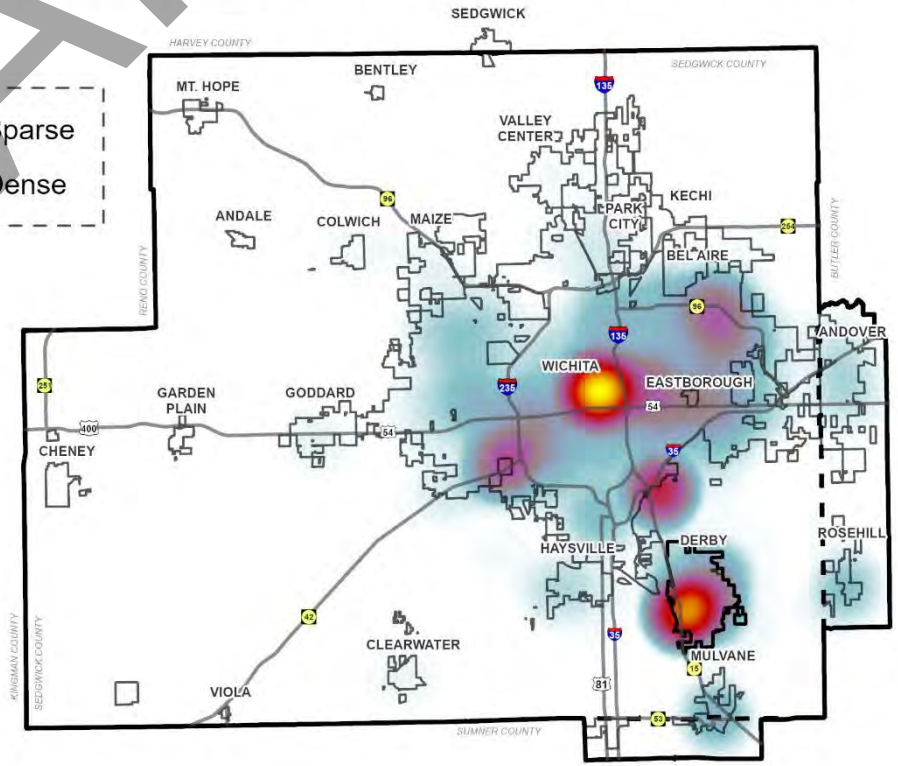
9,683
1,581
1,563
1,582
1,670
1,584
2017
2018
2019
2020
2021
Living & Employed in Derby
Living in Derby but Employed Outside

Where Workers Live Who Work in Derby

3,944	56.6%	of workers who work in Derby live	less than 10 miles
1,724	24.8%		10 – 24 Miles
353	5.1%		25 – 50 Miles
942	13.5%		greater than 50 Miles

from their place of employment





Where Workers Work Who Live in Derby

5,104	45.2%	of workers who live in Derby work	less than 10 miles
4,342	38.5%		10 – 24 Miles
446	4.0%		25 – 50 Miles
1,392	12.3%		greater than 50 Miles

from their place of residence

Andover

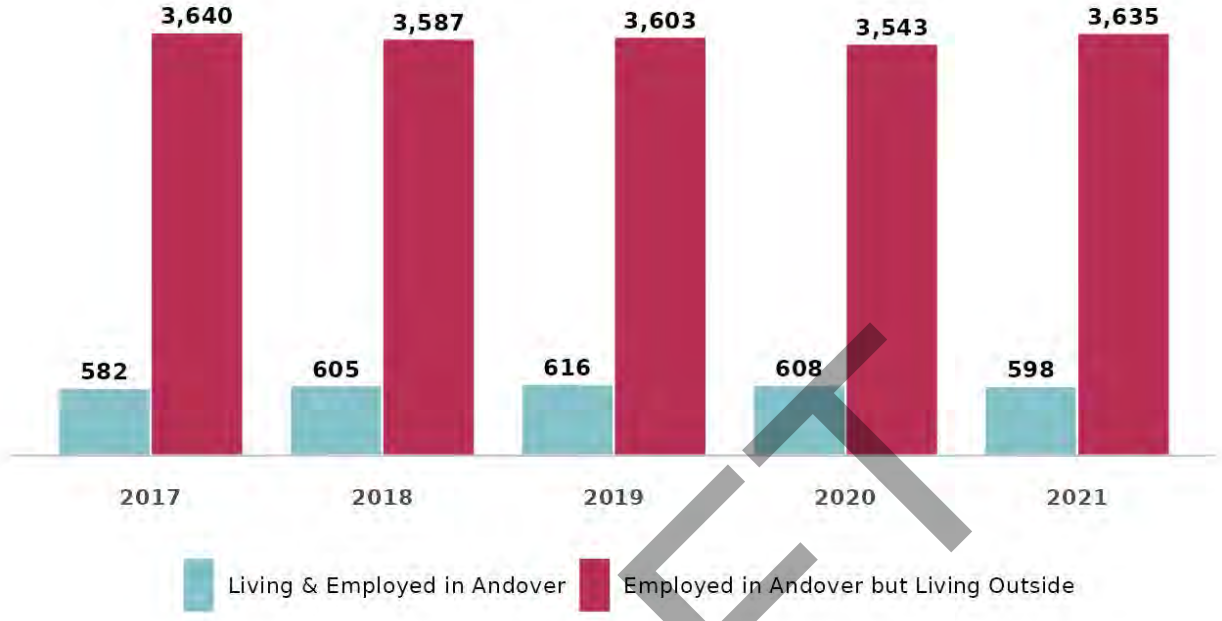
Source: U.S. Census Bureau, Center for Economic Studies, LEHD. Accessed in December 2024 at https://onthemap.ces.census.gov/

Andover was incorporated in 1957. As of the 2020 Decennial Census, Andover's population was 14,892. According to the American Community Survey, approximately 64% of Andover's population was in the labor force in 2021 and the average travel time to work was 23.3 minutes.[4] Surrounded by farmland, the city was devastated by an F5 tornado that forced the town to rebuild in 1991. Andover again experienced extensive damage from an F3 tornado in April 2022. Updated streets, sewers, and water lines encouraged fresh development. Andover is served by its own public school district and is also home to a branch campus of Butler Community College. Andover has placed a great emphasis on newer retail properties, education, and building residential properties for young families. Another job draw is Vornado Air, currently headquartered in Andover.

There are 598 residents who both live and work in Andover. 5,767 residents live in Andover but commute to someplace else for work. There are 3,635 commuters who live elsewhere but travel into Andover for work. During 2017-2021, Andover had an approximate 3% increase in the number of people both living and working in the city. Approximately 3% of workers employed in the WAMPO region live in Andover. Approximately 2% of workers who live in the WAMPO region work in Andover.

Industry Class (2021)	Internal		Inflow		Outflow	
Goods Producing	36	6.0%	398	10.9%	1,080	18.7%
Trade, Transportation, & Utilities	50	8.4%	545	15.0%	1,012	17.5%
All Other Services	512	85.6%	2,692	74.1%	3,675	63.7%

[4] US Census 2021: ACS 5-Year Estimates Data Profiles
Retrieved from: https://data.census.gov/table/ACSDP5Y2021.DP03?g=160XX00US2001800
and https://data.census.gov/table/ACSST5Y2021.S0801?g=160XX00US2001800


3,640
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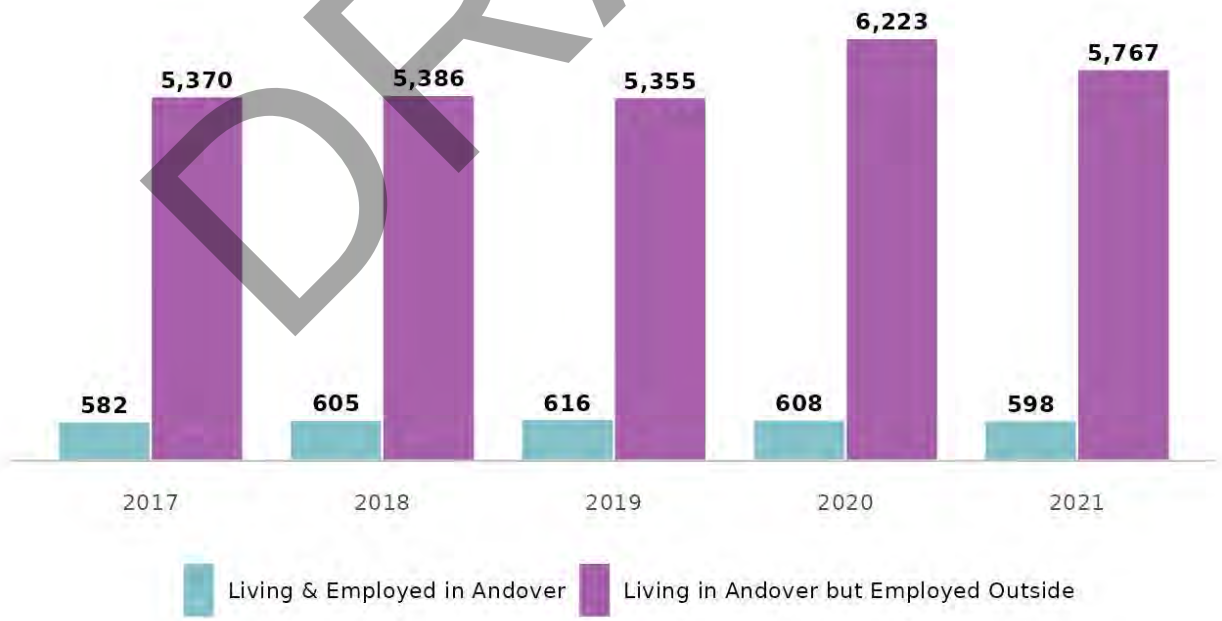
Living & Employed in Andover
Employed in Andover but Living Outside


5,370
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6,223
5,767
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598
2017
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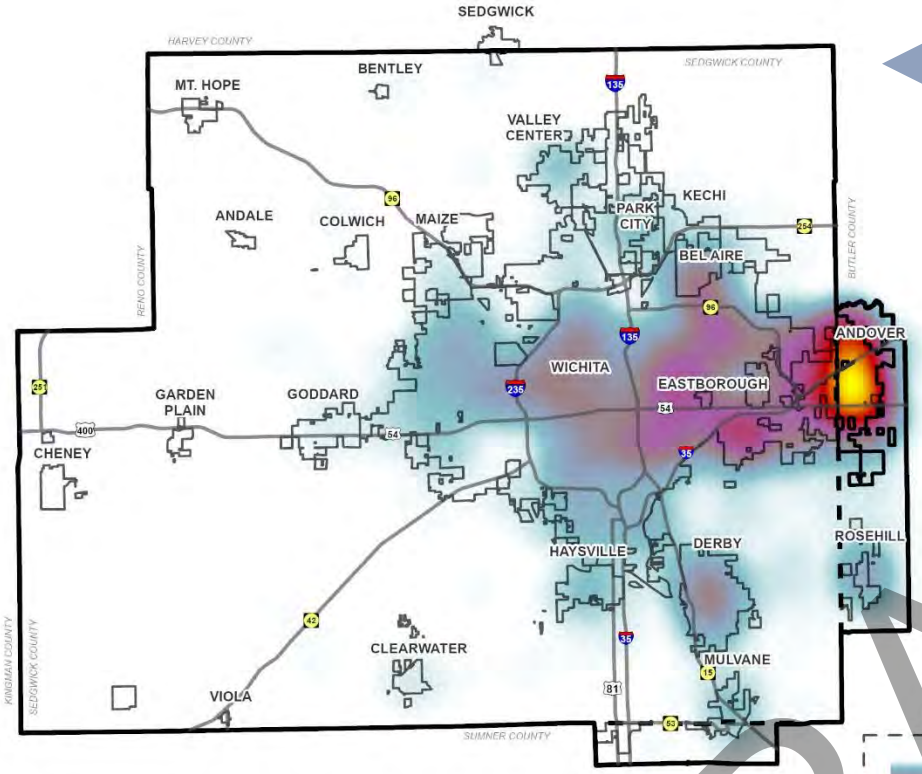
Living & Employed in Andover
Living in Andover but Employed Outside

Where Workers Live Who Work in Andover

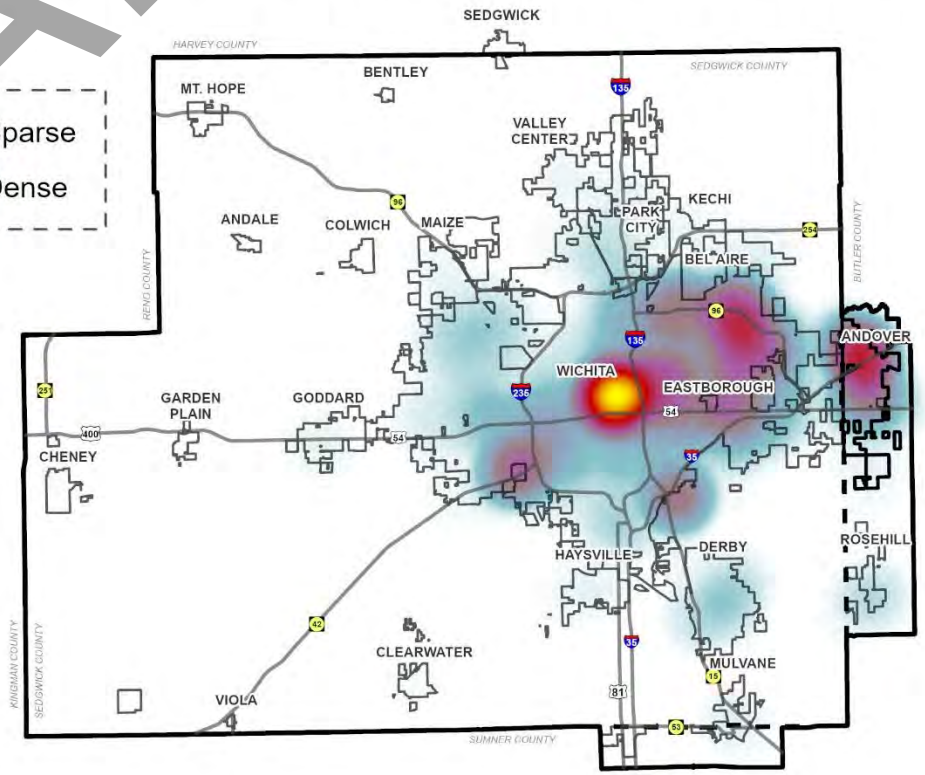


2,231	52.7%	of workers who work in Andover live	less than 10 miles
1,420	33.5%		10 – 24 Miles
161	3.8%		25 – 50 Miles
421	9.9%		greater than 50 Miles

from their place of employment

Sparse

Dense



2,880	45.2%	of workers who live in Andover work	less than 10 miles
2,503	39.3%		10 – 24 Miles
216	3.4%		25 – 50 Miles
766	12.0%		greater than 50 Miles

from their place of residence

Where Workers Work Who Live in Andover

Haysville

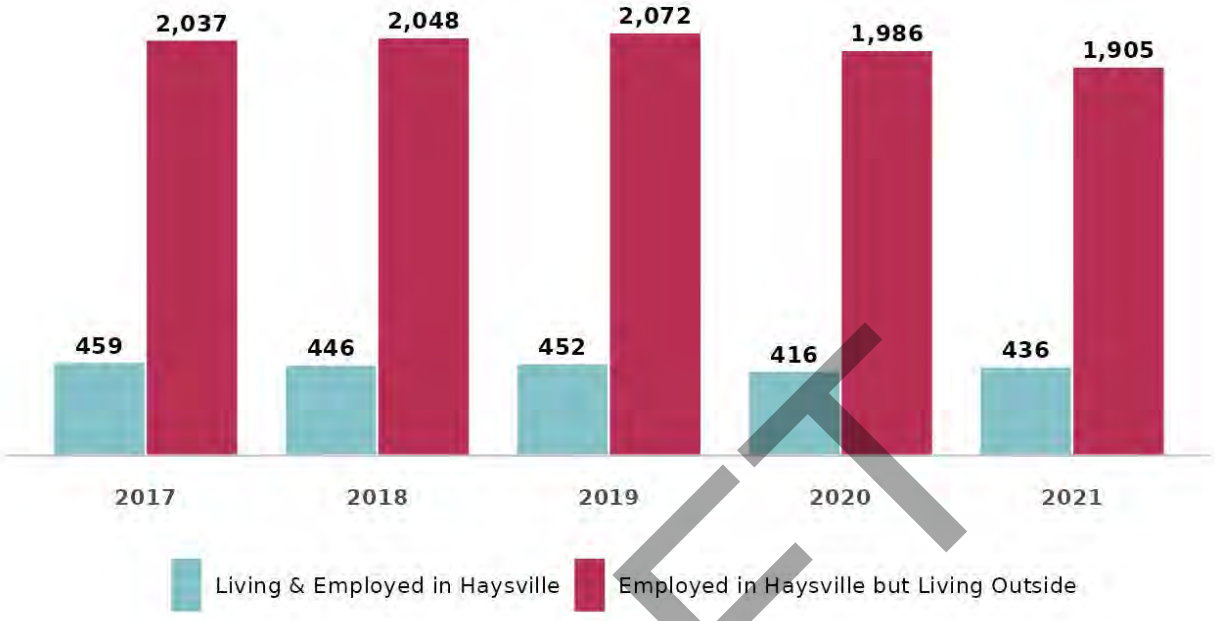
Source: U.S. Census Bureau, Center for Economic Studies, LEHD. Accessed in December 2024 at https://onthemap.ces.census.gov/

Incorporated in 1951 and colloquially known as the "Peach Capital of Kansas," for their historic peach orchard, Haysville had a population of 11,262 as of the 2020 Decennial Census. According to the American Community Survey, approximately 59% of Haysville residents were in the labor force in 2021 and the average travel time to work was 22.4 minutes.[5] Haysville is home to a variety of businesses, representing a range of industries. Among the largest is Weckworth Manufacturing, Inc., a textile manufacturer and key employer in the area. Like Andover, Haysville faced a destructive tornado in 1999 that damaged 150 homes and 27 businesses. The city is served by its own public school district; included in that school district is Campus High School, located in Wichita.

There are 436 residents who both live and work in Haysville, but 4,511 residents who live in Haysville but work elsewhere. There are 1,905 commuters who live outside of Haysville and travel there for work. During 2017-2021, Haysville saw an approximate 6% decrease in the number of people employed in the city who live outside city limits.

Industry Class (2021)	Internal		Inflow		Outflow	
Goods Producing	24	5.5%	257	13.5%	1,239	27.5%
Trade, Transportation, & Utilities	35	8.0%	116	6.1%	870	19.3%
All Other Services	377	86.5%	1,532	80.4%	2,402	53.2%

[5] US Census 2021: ACS 5-Year Estimates Data Profiles
Retrieved from: https://data.census.gov/table/ACSDP5Y2021.DP03?g=160XX00US2031125
and https://data.census.gov/table/ACSST5Y2021.S0801?g=160XX00US2031125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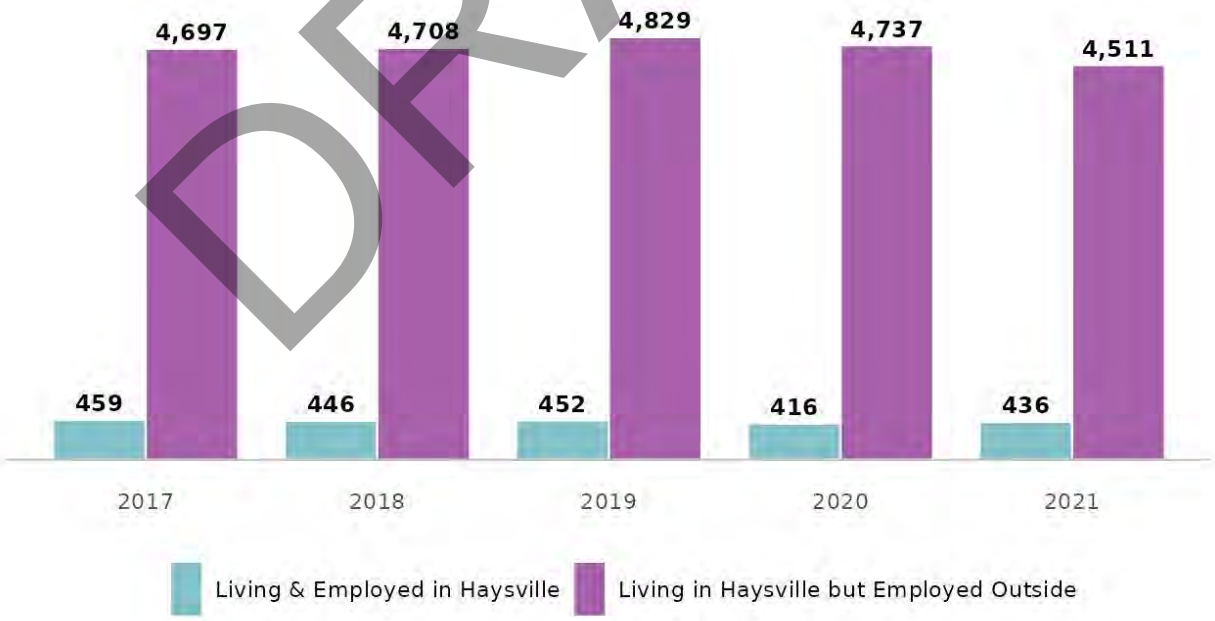
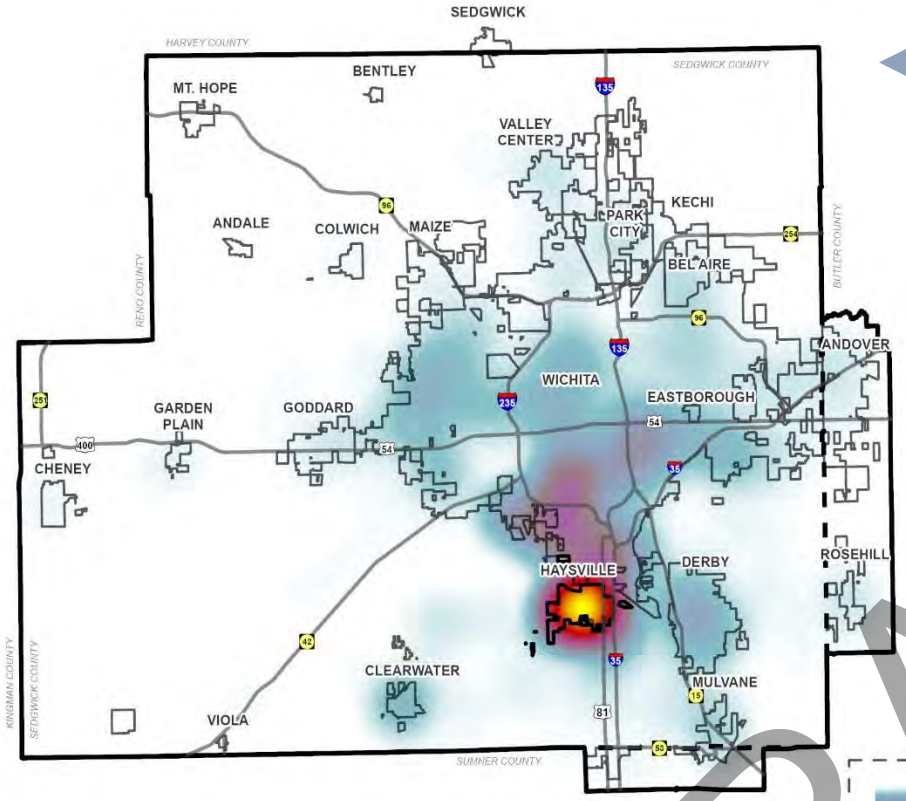
2,048
2,072
1,986
1,905
459
446
452
416
436
2017
2018
2019
2020
2021
Living & Employed in Haysville
Employed in Haysville but Living Outside


4,697
4,708
4,829
4,737
4,511
459
446
452
416
436
2017
2018
2019
2020
2021
Living & Employed in Haysville
Living in Haysville but Employed Outside

Where Workers Live Who Work in Haysville

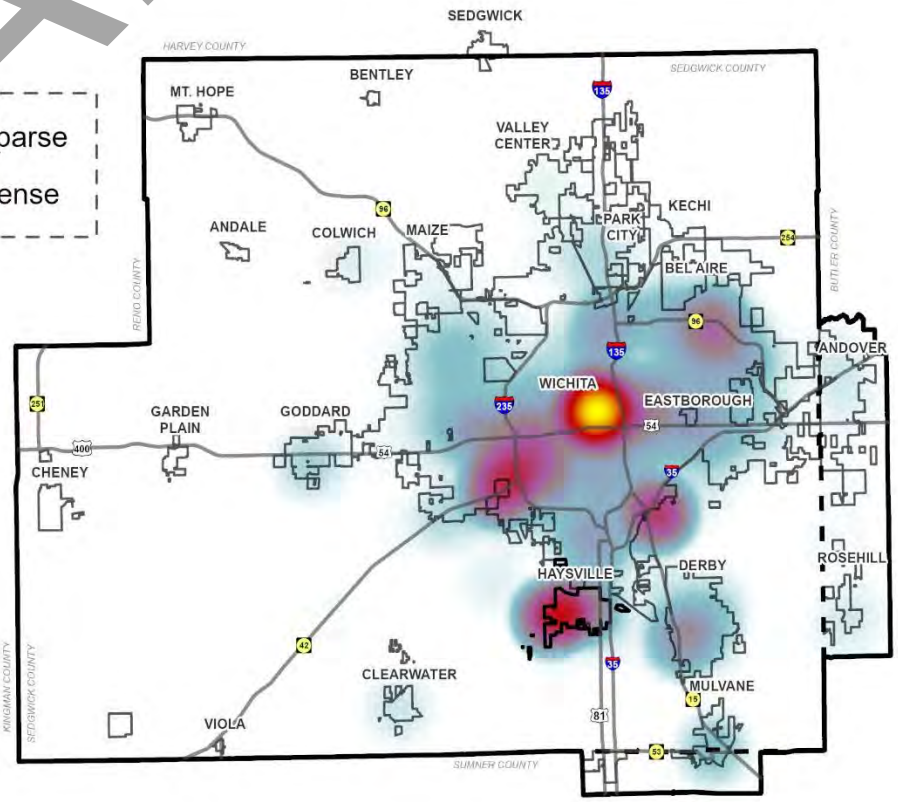
1,495	63.9%		less than 10 miles
580	24.8%	of workers who work in Haysville live	10 – 24 Miles
94	4.0%		25 – 50 Miles
172	7.3%		greater than 50 Miles

from their place of employment



Sparse

Dense



Where Workers Work Who Live in Haysville

2,988	60.4%		less than 10 miles
1,202	24.3%	of workers who live in Haysville work	10 – 24 Miles
204	4.1%		25 – 50 Miles
553	11.2%		greater than 50 Miles

from their place of residence

Park City

Source: U.S. Census Bureau, Center for Economic Studies, LEHD. Accessed in December 2024 at https://onthemap.ces.census.gov/

Park City, incorporated in 1980, is one of the newest cities in the WAMPO region. Park City is another municipality largely made up of commuters. As of the 2020 Decennial Census, Park City's population was 8,333. According to the American Community Survey, approximately 75% of Park City's population was in the labor force in 2021 and the average travel time to work was 20.1 minutes.[6] Many Park City workers are employed at large, new establishments in the city, such as Crosswinds Casino, Park City Arena, and an Amazon fulfillment center. The city does not have its own public school district; instead, students are split between the Wichita and Valley Center school districts.

There are 151 residents who both live and work in Park City. 3,818 residents live in Park City but commute to someplace else for work. There are 3,102 commuters who live elsewhere and come to Park City for work. During 2017-2021, Park City has had an approximate 5% increase in the number of people living there but commuting to outside the city for work.

Industry Class (2021)	Internal		Inflow		Outflow	
Goods Producing	40	26.5%	879	28.3%	802	21.0%
Trade, Transportation, & Utilities	48	31.8%	1,255	40.5%	690	18.0%
All Other Services	63	41.7%	968	31.2%	2,332	61.0%

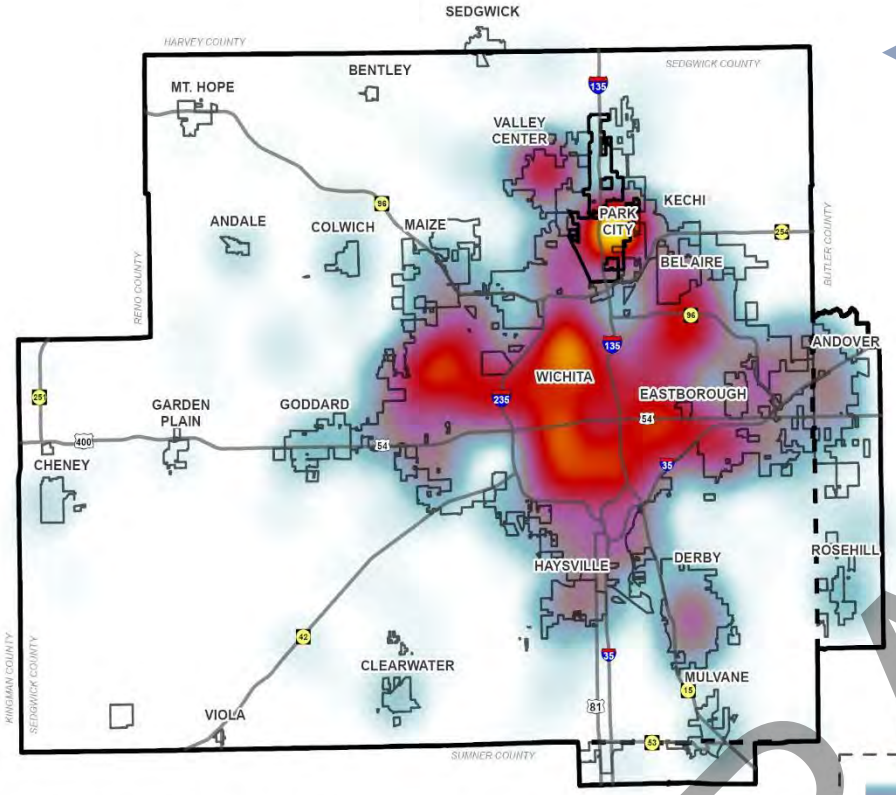
[6] US Census 2021: ACS 5-Year Estimates Data Profiles
Retrieved from: https://data.census.gov/table/ACSDP5Y2021.DP03?g=160XX00US2054450
and https://data.census.gov/table/ACSST5Y2021.S0801?g=160XX00US2054450


3,194
3,329
3,233
3,061
3,102
146
162
142
131
151
2017
2018
2019
2020
2021
Living & Employed in Park City
Employed in Park City but Living Outside


3,634
3,739
3,766
3,879
3,818
146
162
142
131
151
2017
2018
2019
2020
2021
Living & Employed in Park City
Living in Park City but Employed Outside

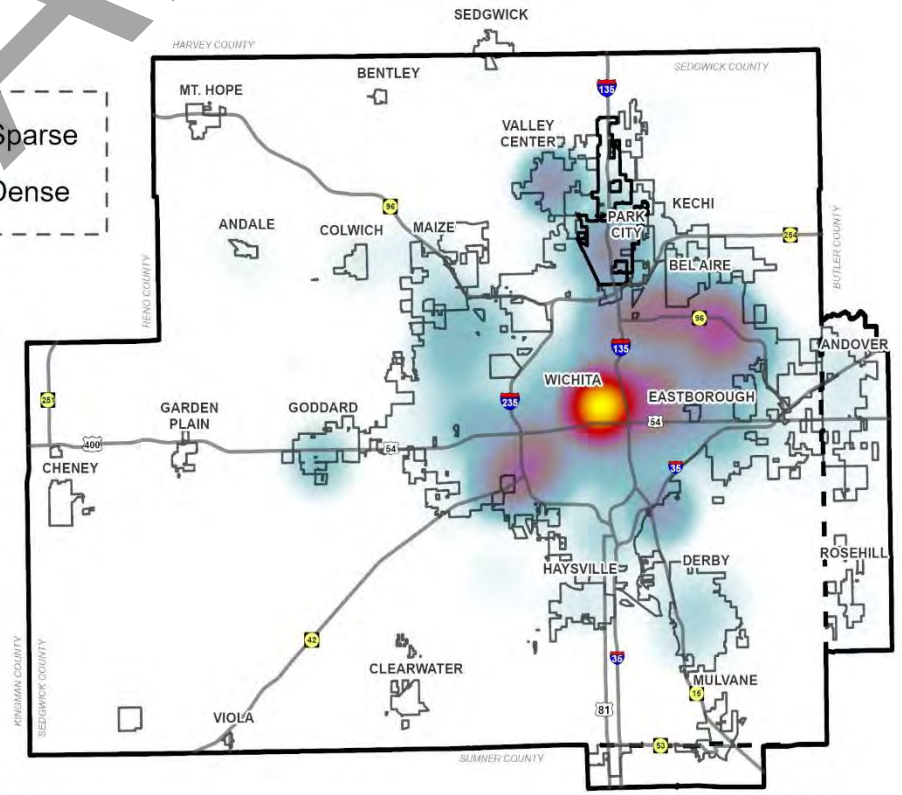
Where Workers Live Who Work in Park City

1,577	48.5%	less than 10 miles	
938	28.8%	10 – 24 Miles	of workers who work in Park City live
224	6.9%	25 – 50 Miles	from their place of employment
514	15.8%	greater than 50 Miles	



Sparse

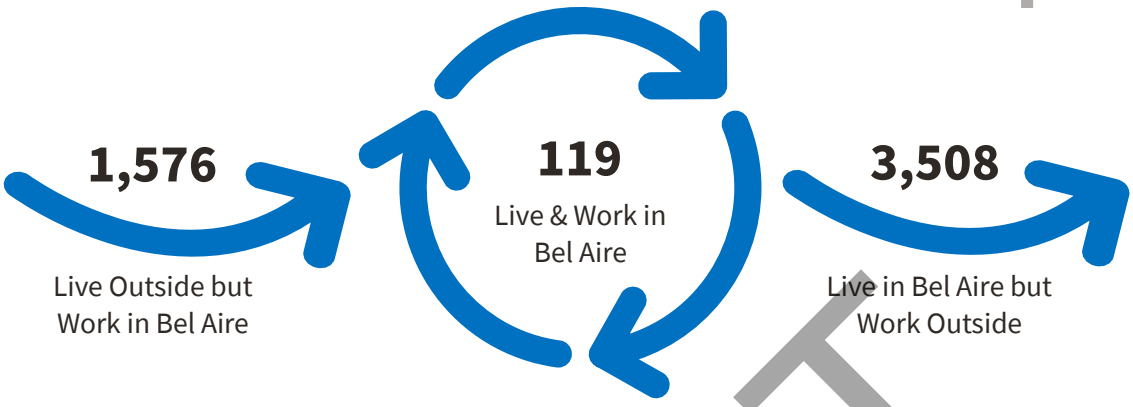
Dense



Where Workers Work Who Live in Park City

2,291	57.6%	less than 10 miles	
1,110	27.9%	10 – 24 Miles	of workers who live in Park City work
171	4.3%	25 – 50 Miles	from their place of residence
403	10.1%	greater than 50 Miles	

Bel Aire



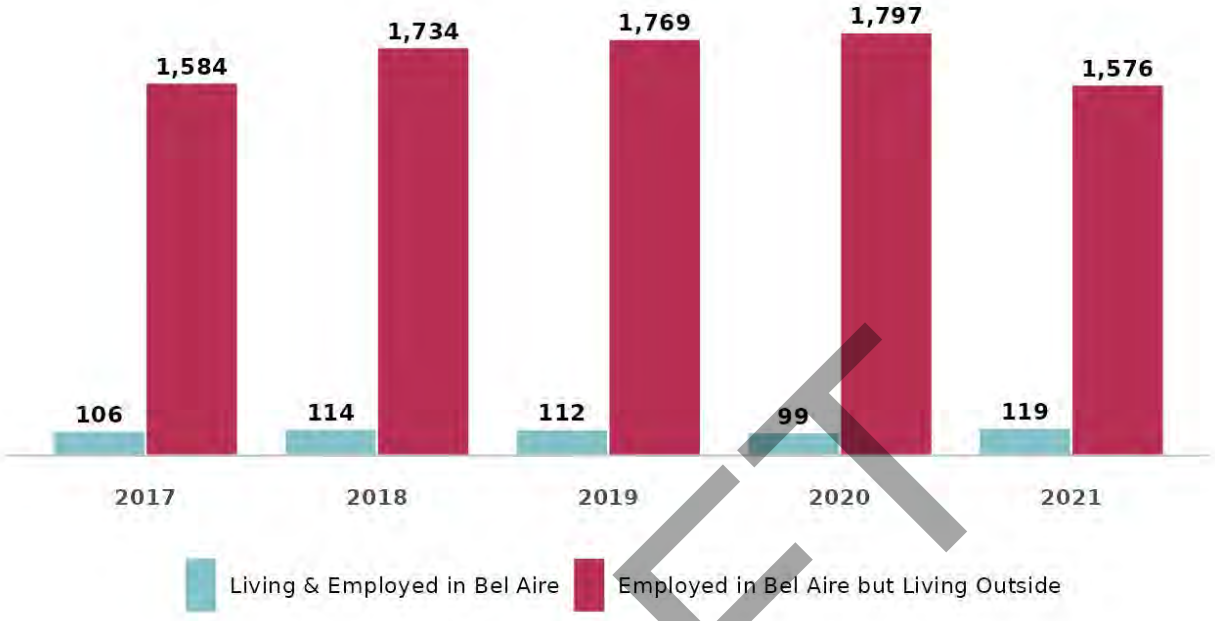
Source: U.S. Census Bureau, Center for Economic Studies, LEHD. Accessed in December 2024 at https://onthemap.ces.census.gov/

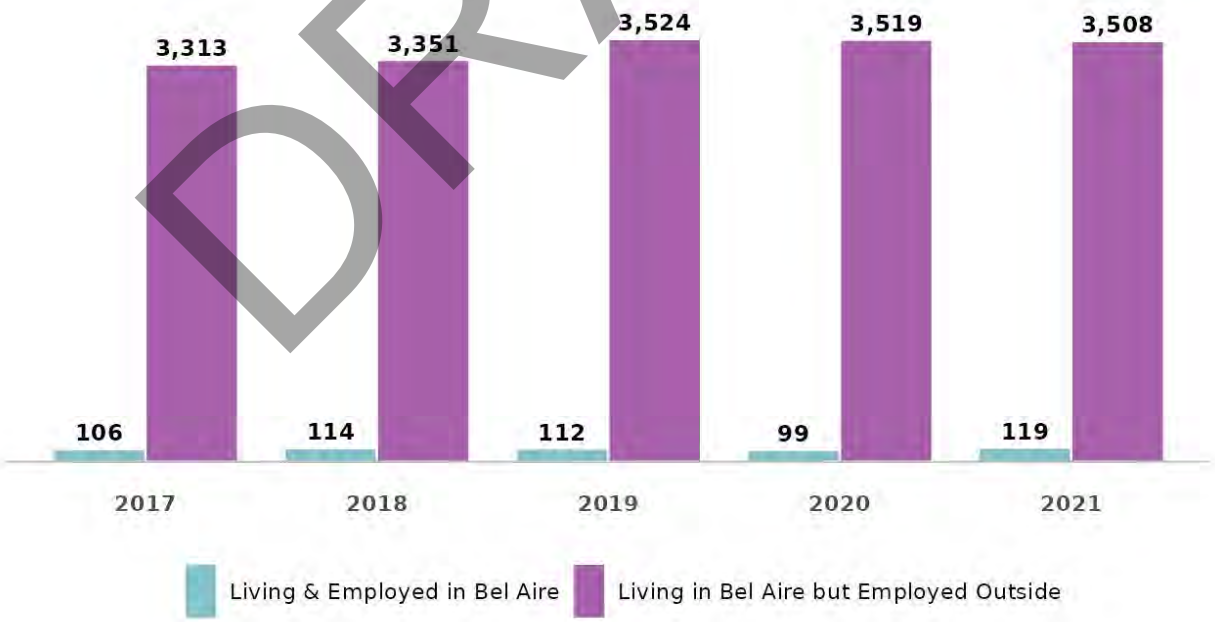
Bel Aire is another newer city in this region, incorporated in 1980. As of the 2020 Decennial Census, Bel Aire's population was 8,262. According to the American Community Survey, approximately 72% of Bel Aire's population was in the labor force in 2021 and the average travel time to work was 18.3 minutes.[7] The city does not have its own public school district. They are served by the Wichita and Towanda school districts.

There are 119 residents who both live and work in Bel Aire. 3,508 residents live in Bel Aire but commute to someplace else for work. There are 1,576 commuters who live elsewhere but travel into Bel Aire for work. During 2017-2021, the city has had an approximate 6% increase in the number of people living inside and commuting outside the city limits for work.

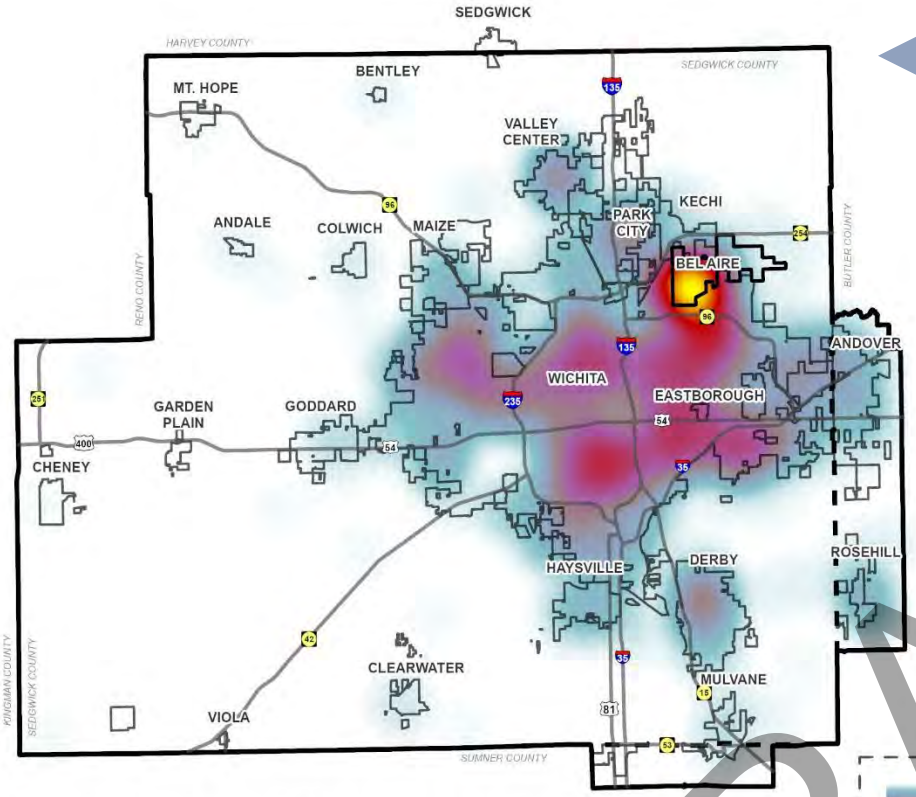
Industry Class (2021)	Internal		Inflow		Outflow	
Goods Producing	10	8.4%	268	17.0%	590	16.8%
Trade, Transportation, & Utilities	25	21.0%	328	20.8%	548	15.6%
All Other Services	84	70.6%	980	62.2%	2,370	67.6%

[7] US Census 2021: ACS 5-Year Estimates Data Profiles
Retrieved from: https://data.census.gov/table/ACSDP5Y2021.DP03?g=160XX00US2005337
and https://data.census.gov/table/ACSST5Y2021.S0801?g=160XX00US2005337


1,584
1,734
1,769
1,797
1,576
106
114
112
99
119
2017
2018
2019
2020
2021
Living & Employed in Bel Aire
Employed in Bel Aire but Living Outside


3,313
3,351
3,524
3,519
3,508
106
114
112
99
119
2017
2018
2019
2020
2021
Living & Employed in Bel Aire
Living in Bel Aire but Employed Outside

Where Workers Live Who Work in Bel Aire

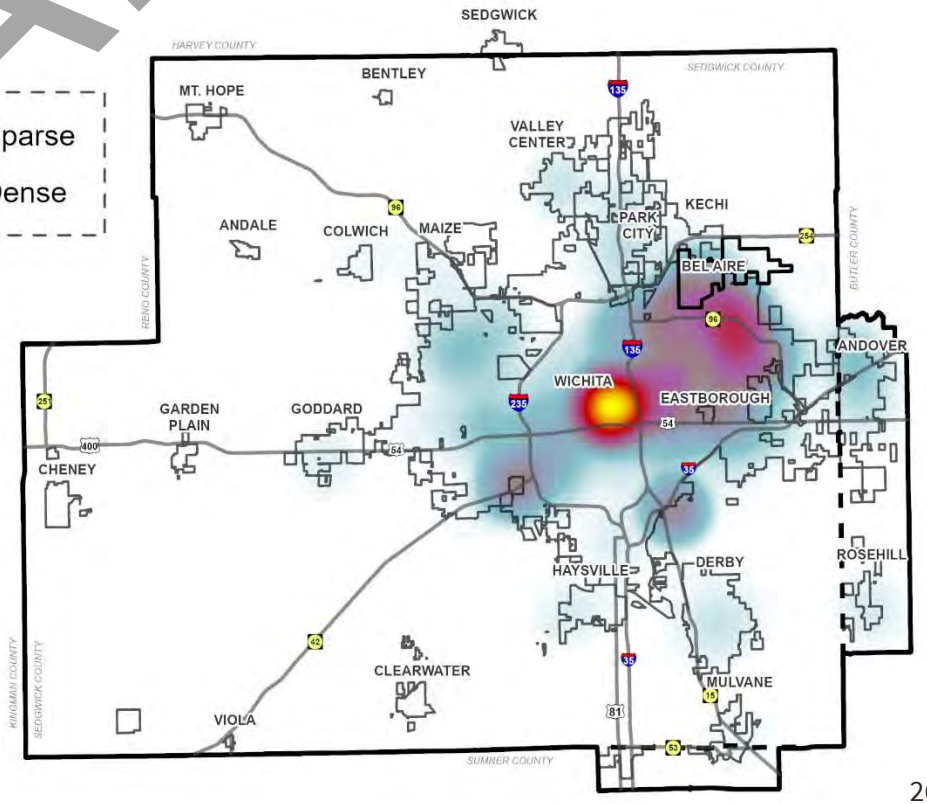


982	57.9%	less than 10 miles	
450	26.5%	10 – 24 Miles	from their place of employment
57	3.4%	25 – 50 Miles	
206	12.2%	greater than 50 Miles	

of workers who work in Bel Aire live

Sparse

Dense



2,468	68.0%	less than 10 miles	
634	17.5%	10 – 24 Miles	from their place of residence
110	3.0%	25 – 50 Miles	
415	11.4%	greater than 50 Miles	

of workers who live in Bel Aire work

Where Workers Work Who Live in Bel Aire

Valley Center

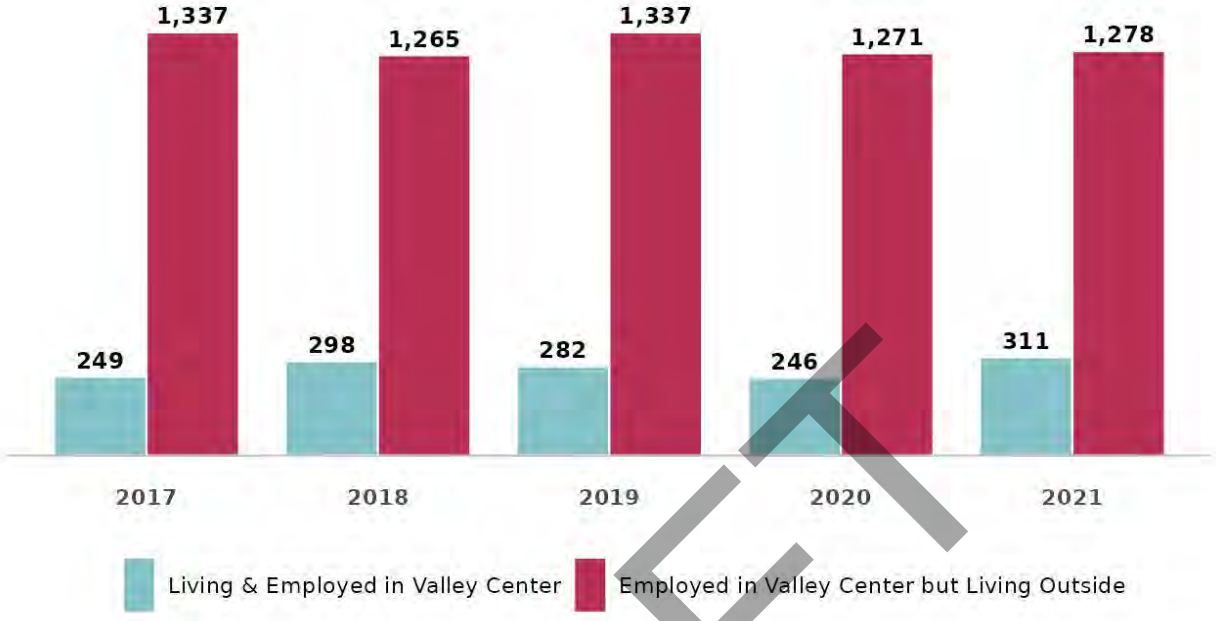
Source: U.S. Census Bureau, Center for Economic Studies, LEHD. Accessed in December 2024 at https://onthemap.ces.census.gov/

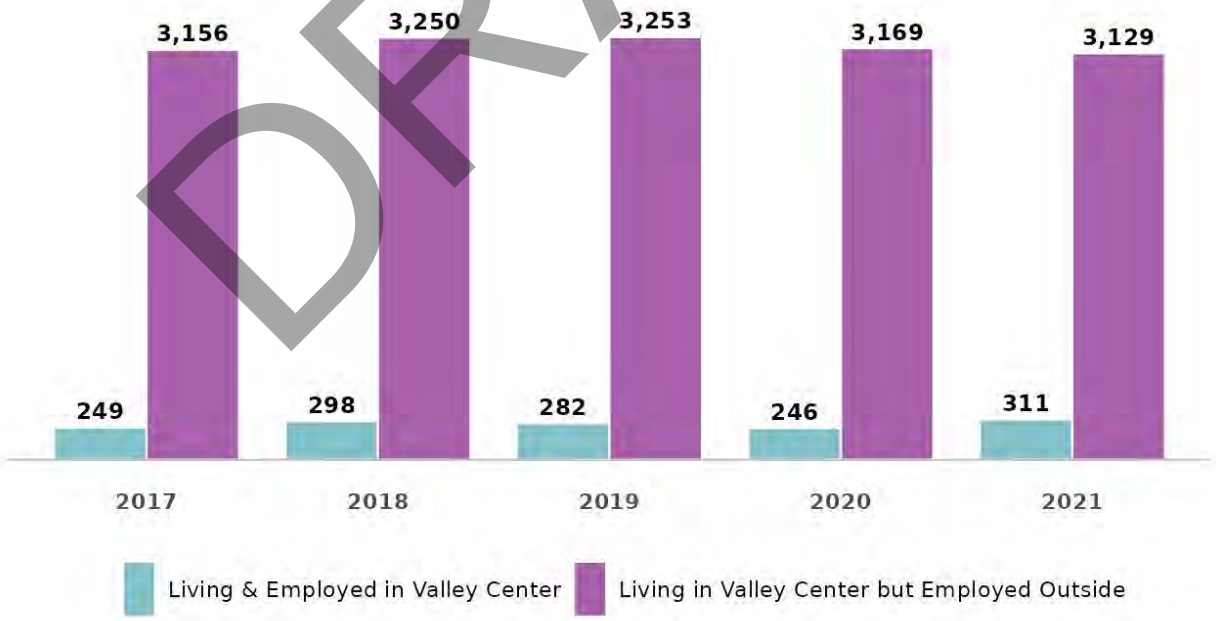
The city of Valley Center was incorporated in 1885 and is conveniently located near I-135. As of the 2020 Decennial Census, Valley Center's population was 7,340. According to the American Community Survey, approximately 66% of Valley Center's population was in the labor force in 2021 and the average travel time to work was 23.2 minutes.[8] Valley Center Public Schools (USD 262) serve multiple communities in the WAMPO region, including Park City, Kechi, and Wichita.

There are 311 residents who both live and work in Valley Center, but most resident workers live in Valley Center and commute elsewhere. 3,129 residents live in Valley Center but commute to someplace else for work. There are 1,278 commuters who live elsewhere but travel into Valley Center for work. During 2017-2021, Valley Center had an approximate 25% increase in the number of residents who both live and work inside of the city.

Industry Class (2021)	Internal		Inflow		Outflow	
Goods Producing	36	11.6%	367	28.7%	594	19.0%
Trade, Transportation, & Utilities	29	9.3%	247	19.3%	604	19.3%
All Other Services	246	79.1%	664	52.0%	1,931	61.7%

[8] US Census 2021: ACS 5-Year Estimates Data Profiles
Retrieved from: https://data.census.gov/table/ACSDP5Y2021.DP03?g=160XX00US2073250
and https://data.census.gov/table/ACSST5Y2021.S0801?g=160XX00US2073250

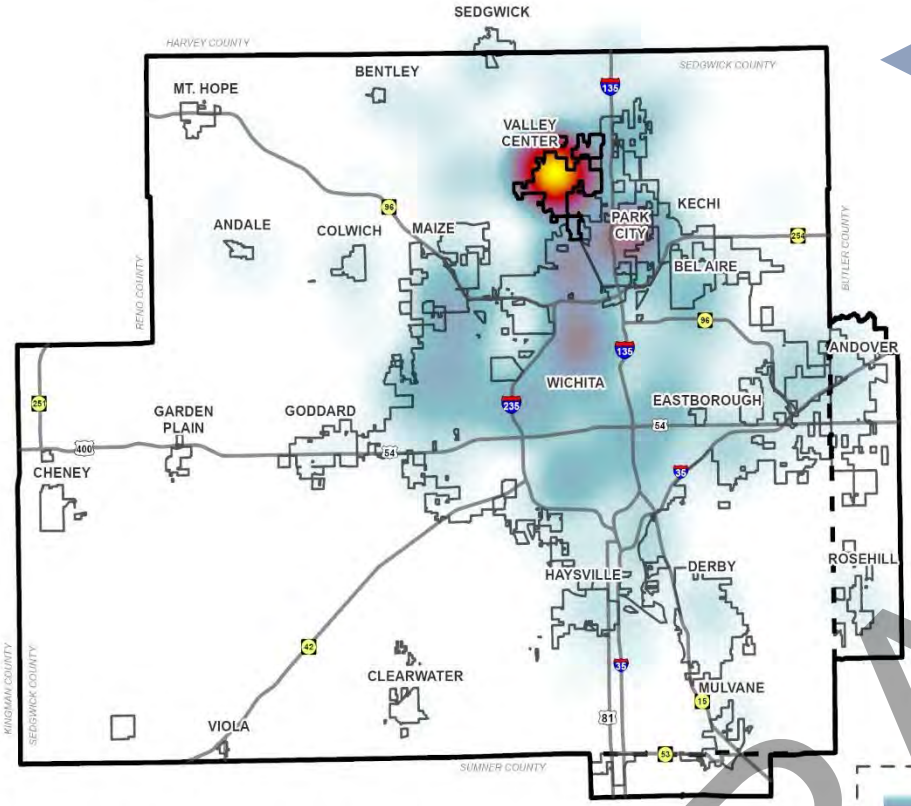

1,337
1,265
1,337
1,271
1,278
249
298
282
246
311
2017
2018
2019
2020
2021
Living & Employed in Valley Center
Employed in Valley Center but Living Outside


3,156
3,250
3,253
3,169
3,129
249
298
282
246
311
2017
2018
2019
2020
2021
Living & Employed in Valley Center
Living in Valley Center but Employed Outside

Where Workers Live Who Work in Valley Center

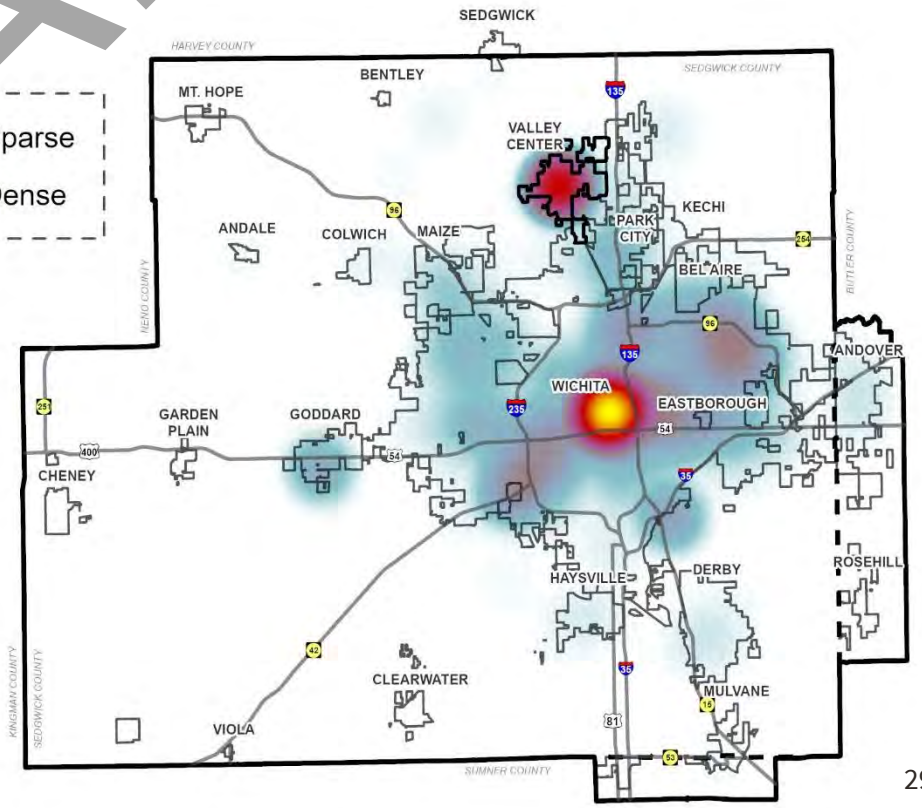
981	61.7%	of workers who work in Valley Center live	less than 10 miles
434	27.3%		10 – 24 Miles
64	4.0%		25 – 50 Miles
110	6.9%		greater than 50 Miles

from their place of employment



Sparse

Dense



Where Workers Work Who Live in Valley Center

1,248	36.3%	of workers who live in Valley Center work	less than 10 miles
1,638	47.6%		10 – 24 Miles
179	5.2%		25 – 50 Miles
375	10.9%		greater than 50 Miles

from their place of residence

Mulvane

Source: U.S. Census Bureau, Center for Economic Studies, LEHD. Accessed in December 2024 at https://onthemap.ces.census.gov/

Mulvane is the second oldest city in the region, incorporated in 1883. When founded, it was located at the junction of five Santa Fe rail lines and is still a convenient point for railroad operations today. As of the 2020 Decennial Census, Mulvane's population was 6,286. According to the American Community Survey, approximately 67% of Mulvane's population was in the labor force in 2021 and the average travel time to work was 20.7 minutes.[9] Mulvane is served by its own public school district. The Kansas Star Casino and a Cowley County Community College satellite campus are located in Mulvane.

There are 344 residents who both live and work in Mulvane. There are 901 people who live outside of Mulvane and travel there for work. 2,678 residents commute to work outside Mulvane. During 2017-2021, there was an approximate 87% increase in the number of people both living and working in Mulvane and a 22% increase in workers commuting into Mulvane for work.

Industry Class (2021)	Internal		Inflow		Outflow	
Goods Producing	13	3.8%	89	6.5%	652	25.4%
Trade, Transportation, & Utilities	20	5.8%	132	9.7%	467	18.2%
All Other Services	311	90.4%	1,146	83.8%	1,447	56.4%

[9] US Census 2021: ACS 5-Year Estimates Data Profiles
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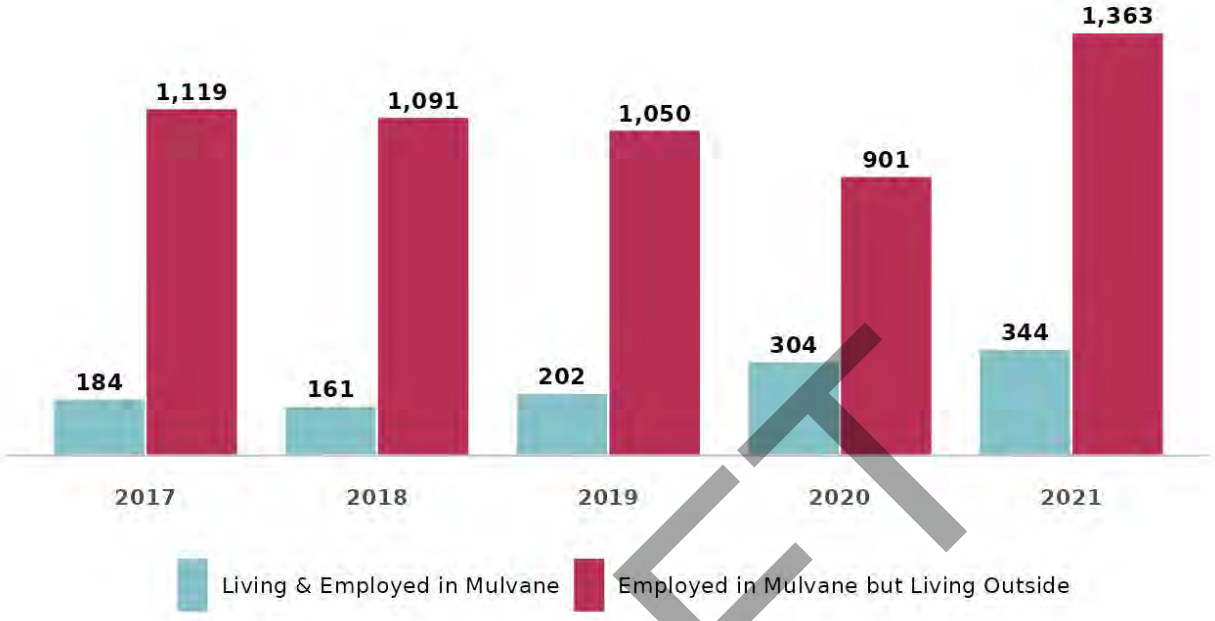
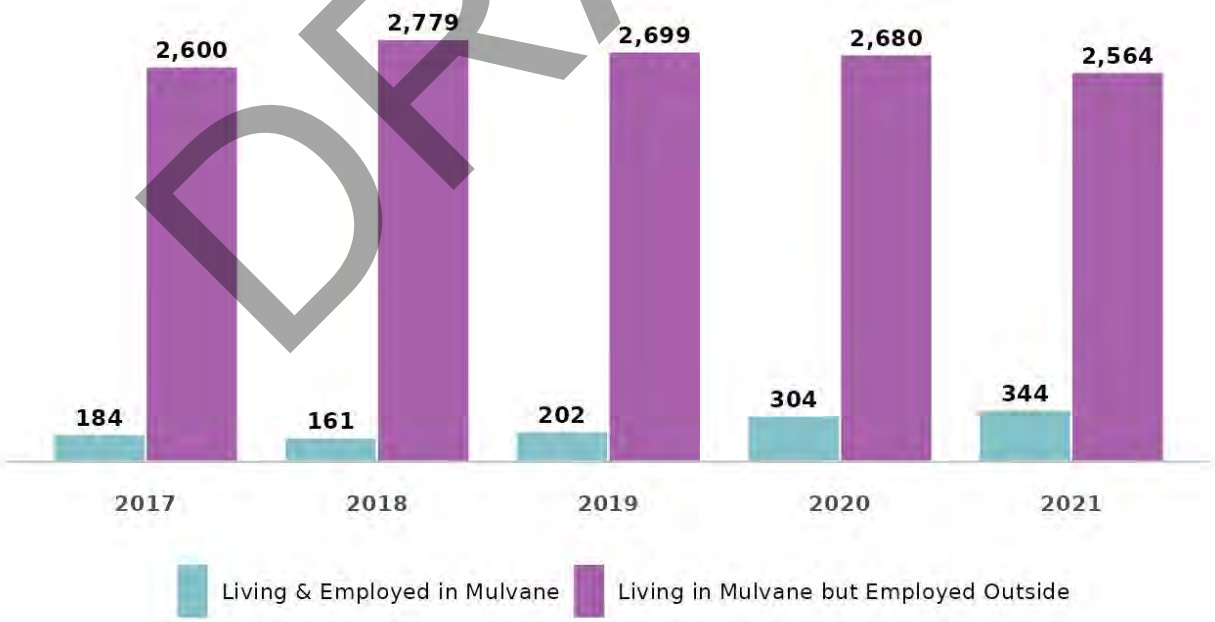
and https://data.census.gov/table/ACSST5Y2021.S0801?g=160XX00US2049100

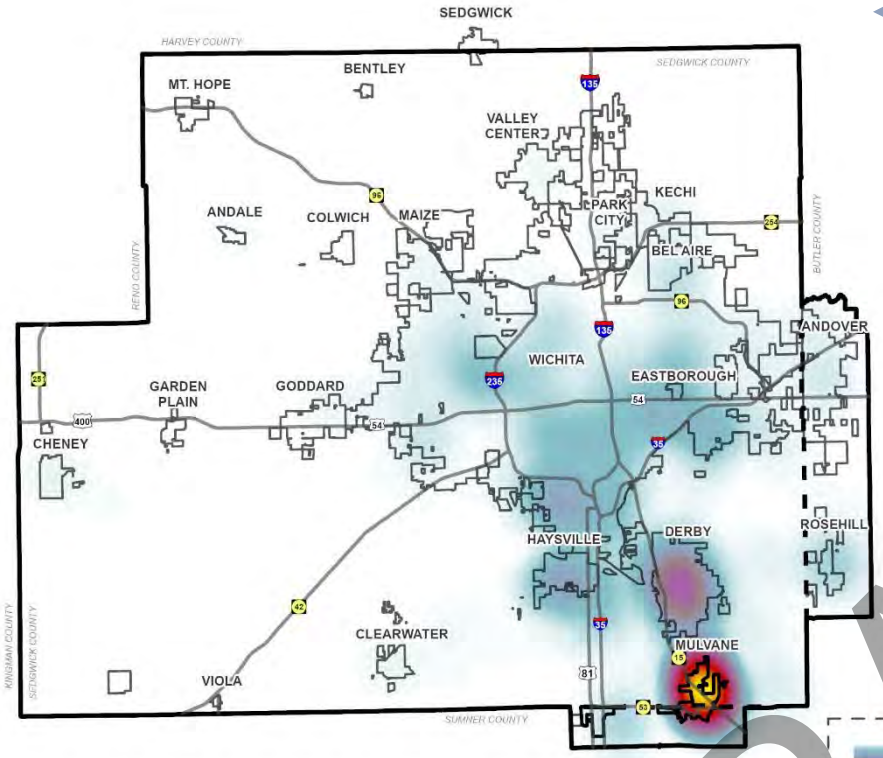

1,119
1,091
1,050
901
1,363
184
161
202
304
344
2017
2018
2019
2020
2021
Living & Employed in Mulvane
Employed in Mulvane but Living Outside

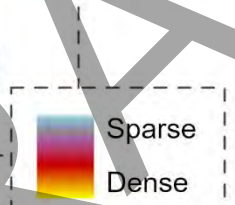

2,600
2,779
2,699
2,680
2,564
184
161
202
304
344
2017
2018
2019
2020
2021
Living & Employed in Mulvane
Living in Mulvane but Employed Outside

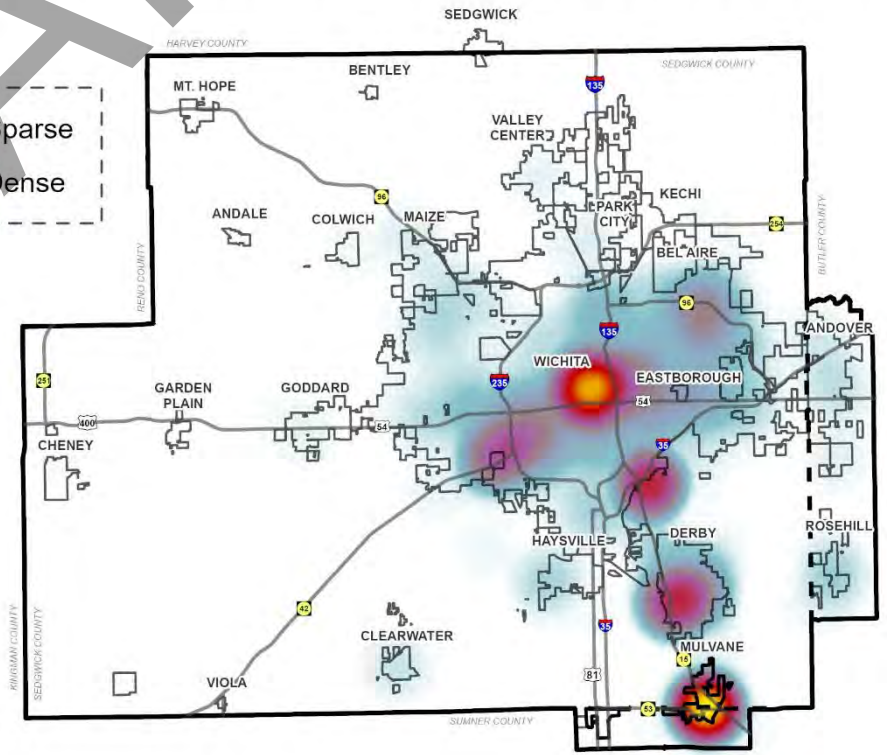
Where Workers Live Who Work in Mulvane

860	50.3%	of workers who work in Mulvane live	less than 10 miles
628	36.7%		10 – 24 Miles
91	5.3%		25 – 50 Miles
132	7.7%		greater than 50 Miles

from their place of employment





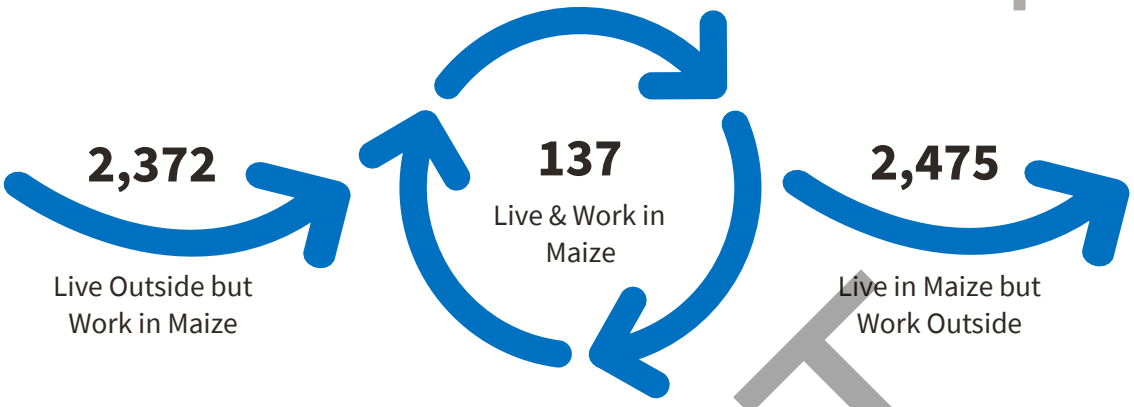


Where Workers Work Who Live in Mulvane

856	29.4%	of workers who live in Mulvane work	less than 10 miles
1,604	55.1%		10 – 24 Miles
80	2.7%		25 – 50 Miles
370	12.7%		greater than 50 Miles

from their place of residence

Maize



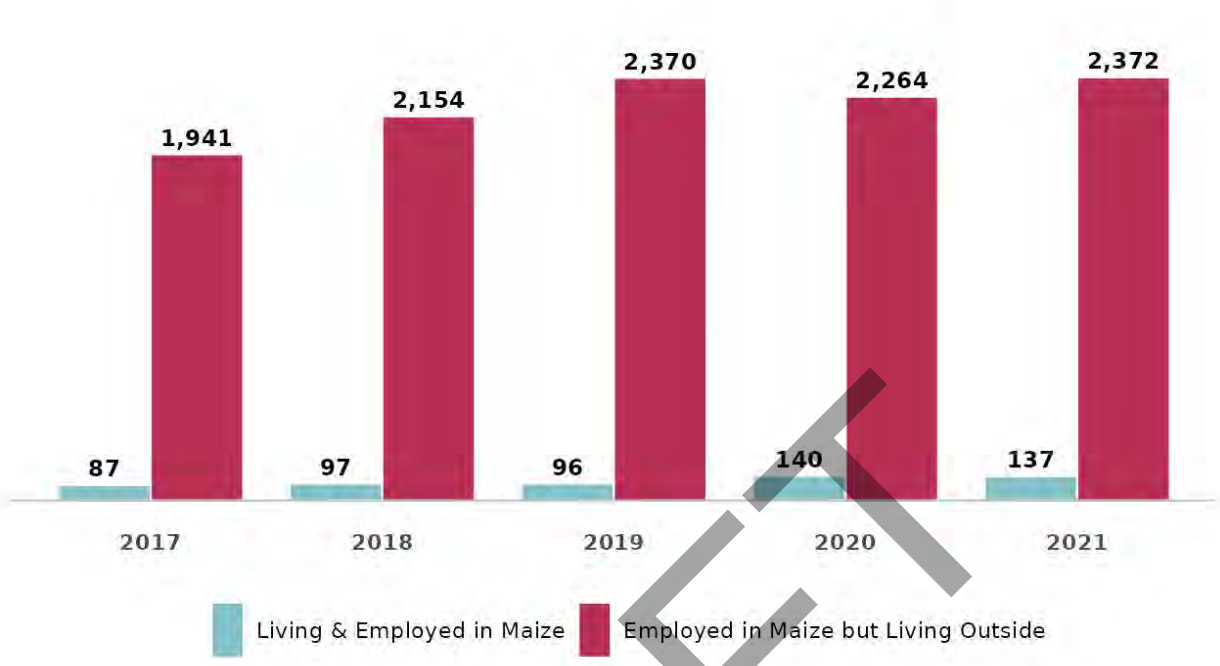
Source: U.S. Census Bureau, Center for Economic Studies, LEHD. Accessed in December 2024 at https://onthemap.ces.census.gov/

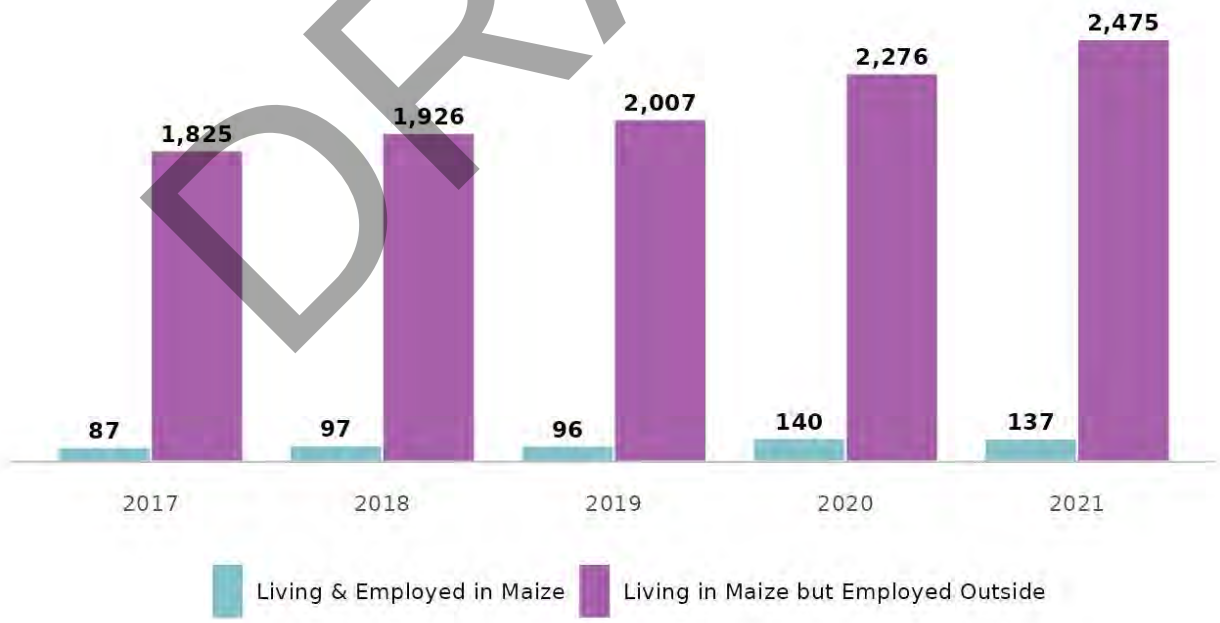
The city of Maize was incorporated in 1915. Strong growth hit the area in the 1950s and has continued rapidly in recent years, as development has expanded further to the northwest of Wichita. As of the 2020 Decennial Census, Maize's population was 5,735. According to the American Community Survey, approximately 59% of Maize's population was in the labor force in 2021 and the average travel time to work was 19.9 minutes.[10] Maize is served by its own public school district, which includes an alternative, nontraditional school.

There are 137 residents who both live and work in Maize, an approximate 57% increase from 2017 to 2021. 2,475 residents live in Maize but commute to someplace else for work. There are 2,372 commuters who live elsewhere but travel into Maize for work, an approximate 22% increase from 2017 to 2021.

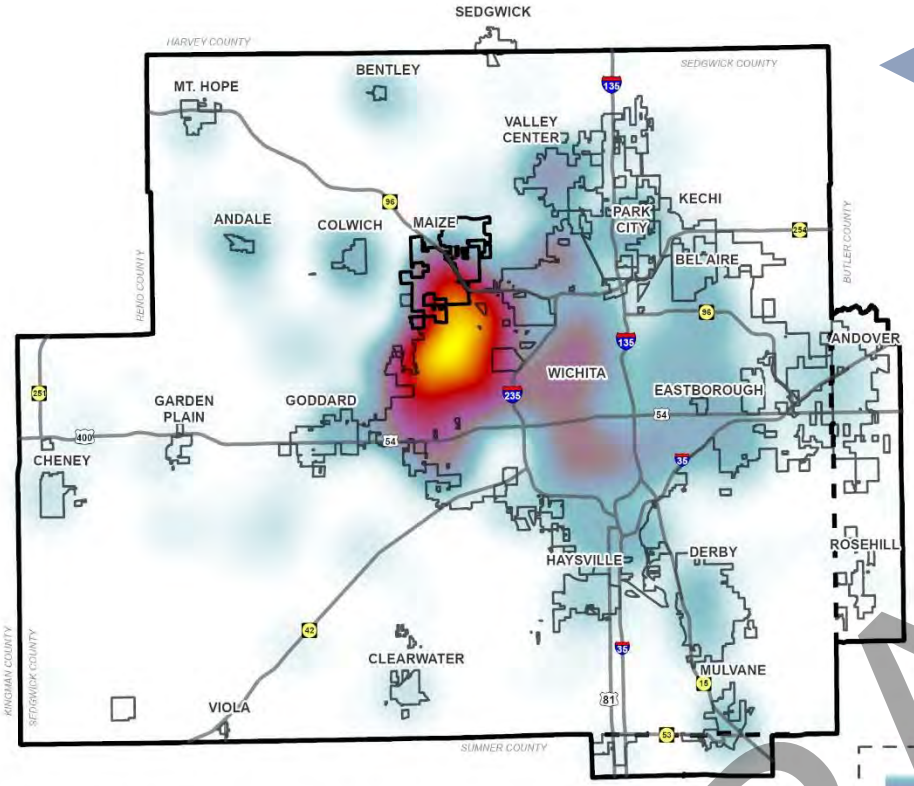
Industry Class (2021)	Internal		Inflow		Outflow	
Goods Producing	22	16.1%	619	26.1%	519	21.0%
Trade, Transportation, & Utilities	4	2.9%	89	3.8%	452	18.3%
All Other Services	111	81.0%	1,664	70.2%	1,504	60.8%

[10]US Census 2021: ACS 5-Year Estimates Data Profiles
Retrieved from: https://data.census.gov/table/ACSDP5Y2021.DP03?g=160XX00US2044200
and https://data.census.gov/table/ACSST5Y2021.S0801?g=160XX00US2044200


87
1,941
97
2,154
96
2,370
140
2,264
137
2,372
2017
2018
2019
2020
2021
Living & Employed in Maize
Employed in Maize but Living Outside


87
1,825
97
1,926
96
2,007
140
2,276
137
2,475
2017
2018
2019
2020
2021
Living & Employed in Maize
Living in Maize but Employed Outside

Where Workers Live Who Work in Maize

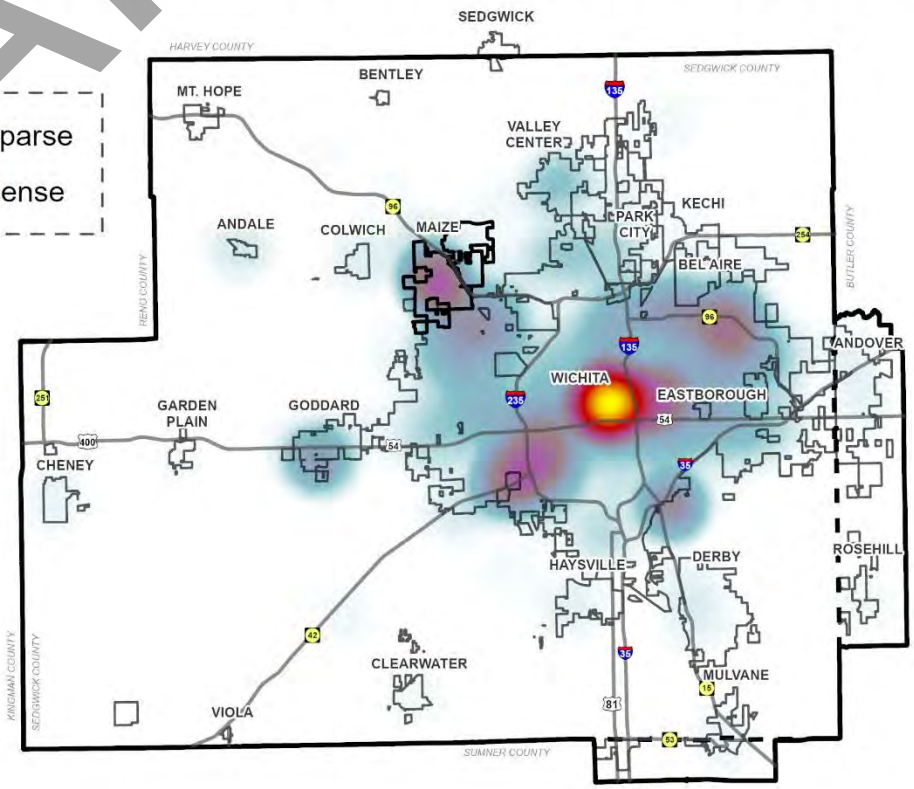


1,530	61.0%	of workers who work in Maize live	less than 10 miles
607	24.2%		10 – 24 Miles
107	4.3%		25 – 50 Miles
265	10.6%		greater than 50 Miles

from their place of employment

Sparse

Dense



Where Workers Work Who Live in Maize

1,428	54.7%	of workers who live in Maize work	less than 10 miles
764	29.2%		10 – 24 Miles
133	5.1%		25 – 50 Miles
287	11.0%		greater than 50 Miles

from their place of residence

Goddard

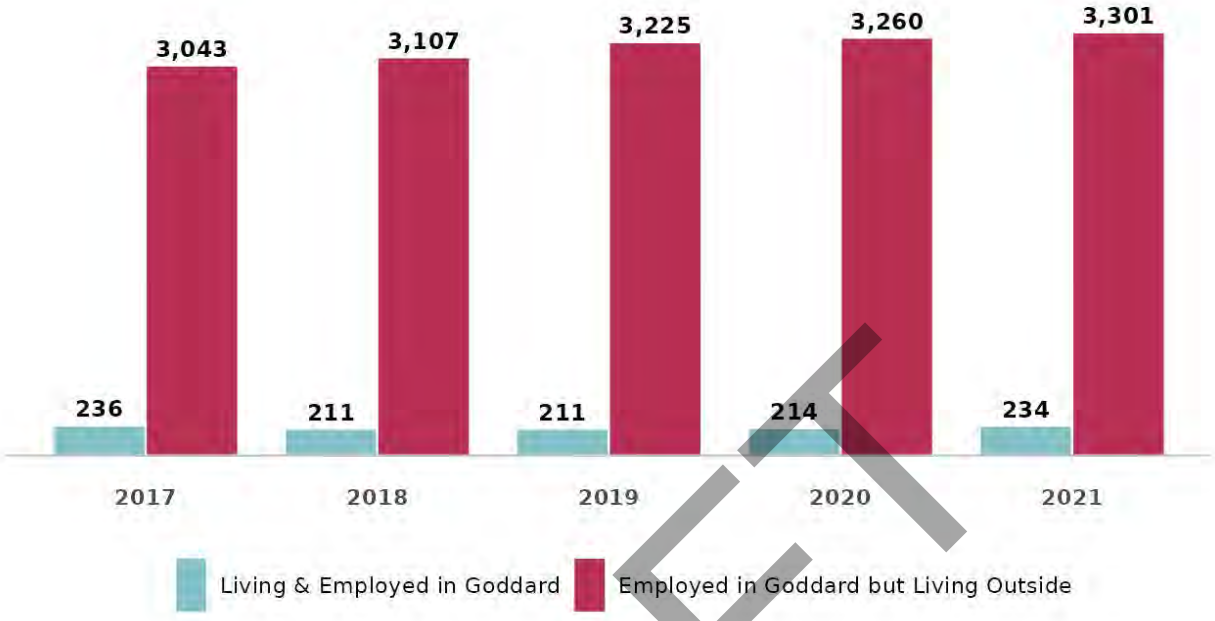
Source: U.S. Census Bureau, Center for Economic Studies, LEHD. Accessed in December 2024 at https://onthemap.ces.census.gov/

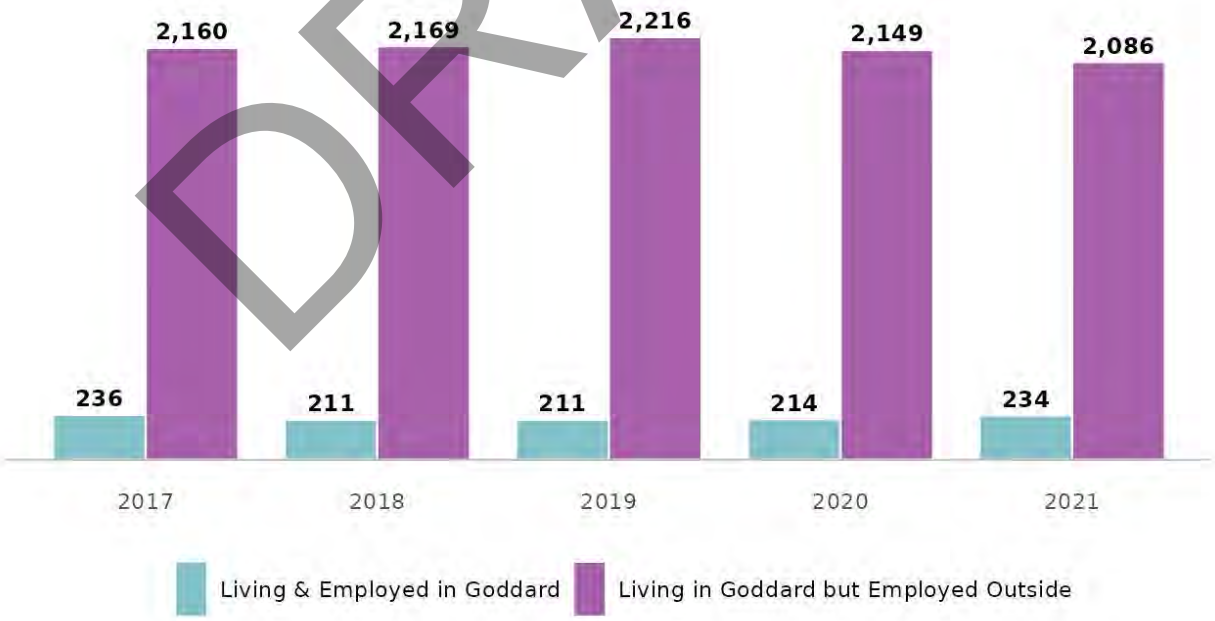
Goddard is another of the older municipalities in the region, founded in 1883 and incorporated in 1910. As of the 2020 Decennial Census, Goddard's population was 5,084. According to the American Community Survey, approximately 74% of Goddard's population was in the labor force in 2021 and the average travel time to work was 20.6 minutes.[11] Development has expanded westward from Wichita to Goddard, changing Goddard from a rural agricultural community into a suburb. Manufacturing, educational services, health care, and social assistance are the main labor draws for Goddard. Because US-54/400 run through Goddard, it is easy for people to flow in and out of the city. Goddard is served by its own public school district. There is also a Catholic private school in the city.

There are 234 residents who both live and work in Goddard. There are 3,301 commuters who live elsewhere but travel into Goddard for work, an increase of 8% from 2017 to 2021. 2,086 workers live in Goddard but commute outside for work, a slight decrease from 2017.

Industry Class (2021)	Internal		Inflow		Outflow	
Goods Producing	19	8.1%	370	11.2%	479	23.0%
Trade, Transportation, & Utilities	20	8.5%	362	11.0%	415	19.9%
All Other Services	195	83.3%	2,569	77.8%	1,192	57.1%

[11] US Census 2021: ACS 5-Year Estimates Data Profiles
Retrieved from: https://data.census.gov/table/ACSDP5Y2021.DP03?g=160XX00US2026725
and https://data.census.gov/table/ACSST5Y2021.S0801?g=160XX00US2026725


3,043
3,107
3,225
3,260
3,301
236
211
211
214
234
2017
2018
2019
2020
2021
Living & Employed in Goddard
Employed in Goddard but Living Outside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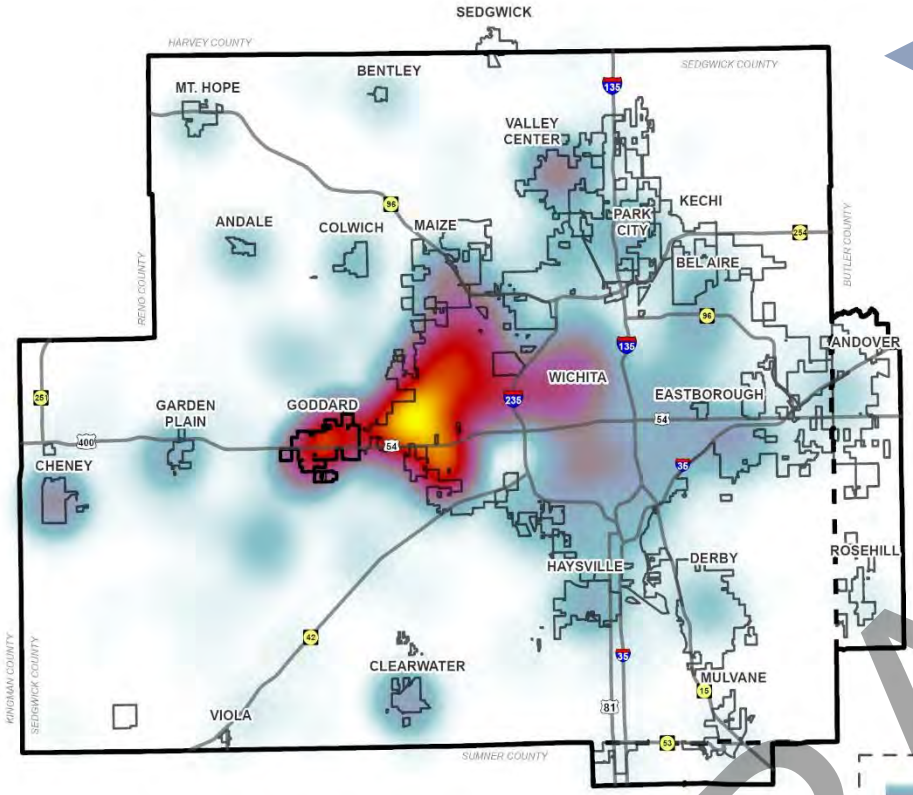
2,169
2,216
2,149
2,086
236
211
211
214
234
2017
2018
2019
2020
2021
Living & Employed in Goddard
Living in Goddard but Employed Outside

Where Workers Live Who Work in Goddard

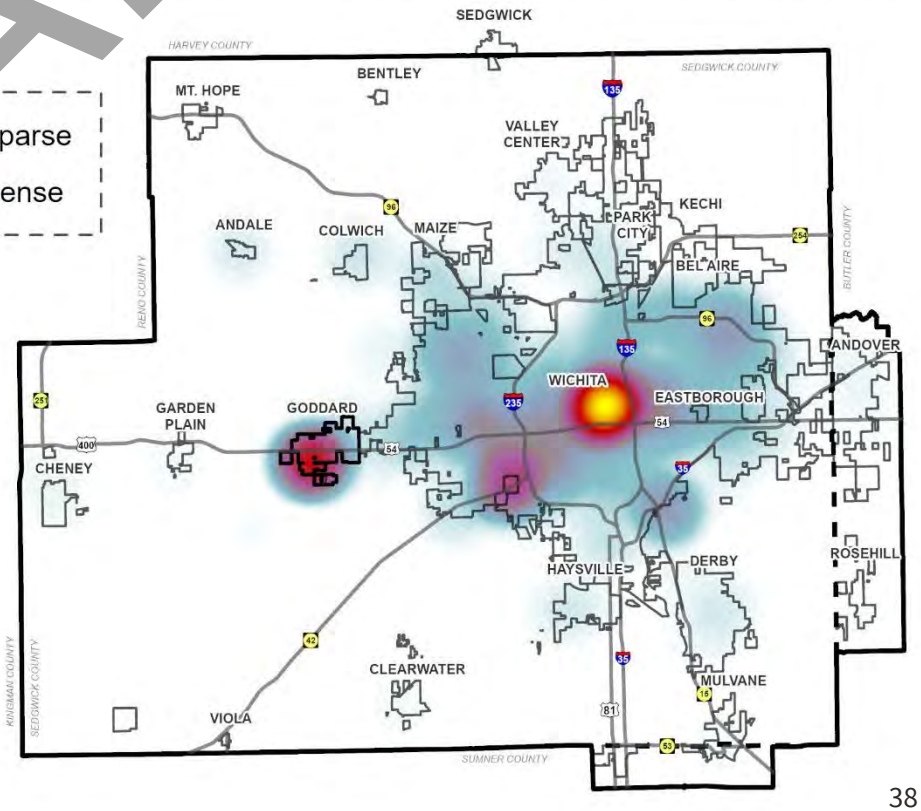
1,695	47.9%	of workers who work in Goddard live	less than 10 miles
1,307	37.0%		10 – 24 Miles
265	7.5%		25 – 50 Miles
268	7.6%		greater than 50 Miles

from their place of employment



Sparse

Dense

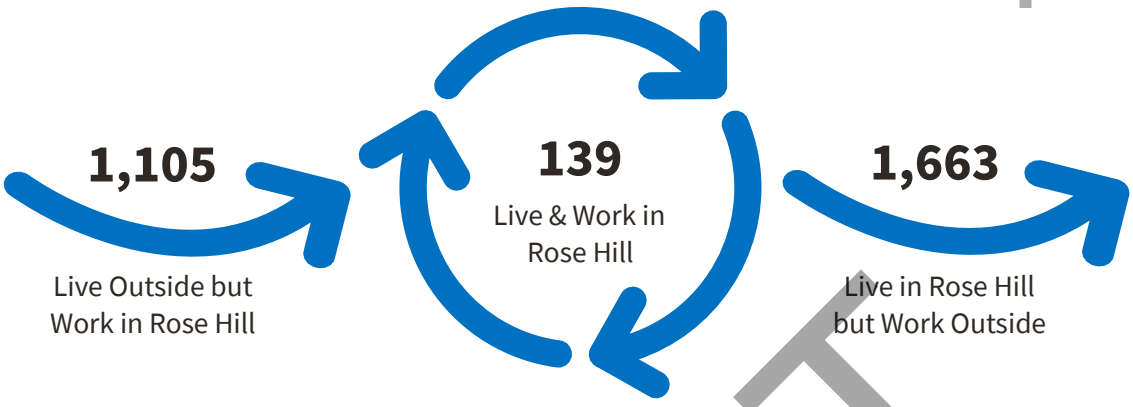


Where Workers Work Who Live in Goddard

833	35.9%	of workers who live in Goddard work	less than 10 miles
1,154	49.7%		10 – 24 Miles
109	4.7%		25 – 50 Miles
224	9.7%		greater than 50 Miles

from their place of residence

Rose Hill



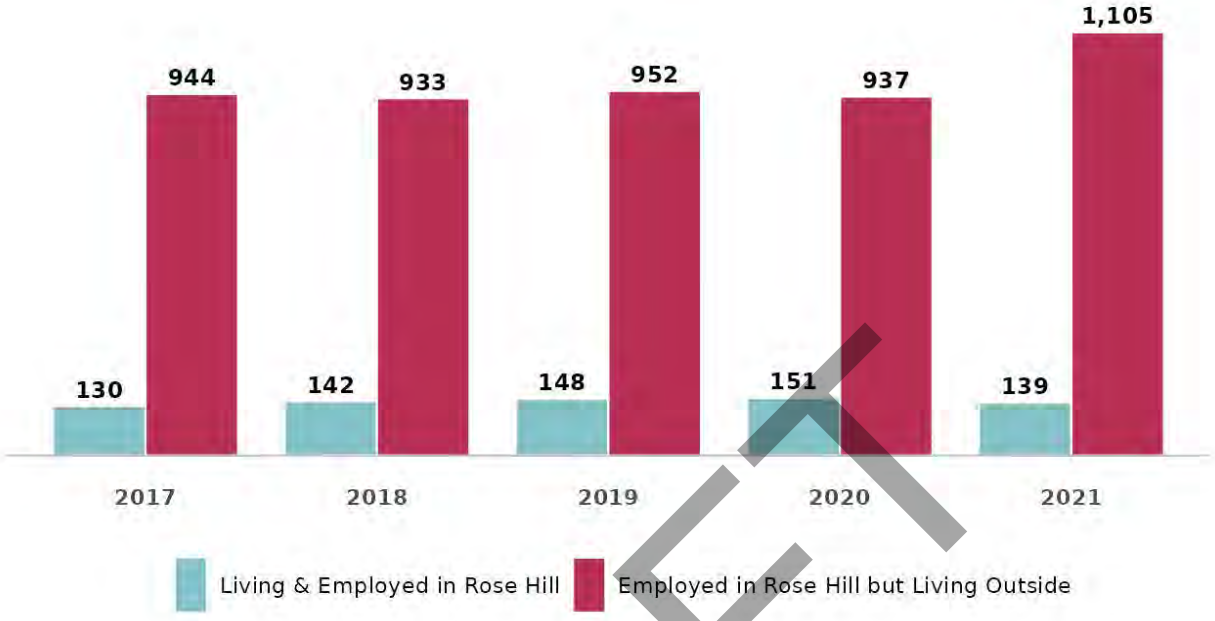
Source: U.S. Census Bureau, Center for Economic Studies, LEHD. Accessed in December 2024 at https://onthemap.ces.census.gov/

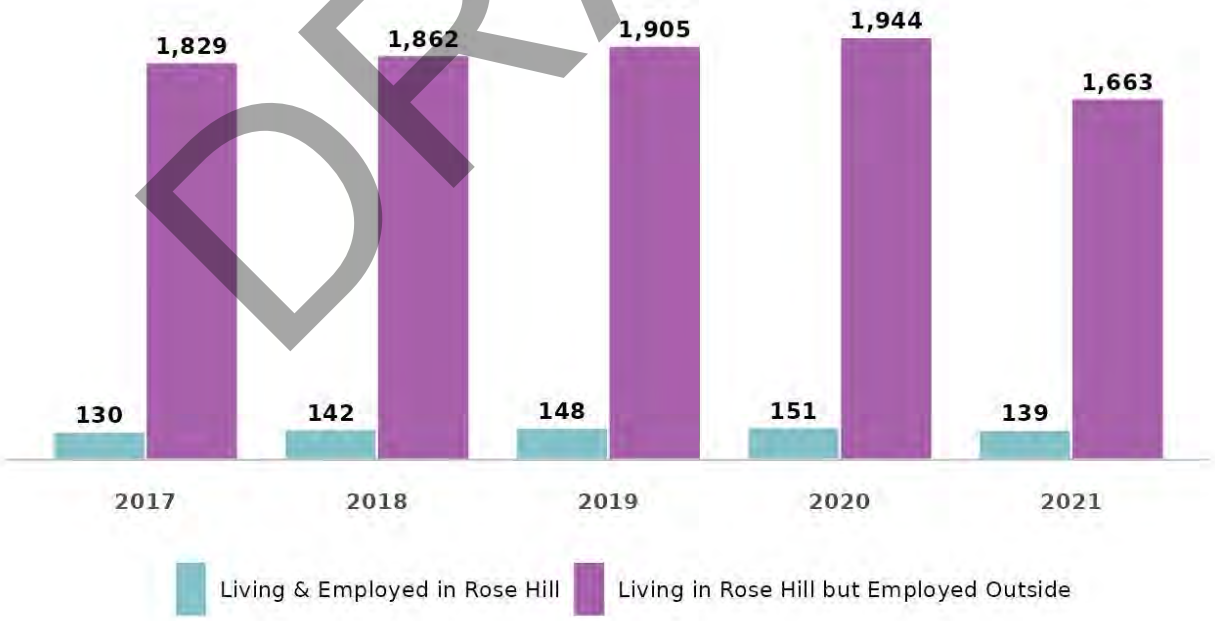
As of the 2020 Decennial Census, Rose Hill's population was 4,185. According to the American Community Survey, approximately 69% of Rose Hill's population was in the labor force in 2021 and the average travel time to work was 25.7 minutes.[12] Cook Airfield is a recreational airport located nearby and is a major draw for the city. The community has its own public school district.

There are 139 residents who both live and work in Rose Hill, but approximately 40% of the population (1,663 resident workers) travel to outside Rose Hill for work. 1,105 people live elsewhere and travel to Rose Hill for work, a 17% increase from 2017 to 2021.

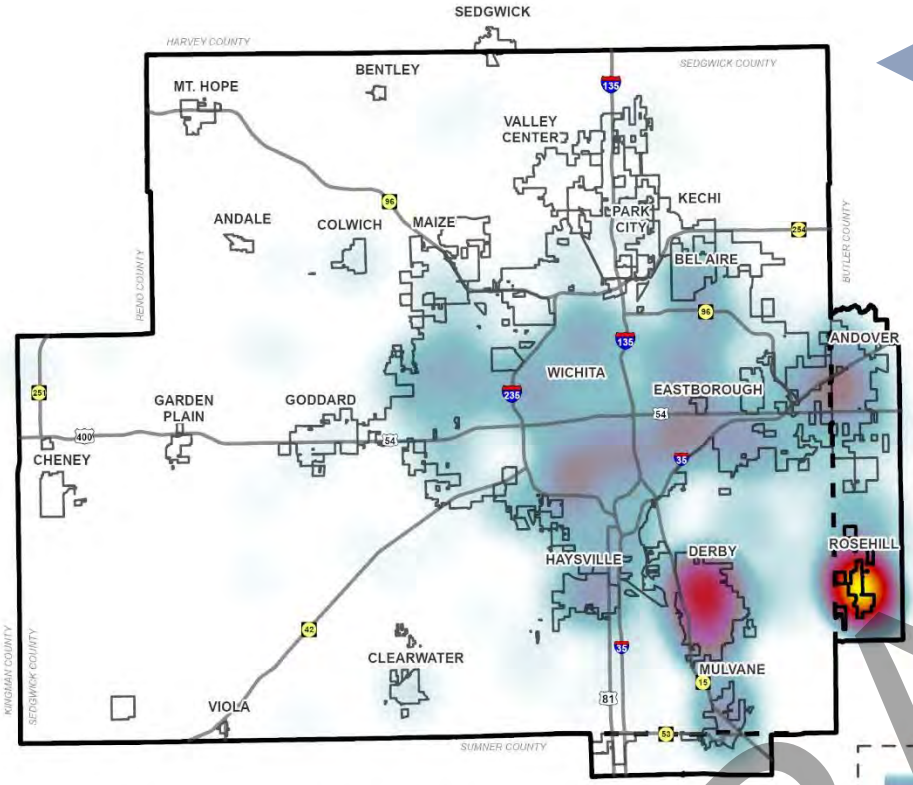
Industry Class (2021)	Internal		Inflow		Outflow	
Goods Producing	10	7.2%	187	16.9%	390	23.5%
Trade, Transportation, & Utilities	2	1.4%	76	6.9%	305	18.3%
All Other Services	127	91.4%	842	76.2%	968	58.2%

[12] US Census 2021: ACS 5-Year Estimates Data Profiles
Retrieved from: https://data.census.gov/table/ACSDP5Y2021.DP03?g=160XX00US2061250
and https://data.census.gov/table/ACSST5Y2021.S0801?g=160XX00US2061250


944
933
952
937
1,105
130
142
148
151
139
2017
2018
2019
2020
2021
Living & Employed in Rose Hill
Employed in Rose Hill but Living Outside


1,829
1,862
1,905
1,944
1,663
130
142
148
151
139
2017
2018
2019
2020
2021
Living & Employed in Rose Hill
Living in Rose Hill but Employed Outside

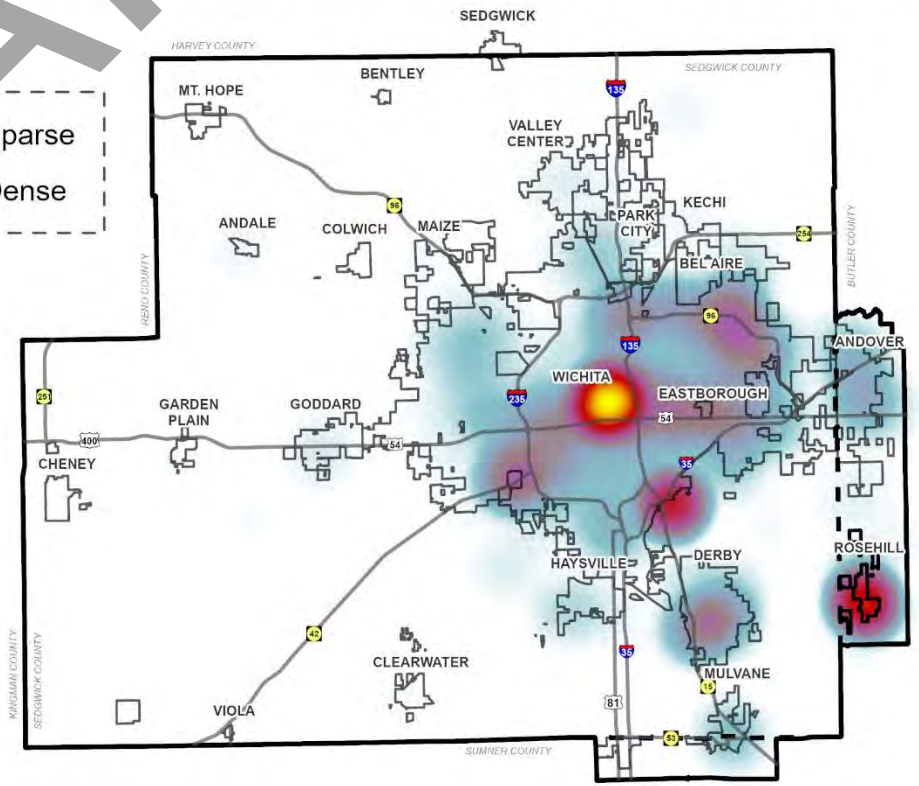
Where Workers Live Who Work in Rose Hill



504	40.5%	of workers who work in Rose Hill live	less than 10 miles
554	44.5%		10 – 24 Miles
59	4.7%		25 – 50 Miles
127	10.2%		greater than 50 Miles

from their place of employment

Where Workers Work Who Live in Rose Hill



485	26.9%	of workers who live in Rose Hill work	less than 10 miles
1,028	57.0%		10 – 24 Miles
49	2.7%		25 – 50 Miles
240	13.3%		greater than 50 Miles

from their place of residence

Clearwater

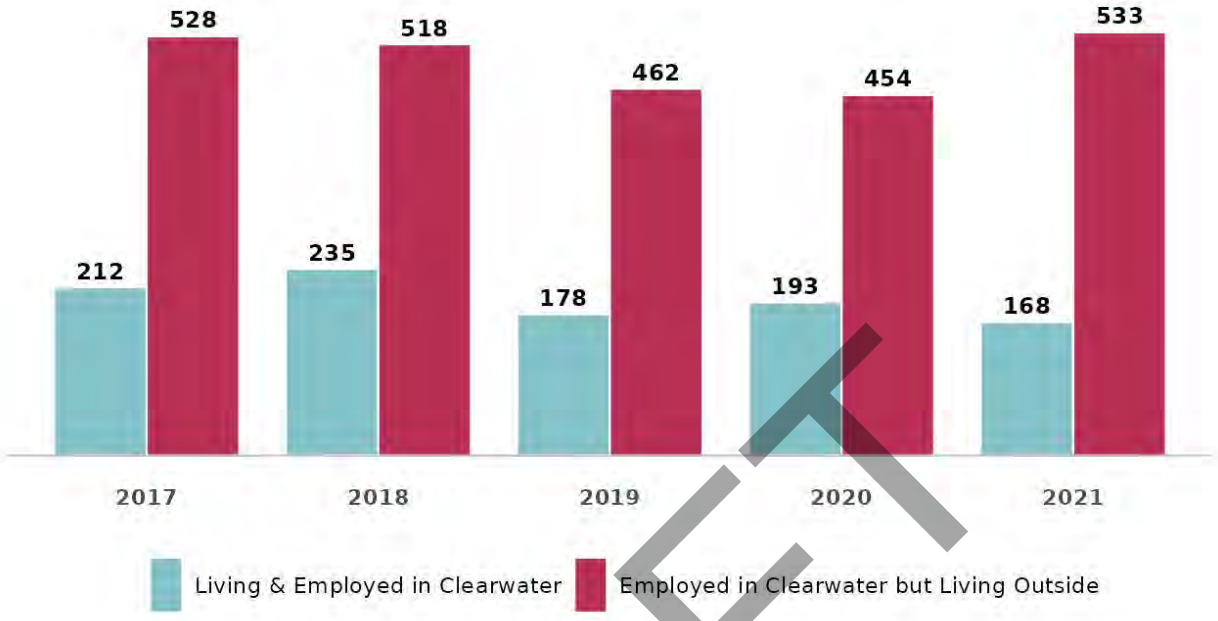
Source: U.S. Census Bureau, Center for Economic Studies, LEHD. Accessed in December 2024 at https://onthemap.ces.census.gov/

Clearwater is one of the older cities in Sedgwick County, incorporated in 1885. Located on the Chisholm Trail, the city began as a small trading post and has consistently increased in population ever since. Clearwater is served by its own public school district. As of the 2020 Decennial Census, Clearwater's population was 2,653. According to the American Community Survey, approximately 68% of Clearwater's population was in the labor force in 2021 and the average travel time to work was 24.7 minutes.[13]

There are 168 residents who both live and work in Clearwater. 1,081 residents live in Clearwater but commute to someplace else for work. There are 533 commuters who live elsewhere but travel into Clearwater for work, an approximate 1% decrease from 2017 to 2021.

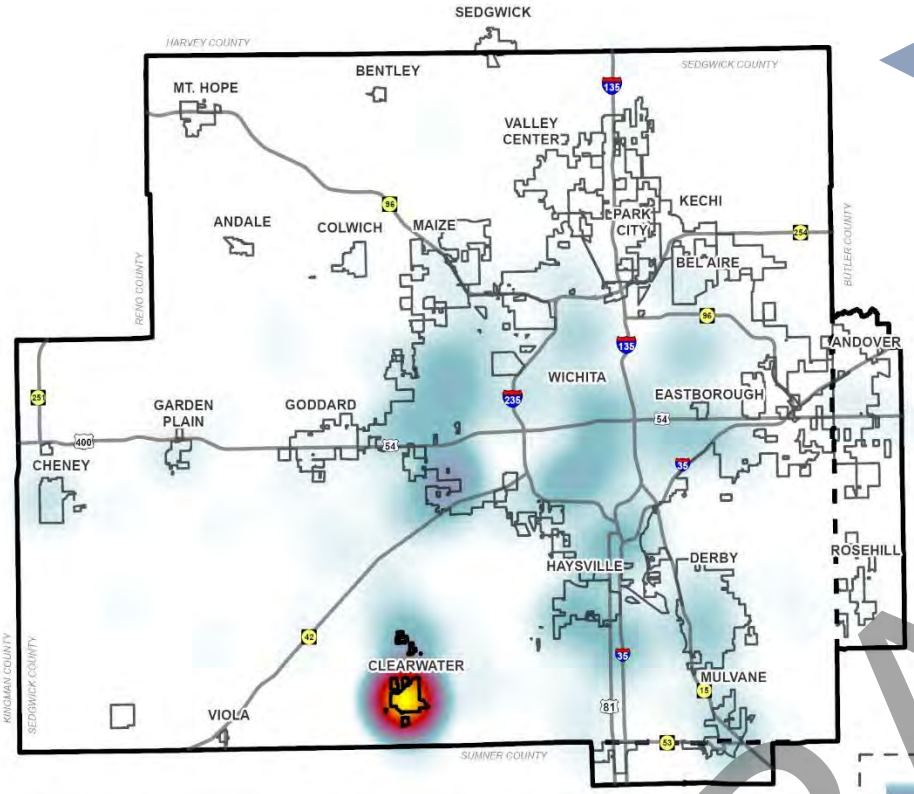
Industry Class (2021)	Internal		Inflow		Outflow	
Goods Producing	18	10.7%	49	9.2%	295	27.3%
Trade, Transportation, & Utilities	22	13.1%	115	21.6%	203	18.8%
All Other Services	128	76.2%	369	69.2%	583	53.9%

[13] US Census 2021: ACS 5-Year Estimates Data Profiles
Retrieved from: https://data.census.gov/table/ACSDP5Y2021.DP03?g=160XX00US2013925
and https://data.census.gov/table/ACSST5Y2021.S0801?g=160XX00US2013925


528
518
462
454
533
212
235
178
193
168
2017
2018
2019
2020
2021
Living & Employed in Clearwater
Employed in Clearwater but Living Outside


1,078
1,064
1,067
1,116
1,081
212
235
178
193
168
2017
2018
2019
2020
2021
Living & Employed in Clearwater
Living in Clearwater but Employed Outside

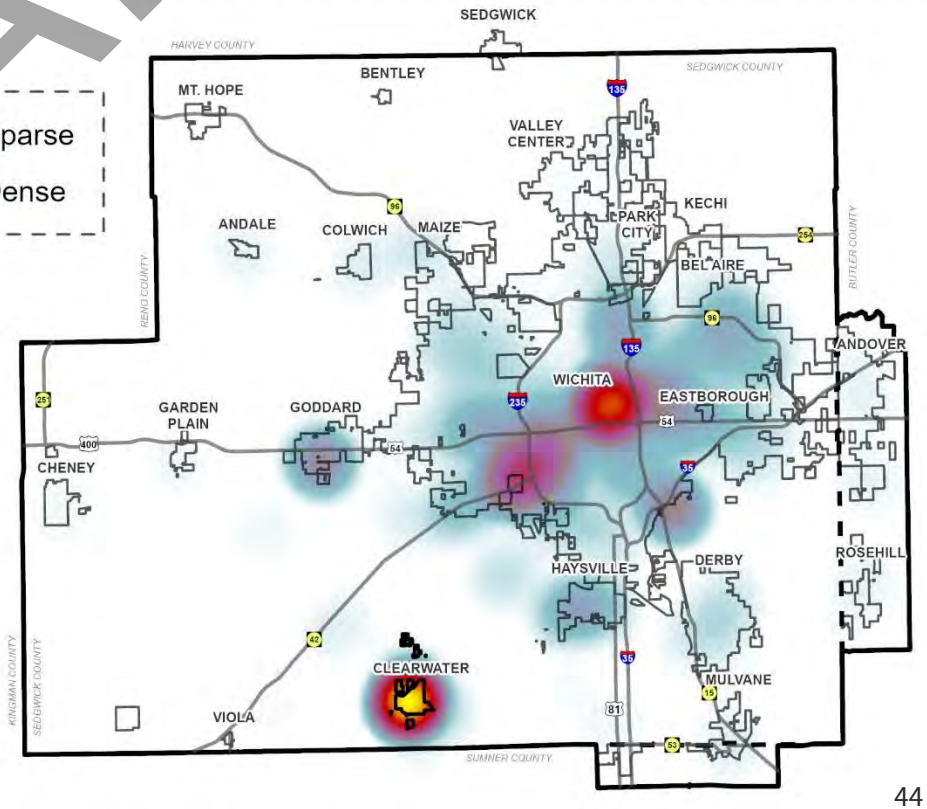
Where Workers Live Who Work in Clearwater



288	41.1%	less than 10 miles	
335	47.8%	10 – 24 Miles	of workers who work in Clearwater live
25	3.6%	25 – 50 Miles	from their place of employment
53	7.6%	greater than 50 Miles	

Sparse

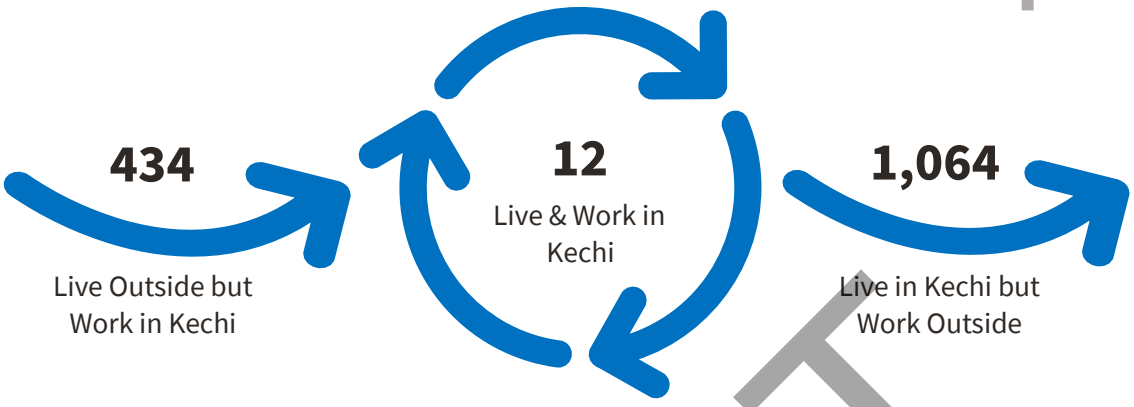
Dense



Where Workers Work Who Live in Clearwater

274	21.9%	less than 10 miles	
768	61.5%	10 – 24 Miles	of workers who live in Clearwater work
67	5.4%	25 – 50 Miles	from their place of residence
140	11.2%	greater than 50 Miles	

Kechi



Source: U.S. Census Bureau, Center for Economic Studies, LEHD. Accessed in December 2024 at https://onthemap.ces.census.gov/

Kechi is located to the northeast of Wichita and was incorporated in 1957. Kechi is served by both the Wichita and the Valley Center public school districts. As of the 2020 Decennial Census, Kechi's population was 2,217. According to the American Community Survey, approximately 71% of Kechi's population was in the labor force in 2021 and the average travel time to work was 19.9 minutes.[14]

There are 12 residents who both live and work in Kechi. 1,064 residents live in Kechi but commute to someplace else for work. 434 commuters live elsewhere but travel to Kechi for work, an approximate 18% increase from 2017 to 2021.

Industry Class (2021)	Internal		Inflow		Outflow	
Goods Producing	6	50.0%	270	62.2%	199	18.7%
Trade, Transportation, & Utilities	2	16.7%	37	8.5%	174	16.4%
All Other Services	4	33.3%	127	29.3%	691	64.9%

[14] US Census 2021: ACS 5-Year Estimates Data Profiles
Retrieved from: https://data.census.gov/table/ACSDP5Y2021.DP03?g=160XX00US2036225
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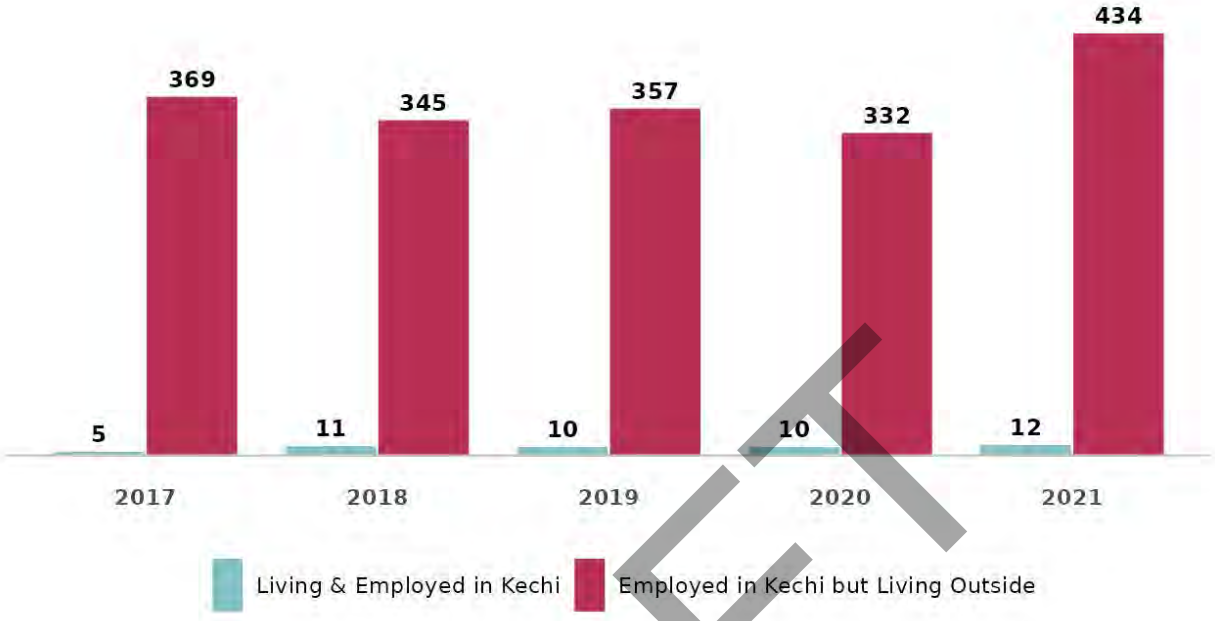
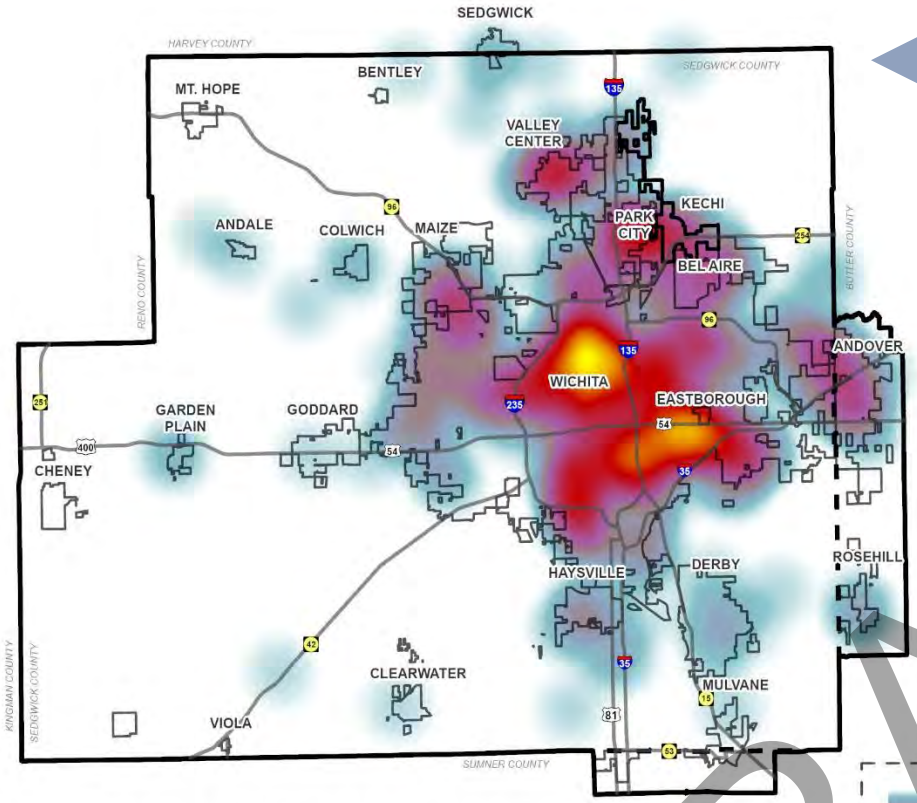

369
345
357
332
434
5
11
10
10
12
2017
2018
2019
2020
2021
Living & Employed in Kechi
Employed in Kechi but Living Outside


1,045
1,109
1,212
1,125
1,064
5
11
10
10
12
2017
2018
2019
2020
2021
Living & Employed in Kechi
Living in Kechi but Employed Outside

Where Workers Live Who Work in Kechi

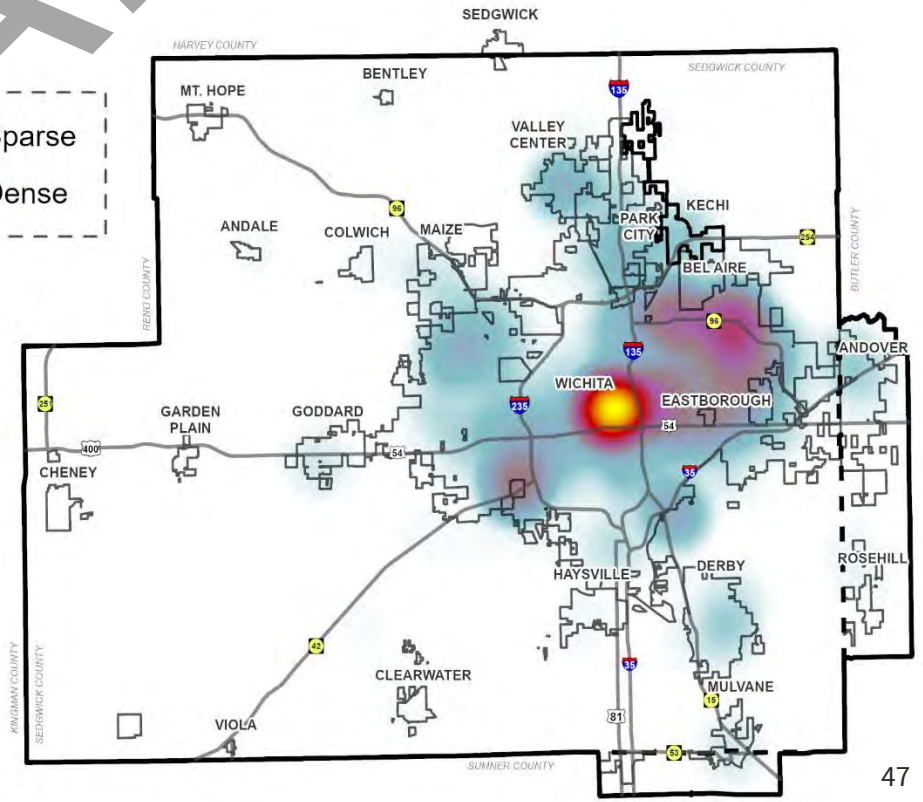


224	50.2%	of workers who work in Kechi live	less than 10 miles
165	37.0%		10 – 24 Miles
20	4.5%		25 – 50 Miles
37	8.3%		greater than 50 Miles

from their place of employment

Sparse

Dense

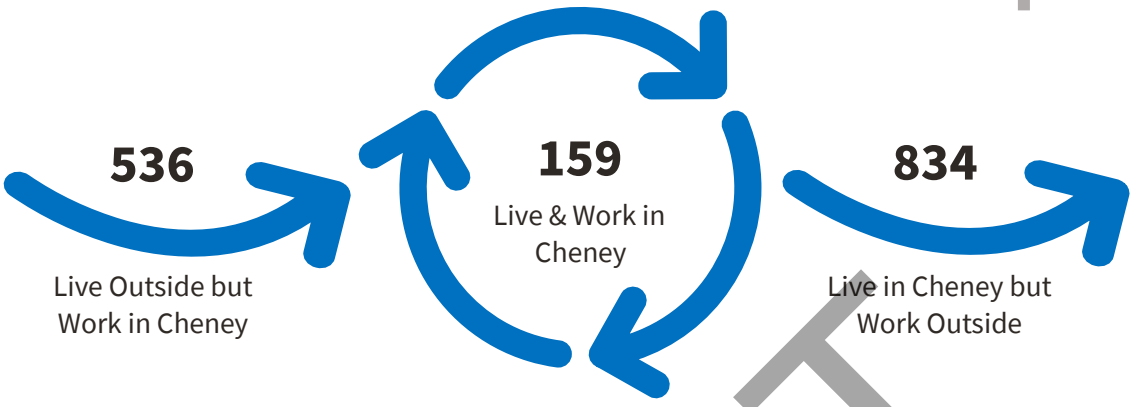


579	53.8%	of workers who live in Kechi work	less than 10 miles
336	31.2%		10 – 24 Miles
40	3.7%		25 – 50 Miles
121	11.2%		greater than 50 Miles

from their place of residence

Where Workers Work Who Live in Kechi

Cheney



Source: U.S. Census Bureau, Center for Economic Studies, LEHD. Accessed in December 2024 at https://onthemap.ces.census.gov/

The City of Cheney was founded in 1883 as a station and shipping point on the Santa Fe Railway, south of where the Cheney Reservoir now is. The Cheney Reservoir is a popular recreation destination for many in the area and a major source of drinking water in the metropolitan area. Cheney is served by its own public school district. As of the 2020 Decennial Census, Cheney's population was 2,181. According to the American Community Survey, approximately 63% of Cheney's population was in the labor force in 2021 and the average travel time to work was 21.7 minutes.[15]

There are 159 residents who both live and work in Cheney. 834 residents live in Cheney but commute to someplace else for work, an approximate 7% decrease from 2017 to 2021. There are 536 commuters who live elsewhere but travel to Cheney for work.

Industry Class (2021)	Internal		Inflow		Outflow	
Goods Producing	10	6.3%	58	10.8%	244	29.3%
Trade, Transportation, & Utilities	21	13.2%	195	36.4%	159	19.1%
All Other Services	128	80.5%	283	52.8%	431	51.7%

[15] US Census 2021: ACS 5-Year Estimates Data Profiles
Retrieved from: https://data.census.gov/table/ACSDP5Y2021.DP03?g=160XX00US2012775
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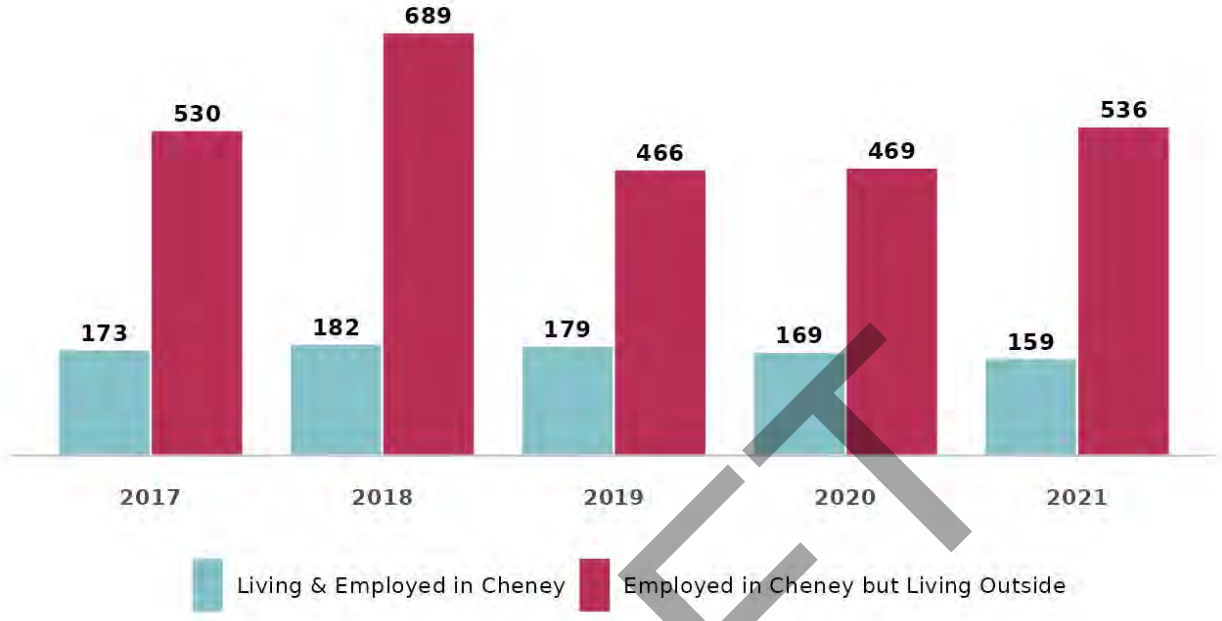
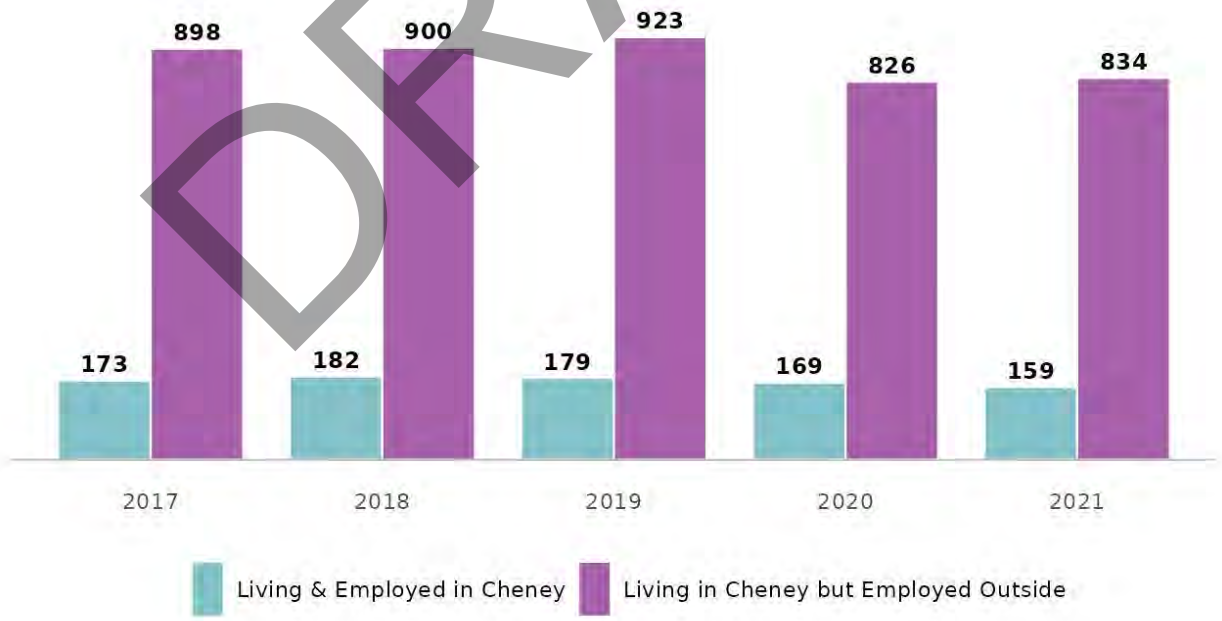
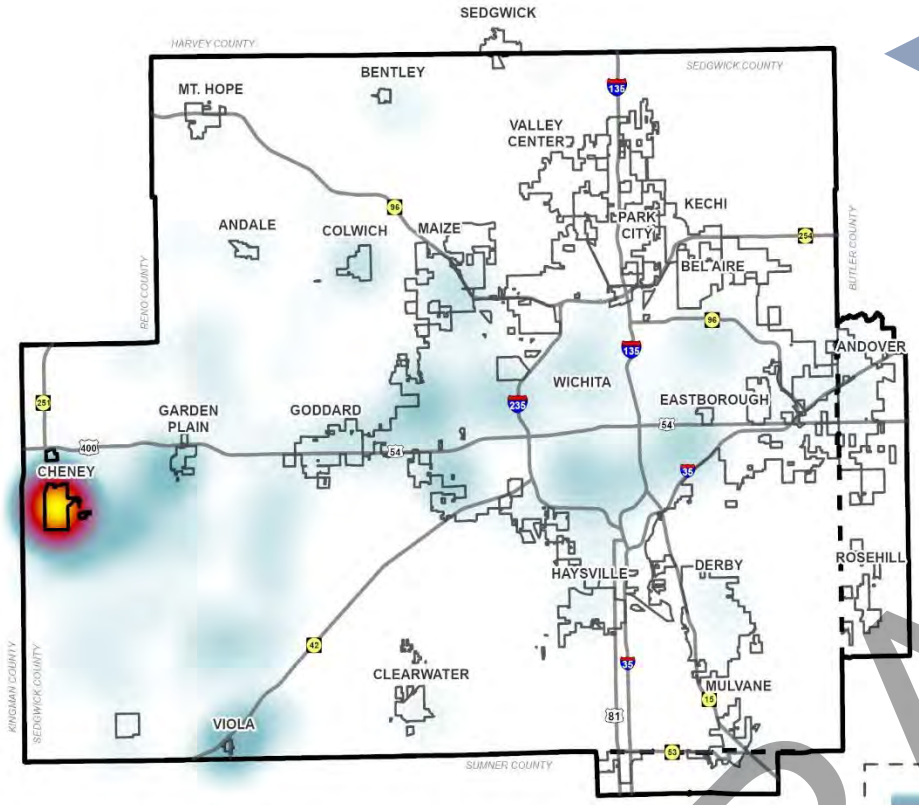

689
530
466
469
536
173
182
179
169
159
2017
2018
2019
2020
2021
Living & Employed in Cheney
Employed in Cheney but Living Outside


898
900
923
826
834
173
182
179
169
159
2017
2018
2019
2020
2021
Living & Employed in Cheney
Living in Cheney but Employed Outside

Where Workers Live Who Work in Cheney

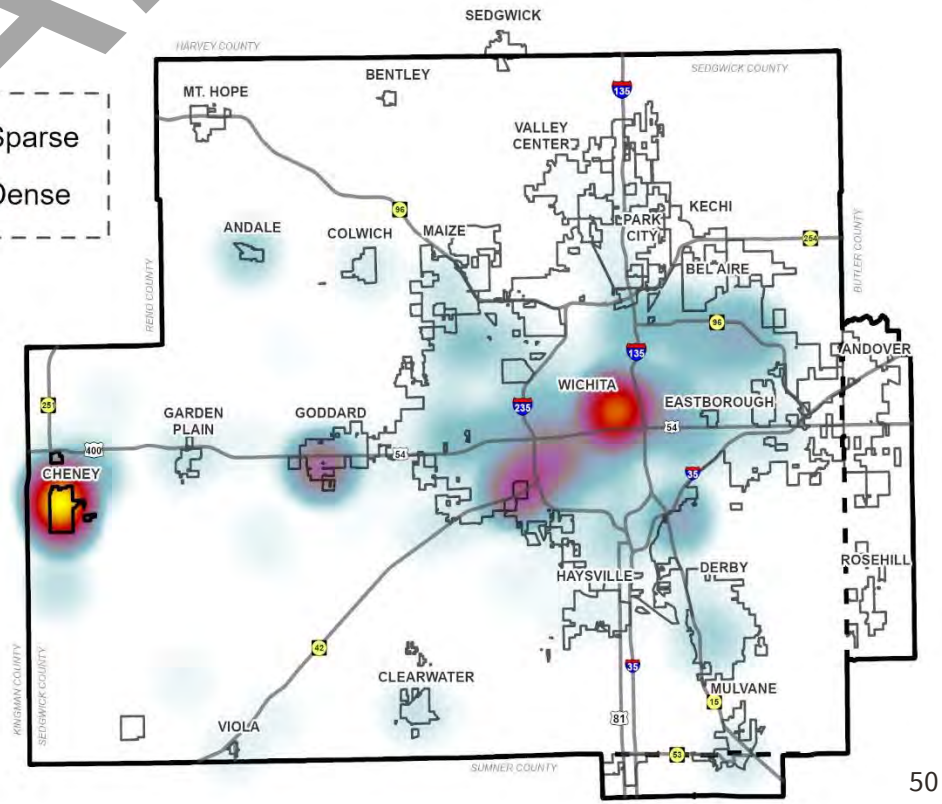
305	43.9%	of workers who work in Cheney live	less than 10 miles
250	36.0%		10 – 24 Miles
86	12.4%		25 – 50 Miles
54	7.8%		greater than 50 Miles

from their place of employment



Sparse

Dense



Where Workers Work Who Live in Cheney

202	20.3%	of workers who live in Cheney work	less than 10 miles
411	41.4%		10 – 24 Miles
269	27.1%		25 – 50 Miles
111	11.2%		greater than 50 Miles

from their place of residence

Sedgwick

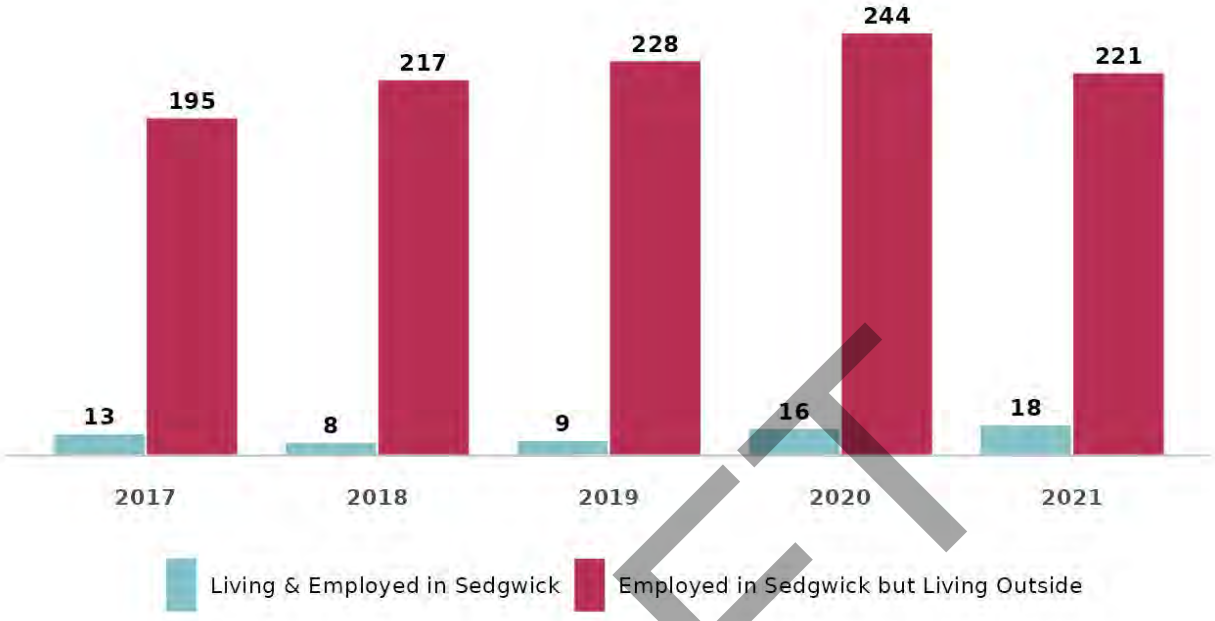
Source: U.S. Census Bureau, Center for Economic Studies, LEHD. Accessed in December 2024 at https://onthemap.ces.census.gov/

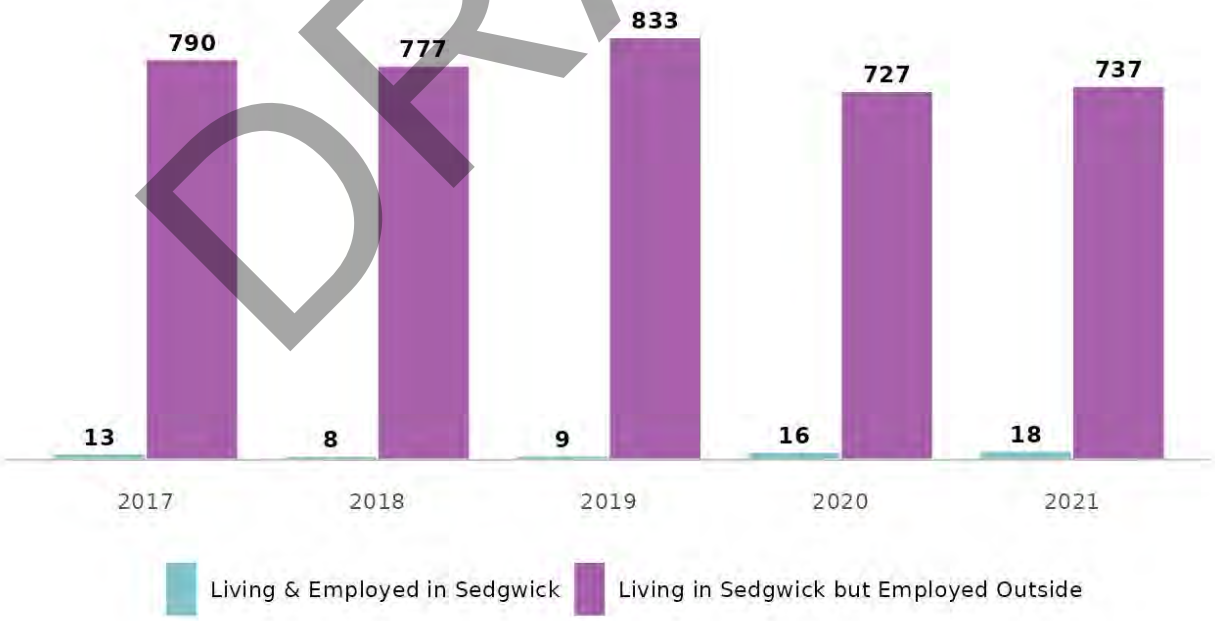
The city of Sedgwick is in both Harvey and Sedgwick Counties and calls itself "a little town with a big heart." Sedgwick is one of the earliest incorporated cities in the WAMPO region (incorporated 1872), second only to Wichita. The city markets itself as having the pleasures of small-town living but being close to big-city jobs—appealing to commuters. Sedgwick is served by its own public school district. As of the 2020 Decennial Census, Sedgwick's population was 1,603. According to the American Community Survey, approximately 65% of Sedgwick's population was in the labor force in 2021 and the average travel time to work was 24.1 minutes.[16]

There are 16 residents who both live and work in Sedgwick. 737 residents live in Sedgwick but commute to someplace else for work. 221 commuters live elsewhere but travel to Sedgwick for work, an approximate 13% increase from 2017 to 2021.

Industry Class (2021)	Internal		Inflow		Outflow	
Goods Producing	4	22.2%	52	23.5%	199	27.0%
Trade, Transportation, & Utilities	2	11.1%	35	15.8%	120	16.3%
All Other Services	12	66.7%	134	60.6%	418	56.7%

[16] US Census 2021: ACS 5-Year Estimates Data Profiles
Retrieved from: https://data.census.gov/table/ACSDP5Y2021.DP03?g=160XX00US2063800
and https://data.census.gov/table/ACSST5Y2021.S0801?g=160XX00US2063800


13
195
8
217
9
228
16
244
18
221
2017
2018
2019
2020
2021
Living & Employed in Sedgwick
Employed in Sedgwick but Living Outside


13
790
8
777
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833
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727
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737
2017
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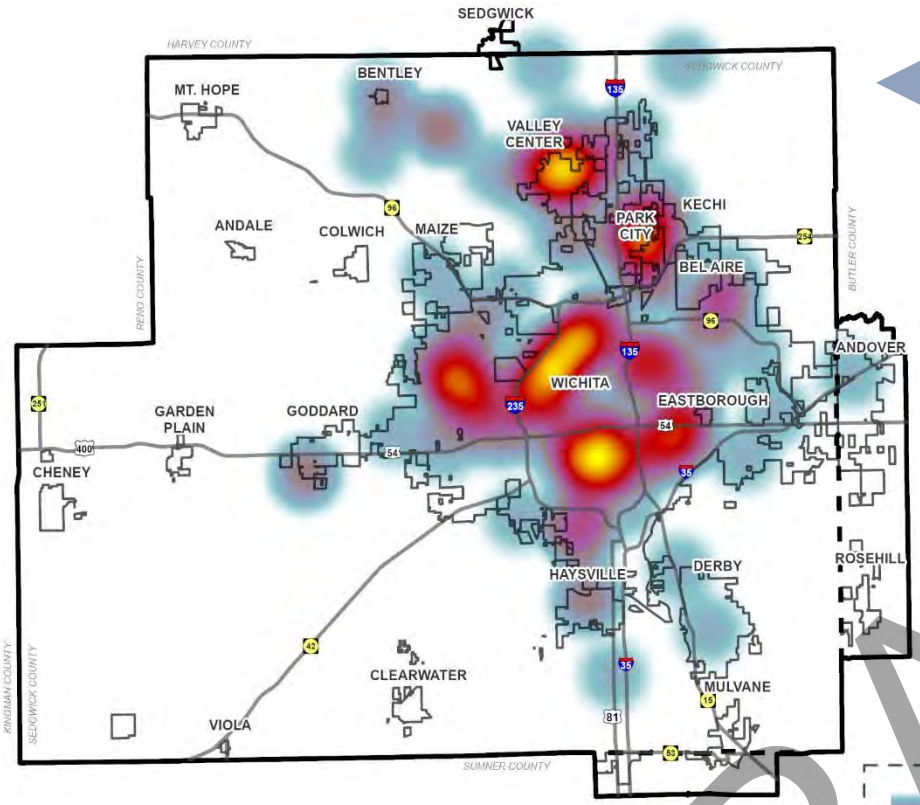
2020
2021
Living & Employed in Sedgwick
Living in Sedgwick but Employed Outside



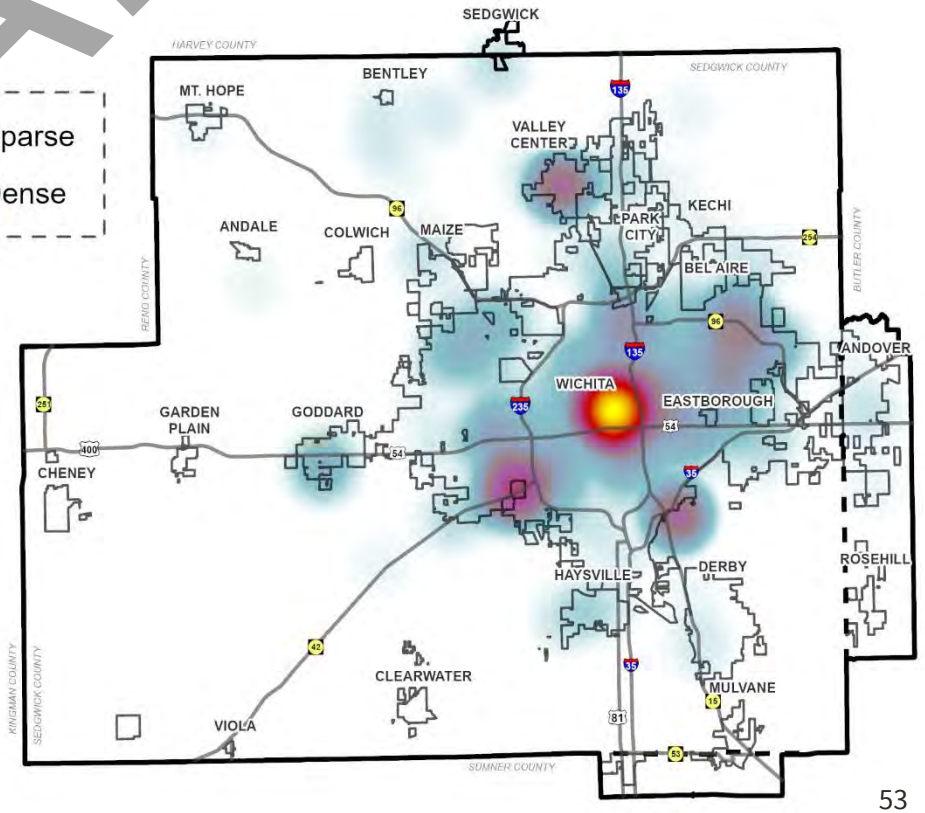
Sparse

Dense

Where Workers Live Who Work in Sedgwick

77	32.2%	of workers who work in Sedgwick live	less than 10 miles
113	47.3%		10 – 24 Miles
19	7.9%		25 – 50 Miles
30	12.6%		greater than 50 Miles

from their place of employment

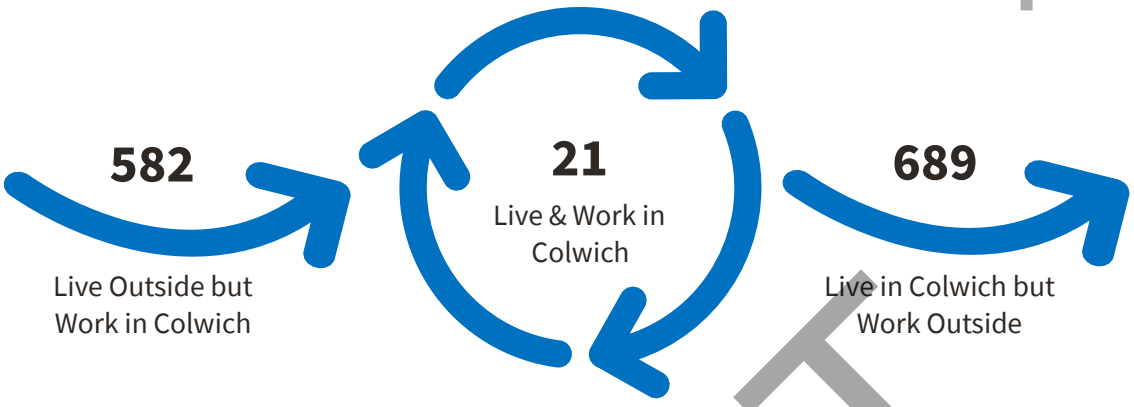


Where Workers Work Who Live in Sedgwick

158	20.9%	of workers who live in Sedgwick work	less than 10 miles
486	64.4%		10 – 24 Miles
42	5.6%		25 – 50 Miles
69	9.1%		greater than 50 Miles

from their place of residence

Colwich



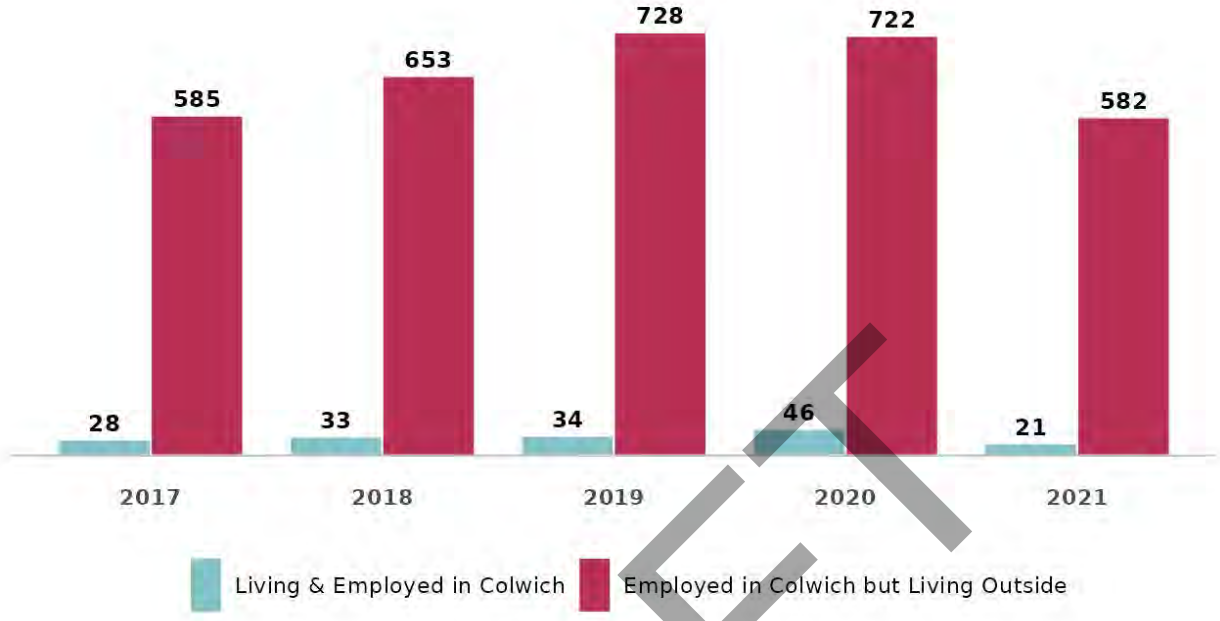
Source: U.S. Census Bureau, Center for Economic Studies, LEHD. Accessed in December 2024 at https://onthemap.ces.census.gov/

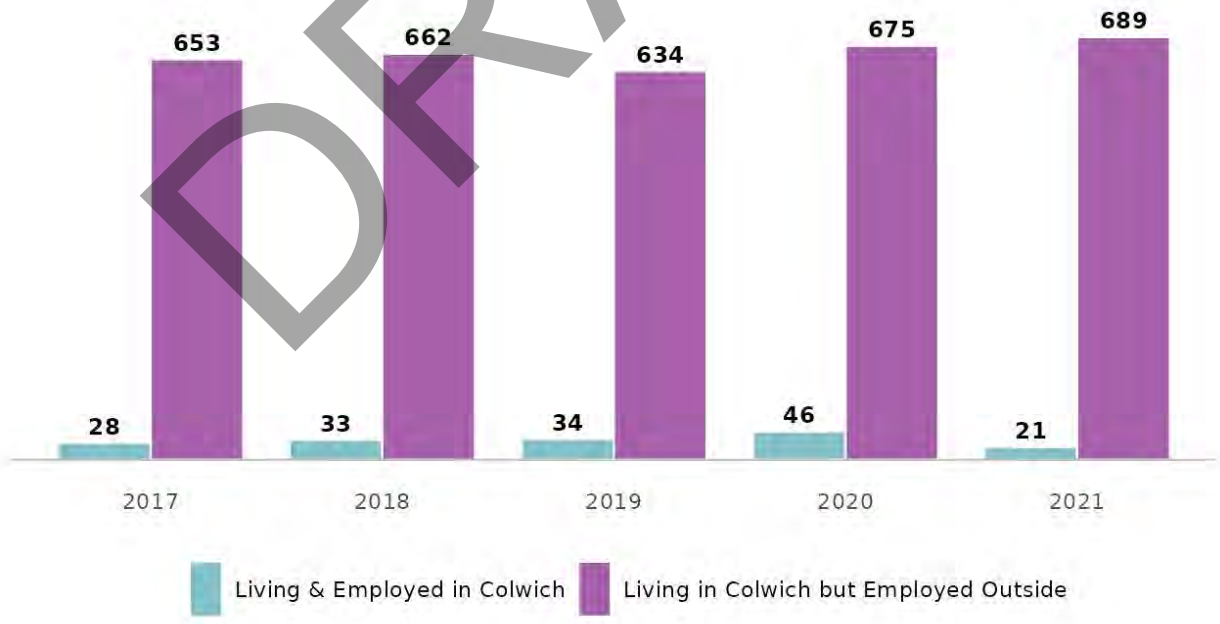
A rural-suburban city, Colwich has experienced continued population expansion and economic growth. Colwich was founded in 1887 and is located approximately 5 miles northwest of Wichita. Colwich does not have its own school district and is instead served by Renwick Unified School District (USD 267), which also serves the cities of Andale and Garden Plain. As of the 2020 Decennial Census, Colwich's population was 1,455. According to the American Community Survey, approximately 75% of Colwich's population was in the labor force in 2021 and the average travel time to work was 21.4 minutes.[17]

There are 21 residents who both live and work in Colwich. 689 residents live in Colwich but commute to someplace else for work, an approximate 6% increase from 2017 to 2021. 582 commuters live elsewhere but travel into Colwich for work.

Industry Class (2021)	Internal		Inflow		Outflow	
Goods Producing	2	9.5%	28	4.8%	156	22.6%
Trade, Transportation, & Utilities	1	4.8%	52	8.9%	111	16.1%
All Other Services	18	85.7%	502	86.3%	422	61.2%

[17] US Census 2021: ACS 5-Year Estimates Data Profiles
Retrieved from: https://data.census.gov/table/ACSDP5Y2021.DP03?g=160XX00US2015100
and https://data.census.gov/table/ACSST5Y2021.S0801?g=160XX00US2015100


728
722
653
585
582
28
33
34
46
21
2017
2018
2019
2020
2021
Living & Employed in Colwich
Employed in Colwich but Living Outside


689
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662
634
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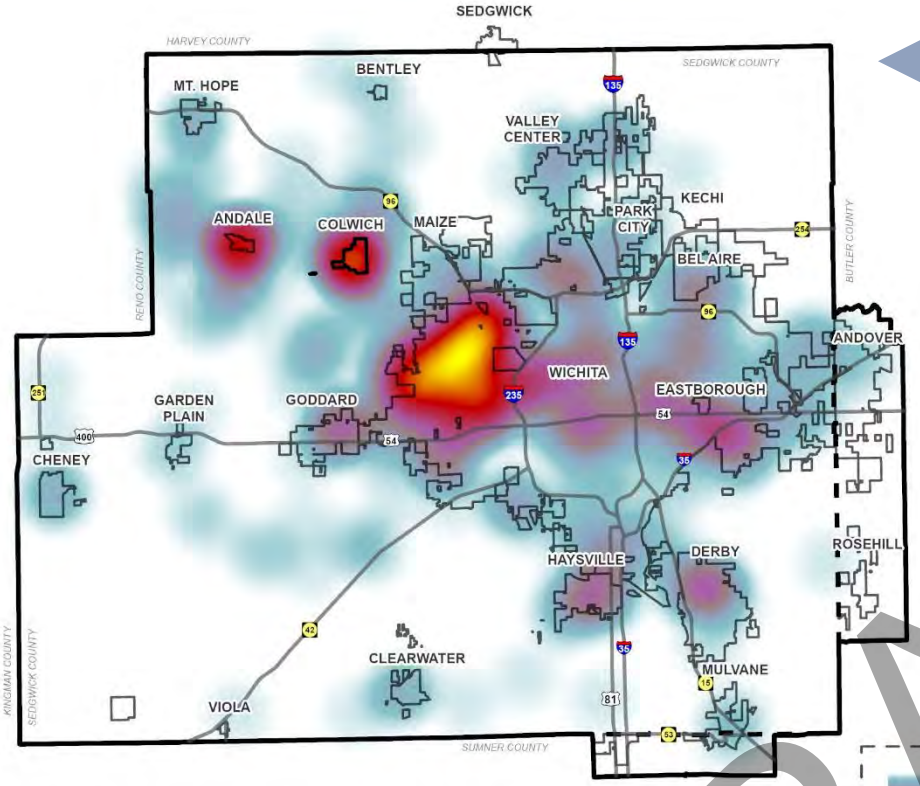
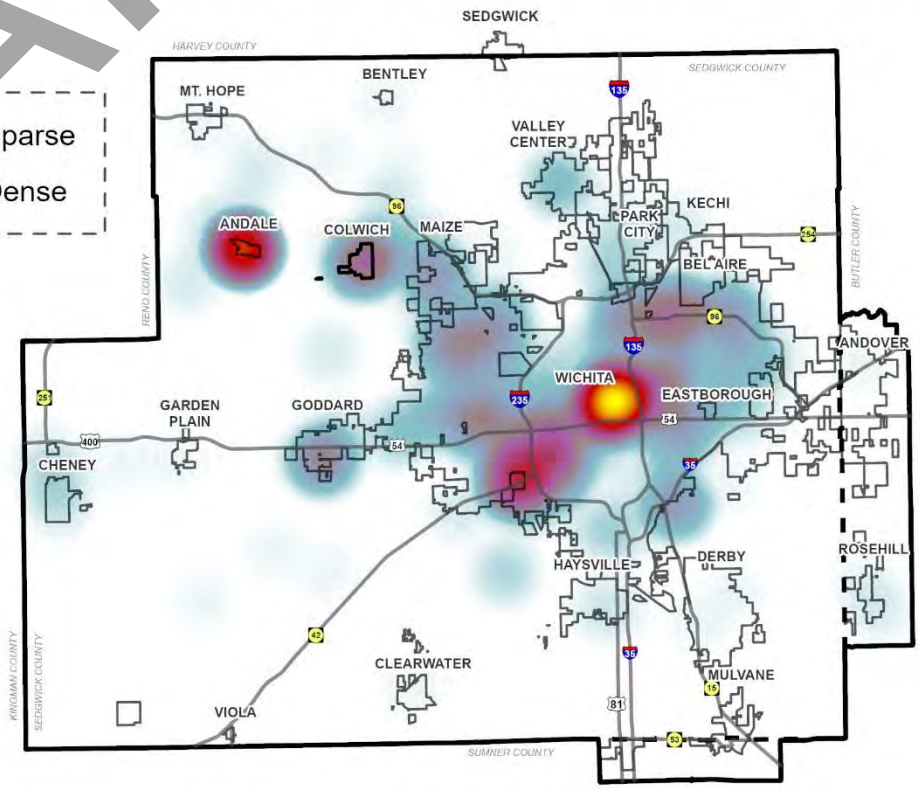
33
34
46
21
2017
2018
2019
2020
2021
Living & Employed in Colwich
Living in Colwich but Employed Outside

Where Workers Live Who Work in Colwich

286	47.4%	of workers who work in Colwich live	less than 10 miles
223	37.0%		10 – 24 Miles
41	6.8%		25 – 50 Miles
53	8.8%		greater than 50 Miles

from their place of employment



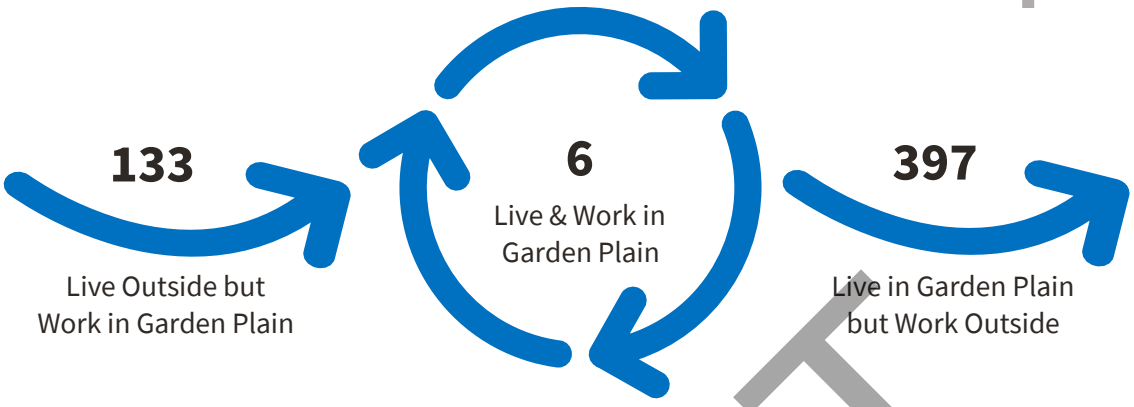


Where Workers Work Who Live in Colwich

216	30.4%	of workers who live in Colwich work	less than 10 miles
373	52.5%		10 – 24 Miles
40	5.6%		25 – 50 Miles
81	11.4%		greater than 50 Miles

from their place of residence

Garden Plain



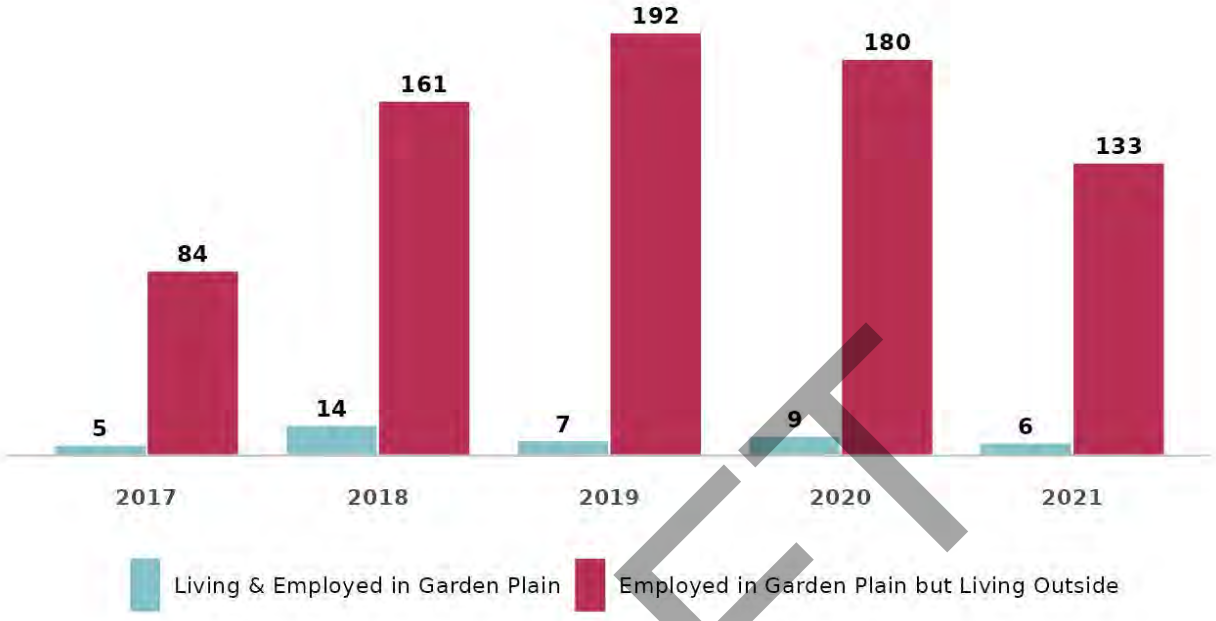
Source: U.S. Census Bureau, Center for Economic Studies, LEHD. Accessed in December 2024 at https://onthemap.ces.census.gov/

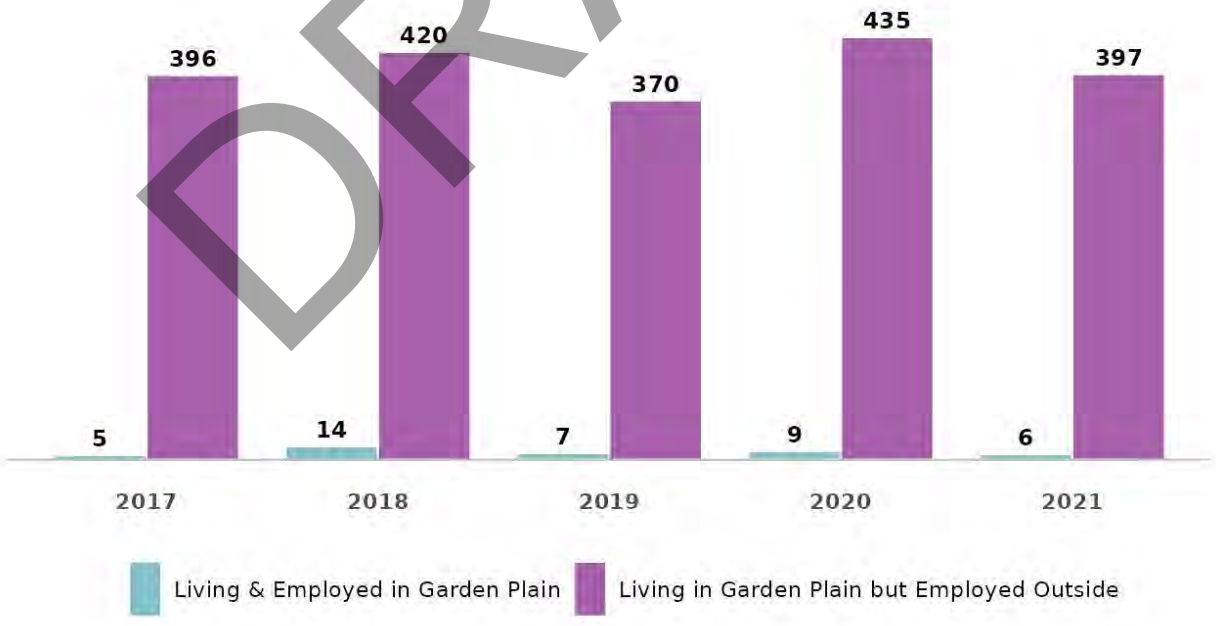
Located west of Goddard, Garden Plain was founded as a junction between the cities of Wichita and Kingman on the Wichita and Western Railroad. Since its incorporation in 1903, the city has seen an increase in population because of its family-oriented community. Garden Plain is served by the Renwick Unified School District (USD 267), which also serves the cities of Andale and Colwich. As of the 2020 Decennial Census, Garden Plain's population was 948. According to the American Community Survey, approximately 75% of Garden Plain's population was in the labor force in 2021 and the average travel time to work was 26.0 minutes.[18]

There are 6 residents who both live and work in Garden Plain. 397 residents live in Garden Plain but commute to someplace else for work. 133 commuters live elsewhere but travel into Garden Plain for work, an approximate 58% increase from 2017 to 2021.

Industry Class (2021)	Internal		Inflow		Outflow	
Goods Producing	3	50.0%	19	14.3%	114	28.6%
Trade, Transportation, & Utilities	2	33.3%	43	32.3%	59	14.8%
All Other Services	1	16.7%	71	53.4%	225	56.5%

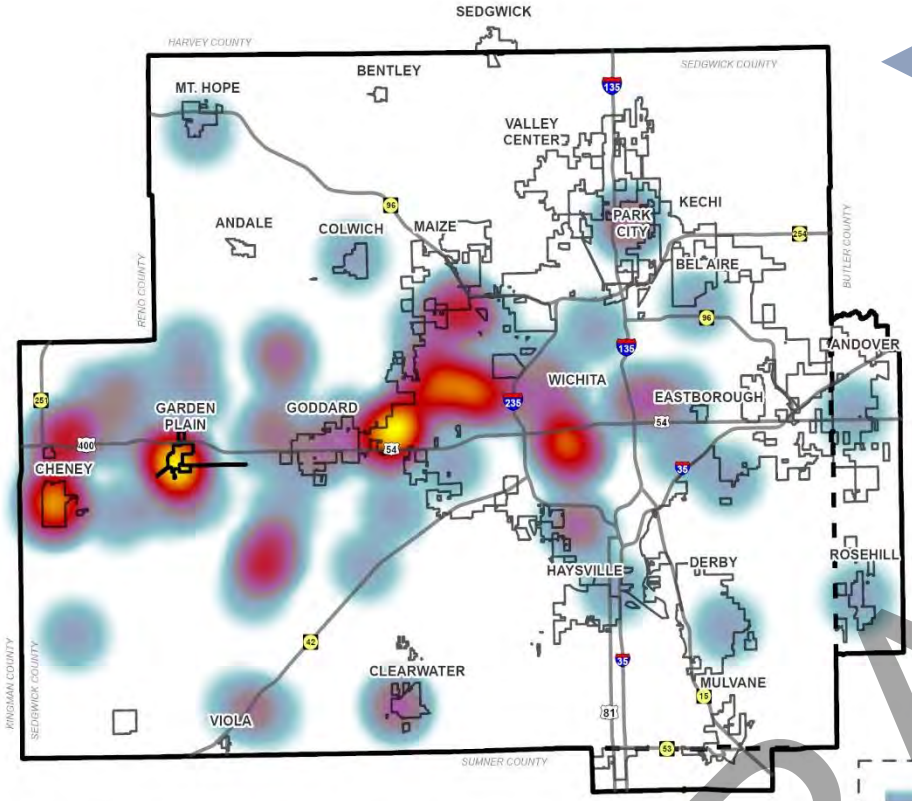
[18] US Census 2021: ACS 5-Year Estimates Data Profiles
Retrieved from: https://data.census.gov/table/ACSDP5Y2021.DP03?g=160XX00US2025375
and https://data.census.gov/table/ACSST5Y2021.S0801?g=160XX00US2025375


5
84
14
161
7
192
9
180
6
133
2017
2018
2019
2020
2021
Living & Employed in Garden Plain
Employed in Garden Plain but Living Outside


5
396
14
420
7
370
9
435
6
397
2017
2018
2019
2020
2021
Living & Employed in Garden Plain
Living in Garden Plain but Employed Outside

Where Workers Live Who Work in Garden Plain

49	35.3%	of workers who work in Garden Plain live	less than 10 miles	from their place of employment
56	40.3%		10 – 24 Miles	
15	10.8%		25 – 50 Miles	
19	13.7%		greater than 50 Miles	



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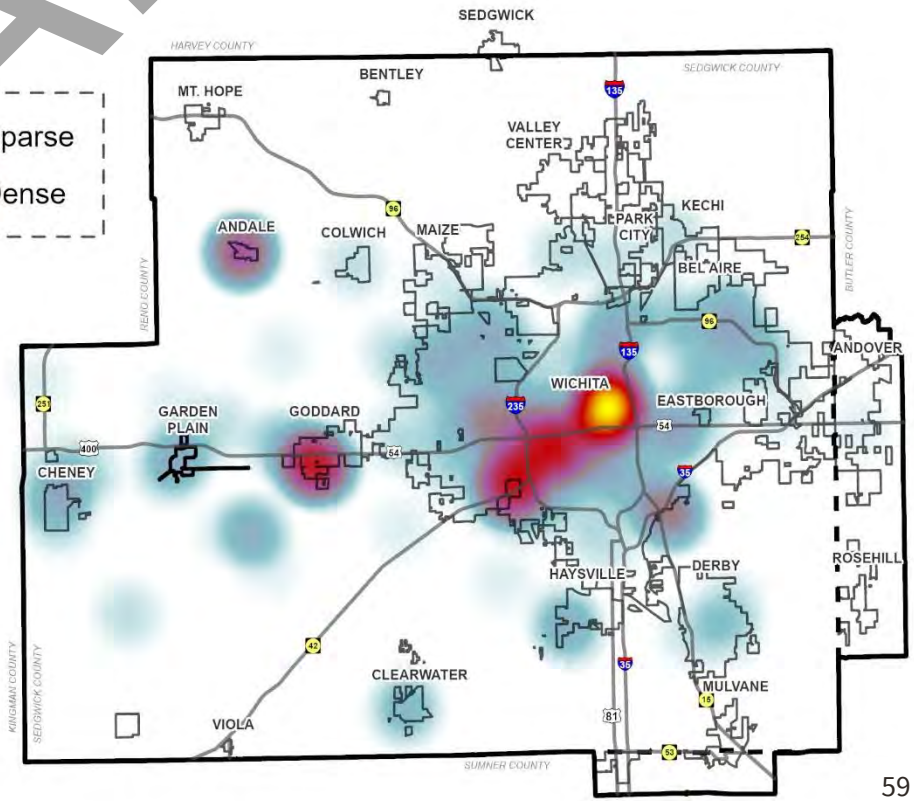
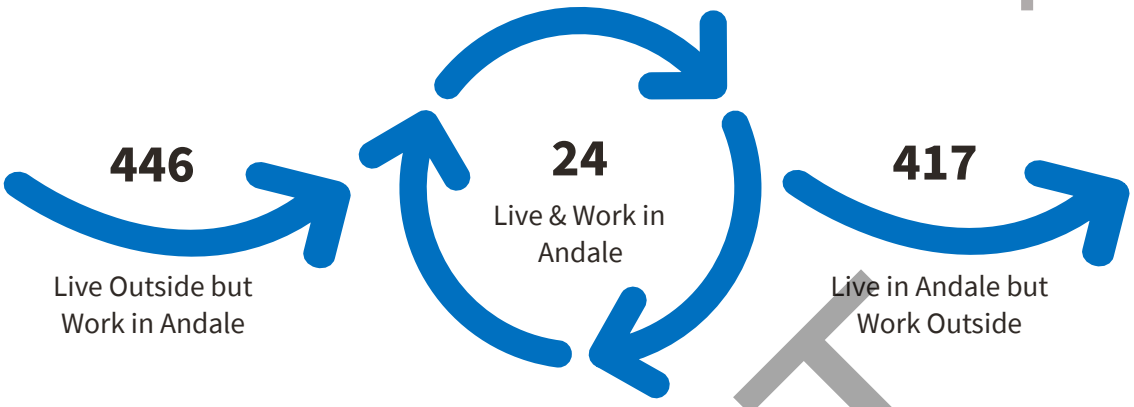
Dense



Where Workers Work Who Live in Garden Plain

81	20.0%	of workers who live in Garden Plain work	less than 10 miles	from their place of residence
249	61.6%		10 – 24 Miles	
39	9.7%		25 – 50 Miles	
35	8.7%		greater than 50 Miles	

Andale



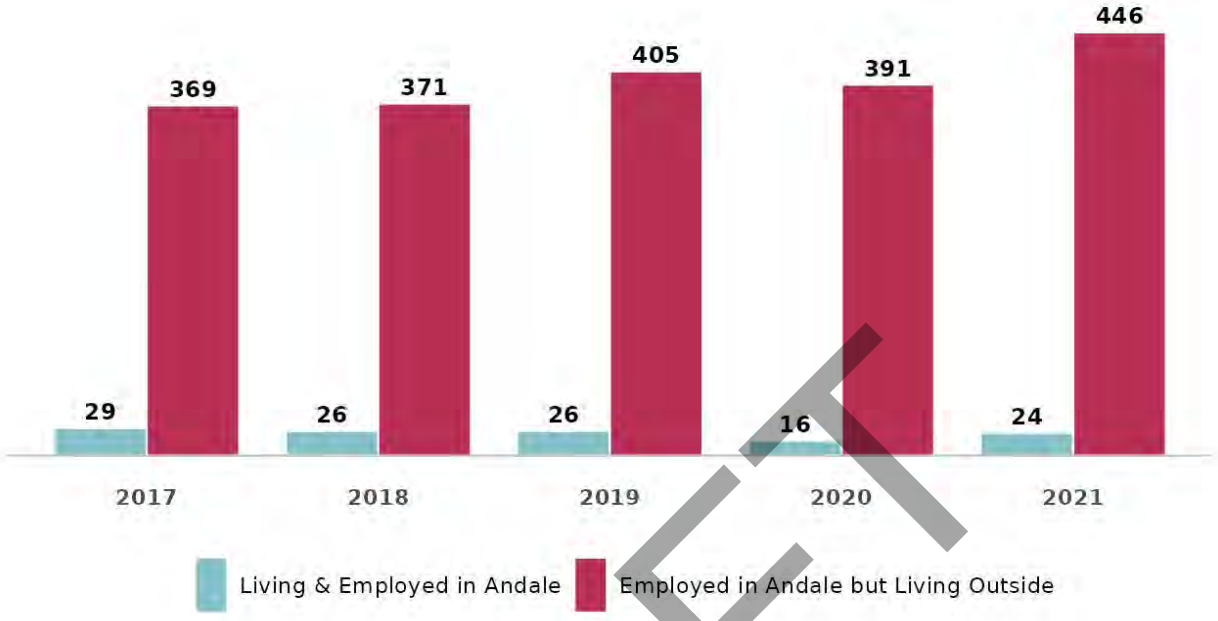
Source: U.S. Census Bureau, Center for Economic Studies, LEHD. Accessed in December 2024 at https://onthemap.ces.census.gov/

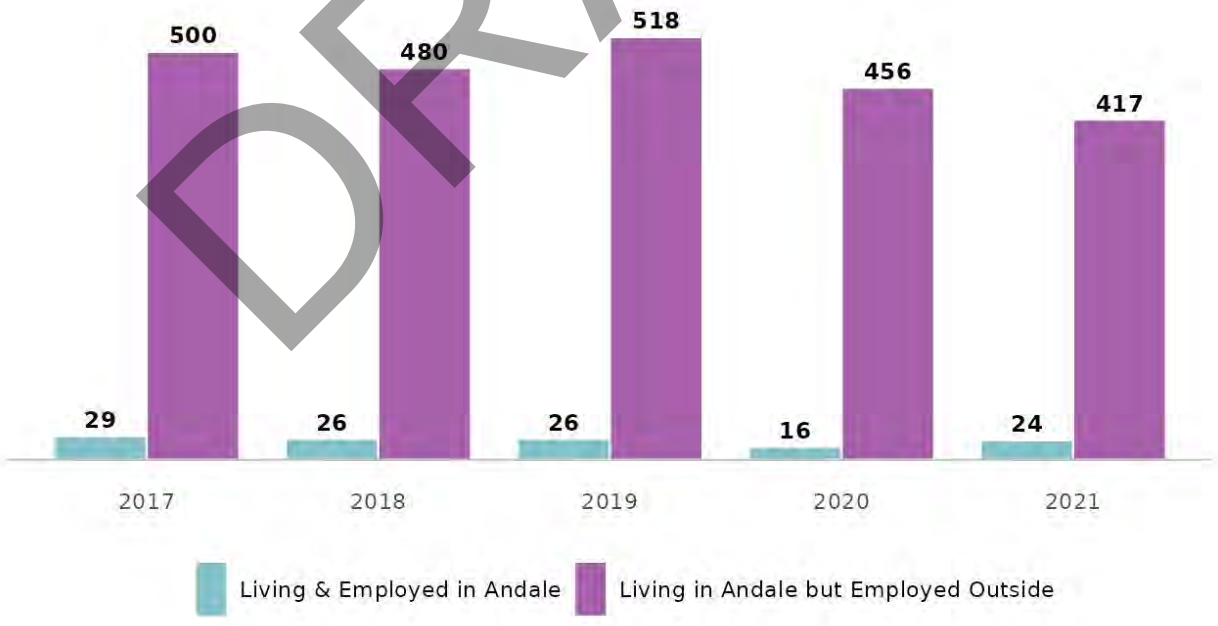
Andale was founded as a station and shipping point on the Missouri Pacific Railroad in the 1880s and incorporated in 1901. Andale is served by the Renwick Unified School District (USD 267), which also serves the cities of Garden Plain and Colwich. As of the 2020 Decennial Census, Andale's population was 941. According to the American Community Survey, approximately 75% of Andale's population was in the labor force in 2021 and the average travel time to work was 25.1 minutes.[19]

There are 24 residents who both live and work in Andale. 417 residents live in Andale but commute to someplace else for work. 446 commuters live elsewhere but travel into Andale for work, an approximate 21% increase from 2017 to 2021.

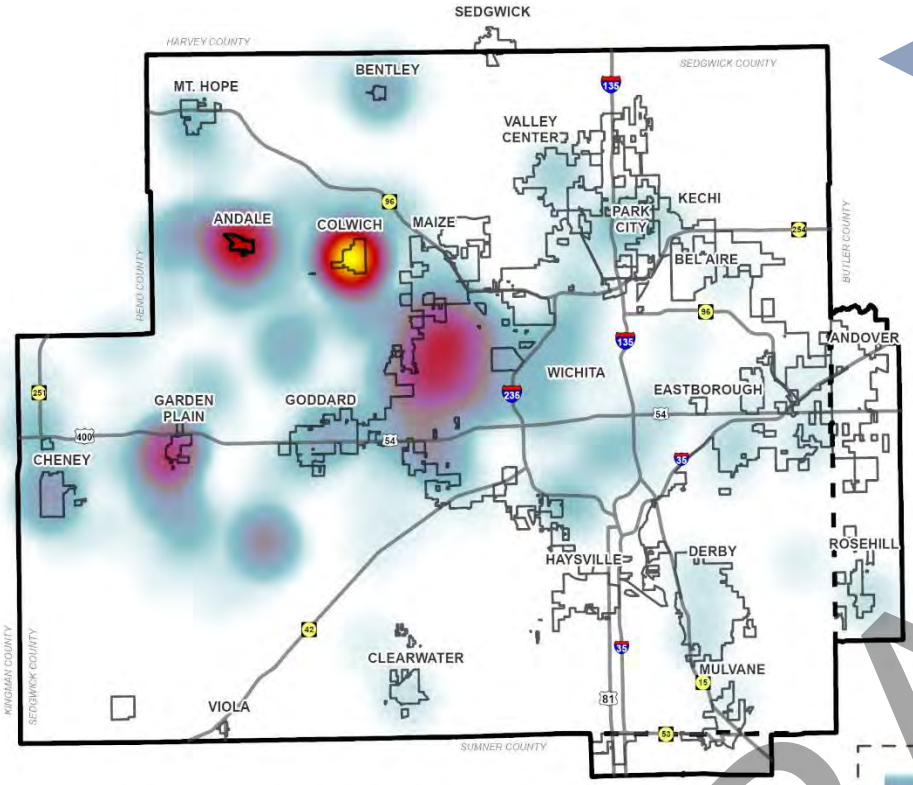
Industry Class (2021)	Internal		Inflow		Outflow	
Goods Producing	0	0.0%	17	3.8%	107	25.5%
Trade, Transportation, & Utilities	3	12.5%	49	11.0%	64	15.3%
All Other Services	21	87.5%	380	85.2%	248	59.2%

[19] US Census 2021: ACS 5-Year Estimates Data Profiles
Retrieved from: https://data.census.gov/table/ACSDP5Y2021.DP03?g=160XX00US2001775
and https://data.census.gov/table/ACSST5Y2021.S0801?g=160XX00US2001775


29
369
26
371
26
405
16
391
24
446
2017
2018
2019
2020
2021
Living & Employed in Andale
Employed in Andale but Living Outside


29
500
26
480
26
518
16
456
24
417
2017
2018
2019
2020
2021
Living & Employed in Andale
Living in Andale but Employed Outside

Where Workers Live Who Work in Andale

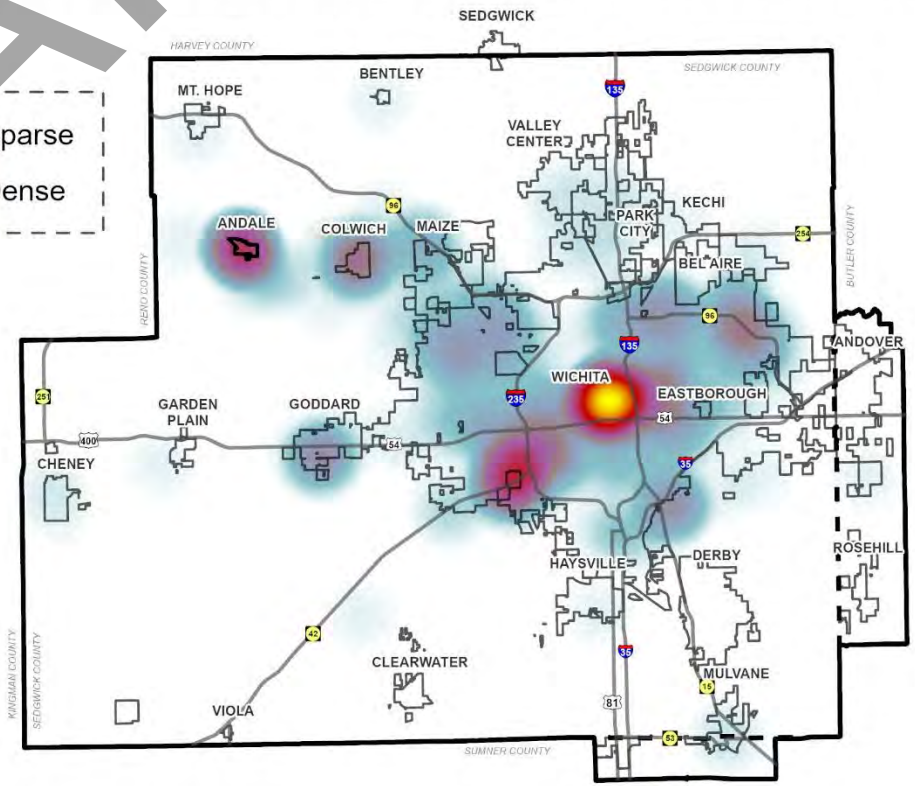


215	45.7%	of workers who work in Andale live	less than 10 miles
203	43.2%		10 – 24 Miles
25	5.3%		25 – 50 Miles
27	5.7%		greater than 50 Miles

from their place of employment

Sparse

Dense



Where Workers Work Who Live in Andale

82	18.5%	of workers who live in Andale work	less than 10 miles
303	68.4%		10 – 24 Miles
14	3.2%		25 – 50 Miles
44	9.9%		greater than 50 Miles

from their place of residence

Mount Hope

Source: U.S. Census Bureau, Center for Economic Studies, LEHD. Accessed in December 2024 at https://onthemap.ces.census.gov/

Mount Hope was founded in 1874 and incorporated in 1887. It is served by Haven Unified School District (USD 312), most of which is outside of the WAMPO region. As of the 2020 Decennial Census, Mount Hope's population was 806. According to the American Community Survey, approximately 67% of Mount Hope's population was in the labor force in 2021 and the average travel time to work was 27.5 minutes.[20]

There are 13 residents who both live and work in Mount Hope. 341 residents live in Mount Hope but commute to someplace else for work. 107 commuters live elsewhere but travel to Mount Hope for work, an approximate 5% increase from 2017 to 2021.

Industry Class (2021)	Internal		Inflow		Outflow	
Goods Producing	2	15.4%	17	15.9%	99	29.0%
Trade, Transportation, & Utilities	2	15.4%	12	11.2%	70	20.5%
All Other Services	9	69.2%	78	72.9%	172	50.4%

[20] US Census 2021: ACS 5-Year Estimates Data Profiles
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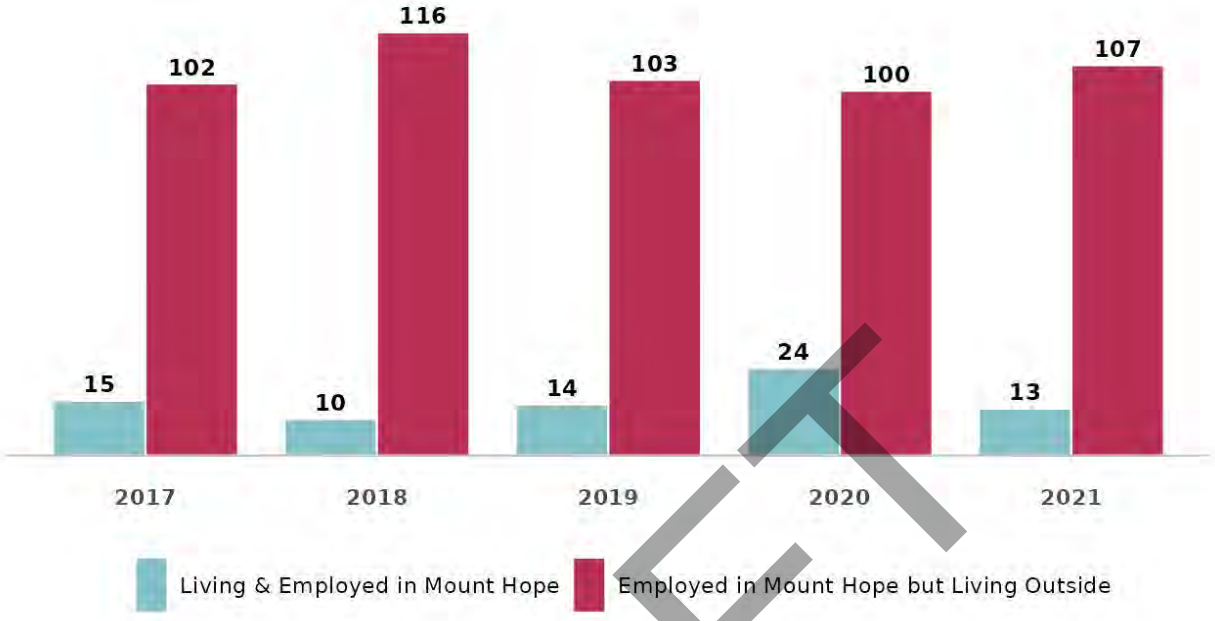
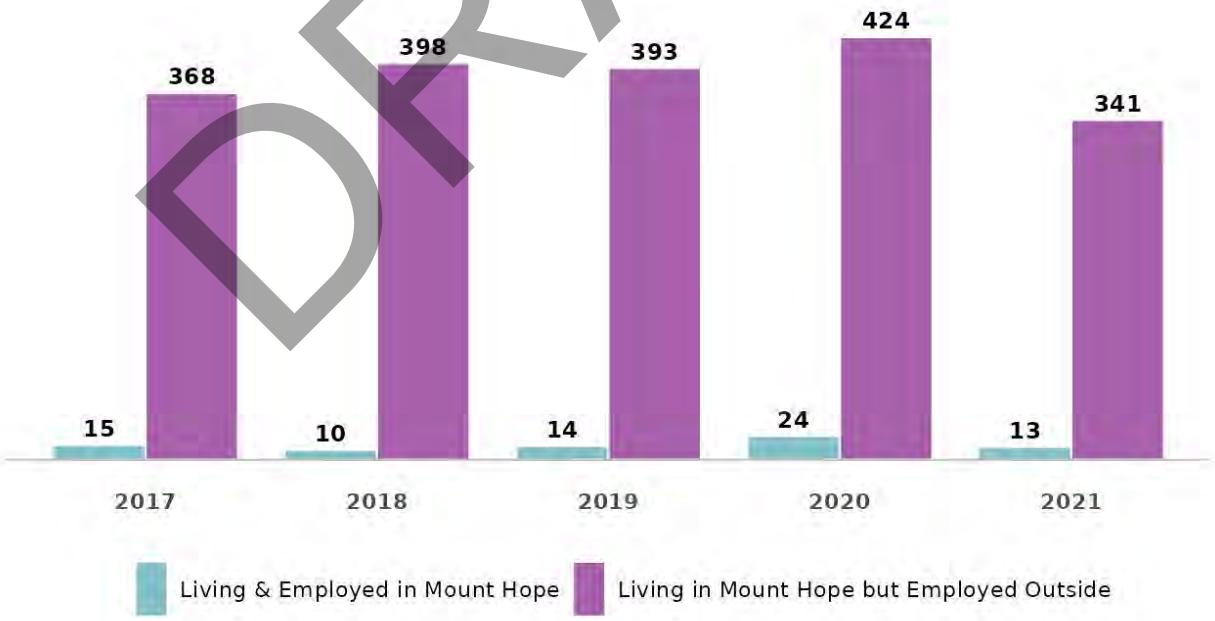

15
102
10
116
14
103
24
100
13
107
2017
2018
2019
2020
2021
Living & Employed in Mount Hope
Employed in Mount Hope but Living Outside

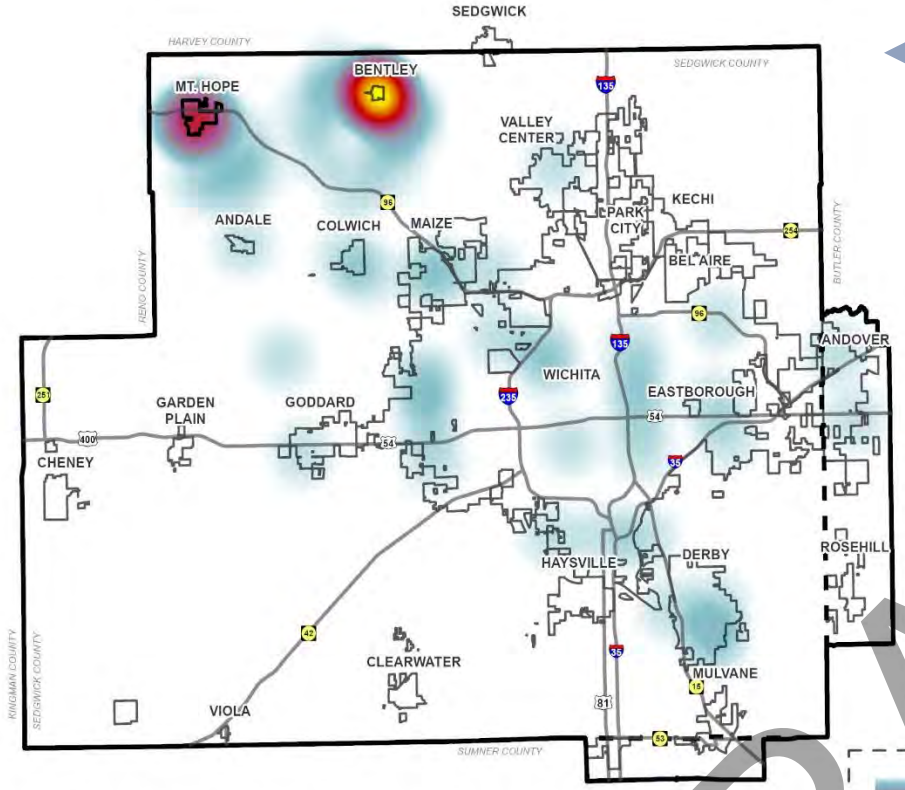

15
368
10
398
14
393
24
424
13
341
2017
2018
2019
2020
2021
Living & Employed in Mount Hope
Living in Mount Hope but Employed Outside

Where Workers Live Who Work in Mount Hope

56	46.7%	less than 10 miles	
35	29.2%	10 – 24 Miles	
14	11.7%	25 – 50 Miles	
15	12.5%	greater than 50 Miles	

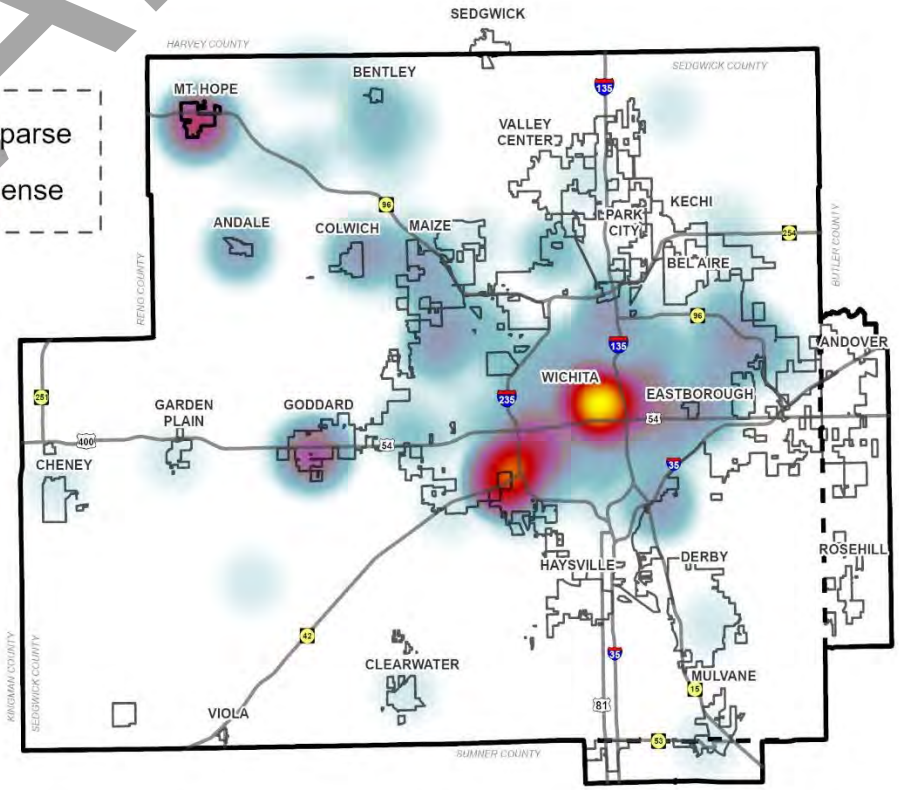
of workers who work in Mount Hope live

from their place of employment



Sparse

Dense



Where Workers Work Who Live in Mount Hope

49	13.8%	less than 10 miles	
229	64.7%	10 – 24 Miles	
37	10.5%	25 – 50 Miles	
39	11.0%	greater than 50 Miles	

of workers who live in Mount Hope work

from their place of residence

Eastborough

Source: U.S. Census Bureau, Center for Economic Studies, LEHD. Accessed in December 2024 at https://onthemap.ces.census.gov/

Eastborough was incorporated in 1937 and is an enclave surrounded by the city of Wichita, dubbed "Wichita's finest residential section.[21] Being surrounded by Wichita, Eastborough does not have its own school district, instead sending students to the Wichita Unified School District (USD 259) or Wichita-area private schools. As of the 2020 Decennial Census, Eastborough's population was 756. According to the American Community Survey, approximately 59% of Eastborough's population was in the labor force in 2021 and the average travel time to work was 14.2 minutes.[22]

There are 2 residents who both live and work in Eastborough. 358 residents live in Eastborough but commute to someplace else for work. 50 residents live in elsewhere but travel into Eastborough for work, an approximate 14% increase from 2017 to 2021.

Industry Class (2021)	Internal		Inflow		Outflow	
Goods Producing	1	50.0%	15	30.0%	41	11.5%
Trade, Transportation, & Utilities	0	0.0%	4	8.0%	54	15.1%
All Other Services	1	50.0%	31	62.0%	263	73.5%

[21] City of Eastborough Newsletters, https://www.eastborough-ks.gov/history/

[22] US Census 2021: ACS 5-Year Estimates Data Profiles
Retrieved from: https://data.census.gov/table/ACSDP5Y2021.DP03?g=160XX00US2019300
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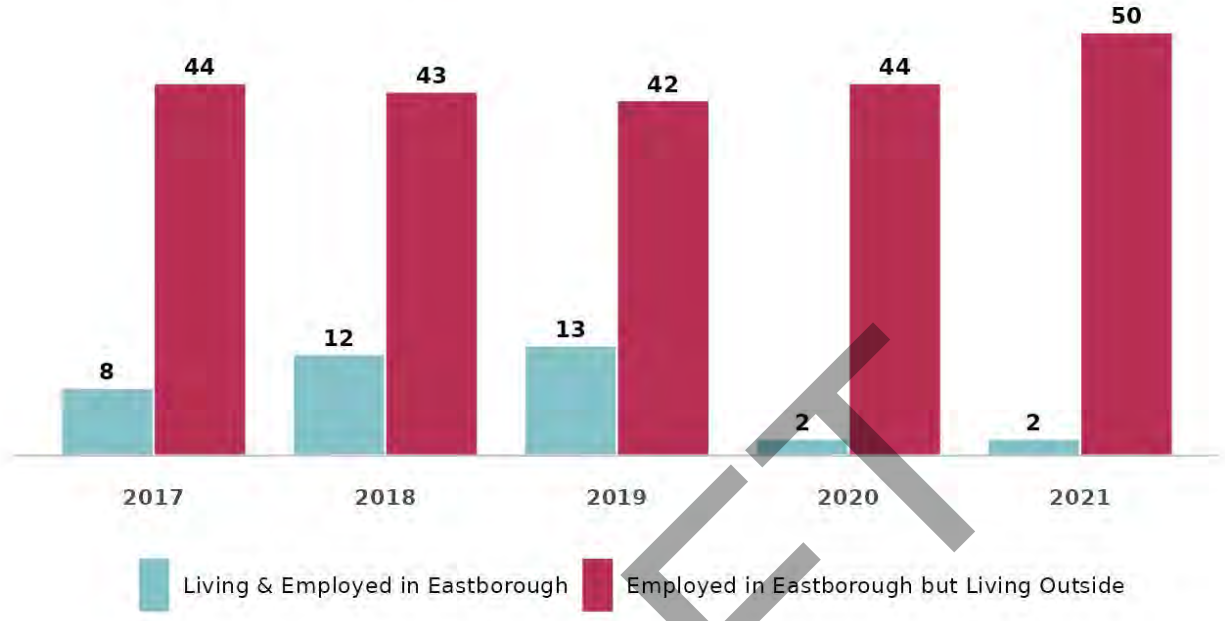
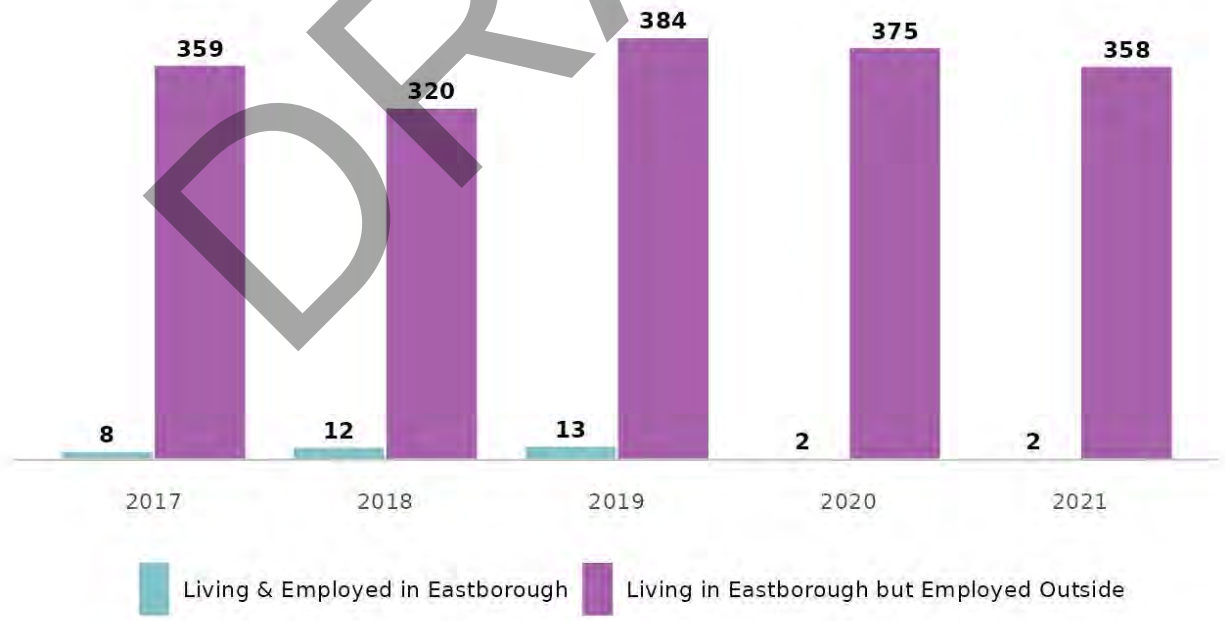
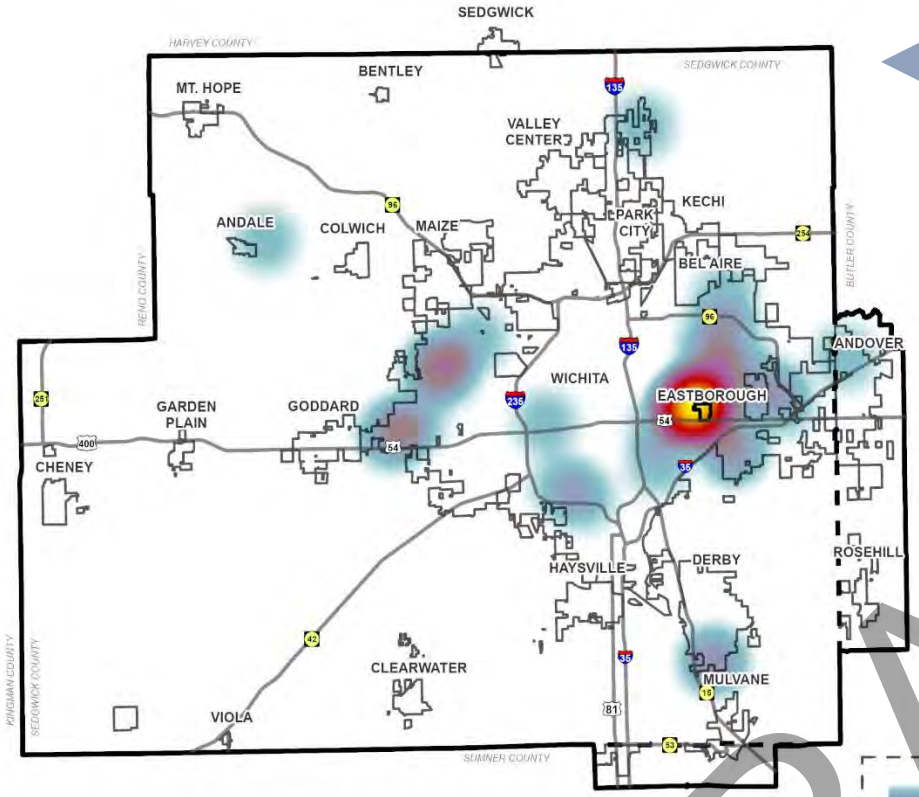

44
43
42
44
50
8
12
13
2
2
2017
2018
2019
2020
2021
Living & Employed in Eastborough
Employed in Eastborough but Living Outside

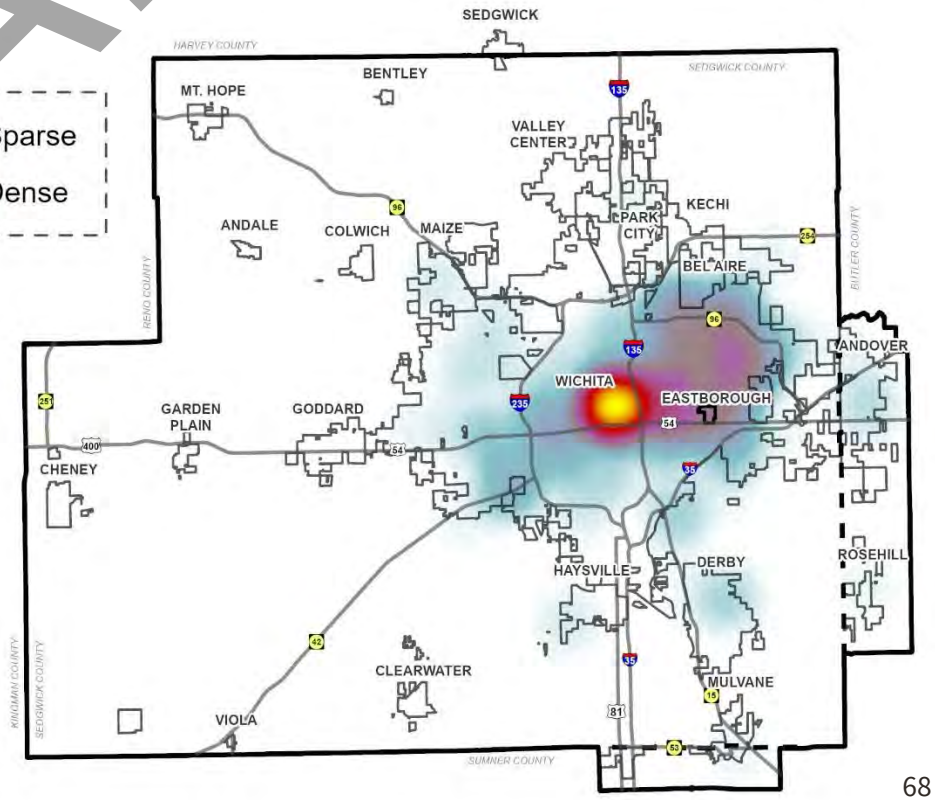

359
320
384
375
358
8
12
13
2
2
2017
2018
2019
2020
2021
Living & Employed in Eastborough
Living in Eastborough but Employed Outside

Where Workers Live Who Work in Eastborough

27	51.9%	less than 10 miles	
14	26.9%	10 – 24 Miles	
5	9.6%	25 – 50 Miles	
6	11.5%	greater than 50 Miles	

of workers who work in Eastborough live — from their place of employment



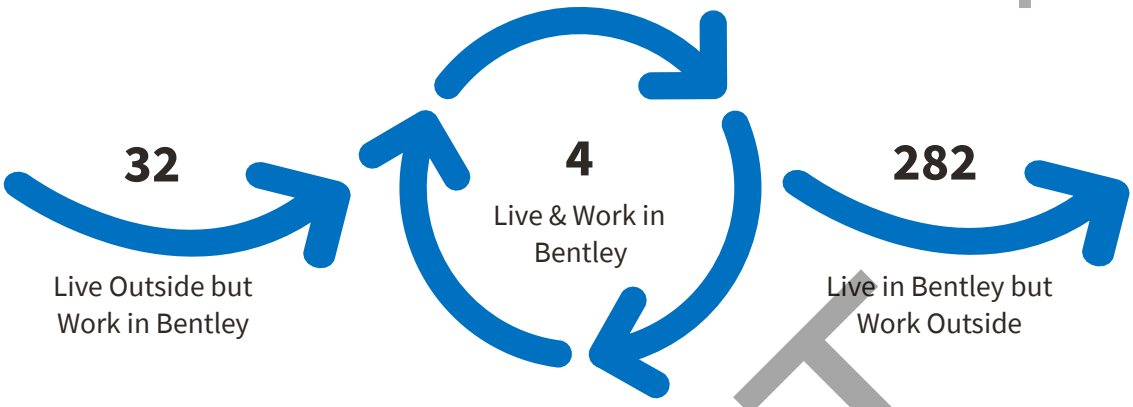


Where Workers Work Who Live in Eastborough

288	80.0%	less than 10 miles	
26	7.2%	10 – 24 Miles	
6	1.7%	25 – 50 Miles	
40	11.1%	greater than 50 Miles	

of workers who live in Eastborough work — from their place of residence

Bentley



Source: U.S. Census Bureau, Center for Economic Studies, LEHD. Accessed in December 2024 at https://onthemap.ces.census.gov/

Bentley was founded as a depot on the Kansas Midland Railway in 1888 but was not incorporated until 1959. The rail line has since been abandoned but the city is growing as a residential destination. Bentley does not have its own school district; it is instead served by Halstead Unified School District (USD44), which is mostly outside of the WAMPO region. As of the 2020 Decennial Census, Bentley's population was 560. According to the American Community Survey, approximately 62% of Bentley's population was in the labor force in 2021 and the average travel time to work was 25.3 minutes.[23]

There are 4 residents who both live and work in Bentley. 282 residents live in Bentley but commute to someplace else for work. 32 commuters live elsewhere but travel into Bentley for work, an approximate 41% decrease from 2017 to 2021.

Industry Class (2021)	Internal		Inflow		Outflow	
Goods Producing	0	0.0%	8	25.0%	69	24.5%
Trade, Transportation, & Utilities	0	0.0%	0	0.0%	62	22.0%
All Other Services	4	100.0%	24	75.0%	151	53.5%

[23] US Census 2021: ACS 5-Year Estimates Data Profiles
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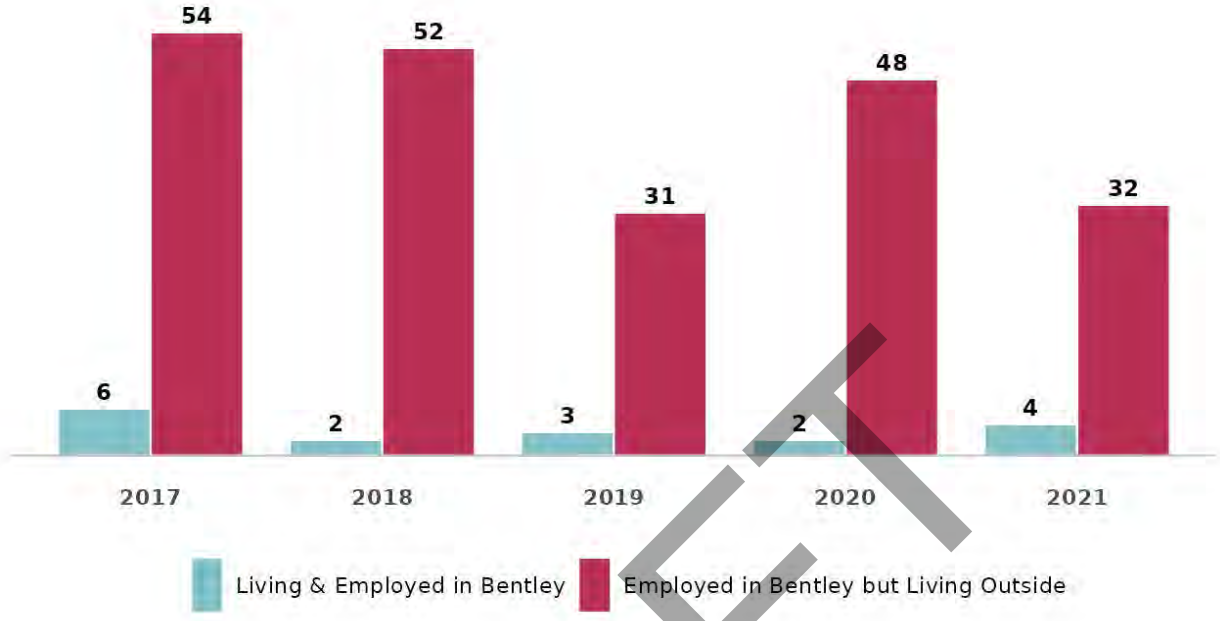
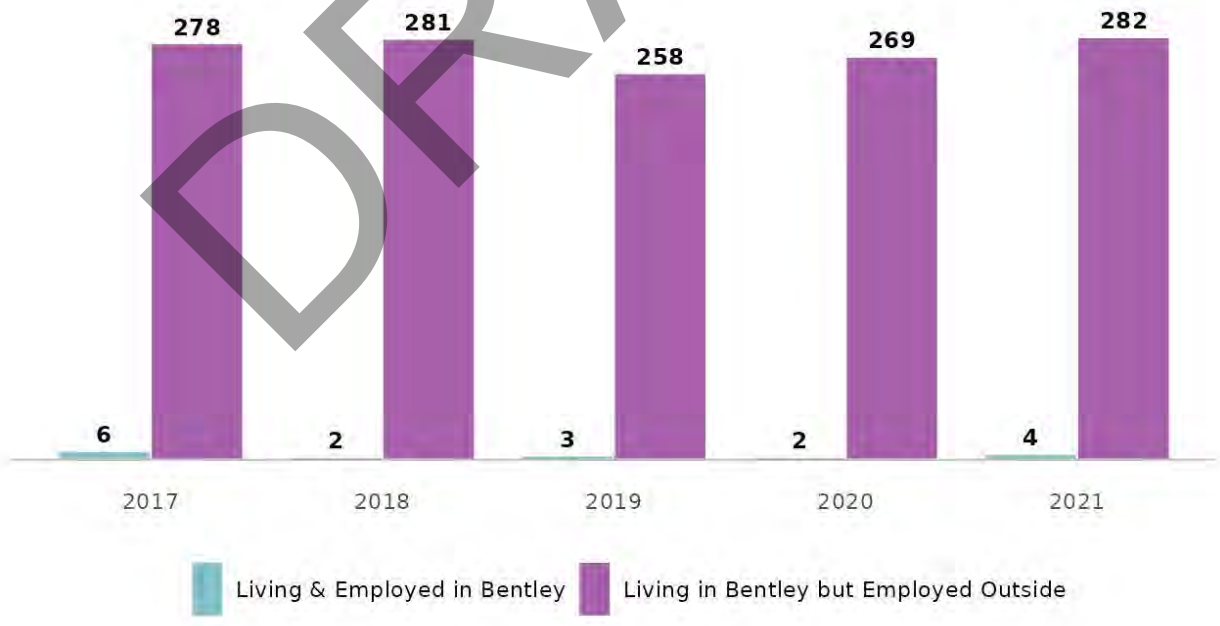
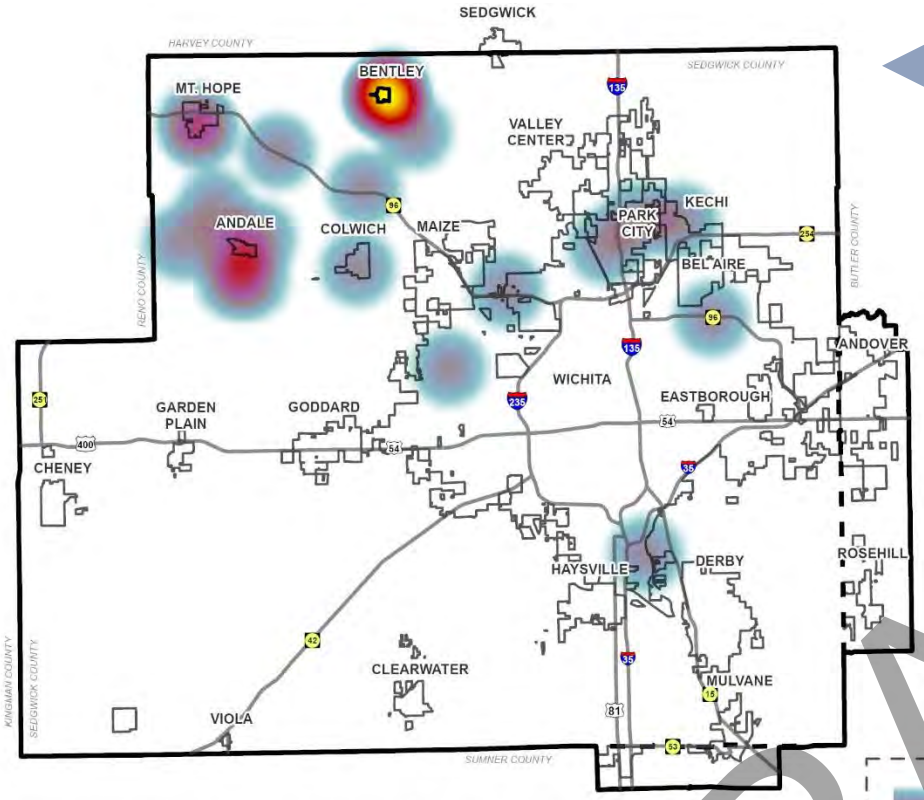

54
52
48
31
32
6
2
3
2
4
2017
2018
2019
2020
2021
Living & Employed in Bentley
Employed in Bentley but Living Outside

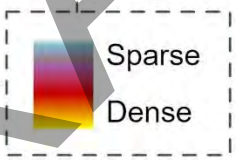

278
281
258
269
282
6
2
3
2
4
2017
2018
2019
2020
2021
Living & Employed in Bentley
Living in Bentley but Employed Outside

Where Workers Live Who Work in Bentley

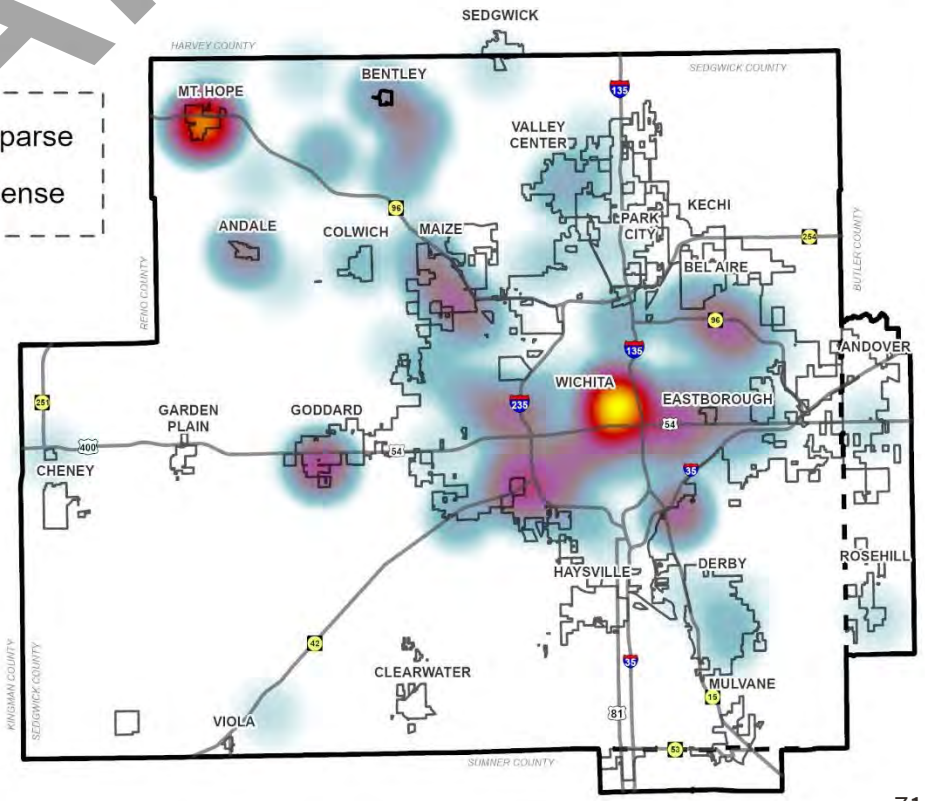


23	63.9%	of workers who work in Bentley live	less than 10 miles
12	33.3%		10 – 24 Miles
1	2.8%		25 – 50 Miles
0	0.0%		greater than 50 Miles

from their place of employment



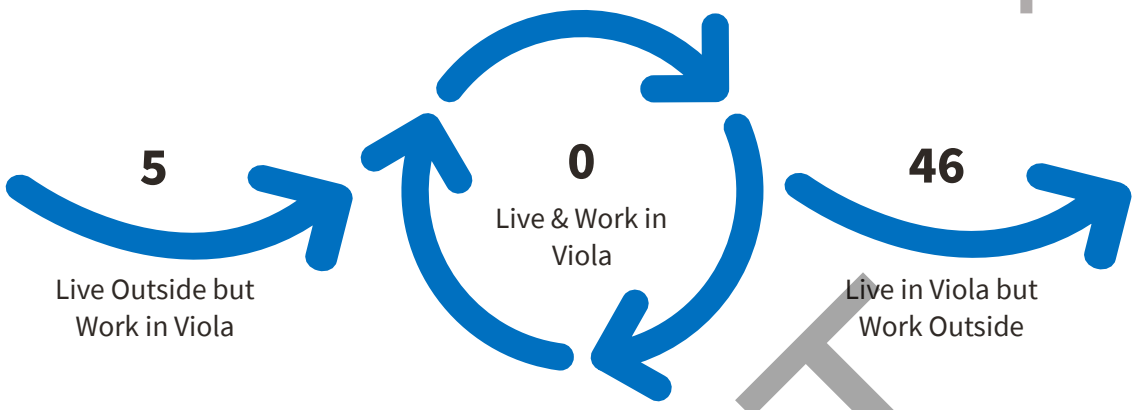
Where Workers Work Who Live in Bentley



66	23.1%	of workers who live in Bentley work	less than 10 miles
171	59.8%		10 – 24 Miles
25	8.7%		25 – 50 Miles
24	8.4%		greater than 50 Miles

from their place of residence

Viola



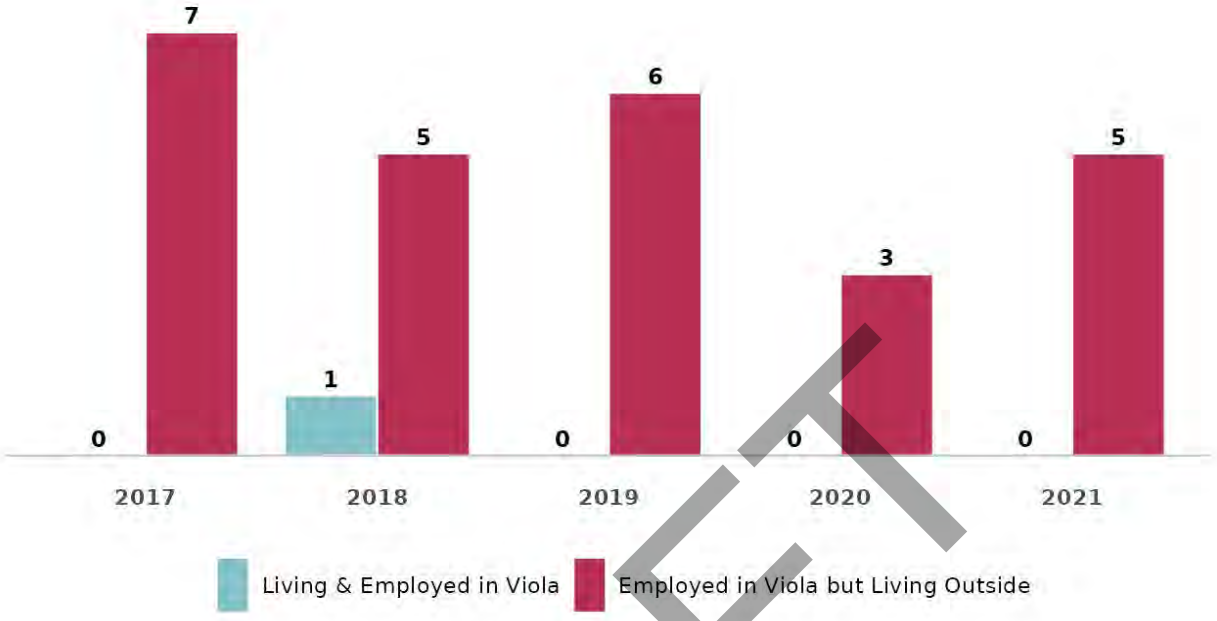
Source: U.S. Census Bureau, Center for Economic Studies, LEHD. Accessed in December 2024 at https://onthemap.ces.census.gov/

Viola was founded in 1870 as a town off the Englewood branch of the Santa Fe railroad but has faced a decreasing population since the late nineteenth century. The city was incorporated in 1909. Viola does not have its own school district; it is instead served by the Conway Springs Unified School District (USD 356), which is mostly outside of the WAMPO region. As of the 2020 Decennial Census, Viola's population was 115. According to the American Community Survey, approximately 54% of Viola's population was in the labor force in 2021 and the average travel time to work was 23.5 minutes.[24]

There are no residents who both live and work in Viola. 46 residents live in Viola but commute to someplace else for work, an approximate 15% decrease from 2017 to 2021. 5 commuters live elsewhere but travel to Viola for work.

Industry Class (2021)	Internal		Inflow		Outflow	
Goods Producing	0	N/A	1	20.0%	11	23.9%
Trade, Transportation, & Utilities	0	N/A	0	0.0%	7	15.2%
All Other Services	0	N/A	4	80.0%	28	60.9%

[24] US Census 2021: ACS 5-Year Estimates Data Profiles
Retrieved from: https://data.census.gov/table/ACSDP5Y2021.DP03?g=160XX00US2074025
and https://data.census.gov/table/ACSST5Y2021.S0801?g=160XX00US2074025


7
5
6
5
3
1
0
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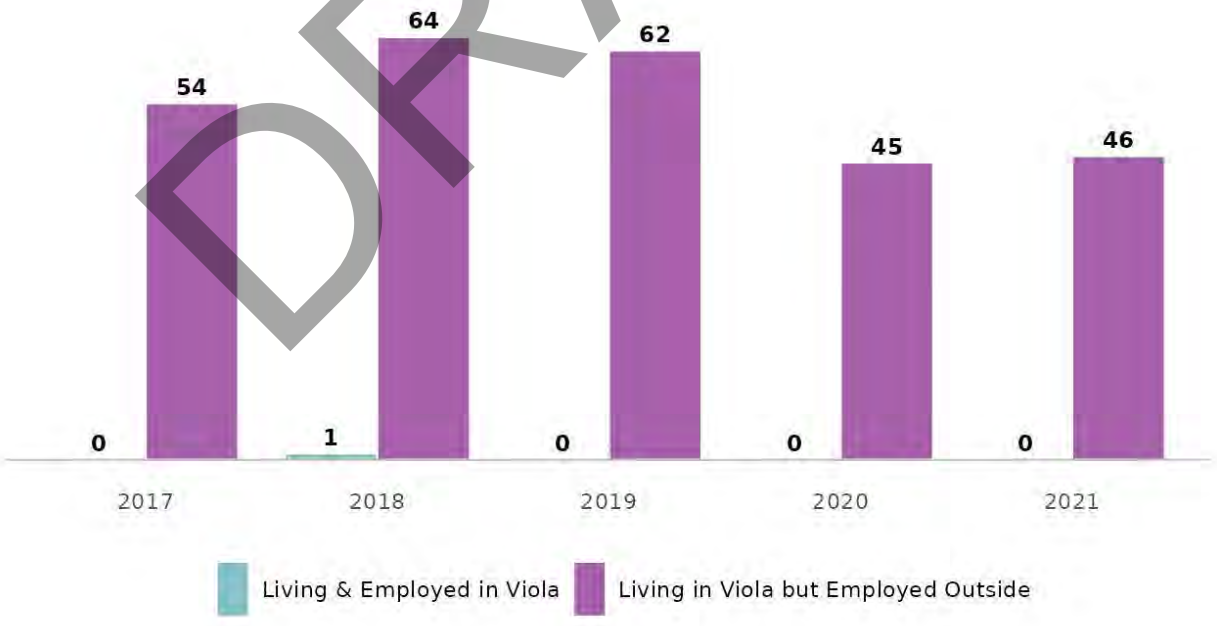
2017
2018
2019
2020
2021
Living & Employed in Viola
Employed in Viola but Living Outside


64
62
54
45
46
1
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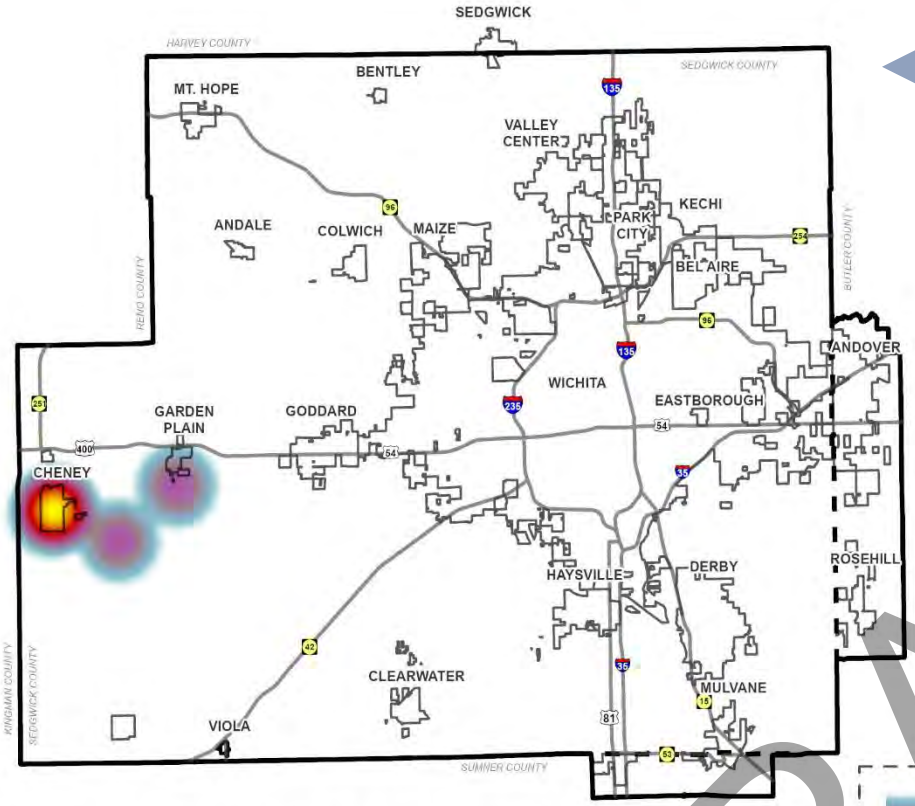
2017
2018
2019
2020
2021
Living & Employed in Viola
Living in Viola but Employed Outside

Where Workers Live Who Work in Viola

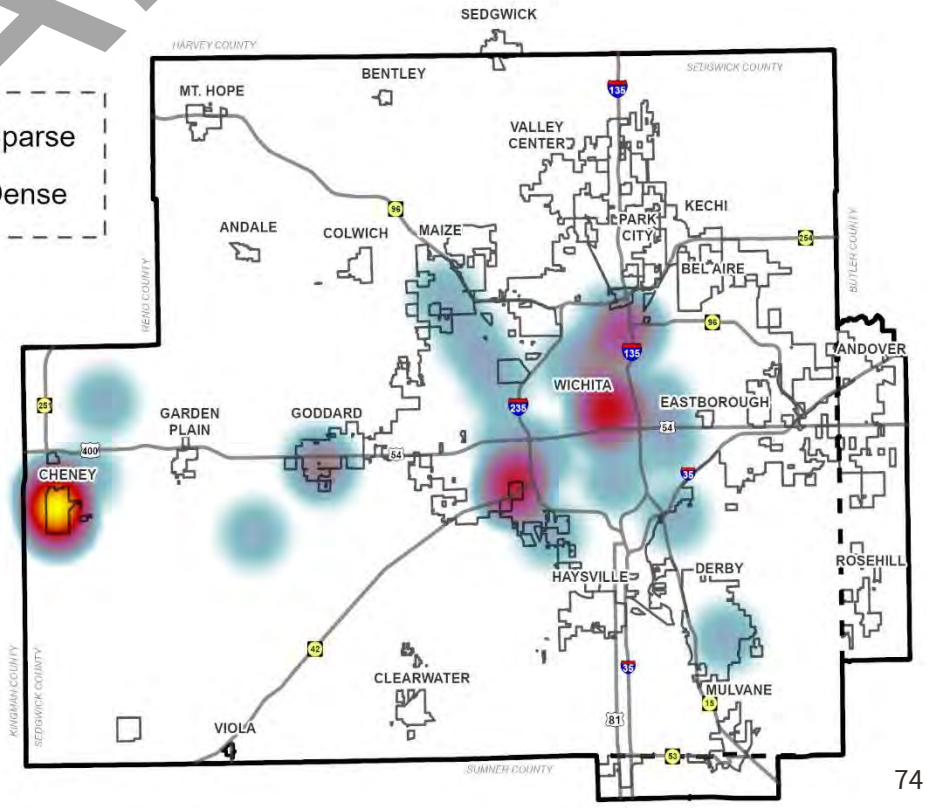
0	0.0%	of workers who work in Viola live	less than 10 miles
5	100.0%		10 – 24 Miles
0	0.0%		25 – 50 Miles
0	0.0%		greater than 50 Miles

from their place of employment



Sparse

Dense



Where Workers Work Who Live in Viola

1	2.2%	of workers who live in Viola work	less than 10 miles
37	80.4%		10 – 24 Miles
5	10.9%		25 – 50 Miles
3	6.5%		greater than 50 Miles

from their place of residence